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DEMOGRAPHIC CHARACTERISTICS THAT INFLUENCE LEADERSHIP, COMMUNICATION, AND CITIZENSHIP BEHAVIORS IN A MILITARY HOSPITAL

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"The views expressed in this dissertation are those of the author and do not reflect the official policy of the Department of Army, Department of Defense, or U.S. Government."

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Table of Contents

List of Tables x
List of Figures xi
List of Appendixes xii
ABSTRACT xiii

CHAPTER 1 – Key Issues in Hospital Care 1
Introduction 1
Communication 3
Staff Morale 6
Key Issues in Military Health Care 7
Landstuhl Regional Medical Center (LRMC) 12
Importance of this Research 18
Previous Studies 18

CHAPTER 2 – Leadership, Communication, Organizational Citizenship, and Underlying Personal Demographic Factors 25

Introduction 25
Dependent Variables 26
Independent Variables 27
Status 27
Rank 28
Time on Station 29
Time in Service 29
Assigned Deputy Commander 30
Gender 31
Age 31
Race 32
Participant's Supervisor Time on Station 32
Participant's Supervisor Time in Service 33
Participant's Supervisor Gender 33
Participant's Supervisor Race 33
Participant's Supervisor Status 34
Participant's Supervisor Rank 34
Manager Category 34

Leadership Measures 35
Leader-Member Exchange (LMX) Research 36
Measuring Leader-Member Exchange in a Military Hospital 39

Personal Demographic Factors 41
Status and LMX 41
Rank and LMX 42
Time on Station and LMX 43
Time in Service and LMX 46
Assigned Deputy Commander and LMX 46
Gender and LMX 47
Age and LMX 47
Race and LMX 48
Participant's Supervisor Time on Station and LMX 48
Participant's Supervisor Time in Service and LMX 48
Participant's Supervisor Gender and LMX 49
Participant's Supervisor Race and LMX 49
Participant's Supervisor Status and LMX 49
Participant's Supervisor Rank and LMX 50
Manager Category and LMX 50
Research Question RQ1 50

Communication Measures 51
Communication Satisfaction (CS) Research 54
Measuring Communication Satisfaction in a Military Hospital 57
Personal Demographic Factors 61
Status and CS 61
Rank and CS 62
Time on Station and CS 63
Time in Service and CS 64
Assigned Deputy Commander and CS 64

Gender and CS 65
Age and CS 65
Race and CS 66
Participant's Supervisor Time on Station and CS 67
Participant's Supervisor Time in Service and CS 67
Participant's Supervisor Gender and CS 67
Participant's Supervisor Race and CS 67
Participant's Supervisor Status and CS 68
Participant's Supervisor Rank and CS 68
Manager Category and CS 69
Research Question RQ2 69

Organizational Citizenship Behavior Measures 70
Organizational Citizenship Behavior (OCB) Research 73
Measuring Organizational Citizenship Behavior in a Military Hospital 79
Personal Demographic Factors 80
Status and OCB 80
Rank and OCB 81
Time on Station and OCB 81
Time in Service and OCB 82
Assigned Deputy Commander and OCB 82
Gender and OCB 83
Age and OCB 83
Race and OCB 84
Participant's Supervisor Time on Station and OCB 85
Participant's Supervisor Time in Service and OCB 85
Participant's Supervisor Gender and OCB 85
Participant's Supervisor Race and OCB 85
Participant's Supervisor Status and OCB 86

Participant's Supervisor Rank and OCB 86
Manager Category and OCB 86
Research Question RQ3 87

CHAPTER 3 – Research Design and Methodology 88
Introduction 88
Rationale for Study 88
Variables 89
Participants and Procedures 91
Research Design 93
Research Instruments 94
Data Collection 97

CHAPTER 4 – Results 98
Introduction 98
Internal Consistency 99
Population Characteristics 100
Tests for Significance 103
Significant Results 105
Multivariate Tests 106
Leader-member Exchange 106
Communication Satisfaction 107
Communication Climate 107
Supervisory Communication 108
Organizational Integration 109
Media Quality 110
Co-Worker Communication 110
Corporate Information 111
Personal Feedback 112
Organizational Citizenship Behavior 113
Altruism 113
Generalized Compliance 114
Civic Virtue 115
Courtesy 116
Sportsmanship 116

Additional Analysis 116
Same Status 116
Same Race 117
Same Gender 117

CHAPTER 5 – Analysis and Discussion 119
Introduction 119
Leader-member Exchange 119
Communication Satisfaction 124
Communication Climate 125
Supervisory Communication 127
Organizational Integration 128
Media Quality 130
Co-Worker Communication 131
Corporate Information 132
Personal Feedback 133

Organizational Citizenship Behavior 136
Altruism 137
Generalized Compliance 138
Civic Virtue 139
Courtesy 140
Sportsmanship 141

Additional Analysis, Same Gender and CSQ 141

Follow-up Analysis: Correlation 142

Conclusions 146
Limitations of the Research 148
Implications for Future Research 149

REFERENCES 154

List of Tables

Table 1	Breakdown of LRMC Personnel (2002)	85
Table 2	Identified Race of Parents and Participants	95
Table 3	Participant Status	96
Table 4	Participant Time in Service	96
Table 5	Participant Time on Station	96
Table 6	Rank Combined	97
Table 7	Overall Test for Significance	98
Table 8	Dimensional CSQ Results	98
Table 9	Dimensional OCB Results	98
Table 10	Participant Status and Rank	127
Table 11	Correlation Matrix	143

List of Figures

Figure 1	JCAHO Sentinel Events Trends 1995 – 2005	2
Figure 2	Landstuhl Regional Medical Center Air Force Organizational Chart	14
Figure 3	Landstuhl Regional Medical Center Air Force and Army Organizational Chart	15
Figure 4	Leader-Subordinate Relationships	35
Figure 5	Life Cycle of Leadership Relationship	113

List of Appendixes

Appendix A – LRMC Organizational Chart 179

Appendix B – Dependent and Independent Variables 180

Appendix C – Leader-Member Exchange (LMX - 7) Questionnaire 182

Appendix D – Communication Satisfaction Questionnaire (CSQ) 184
I. Respondent Version of Questionnaire
II. Researcher Version of Questionnaire

Appendix E – Organization Citizenship Behavior (OCB) 191
I. Respondent Version of Questionnaire
II. Researcher Version of Questionnaire

Appendix F – Personal Demographic Questions 193

Appendix G – On-line Questionnaire Through *SurveyMonkey* 197

ABSTRACT

This field study involves a bottom-up assessment of the quality of leadership, communication, and organizational citizenship in a military hospital, as reported by employees that are directly involved with operations that affect patient outcomes. In particular, measures of the quality of Leader-Member Exchange (via the LMX-7 questionnaire), Communication Satisfaction (via the CSQ questionnaire), and Organizational Citizenship (via the OCB questionnaire) were obtained from a survey of over 1,000 personnel throughout the military medical center. The study examined how these measures are influenced by a variety of individual employee demographic variables: status, military rank, time on station, time in service, gender, race. The degree to which each employee demographic factor influenced the resulting scores for leadership, communication, and organizational citizenship are analyzed. This analysis shows that personnel with less than 6 months time on station had higher LMX and CSQ scores. Racial identity had a significant effect with OCB and CSQ communication climate. Time on station had a significant effect on LMX and overall CSQ including dimensions. Time on station, time in service and rank had a combined effect on CSQ including dimensions. Participants who were the same gender as their supervisors had higher overall CSQ, communication climate and corporate information. Overall results from this field study show interesting data related to leadership, communication and citizenship behavior in a military hospital. Implications for future research are noted.

CHAPTER 1

Key Issues in Hospital Care

Introduction

The focus of this study is on the human factors that influence leadership, communication, and citizenship behaviors in a military hospital. Specifically eliminated from this study is an examination of hospital infrastructure, budgetary, and financial issues. In this section, problems in civilian hospital care are presented as a context for the examination of relevant issues in the operation of military hospitals.

U.S. health care costs continue to rise unabated. In 2003, costs grew nearly 10%, according to the American Hospital Association (AHA, 2003). At the same time, hospitals are also beleaguered with staffing shortages; the AHA predicts a lack of 800,000 nurses by 2020. Furthermore, hospital leaders are overwhelmed with regulations, policies, rules, and laws that create confusion at many levels of the organization. The complex hospital environment and the sheer number of employees and patients, places stress on every aspect of health care delivery.

As a consequence, hospitals are also suffering a trend of increasing errors causing serious patient harm or deaths (figure 1) (JCAHO, 2007). These errors are tracked by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and are termed "sentinel events." JCAHO defines a sentinel event as an unexpected occurrence involving death or serious physical or psychological injury to a patient, or the risk thereof. The events are not limited to a certain geographic region – they occur in every state.

The increase in sentinel events cannot merely reflect the increase in the general population. JCAHO requires participating hospitals to report sentinel events starting in 1995, and from 1995 through 1999, sentinel events rose from 23 to 333, a 93% increase in a five year period. During this same time, the population increased only about 13% (Census, 2000).

JCAHO categorized sentinel events into 17 different areas (the asterisks are discussed in the next section):

- Anesthesia-related *
- Criminal Events (assault, rape, homicide) *
- Delays in Treatment *
- Elopement
- Home Care Fires
- Infection-associated *
- Inpatient Suicides
- Maternal Deaths and Injuries *
- Medication Errors *
- Operative and Post-operative *
- Patent Abductions
- Patient Falls
- Perinatal Deaths and Injuries *
- Restraint Deaths
- Transfusion Events
- Ventilator Events
- Wrong Site Surgery *

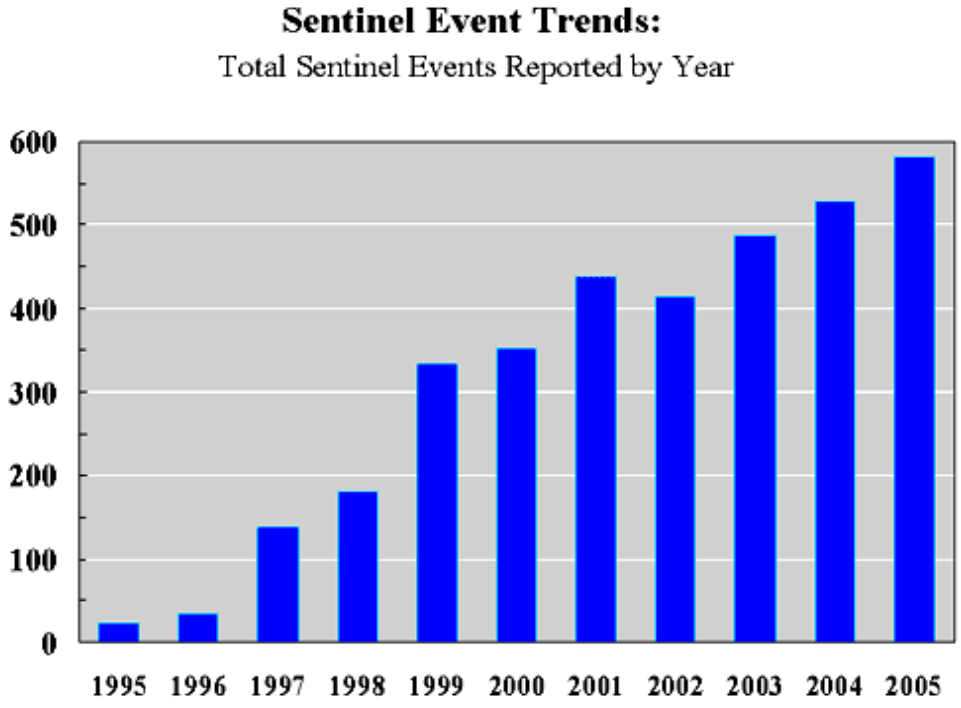

Figure 1. JCAHO Sentinel Events Trends 1995-2005.

It can be argued that problems in hospital operations may be related to three areas, leadership, communication, and citizenship behaviors, and difficulties in these areas can contribute to sentinel events. Woolf (2004) found that 80% of the error claims were due to miscommunication. Singer et al. (2003) discovered a dissonance between non-clinician senior managers and front-line workers which may impact patient safety. Physicians and nurses are discontented with their profession. Sochalski (2002) reported that one in every three staff nurses expressed low satisfaction with his or her current job. Aiken et al. (2002) reported low satisfaction in Canada (32.9%), England (36.1%), and Scotland (37.7%).

Lack of time, low motivation, inadequate staffing and increased job demands place extraordinary stress on employees and can lower morale. Low staff morale can affect citizenship behavior and may reduce staff communication. Issues related to these subjects are discussed in the following sections.

Communication

Particularly relevant for this study is a 2003 report by JCAHO documenting communication breakdown as the root cause of more than 60% of medical errors, of which 75% resulted in a patient's death (JCAHO, 2007). Through aggressive investigation and analysis of each sentinel event, JCAHO tracked the root cause of each event, and found that 9 out of 17 sentinel events were primarily due to problems in staff communication. The asterisk (*) on the preceding list indicates events related to staff communication. With the remaining eight categories of sentinel events, communication was singled out as one of the top three factors that caused the particular event.

In another study, nurses held the perception that poor communication is the most significant factor in preventable errors, according to a survey of nearly 5,000 nurses (H&HN, 2004). The poll found that communication failures were more significant than either human errors or system failures in causing errors. Risk managers in the United States, Canada, the United Kingdom, and Europe agree that up to 80 percent of malpractice claims are attributed to failures in communication and/or lack of interpersonal skills (H&HN, 2004).

"Errors in diagnosis and treatment are often caused by errors in communication and not incompetence," stated Steven H. Woolf, MD, a professor of family medicine at Virginia Commonwealth University (Woolf, 2004), who studied 75 anonymous error reports from 18 participating U.S. family physicians. The narratives were examined to identify the chain of events and the predominant proximal errors, and concluded that a chain or "cascade" of errors was documented in 77% of the incidents. A full 80% of the error chains were initiated by miscommunication, including breakdowns in communication between physician colleagues, misinformation in medical records, mishandling of patient requests and messages, inaccessible records, and inadequate reminder systems (Woolf, 2004).

New research conducted by VHA Inc., a national health care alliance, found that "disruptive behavior" between surgeons, nurses, and anesthesiologists occurs frequently in hospital operating rooms, and can negatively affect patient outcomes (Haugh, 2006). The study defined disruptive behavior as any inappropriate behavior, confrontation or conflict, ranging from verbal abuse to physical and sexual harassment. Disruptive behavior includes yelling, insults, abusive language, and physical assaults, and leads to medical errors, including problems with patient safety, impaired quality of care and patient mortality. Of those medical staff

surveyed, 94% said that such behavior needlessly contributed to adverse events, medical errors, compromises in patient safety, and that it impairs quality, and can affect patient mortality. “Lack of respect between staff and clarity of roles are jeopardizing patient care. Clinic staff are not communicating well in the operating room, and important information is not being exchanged,” according to Alan Rosenstein, vice president and medical director at VHA, Inc. (Haugh, 2006).

Effective nurse-physician relationships are built on collaboration and communication. Weinstein (2003) believes that the nature of these relationships is set by the tone that exists between the chief nurse executive and the chief medical officer. If their relationship is built on trust and mutual respect, that message is disseminated throughout the organization. Zimmerman (1993) supports this belief, noting that death rates were lower in hospitals that reported a higher quality of nurse-physician communication. In addition, Shortell (1994) noticed a lower risk-adjusted length of stay, lower nurse turnover, and perceptions of increased quality of care and ability to meet family member needs, associated with good nurse-physician communication. Supporting data on the military side comes from Anderson (1996), who studied nurse-physician communication at an Army Medical Center and concluded that nurses did not generally perceive the nurse-physician communication to be open, accurate or timely. This perceived quality of interaction was not related to a nurse’s education level, length of nursing experience, or length of time assigned to a specific unit. It is interesting to realize that nurses and physicians each described positive communication differently. Nurses defined positive communication as being open, whereas physicians focused on the nurse’s demeanor.

Staff Morale

Research indicates that low levels of employment satisfaction are prevalent among nurses. Lack of time, low motivation, inadequate staffing, and increased job demands places extraordinary stress on employees and can lower morale. Low staff morale can affect citizenship behavior and tends to reduce quality staff communication and leader-member exchange.

In a study conducted by the Federation of Nurses and Health Professionals, morale was measured as a means of evaluating job satisfaction (Hart, 2001). About 68% of U.S. nurses currently working in the field reported low morale in the workplace. Of those considering changing careers, the figure increased to 81%. Among those who were identified as potentially leaving nursing, 55% expressed low satisfaction with their job. Sochalski (2002) reports that one in every three staff nurses expressed low satisfaction with his or her current job; Aiken et al. (2002) reported figures exceeding 40%. The findings of Aiken et al. (2002) were part of a multinational study of staffing, organization and outcomes in 711 hospitals in five countries. Low satisfaction was reported in Canada (32.9%), England (36.1%), and Scotland (37.7%). This experience of low job satisfaction is positively associated with turnover (Taunton et al. 1997), and those rates are increasing (U.S. GAO, 2001). Hospital staff nurses exhibited a turnover rate of 12% in 1996; in 1999 the turnover rate was 15%. The rate increased in 2000 to a national average of 21.3% (American Organization of Nurse Executives, 2002). Unfortunately, the nursing workforce is rapidly ageing. In 2000, two-thirds of all RNs were over the age of 40, and nurses under the age of 30 declined by 41% between 1983 and 1998 (GAO, 2001).

The shortage of nursing staff also has an influence on morale. A study on the nursing shortage by Aiken (of the University of Pennsylvania School of Nursing) found that an

estimated 20,000 people die each year because they have checked into a hospital with overworked nurses (Aiken et al., 2002). The study also found that Americans scheduled for routine surgeries run a 31% greater risk of dying if they are admitted to a hospital with a severe shortage of nurses. That's approximately one-fifth of the up to 98,000 deaths that occur each year as a result of medical errors. Nurses in the study cared for an average of four patients at a time, with the risk of death increasing by about 7% for each additional patient cared for over that baseline number. This study highlights the fact that patients can and do die when nursing care is inadequate (Aiken et al., 2002).

Key Issues in Military Health Care

In many ways, the United States military health care is a mirror of the wider society. Military health care, too, must contend with sentinel events, communication problems at the individual and group level, patient load factors, lack of qualified staff, and decreased morale. However, there are differences between military and civilian methods of health care management. The military has a very different and specific mission, which calls for the care for active duty military members wherever they are located, and also the care of their families and dependents. Military doctors and nurses must also be prepared to provide care in a foreign country; this may be in a hospital constructed for this purpose, or in a tent with limited resources. Because of these possibilities, military health care personnel must undergo specialized training: combat medicine, weapons training, survival training, chemical warfare training, and public health. Differences are also apparent due to the specialization of each service. The problems of an Army active-duty member may vary significantly from the

problems of an Air Force member, due to differences in their mission. Another difference between civilian and military health care concerns regulatory factors. While military standards of medical care are equivalent to civilian standards, the military must also comply with Department of Defense, Army, and Air Force directives. If the hospital is located in a foreign country, staff members must also comply with foreign standards if they exceed U.S. or military standards.

As noted, one of the key differences between civilian and military care relates to the mission of military medicine. The Military Health System (MHS) exercises authority, direction, and control over the medical personnel, facilities, programs, funding, and other resources within the Department of Defense (DoD). The MHS is responsible for maintaining readiness to provide health care services and support to members of the Armed Forces.

The MHS is primarily concerned with the restoration of the health of the soldier or airman for any medical, surgical, or psychological condition, with the goal to return them to their highest level of function. Unlike civilian hospitals, military hospital funding is controlled by the political, bureaucratic, cyclical MHS budgeting process. On the other hand, Department of Defense (DoD) facilities are not subject to the same economic and marketing pressures that civilian facilities face.

Of particular interest in this study are two branches of the armed forces that are organizationally aligned under the Military Health System: the Army and the Air Force. The Army Medical Command (MEDCOM) has about 27,000 soldiers and 28,000 civilian employees (AMEDD, 2007). The primary MEDCOM mission is to "Conserve the Fighting Strength," that is, to ensure that commanders have healthy forces to achieve their missions on

and off the battlefield. Part of this mission entails using methods to prevent and protect soldiers from contracting acute or chronic diseases. Their second mission is to reassure warriors and their families that, if they do get hurt, they will receive the best possible care and will have the best possible chance of recovering full health. This enables the fighters to focus on their mission, making success more likely and casualties less likely. MEDCOM also has a third role, as combat turns to peacemaking and nation-building, MEDCOM becomes a commander's tool for solving health problems in the area of operations and for winning the hearts and minds of the local population (AMEDD, 2007).

Another MEDCOM role is to deploy Army health care personnel to field medical units, also called Standardized Table of Organization and Equipment (TO&E) units. The units are not part of U.S. Army Medical Command, but MEDCOM helps with their clinical training and supervises their clinical work. Many MEDCOM people are "earmarked" to join these units in wartime (AMEDD, 2007).

Therefore, part of the challenge to the military medical departments is the *dual mission* that they must support (Chu, 2001). The primary mission involves providing medical support to combat and other military operations and maintaining the day-to-day health of about 1.5 million men and women who serve in the Army, Navy, Air Force, and Marine Corps. The second mission is to provide a health care benefit to nearly 6.6 million people who are eligible to use the MHS, including the families of those war-fighters, military retirees, and their respective families. This unique dual-mission is one of the hallmarks of military medicine. Personnel in the medical branch of the military services are both traditional "doctors" and "soldier-medics." One could argue that these competing demands are a source of potential job dissatisfaction for

military health-care providers, and thus, may contribute to members deciding to leave the military service sooner than they otherwise might (Chu, 2001). The dual mission of the Medical Department places added stress on physicians to care for a broad patient population. The Army physician must care for the soldier who is usually healthy, but may have an occasional acute injury, in addition to caring for the soldier's family members and military retirees who may have more chronic medical problems. The physician must also be prepared to deploy to a combat area, which requires the mastery of a variety of combat skills.

Another unique aspect of military medicine is the patient population; it is largely young and fit, and health insurance is never a problem (Gibson, 2005). In addition, both services control where families are based or posted to ensure adequate medical services are available. This ensures that family members who need continuing care by a specialist can receive this care at the military medical facility or in the nearby civilian community.

Like civilian hospitals, military hospitals suffer from staffing shortages. In 2002 Dr. Winkenwerder, Assistant Secretary of Defense for Health Affairs (ASDHA), wrote, "The issue of attracting and retaining an appropriate number of qualified uniformed health care professionals is paramount to the success of the department's dual health care mission" (Pueschel, 2002). In the same year, executives recognized that the military's medical services are expected to lose 50% of its radiologists over the next three years because of a nation-wide shortage (Versweyveld, 2002). During fiscal year 2004, the Air Force recruited 767 health professionals achieving 83% of its goal of 923 (Basu, 2005). Brigadier General Remkes, Air Force recruiting service commander, acknowledged these recruiting challenges and attributed shortfalls to the national shortage of health professionals (Remkes, 2005). Remkes went on to

state: “A sustained trend such as this can have a major impact on the culture of doing business.” Major General Loftus, operations director of the Air Force Medical Service, declared that the service faces a shortage of primary-care providers, family practice physicians, flight surgeons, physician’s assistants and nurse practitioners (Holmes, 2007). The Air Force shortage of flight surgeon’s stands at more than 15%, and civilian contractors cannot fill this gap because few civilian physicians have the required skill and knowledge to care for aviators.

The services recruit roughly 70% of physicians through the Health Professions Scholarship Program (HPSP) (Philpott, 2006). In 2005, the Army awarded 307 scholarships missing its goal by 23% or 70 scholarships. Through the first nine months of 2006, the Army awarded 179 scholarships or 61% of its goal. Lieutenant General Kiley, Army surgeon general, stated that the shortage will be felt years from now, but will not affect the current number of doctors available for war or stateside care.

The most urgent shortage in the Army and the Air Force is in nursing. In fiscal year 2006, 12% of the authorized nursing positions were unfilled, in 2003 this shortfall was 4% (Holmes, 2007). “The nurse shortage continues to pose an enormous challenge, and we need to maintain robust recruiting to sustain our nurse corps,” Maj. Gen. Barbara C. Brannon told the Senate Appropriations Committee’s subcommittee on defense (Brannon, 2005). In written testimony submitted to the panel, she noted that the Air Force conducted a survey in 2004 to identify positive and negative influences on nurse corps retention. The top two factors influencing nurses to remain in the Air Force were a sense of duty and professional military satisfaction. Inadequate staffing was cited as a primary detractor from motivation of nurses to remain in the service. “Retention is the other dimension of force sustainment,” said

General Brannon, who is also the Air Force's assistant surgeon general for medical force development. "While monetary incentives play the key role in recruiting, quality of life issues become important when career decisions are made. We continue to enjoy excellent retention and ended fiscal 2004 close to our authorized end strength." Brannon (2005, p. 1) recognized that employer competition for nurses will continue to be fierce, and nurses have many options to consider.

Landstuhl Regional Medical Center (LRMC)

In exploring the Military Health System further, there are deeper differences between civilian and military hospital care. To illustrate, Landstuhl Regional Medical Center (LRMC) in Germany, which is the subject of this study, will serve as an example. Landstuhl is the largest American medical center in Europe, and employs both Army and Air Force health care personnel. Fundamentally, all employees of the military medical facility have a primary supervisor, just as in civilian facilities. Virtually all of the medical personnel work for the hospital commander, and the commander has the ultimate responsibility and authority for hospital functions. However, lines of communication are more complex; in addition to a primary supervisor, employees also have a secondary supervisor. In other words, two supervisors evaluate the performance of one individual. The primary or secondary supervisor could be an Air Force or Army superior. This effectively doubles the number of personnel who are required to be fluent in the Air Force and Army policies and procedures.

The composition of staff at Landstuhl is another difference between civilian and military hospitals. Active duty Army personnel comprise about 1000 of the staff, and civilian employees

total almost 560. Civilian employees are further sub-divided into US citizens at 19%, and local national Europeans consisting of 13%. Finally, the facility also employs active duty Air Force personnel, comprising about 300 of the staff. This mixture of employees is rarely found in any organization, and presents a unique environment to study communication satisfaction.

Challenges related to the complex mixture of employees and staff turnover can overwhelm both leaders and employees. One of the common outcomes of these challenges is employee dissatisfaction. Tourish and Hargie (1996) found high levels of dissatisfaction within the Irish National Health System. Professional, nursing, midwifery and support personnel felt that they received very little information, that it was often not in time, and they had insufficient contact with senior leaders. They also felt excluded from consultation about important decisions concerning their work. The authors noted that leaders must learn to close this gap by putting themselves in their employees' shoes, and changing their approach to relationships and communication accordingly. This is a manageable task often improved with simple measures. However, securing a consistent match between words and actions is challenging, and often constitutes a major difficulty for management teams.

LRMC personnel are aligned under one of four deputy commanders, of which only two are relevant to this study (Appendix A). The Deputy Commander for Nursing (DCN) directly and in-directly supervises nurses, technicians and other support personnel that are assigned to the in-patient wards, which comprise: medical/surgical specialties, pediatrics, neonatal intensive care, labor & delivery, post-partum, intensive care, operating room, same day surgery, and nutrition services.

The Deputy Commander for Clinical Services (DCCS), who is also considered the chief medical officer for LRMC, directly and indirectly supervises physicians in charge of the delivery of care in the in-patient setting, and these physicians are also responsible for the care of patients in the out-patient setting. Ancillary staff, which includes nurses, supports the management and operation of the out-patient clinics.

An integral part of the Army hospital staff are the Air Force personnel who are assigned to the Medical Operations Squadron. The Medical Operations Squadron is one of four squadrons that are based at Ramstein Air Base, Germany. The other three squadrons form the Air Force out-patient clinic at Ramstein Air Base, while the Medical Operations Squadron is permanently assigned at LRMC. This unit was formed over ten years ago, when the nearby Wiesbaden Air Force Hospital closed and the remaining 300 medical personnel moved to LRMC. Currently, the number of staff remains about the same, and includes a wide range of specialties, support staff including nurses, and other ancillary employees who work throughout Landstuhl Regional Medical Center. This is significant because it means that Air Force personnel formally supervise Army personnel, and Army personnel formally supervise Air Force personnel.

The Air Force squadron is a significant part of the culture at the Army LRMC. The Air Force has its own terminology and methods of professional military education for officers and enlisted. For example, Air Force members must complete prescribed courses in order to be eligible for certain assignments and promotion; these courses are different in the Army. The Air Force also has its own form of evaluation and promotions; whereas the Army uses different forms, written in a different format, and with different frequency. For example, Air Force

supervisors must provide feedback to subordinates at least annually. In the Army, supervisors must provide feedback quarterly, and in some cases monthly. To complicate issues further, Air Force personnel evaluate and supervise Army staff, and Army staff evaluates and supervise Air Force personnel. As a further complication, Air Force personnel are also under functional management of the Air Force squadron, which manages vacation requests, finance and pay, and reassignments.

Confusion can be the result of these complex lines of supervision and communication, especially when various conflicting directives are received (refer to Figure 2). Terms and phrases must be clarified and "translated" so that all Air Force and Army personnel understand. All personnel must appreciate the particular military formal and informal requirements of the other service. There are also military traditions that are particular to each service, not to mention different uniform specifications.

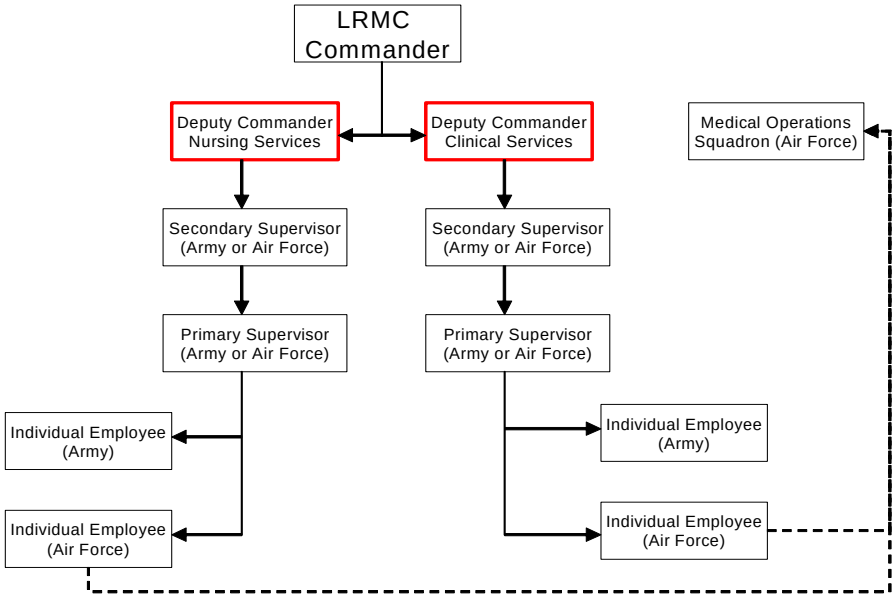

Figure 2. Landstuhl Regional Medical Center Air Force Organizational Chart.

Alpha and Charlie Army Companies are the Army counterpart to the Medical Operations Squadron. Just like the Air Force squadron, the Army companies manage vacation requests, finance and pay, and reassignments. Army personnel aligned under the Deputy Commander for Nursing are assigned to Alpha Company (Figure 3). Army personnel aligned under the Deputy Commander for Clinical Services are assigned to Charlie Company.

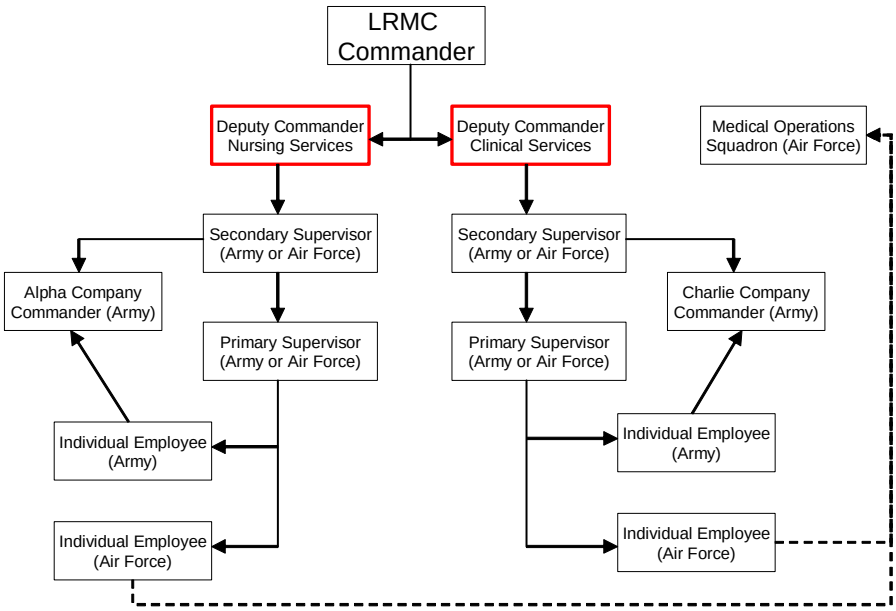

Figure 3. Landstuhl Regional Medical Center: Air Force and Army Organizational Chart.

Civilians are also employed at the LRMC, and there are two groups of civilians. The first group is American nationals that are hired under Government Services, and many are career civil servants while others are dependents of active duty personnel. The second group of civilians are the nationals that are hired under the local national hiring program. Many of the local nationals are German, some are from France, or other nearby European countries. Government Service and Local Nationals may be supervised and evaluated by Air Force, Army personnel, or other Government Service and Local Nationals. Government Service personnel are governed by a set of policies and procedures that were developed by the Department of Defense. These policies and procedures are administered by the Civilian Personnel Administration. Local

National personnel are instead governed by a set of policies and procedures that were developed by the Status of Forces Agreement and European Regional Medical Command.

Importance of this Research

This study of Landstuhl Regional Medical Center examined the human and demographic factors that affect leadership, communication and citizenship behaviors. An extensive literature search through over 150 articles and multiple databases failed to reveal any studies performed with this broad intent and purpose. The following section is a summary of some of the previous studies, to provide an accurate picture of the current state of research.

Previous Studies

One of the largest studies related to the current research was completed in Canada, with 8,597 nurses who worked in civilian acute care hospitals, and studied the relationships between nursing work environments and patient safety outcomes (Laschinger, 2006). Nurses completed the Practice Environment Scale of the Nursing Work Index to assess work life, and also completed Maslach Burnout Inventory - Human Services, to measure burnout. Adverse events were measured by nurses' reports of the frequency of occurrence of four types of negative patient incidents on their shifts over the past year: falls, nosocomial (hospital acquired) infections, medication errors, and patient complaints. Nurses were asked, ''Over the past year, how often would you say each of the following incidents has occurred involving you or your patients.'' The author concluded that patient safety outcomes are significantly related to the

quality of the nursing practice work environment, and nursing leadership's role in changing the work environment to decrease nurse burnout (Laschinger, 2006).

Maloney (1996) studied the leadership of Army 124 head nurses, and the interrelationships of self-perceptions and the perceptions of 363 subordinates (staff nurses), and 24 supervisors (section chiefs or section supervisors). For this study, the leadership setting chosen was an in-patient ward having continuous (24-hour) patient care responsibility in the eight Army medical centers located in the United States. Head nurses rated themselves on leadership behaviors as represented by their responses to the Leader Behavior Description Questionnaire Form XII (LBDQ). Each head nurse was also rated by three staff nurses or subordinates using the LBDQ tool. Finally, staff nurses, section supervisors and head nurses were asked to rate the leadership effectiveness of themselves or the head nurse using a Likert-type scale. Maloney found that staff nurses have a different perception of the quality of leadership from that of their supervising head nurse. And staff nurses tend to show a high degree of agreement between their overall perceptions of the general leadership effectiveness. Head nurses show at best only a limited ability to predict how their staff nurses and section chiefs (supervisors) would assess their leadership behavior (Maloney, 2006).

Martin, et al. (2004) published findings from a 13-year longitudinal assessment of civilian nurses' perceptions regarding organizational climate, professional practice climate, work satisfaction, professional nursing autonomy, and communication satisfaction. From 1990 to 2003, a group of nurse administrators and nursing faculty collaborated on a project in an 800-bed Midwest not-for-profit teaching hospital. The project was designed to build a database of information for future organizational planning. Twelve data collection points were included

over the project's 13-year period; during each data collection point the researchers used selected tools to measure nurse perceptions.

Work satisfaction was measured using the Index of Work Satisfaction, assessing pay, autonomy, task requirements, organization policies, interaction, and professional status (Martin, et al., 2004). Organizational climate was measured by the Martin Organization Climate Questionnaire, and serves as a barometer to determine how employees are affected by changes. Professional Nursing Autonomy refers to the person's perceived control over one's practice, and is believed to be linked to job satisfaction and decreased burnout (Laschinger, 2001). This area was measured using the Schutzenhofer Nursing Activity Scale. Nursing Practice Climate was measured by comparing nurses' perceptions of their current professional practice climate to their ideal climate, and used the Professional Practice Climate Tool. To measure communication satisfaction, the authors used a shortened version of Downs and Hazen's Communication Satisfaction Tool (Martin, et al., 2004).

A total of 2735 responses were returned over the study period, with an average of 227 returned each year (Martin, et al., 2004). Results from the work satisfaction measures showed that pay, autonomy, task requirements and organizational policies were found to be significantly different over time. Ranking of work satisfaction subscales, from most to least satisfied, remained the same over time for the highest three rankings: professional status (always most satisfied), autonomy, and interaction**.** The three lowest areas (least satisfaction) were consistently task requirements, organizational policies, and pay. Overall work satisfaction, satisfaction with pay, autonomy, and organizational policies, were all more positive for participants with management or clinical nurse specialist positions. The study of organization

climate found statistically significant differences during the period of the study for the subscales of productivity, esprit, hindrance, and disengagement. No statistically significant differences were found when examining differences in autonomy over time. Measures of professional practice climate were statistically significant over time. Results indicated a trend toward a decreasing gap between the current and the ideal perceptions until 1997. The communication satisfaction survey was administered nine times over the study period. In 1998, 1999 and 2001 the survey produced the worst scores, however there were no other significant changes over time (Martin, et al., 2004).

Singer, et al. (2003) surveyed over 6,000 employees working in 15 civilian hospitals throughout California. The majority of the hospitals had 150 – 600 in-patient beds. The survey instrument was initially constructed from five existing surveys: operating room management attitudes, anesthesia work environment, naval command assessment, risk management, and safety orientation. At each participating hospital, the target sample was 100% of the hospital's attending physicians, 100% of senior executives (department head or above), and a 10% random sample of all other employees. Almost 3,000 surveys were returned, with an overall response rate of 47.4%; excluding physician, the return rate was 62%.

Results showed that the work cultures differed significantly, not only between hospitals, but also by clinical status and job class within individual hospitals (Singer, et al., 2003). There was a definite discrepancy between the attitudes and experiences of senior managers (particularly non-clinicians) and those of non-managers. Non-clinician senior managers answered more often in ways consistent with a culture of safety than did personnel who actually take care of patients.

The dissonance between non-clinician senior managers and front-line workers may reflect a tendency for front-line workers and middle manager to gloss over patient care problems in briefings to senior managers (Singer, et al., 2003). This could make it difficult for non-clinician executives to understand the true state of their organization, to determine changes needed, and to assess their attempts to create and maintain a culture of safety. The results also may reflect an inadequate communication to the front-line workers, and a lack of commitment of management to patient safety.

The study conducted at Landstuhl Regional Medical Center (LRMC) is distinctive in many different ways:

1. An extensive review of the literature revealed no significant studies of leadership, communication, and citizenship behaviors related to military or civilian hospitals that consider the entire spectrum of theories, using multiple measures to study a wide range of hospital employees.
2. The study was conducted at the largest military medical facility in Europe, and assessed leadership, communication, and organizational behavior, at one facility. Previous studies have usually examined only one or two elements.
3. The study surveyed over 1000 staff members. This is the first survey taken of other health care professionals who are also attached or assigned to a regional medical center. These other professionals work in the areas of physical therapy, occupational therapy, audiology, optometry, social work, chaplaincy, quality management, pharmacy, radiology, and laboratory facilities. This survey included ancillary staff including nutrition workers, medical technicians, nursing assistants, and administrative personnel.

4. This study is the first survey of both enlisted professional and paraprofessional personnel. Previous studies were only interested in responses from management, physicians, or nursing staff.

5. This study also surveyed personnel who work primarily in an out-patient clinic environment, but function within a hospital setting. Previous studies focused only on in-patient staff.

6. This is the first survey of Army and Air Force personnel who are working in the same organization. Active duty Army personnel comprise the majority at 51%, along with 17% Air Force personnel. The remainder are 32% civilians, which is further broken down to 19% government service and 13% local nationals. This mixture of employees is rarely found in any military or civilian organization, and presents a unique environment to study.

7. The study provided valuable information regarding leadership, communication, and citizenship behaviors in a joint military medical center. The mandate from the 2005 Base Realignment and Closure Plan creates multiple joint military medicine sites and mandates that the Air Force will manage six joint sites, the Navy will manage four, and the Army will manage two. This means that two or more services will provide military medical care at one hospital or clinic.

8. This is the first survey of hospital personnel who are temporarily assigned to the facility. Personnel can be temporarily assigned for a duration of a few days to several months or a year. Creating trust and respect is difficult under such a circumstance, and likely presents a challenge to effective delivery of patient care.

9. This is a unique survey of an organization with a different mission, in part, than civilian hospitals. LRMC provides an unusual environment due to the wide diversity of patients, from the walking wounded to the critical trauma patient or former prisoners of war.

The field study is a bottom-up assessment of the quality of leadership, communication, and organizational citizenship in a military hospital, as reported by employees that are directly involved with operations that can affect patient outcomes. In particular, measures of the quality of Leader-Member Exchange (via the LMX-7 questionnaire), Communication Satisfaction (via the CSQ questionnaire), and Organization Citizenship (via the OCB questionnaire) was obtained from a survey of over 1,000 personnel throughout the military medical center. The study examines how these measures are influenced by a variety of individual employee demographic variables: status, military rank, assigned deputy-commander, time on station, time in service, gender, age, supervisor time on station, supervisor time in service, supervisor gender, supervisor race, supervisor status, and supervisor military rank. The degree to which each employee demographic factor influences the resulting scores for leadership, communication, and organizational citizenship was analyzed. Where measures of these three organizational variables (or their subordinate dimensions) yield low survey scores, results may indicate an area of possible concern for successful execution of the hospital mission; conversely, high scores may indicate aspects of the organization that enhance the quality of service to the patient. In any case, an examination of the underlying employee demographic variables in association with these established measures uncovered factors that are most strongly associated with leadership, communication, and citizenship behaviors. This study also increased the current understanding of the underlying organizational theories.

CHAPTER 2

Leadership, Communication, Organizational Citizenship, and Underlying Personal Demographic Factors

Introduction

This chapter presents the proposed dependent variables, leadership, communication and citizenship measures. Following a review of each dependent variable the appropriate research question is stated. In addition, the independent variables are reviewed along with their relationship to the dependent variables.

As shown in Chapter 1, military and civilian hospitals experience many of the same challenges in providing quality patient care. Both have experienced a significant increase in the number of sentinel events in recent years, with the majority of errors attributed to communication problems. In addition, both face shortages in physicians, particularly within certain specialties, in addition to a generalized shortage of nurses.

Military hospitals are unique in various ways. The mission of a military hospital is to protect and sustain the health of the fighting force, as well as the health of the entire military patient population, which includes family members and other dependents. Funding is controlled by the Military Health System (MHS), and these facilities are not subject to the same economic and marketing pressures that civilian hospitals face. Military hospitals must also comply with Department of Defense directives.

Despite such challenges, both military and civilian hospital leaders are expected to operate their organizations at the highest level of effectiveness. However, due to the

increasingly complex environment, measures and methods that supported past performance may not work as well in the current setting.

Dependent Variables

This study posits three elements in a hospital that are the most relevant: leadership, communication, and organizational citizenship behavior. Appendix B contains a full list of variables. Broadly, the reasons are:

1. Leadership. The effects of leadership can produce far reaching consequences throughout the organization. Effective leadership is needed to respond to crucial needs, including reducing unnecessary medical errors. Leadership is also needed to address multiple hierarchies of professionals, including clinical and administrative roles that generate challenges in directing and coordinating healthcare. Hospital leaders have the ability to influence employee morale and job satisfaction. Leaders also have the capability to ensure compliance with medical standards of care, federal laws, and hospital policy. Leadership difficulties are demonstrated by low morale and low job satisfaction, problems with regulatory standard compliance, and an increase in the number of patient-safety sentinel events (Liden & Graen, 1980; Yukl, 2003).
2. Communication. Communication in organizations has not only become far more complex and varied, but also more important to overall organizational functioning and success (Desanctis & Falk, 1999). Effective communication must exist for all employees, including leaders. For hospitals in particular, a high level of communication will have a significant impact on the common root cause of sentinel events – communication breakdown.

3. Organizational behavior. The field of organizational behavior investigates the impact individuals, groups and structure have on behavior within the organization (Robbins, 2005). Organizational behaviors can stimulate and enhance communication and leadership activities, and affect overall success. Organizational behavior issues interact with communication and leadership concerns, and can enhance or diminish the effect of these two areas.

There are numerous independent variables that may influence leadership, communication and organizational behavior. Independent variables were selected based on their generalized applicability to the population. The following section reviews each independent variable.

Independent Variables

Status

Status indicates the individual's employment category. Personnel employed at LRMC are present because they belong to one of the following; Army, Air Force, Navy, Civilian Government Service, or Local National (Table 1, Chapter 3). Government service (GS) civilians typically have specialized skills and experience not available in the local national population, but essential for LRMC to function. Local National employees also have a significant role, as many have the necessary knowledge and familiarity with local procedures and laws that military and government service civilians do not possess.

Employee status is an important variable in this study, because each component provides a unique background to the environment found at LRMC. Both Army and Air Force have their own policies and rules; however, Army policies dominate because LRMC is an Army facility.

Both sets of policies and rules govern aspects of leadership throughout LRMC, and these policies and rules also apply to the two other categories of employees at LRMC: Government Service and Local National. For example, due to Department of Defense (DoD) regulations, GS civilians may supervise military members and Local Nationals, however due to the Status of Forces Agreement between DoD and Germany, Local Nationals may only supervise GS personnel.

The differences between groups may affect individual behaviors related to leadership. Army and Air Force personnel complete different professional education and have different experiences throughout their career which may shape their particular behaviors. These effects are also true of local national and government service civilians.

Rank

All personnel (military and civilian non-military members holding comparable status) working at LRMC are assigned a specific rank. This applies to other non-military personnel of any status indicating various levels of rank. Rank usually signifies that the individual has a certain degree of experience and knowledge. A person's rank may also correlate with their leadership responsibilities and authority. A person with higher rank has the authority to direct the actions or delegate tasks to lower ranking personnel.

Tension may increase between doctors and nurses when both are working on an in-patient ward. In some circumstances the nurse may out-rank the doctor, but the nurse is expected to comply with the doctor's orders and direction.

Time on Station

This term indicates the length of time the individual has been working at LRMC, and is the reciprocal of turnover rate as used in civilian organizations. It is a significant factor because LRMC personnel move out of the organization on a routine basis, most often due to reassignment. On average, one third of the active duty employees move on an annual basis, and there is rarely any overlap between the old and new employees. Moving from assignment to assignment is part of military life; the military member may become accustomed to this cycle, but may never be totally comfortable with the process.

Turnover burdens both the new supervisor and the new employee to establish a positive working relationship. Establishing mutual trust, respect, and reciprocal influence, must begin again due to the turnover. The new employee has not established the sense of trust, loyalty, or belonging that other employees may have established. New employees are further challenged with coping in a new environment, and learning a new culture and language. Employees who remain behind are expected to assist with the orientation and training of the new employees, in addition to fulfilling their current job duties and responsibilities. Local National employees typically remain after military personnel move, and many of them have worked at LRMC for decades, and retain a wealth of historical knowledge that is passed on to new personnel.

Time in Service

This indicates the length of time the individual has been employed either as a soldier, airman, sailor, government civilian or local national. This is an important factor because the longer a person is employed by the same employer the more experience they are likely to have

about their specific duties and job expectations. With this level of experience, the individual will likely be more effective performing their job.

Assigned Deputy Commander

LRMC personnel are aligned under one of four deputy commanders. Deputy Commander of Administration (DCA) supervises logistics, patient administration, information management, resource management, and personnel. Deputy Commander for Primary Care (DCPC) supervises the emergency room and primary care clinic located at LRMC, and the eight geographically separated clinics located in Italy, Belgium and Germany. Personnel assigned under the DCA were eliminated from this study because of the minimal patient contact and previous sentinel events are not associated with divisions under this deputy commander. Personnel assigned under the DCPC were eliminated from the study because the vast majority are geographically separated from LRMC.

The Deputy Commander for Clinical Services (DCCS), who is also considered the chief medical officer for LRMC, directly and indirectly supervises physicians in charge of the delivery of care in the in-patient setting, and these physicians are also responsible for the care of patients in the out-patient setting. The Deputy Commander for Nursing (DCN) directly and in-directly supervises nurses, technicians and other support personnel that are assigned to the in-patient wards.

Weinstein (2003) studied the relationship between the chief medical officer and director of nursing and believes if their relationship is built on trust and mutual respect, that message is disseminated throughout the organization. Zimmerman (1993) and Shortell (1994) found lower

death rates, lower risk-adjusted length of stay, lower nurse turnover, associated with higher quality nurse-physician communication. By studying this factor, we are examining the nature of the relationship between the chief nurse executive and the chief medical officer.

Gender

At LRMC, the majority of physicians and surgeons are male and are assigned under the Deputy Commander for Clinical Services. Most of the females are nurses and technicians and are assigned under the Deputy Commander for Nursing. However, unlike some civilian organizations, females are a part of the leadership structure throughout LRMC.

Glen, Rhea and Wheeless (1997) surveyed 153 male and female nurses regarding their interpersonal communication satisfaction with physicians. Results indicated that same-sex interactions were significantly more satisfying for female nurses, while mixed-sex interactions were more satisfying for male nurses.

Age

As stated in chapter one, the nursing workforce is rapidly ageing. In the year 2000, two-thirds of all U.S. nurses were over the age of 40, and nurses under the age of 30 declined by 41% between 1983 and 1998 (GAO, 2001). These facts have an impact upon military and civilian health care recruiting and retention. In addition, hospitals are losing individuals with valuable experience. Finally, the age of the employee can also influence the individual's attitudes and beliefs, and their actions on the job.

Race

The proportion of minority group members in the general civilian work force in the United States has grown so rapidly that white non-Hispanic people make up a considerable smaller majority (Greenberg, 2002). Their proportion dropped from 80% in 1986 to 75% in 1996, and is expected to drop further to 73% in 2006. In addition, the number of African Americans, Hispanics, and Asians in the workforce will continue to increase. Membership in the military mirrors these civilian trends, and in 2002, African Americans made up about 22% of military personnel, divided among 28% Army, 21% Navy, 18% Air Force, and 15% Marine Corps (Segal & Segal, 2004). Hispanic representation is still below that of African Americans, with the greatest numbers found in the Marine Corps at 15%, and the lowest in the Air Force at 4%. Ethnic experiences can influence the individual's attitudes and beliefs, in addition to affecting decisions and actions related to leadership, communication and citizenship behavior.

Participant's Supervisor Time on Station

This term indicates the length of time the participant's supervisor has been working at LRMC. Recall that this term is equivalent to the turnover rate, however here it concerns the supervisor's length of time at LMRC. Turnover burdens both the new supervisor and the new employee to establish a positive working relationship. Establishing mutual trust, respect, and reciprocal influence, must begin again due to the turnover. The longer a supervisor has been at LRMC, the more experience and knowledge they may accumulate. The supervisor's high level of familiarity may benefit the subordinate.

Participant's Supervisor Time in Service

This indicates the length of time the participant's supervisor has been employed as a soldier, airman, sailor, government civilian or local national. This is a key factor because the longer the supervisor is employed by the same organization the more experience they are likely to have about the organization and related duties.

Participant's Supervisor Gender

Just as the participant's gender may influence work place behaviors, the gender of the supervisor may also influence the participant's behaviors and attitudes. Varma (2001) established that male supervisors treat their female subordinates differently, in addition, female supervisors might treat their male subordinates differentially, as well. This is an important finding given the higher number of females working in a hospital setting.

Participant's Supervisor Race

The racial identity of the supervisor may influence their attitudes and beliefs, which in turn can influence the participant's behavior and attitudes. Military directives specify standards of conduct regarding equal opportunity and diversity, however these standards cannot dictate the quality of the relationship between individuals. In addition, the supervisor has no choice regarding who they supervise.

Participant's Supervisor Status

Status indicates the supervisor's employment category as Army, Air Force, Navy, Government Service, or Local National. Each category has their own policies and rules governing work place behaviors. Differences between the status of the participant and the supervisor may influence and shape a wide range of behaviors.

Participant's Supervisor Rank

The specific rank of the supervisor is associated with the amount of experience the supervisor has accrued. The supervisor with more experience may influence the subordinate's attitudes and behaviors. Supervisors who are close in rank to their subordinates may relate better than supervisors that are higher in rank to their subordinates. On the other hand, subordinates may need to rely on the experience of their supervisor who is higher in rank.

Manager Category

The final independent variable concerns the participants that manage or supervise others. Supervisors may have distinctively different attitudes from personnel who do not manage others. Supervisors may have the responsibility for personnel of any status (Army, Air Force, Navy, Government Service or Local National) and interaction with any or all of these personnel may influence their attitudes and behaviors.

Leadership Measures

The leadership in an organization can address compliance issues and communications that influence successful outcomes. An examination of leadership can also clarify factors surrounding recruiting and retention of qualified staff. Because the subject of leadership has been popular for a number of years, theories and publications abound. The following leadership theories were explored as a possible theory to apply to this present study: Trait Approach (Northouse, 2003; Yukl, 2003), Skills Approach (Katz, 1955, Northouse, 2003), Style Approach (Northouse, 2003; Yukl, 2003), Situational Leadership (Northouse, 2003), Transformational Leadership (Daft & Marcic, 2004; Northouse, 2003), and Leader-Member Exchange (Graen & Cashman, 1975; Liden & Graen, 1980).

The most useful leadership theory to apply to this study of Landstuhl Regional Medical Center (LRMC) is the Leader-Member Exchange (LMX) theory. This theory was chosen because:

1. The LMX theory applies to all members of LRMC, whether the person is a supervisor or a subordinate;

2. The ability to consider the diverse demographic variables among the employees, including both military and civilian employees at LRMC.

3. LMX theory is the best single predictor of communication competence (Flauto, 1999);

4. This theory of leadership is one of the few theories that describe the interaction and relationship between the leader and follower (Northouse, 2003).

5. The Leader-member exchange survey (LMX - 7, Appendix C) addresses very practical aspects of leadership, drawing attention to the individual relationship that followers have with

their leader. It has been found useful in gauging a follower's level of satisfaction with their leader, and in unearthing differences in perception of the relationship between leader and follower. The scale is a seven-item measure that a number of studies have used to examine mutual trust, respect, obligation, and the quality of the relationship between leaders and followers in cross-cultural settings (Graen & Uhl-Bien, 1995). The LMX - 7 questionnaire has a reliability of 0.92 (Thomas, 2004).

Leader-Member Exchange (LMX) Research

This leadership theory was developed by Graen and his associates (Graen & Cashman, 1975; Liden & Graen, 1980), and is based on the idea that role development will result in differentiated roles, and therefore various levels of LMX quality. Graen and Uhl-Bien (1995) argue that LMX is composed of respect, trust, and obligation. Schriesheim, et al., (1999) goes further, and claim that six sub-domains reflect this type of relationship: mutual support, trust, liking, latitude, attention, and loyalty. Graen suggest that because of time pressures and the need for efficiency, the leader develops close relationships with only a few key subordinates. Therefore, subordinates can be divided into two basic categories: the in-group, and the out-group.

Leader-Member Exchange (LMX) theory describes a process-centered interaction between leaders and subordinates (or members) (Flauto, 1999). In its simplest form, a dyadic relationship is created, which is the focal point of the leadership process. The leader (L) forms an individualized working relationship with each of his or her subordinates (S), as demonstrated

in figure 4. The exchanges (both content and process) between the leader and subordinate (or member) define their dyadic relationship.

Brower et al. (2000) believes the LMX relationship begins at a point where contractual behaviors are expected of both parties. As the relationship progresses, each person evaluates their perceptions of the ability, benevolence, and integrity of the other subordinate (or member). Notice that the arrows used to form the LMX diagram are bi-directional, meaning that the relationship behaviors and reactions are demonstrated by both the leader and subordinate.

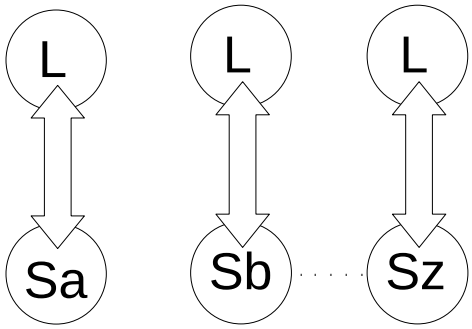

Figure 4. Leader-Subordinate Relationships.

Various authors believe that supervisors manage subordinates in two distinct ways, and thus differentiate subordinates in two different groups. For the first group, the superior develops a supervisory style that relies on rigid authority, formal employment contracts, and role expectations (Dansereau, Graen, & Haga, 1975; Dienesch & Liden, 1986; Graen & Schiemann, 1978; Liden & Graen, 1980). Researchers labeled this relationship as the LMX "out-group." For the second group, the superior develops a less formal, more interactive leadership style that

relies on interpersonal relationships, as well as contractual norms and role expectations, and researchers labeled this relationship as the "in-group."

The leader provides influence and support, and gains committed, competent, and conscientious subordinates (Liden & Graen, 1980; Yukl, 2003). Subordinates considered part of the in-group are given more significant work assignments, or more significant roles in the organization, and ultimately establish close, high quality LMX relationships with their supervisors. As a consequence, the relationship with their supervisor is characterized by trust and emotional support (Dienesch & Liden, 1986). From these high quality relationships, subordinates receive certain advantages: formal and informal rewards, access to supervisors, and increased communication (Dienesch & Liden, 1986; Graen & Scandrua, 1987; Wayne et al, 1997). Subordinates also receive special benefits and opportunities, favorable performance review, promotions, and career development support (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Dienesch & Liden, 1986; Graen, et al, 1990; Yukl, 2003).

Crouch and Yetton (1988) examined LMX and performance from the opposite direction, speculating that performance affects LMX. Leaders sustain different relationships with members depending on their level of task performance, and members who are rated high on performance have high task contact with their manager. Members who perform at a low level, have low task contact with the leader, and report experiencing little friendliness from the leader, suggesting the possibility that leaders allocate problems differently among members. This suggests that leaders may specify the same problem differently for different members, and in-group members are given substantial discretion in defining their own problems. On the other hand; leaders provided structured tasks to subordinates with weak performance records, giving them tasks that required

little effort to be successful. With this same issue, Dunegan, Duchon and Uhl-Bien (1992) proposed that the job task itself would serve as a moderating influence on LMX and member performance.

Measuring Leader-Member Exchange in a Military Hospital

The Leader-member exchange survey (LMX - 7, Appendix C) is the most commonly used and well-validated measurement tool employed to examine the relationship followers have with their leader (Graen & Uhl-Bien, 1995). However, numerous tools have been used to measure this relationship. Between 1984 and 1997, 64 studies used 10 different surveys to measure LMX, some of these included, LMX -4, LMX-5, LMX 6, LMX-7, LMX-12, LMX-13, LMX-14, LMX-17, Negotiating Latitude, and LMX-Multidimensional (MDM). Notably, the most commonly used survey was LMX-7, which was used in 44% of these studies (Liden, et al, 1997). In addition, Gerstner and Day (1997) found in their meta-analysis that the LMX-7 survey had the soundest psychometric properties. "We found higher average alphas for the LMX-7 measure as compared with the average reliability for all other LMX measures. In addition to its higher average alpha, studies using the LMX-7 measure also tended to obtain higher correlations with outcomes than those using other measures" (Gerstner & Day, 1997, p. 836-837).

In the same time period, various researchers argued that a multidimensional construct is a better model of the leader-member relationship (Dienesch & Liden, 1986; Liden, Sparrowe & Wayne, 1997). However, Liden et al. (1997) believe additional research is needed to improve the LMX-MDM scale, and they made several recommendations. Researchers should modify the

LMX-MDM dimension of contribution, and add an item to increase reliability, and the scale should be used in diverse organizations to enhance generalizability. In addition, Greguras (2006) compared the utility of the LMX-MDM scale with the LMX-7 scale, and concluded, "The results suggest that the different measures and different perspectives each tap something unique to the LMX relationship" (p. 461).

Finally, a blunt comparison of these two surveys shows one obvious difference between LMX-MDM and LMX-7 tools. The primary difference deals with the LMX-MDM dimension of affect, and is measured with three questions on the LMX-MDM survey: 1) I like my supervisor very much as a person, 2) My supervisor is the kind of person one would like to have as a friend, 3) My supervisor is a lot of fun to work with. In a military environment, neither the supervisor nor the subordinate has any choice regarding who they supervise or who becomes their supervisor. The military has standards of conduct regarding equal opportunity, however these standards, of course, cannot dictate the quality of the relationship between individuals. In addition, supervisors and subordinates are not required to either like or befriend each other, nor have fun at work in a military environment. Using the LMX-MDM survey with these questions, in a military organization, may bias responses.

Based on the above information, the best measure of the leader-member exchange is the LMX-7 survey. The questionnaire addresses very practical aspects of leadership, drawing attention to the individual relationship that followers have with their leader. It has been found useful in gauging a follower's level of satisfaction with their leader, and in unearthing differences in perception of the relationship between leader and follower. The scale is a seven item measure that a number of studies have used to examine mutual trust, respect, obligation,

and the quality of the relationship between leaders and followers in cross-cultural settings (Graen & Uhl-Bien, 1995). The LMX - 7 questionnaire has a reliability of 0.92 (Thomas, 2004).

Personal Demographic Factors

Status and LMX

The differences between the five groups (Army, Air Force, Navy, Government Civilian, and Local National) can disrupt the dyadic relationship due to the lack of respect, trust, and obligation. This possible disruption will cause subordinates to be classified in the out-group. For example, Army enlisted personnel conduct mandatory training every Thursday morning, leaving Air Force personnel and civilians on their own.

The disrupted dyadic relationship can cause the perception of further disorder. As described earlier, those categorized as part of the out-group may not receive these same benefits as leaders and subordinates in high quality relationships (Dienesch & Liden, 1986; Graen & Scandrua, 1987; Wayne et al, 1997). This perception of inequality can further disrupt the leader-member exchange and prevent the subordinate from achieving a more significant role in the organization or gain other benefits.

Some employees may feel a certain level of antagonism against a person from another service. Part of this may stem from a feeling of inter-service rivalry, or the employee may not foster a better relationship because there is little chance of working again with a person from a different service. However, it is common for individuals from the same service to be assigned together again at another military base in the future. Therefore, status can be a critical factor in

whether they maintain a short term approach to their dyadic relationship and not attempt to foster a more positive relationship.

Rank and LMX

Obtaining a high quality leader-member exchange between superior and subordinate in a military environment may be influenced because of military rules and policies. Officers and enlisted personnel are cautioned against forming unprofessional relationships. The military considers that unprofessional relationships negatively affect morale and discipline. However, the rules regarding these relationships must be somewhat elastic to accommodate different conditions; the underlying standard is that members are expected to avoid relationships that negatively affect morale and discipline of the unit.

In addition to military rules and policies, obtaining a high quality leader-member exchange may be influenced by the individual's experience and education, as reflected by their rank. Lower ranking personnel usually have less experience and/or education than higher ranking personnel. Education and experience may affect the manner in which the individual relates to their supervisor. Individuals with more experience and education may also assist other employees with less experience or who are lower in rank.

As differences in rank increase, there may be more risk that the relationship will be perceived as unprofessional because senior members in military organizations normally exercise direct or indirect authority over more junior members. This situation may allow the senior member to abuse their authority, or provide certain benefits to the junior member.

Bauer and Green (1996) demonstrated that performance-delegation interaction can be an integral part of LMX development. Delegation proved to be a very useful predictor of exchange quality in this work. These findings suggest that delegation should be considered as a pivotal variable in understanding leader-member (or subordinate) interactions and leader-member exchange development. This established for the first time the important role delegation can play in the development of leader-member exchange.

Personnel with a higher rank typically supervise personnel with lower rank. This level of supervision can be on a formal or in-formal basis. Brower et al. (2000) found that leaders have different capacities for the number of high quality LMX relationships. Some leaders may feel comfortable with many high quality relationships, others maintain only a few. Several authors questioned the premise regarding the leader's limited capacity. Graen, Novak, and Sommerkamp (1982) conducted a field experiment and successfully trained leaders to maintain high-quality relationships with all members. The result of this intervention was marked by an increase in performance and satisfaction. Years later, Graen and Uhl-Bien (1995) also argued that supervisors potentially have the necessary resources to negotiate high quality exchange with all members. Green et al. (1996) argue that even if a leader's supply of intangible resources is constrained, this does not *M* that the leader will distribute them to differentiate between a member of the in-group and a member of the out-group.

Time on Station and LMX

When considering time on station, it is important to understand the life cycle model of the LMX relationship (Graen & Uhl-Bien, 1991). The process begins with Phase One, the

stranger phase, interaction between the two strangers occurs on a more formal basis, and relies on contractual relationships. Leaders and subordinates behave within prescribed organizational roles. The subordinate complies with their expectations from the formal leader, with the motivation toward self-interest rather than the good of the organization.

Phase two, the acquaintance stage, shows increased social exchanges occurring between individuals, but not all of the exchanges are contractual. These exchanges begin with an offer by the leader or subordinate for improved social exchanges, involving an increased level of sharing. The leader and subordinate begin to share greater information and resources, however these exchanges are still limited and are considered part of a testing stage (Graen & Uhl-Bien 1991; Graen & Uhl-Bien, 1995). The testing period assesses whether the subordinate is interested in taking on more roles and responsibilities, and whether the leader is willing to provide further challenges to the subordinate.

Phase three is considered the mature partnership phase, and is marked by high-quality LMX exchanges. Individuals experience a high degree of mutual trust, and obligation. The leader and subordinate are linked together beyond the traditional hierarchy, and the exchange is considered transformational in that both are moving beyond their own self-interests to accomplish the greater good of the group and organization (Graen & Uhl-Bien 1991; Graen & Uhl-Bien, 1995).

Dienesch and Liden (1986) developed a different model that used attribution theory, role theory, social exchange theory, and upward influence. With this model, the first step occurs with the first interaction between leader and subordinate. Dienesch and Liden (1986) suggest that the characteristics of the leader and subordinate influence this initial interaction and the

development process. The second step of this model involves the leader testing the subordinate through work-related assignments. The subordinate makes attributions regarding the leader's assignments, and responds in a positive or negative manner. In the last stage of this model, the leader makes attributions regarding the subordinate's behavior.

Graen and Scandura (1987) proposed a description of the LMX process, which consists of three phases: role taking, role making, and role routinization. The first stage, role taking, involves multiple communication episodes between the leader and subordinate. The subordinate's behavior provides feedback to the leader, who decides whether to initiate other episodes. During this stage of development, the leader tests and assesses the subordinate's potential. With the second stage, role making, the relationship between the leader and subordinate becomes defined. Either person may initiate this phase; however, the leader usually provides an opportunity for the subordinate to attempt an unstructured task. If the subordinate accepts this opportunity, the relationship may develop into a high-quality exchange. The final stage is role routinization, the point where the behaviors of the leader and subordinate become interlocked. It is also the point where the leader and subordinate develop mutual understanding and expectations, which result from collaboration on unstructured tasks. Graen and Scandura (1987) imply that the quality of the exchange between leader and subordinate will remain stable from this point forward.

Moving from assignment to assignment is part of military life. Part of the stress from moving may stem from forming new relationships with supervisors and co-workers with every new assignment. As described above, both the supervisor and subordinate progress through various stages of the leader-member life cycle. However, neither employee may have the time to

ultimately form a high quality leader-member exchange due to the need to move to another assignment.

Time in Service and LMX

Time in service with an organization is an important factor because the longer a person is employed by the same employer, the more experience they are likely to have about their specific duties and job expectations, as well as the overall cultural norms and expectations of their employer. With this level of experience, the individual will likely be more effective performing their job. Although Minsky (2002) conducted one of the few studies dealing with tenure and LMX, and found no relationship between tenure and LMX, in a military setting it is reasonable to assume that time in service is a relevant factor to study.

Assigned Deputy Commander and LMX

Landstuhl staff assigned to an in-patient area (or assigned under the DCN) typically rotate shifts, while their supervisors are typically assigned to the day shift. This may reduce the contact between the employee and the first line supervisor, in addition to the secondary supervisor. Individuals serving the out-patient population (or DCCS) may have better contact between the employee and supervisor, because both are working the same duty hours. Therefore, the employee's assigned deputy commander may influence the leader-member exchange due to rotating shifts, less contact with supervisor, and other employees.

Gender and LMX

Many researchers have studied employee gender and the possible impact on leadership. Associations between gender and LMX have been mixed. Graen, Novak, and Sommerkamp (1982) and Bedi (2000) found positive associations between gender and positive ratings of LMX. However, Lamude et al (2004) and Matkin (2005) reported no association between gender and higher levels of LMX.

Hill (1998) surveyed Army medical personnel to study the effects of gender on LMX relations and found that the highest quality LMX relationship were reported by female members with female leaders, and male member with male leaders. Milner et al (2007) explored the effect of gender in a civilian organization and found similar findings; males experienced a more positive LMX relationship under male supervision, and females experienced a more positive LMX relationship under female supervision. Authors suggest that similarity may facilitate predictability, and these individuals may develop similar methods of communication (Milner et al.,2007).

Age and LMX

At LRMC, the individual's age may be a factor in developing a high quality LMX relationship when the supervisor is younger than the subordinate. The young supervisor may not have the same level of experience or knowledge as the subordinate, and may be intimidated by the inequity. The older subordinate may resent being supervised by a younger subordinate and inhibit the progress of the leader-member exchange towards the mature partnership phase.

Race and LMX

Only a few studies were found that examined these two variables, and outcomes varied with each study. In a study of teacher and student relationships no support was found regarding ethnic similarity and the quality of the relationship between the two (Bowler, 2001). Bedi (1999) explored supervisor and subordinate dyads and found that race was found to significantly affect the quality of the exchange relationship.

In a military environment, neither the supervisor nor the subordinate has any choice regarding who they supervise or who becomes their supervisor. The military has standards of conduct regarding equal opportunity and diversity, however these standards, of course, cannot dictate the quality of the relationship between individuals.

Participant's Supervisor Time on Station and LMX

The supervisor with the most time and experience may pass on this knowledge to their subordinate and thus enhance their working relationship. Previous studies have examined voluntary turnover, however little information is available regarding the impact of mandatory turnover for the supervisor and the repercussions for leadership behaviors.

Participant's Supervisor Time in Service and LMX

Supervisors may share knowledge that they have accumulated from their time in service. This unique knowledge may relate to their status in the Army, Air Force, Navy, Government Service, or Local National. Or the unique supervisor's knowledge may be related

to their experience in the hospital setting. Sharing this knowledge and experience may enhance the leader-member exchange.

Participant's Supervisor Gender and LMX

Varma (2001) established that male supervisors treat their female subordinates differently; in addition, female supervisors might treat their male subordinates differently, as well. This is an important finding given the increasing number of females entering the American workplace and slowly assuming supervisory positions, and the higher number of females working in a hospital setting. Millner (2007) found that the gender of the leader and subordinate is influential, along with the interaction between the two. When gender of the supervisor and subordinate match, subordinates experience the exchange relationship more positively. This finding supports the belief regarding the importance of leader and follower characteristics.

Participant's Supervisor Race and LMX

Few studies examined the race of the supervisor and the participant's LMX scores. Military directives specify standards of conduct regarding equal opportunity and diversity, however these standards cannot dictate the quality of the relationship between individuals. In addition, the supervisor has no choice regarding who they supervise.

Participant's Supervisor Status and LMX

When the participant and the supervisor share the same status (Army, Air Force, Navy, Government Civilian, Local National) the LMX score may be higher. Conversely, when the

status between the participant and supervisor is different, LMX scores may be lower. Army, Air Force and Navy personnel complete different professional education and have different experiences throughout their career which may shape their particular behaviors. These effects are also true of local national and government service civilians.

Participant's Supervisor Rank and LMX

The higher the rank of the supervisor the more knowledge and experience the individual has obtained. Education and experience may affect the manner in which the supervisor relates to their subordinate. Supervisors may use their previous experience to modify their leadership behaviors and how they relate to subordinates, which may be reflected in LMX scores.

Managers Category and LMX

Supervisors may have distinctly different attitudes from personnel who do not manage others. Supervisors may have the responsibility for personnel of any status (Army, Air Force, Navy, Government Service or Local National) and interaction with any or all of these personnel may influence their leadership behaviors.

Research Question

RQ1 – Which personal demographic factors influence the quality of leader-member exchange?

Communication Measures

Communication in today's organizations has not only become far more complex and varied, but also more important to overall organizational functioning and success (Desanctis & Falk, 1999). Yrle, et al (2002, p 258) emphasizes that, "Distortions, arising from lack of congruence between supervisors and subordinates, have been seen as a primary problem area, moderating the direct relationship between improved communications and satisfaction and/or performance outcomes." The move to information-dependent and technology-dependent organizations spawned by the digital age only underscores the increasing importance of effective organizational communication (Pasmore, 1994). Boyett and Boyett (1988) conclude that inadequate information about organizations, customers, and individual performance is a major cause of more than half of all problems with human performance. By improving the quality and timeliness of information people receive, performance can be improved by as much as 20-50%. Both leaders and employees find that an important part of their work is communication, especially with knowledge-intensive organizations such as science-based institutions or organizations (Baker, 2002). Communication is at the very center of healthcare (Kreps, 2002). To gather relevant diagnostic information from doctors, nurses, and other staff members, health-care providers depend on their ability to communicate effectively. At the broader system-wide level, communication is the primary means that professionals have for generating cooperation and coordination (Wright, Sparks, and O'Hair, 2007).

In order to understand the barriers to effective communication, we must have a clear understanding of the communication process. There are five common elements in every communication situation: the sender, the message, the channel, the receiver, and noise.

Encoding and decoding are potential sources of communication errors, because knowledge, attitudes, and background act as filters and create "noise" when translating from symbols to meaning. Feedback occurs when the receiver responds to the sender's communication with a return message (Draft & Marcic, 2004). This model suggests that communication is incomplete when the feedback loop has not been closed. Organizations of all types struggle to obtain valuable feedback from employees. Feedback is a powerful aide to communication effectiveness, because it enables the sender to determine whether the receiver correctly interpreted the message, (Draft & Marcic, 2004).

Without communication feedback various elements can influence, enhance, or interfere with this process. Shift workers within a hospital, for example, have limited access to certain communication channels, and they may have inadequate access to computers, or they may not be able to attend meetings that help disseminate information. Shift workers may also have reduced contact with their supervisor. The sender or receiver can and does influence the communication process, their attitudes, assumptions, culture or previous experiences can completely change the intended message (Daft & Marcic, 2004).

In addition, feedback is missing from electronic messaging, or e-mail, which is increasingly being used for messages that were once handled via the telephone. A recent survey by Ohio State University researchers found that about half the respondents reported making fewer telephone calls since they began using e-mail. Because e-mail messages lack both visual and verbal cues, messages can often be misunderstood (Daft & Marcic, 2004).

One key purpose of organizational communication is to direct action, and persuade others to behave in a desired fashion. Communication is the vehicle through which leaders and

subordinates create, nurture, and sustain useful exchanges. Effective leadership occurs when the communication between leaders and subordinates is characterized by mutual trust, respect, and commitment. Communication in organizations often involves not only single efforts, but also concerted action. For an organization to function, individuals and groups must carefully coordinate their efforts and activities. Communication is the key to these attempts at coordination. Without it, people would not know what to do, and organizations would not be able to function effectively (Greenberg & Baron, 2003). Communication is complex, and the opportunities for sending or receiving the wrong message are innumerable.

The success of a superior/subordinate communication program depends upon the willingness and ability of both parties to communicate openly and effectively. Leaders spend a great deal of time interacting with their employees (Kelly, 1964; Mintzberg, 1973). Along with this, Berman and Hellweg (1989) show that this contact time is productive when the leader demonstrates effective communication skills.

Good internal communication is crucial not only to patient care, but to the success of the support control systems in healthcare organizations. Lack of effective communication may weaken the organization's ability to achieve business objectives, assure reliable financial record and report, and safeguard assets (Fellner & Mitchell, 1995). The Joint Commission on Accreditation of Healthcare Organizations (JCAHO, 2007) has also recognized the need for effective communication, and created a requirement stipulating that effective communication must be realized throughout the hospital, it must be timely, and must utilize multiple communication methods (JCAHO, 2007).

Communication Satisfaction (CS) Research

Hecht (1978) noted "the study of communication satisfaction is of vital importance" to the communication field. Hecht also suggested that communication satisfaction is an outcome of communication behaviors, and thus serves as "the basis for a holistic theoretical approach to the field." From this perspective it is appropriate that communication satisfaction has received considerable attention in the research literature in the past twenty years.

Communication satisfaction is usually defined on two levels, interpersonal and organizational. Downs and Hazen (1975) defined communication satisfaction at the organizational level as the overall degree of satisfaction that one feels from their total communication environment. These researchers also considered communication satisfaction as an important barometer of organizational well-being and functioning. Since then, various authors have restated and refined the definition. Pincus (1986) believed communication satisfaction is the "summing up" of an individual's satisfaction with information flow and relationship variables. Keyton (1991) explained communication satisfaction as a global communication dimension that is influenced by various factors.

Regarding the interpersonal level, communication satisfaction is conceptualized as the positive reinforcement provided by a communication event that fulfills positive expectations (Hecht, 1978). Hecht uses a behavioral perspective to view satisfaction as a communication outcome. The fulfillment of these behavioral expectations results in a positive affect and communication satisfaction. These authors also believe communication satisfaction is a multidimensional construct, meaning that employees are not merely satisfied or dissatisfied with

communication in general, but can express varying degrees of satisfaction about definite types of communication.

In organizational settings, communication satisfaction has consistently been found to be crucial to job satisfaction, task performance, productivity, commitment, and morale (Clampitt & Downs, 1993; Pincus, 1986). Scudder and Guuinan (1989) suggest that communication competence is an important predictor of employee success. Sypher, Bostrom, and Seibert (1989) found that listening and communication competency was significantly correlated with upward mobility within organizations. Employee communication satisfaction is important because it highlights a key issue for all employees throughout the organization (Gray & Laidlaw, 2004).

Pincus (1986) conducted a field study of 327 hospital nurses and investigated the relationship between perceived satisfaction with organizational communication, job satisfaction, and job performance. This study discovered that employees' perceptions of the quality of organizational communication are directly related to both their job satisfaction and job performance. Pincus also discovered a positive relationship between communication climate and the worker. He found a positive relationship between top management quality communication and employee contentment. This study revealed that hospital executives, by their words and actions, set the tone of the communication atmosphere in which their employees work. In addition, the superior – subordinate communication relationship is the most critical factor in subordinate job satisfaction. Pincus suggests that employee job performance also may be positively and substantially affected by employee perceptions of quality supervisor communication.

Spencer (1986) investigated the extent to which employees have the opportunity to voice dissatisfaction in 111 general-care hospitals. The results suggest that the opportunity for employees to voice dissatisfaction with their working conditions is negatively correlated with turnover. Many studies support the idea that the quality and quantity of leader/subordinate communication plays an important role in nurses' job satisfaction (Berns, 1982; Goodman & Kuch, 1981). Nurses in the Pincus study, through personal written comments, urged their top-level executives to be more accessible and to initiate contact with them regularly.

In another study of nurses, Wheeless et al. (1989) found that nurses described communication satisfaction in terms of how open and responsive physicians are, as well as how open the hospital is in giving them freedom to make decisions. Nurses evaluate how satisfied they are with communication largely through their interaction with doctors. Nurses had the highest communication satisfaction at work when physicians were responsive and left nurses with an impression they were heard. These actions are illustrated when doctors are attentive, and make nurses feel that they have accomplished something, and the doctors are professionally supportive of the nurses. Nurses also appear to feel satisfied with their communication with others when the hospital does not have a rigid rule climate that interferes with communication among doctors, nurses, and patients.

Researchers recognize that communication satisfaction is at the core of any activity, and is the factor that connects different functions into a unified organization. (Katz & Kahn, 1978; Pettit et al, 1997). Pettit et al, (1997) further acknowledge the importance of effective communication, and that it must result in communication satisfaction. Where employees are exposed to appropriate communication (e.g., receive timely and adequate feedback, are kept

informed of changes), favorable organizational outcomes occur (Gray & Laidlaw, 2004). Goldhaber (1988) concludes that communication satisfaction is important to the achievement of organizational goals, and is central to the existence and success of all organizations.

Measuring Communication Satisfaction in a Military Hospital

Measuring communication satisfaction is a useful gauge of the climate and health of the organization (Downs, 1998). Effective and satisfactory communication contributes to an organization's productivity, performance, and external customer orientation. Downs & Adrian (2004) found that communication satisfaction factors are related to job satisfaction, and through interviews they also confirmed the strong relationship between communication satisfaction and productivity. The researchers also demonstrated a positive relationship between communication satisfaction and sense of commitment to the organization.

An evaluation of communication satisfaction establishes a benchmark for the progress and future of the organization (Goldhaber & Barnett, 1988). Benchmarks can be examined for strengths and weaknesses, and used to diagnose actual or perceived communication obstructions that may undermine the success of any organization. Information revealed from surveys may improve the communication system, and may also affect the variables that characterize the system. A communication survey can also improve planning, organizing and the control of communication networks, policies and activities, and assist the organization to adapt to new situations or detect negative trends.

Communication satisfaction is typically measured through personnel surveys or questionnaires. Communication audits and assessments of communication satisfaction, in

particular, are designed to gather data on strengths and weaknesses in organizational communication, and provide a foundation for communication strategies that develop positive working relations, improve the transmission of information, and ultimately, improve the organization (Gray & Laidlaw, 2004).

Gray & Laidlaw (2004) comments that the communication satisfaction questionnaire developed by Downs & Hazen (1977) is one of the most comprehensive instruments available, because it assesses the direction of information flow, the formal and informal channels of communication, relationships with various members of the organization, and the forms of communication. The questionnaire provides an overview of potential problem areas according to Clampitt (2000). Gray & Laidlaw (2004) confirmed that items on the Communication Satisfaction Questionnaire are adequate indicators and support the original factor structure hypothesized by its developers.

The Communication Satisfaction Questionnaire (CSQ) by Downs and Hazen (1977) is the best instrument (appendix D) to assess organizational communication at Landstuhl Regional Medical Center, for several reasons:

1. The instrument has been used in a variety of organizations, including hospitals;
2. The CSQ instrument applies to all members of the organization, whether or not the person is a supervisor or a subordinate;
3. Researchers have found this survey to be one of the most comprehensive instruments available;
4. The survey tool has acceptable reliability and validity. The Downs and Hazen (1977) communication satisfaction questionnaire (CSQ, Appendix D) consists of 40 statements in 8

categories (dimensions) that respondents must rate on a 5-point Likert-type scale, which ranges from very satisfied to very dissatisfied. The survey is relatively short and understandable instrument, which can be completed in a maximum time of 15 minutes. The reliability is 0.94 (Greenbaum, Clampitt & Willihnganz, 1998).

5. Studying communication satisfaction at a large military medical facility (over 2,000 employees in over one million square feet and five miles of corridors) presents an exceptional opportunity to focus on significant factors related to the employees and organizational communication. Creating and sustaining organizational communication is a challenge in any large facility, however it is a particular challenge when the setting is a major medical facility in a foreign country. Communication satisfaction is challenged further due to the high turnover rate of the employees. In addition, employee status and rank can test communication throughout the facility. Studying communication satisfaction at this military medical facility helps explain the relationship with multiple demographic factors and further develop this theory.

Constructs of communication satisfaction theory and the communication satisfaction questionnaire (CSQ) were developed from a series of studies by Downs and Hazen (1977), and resulted in eight stable dimensions of communication satisfaction.

1. Communication climate: reflects communication on both the organizational and the personal level. It involves communication that motivates workers to meet organizational goals, and inspires them to identify with the organization. This factor also assesses whether or not employee attitudes toward communicating are healthy in this organization.

2. Supervisory communication: includes both upward and downward aspects of communicating with superiors. The survey measures the extent that a superior is: open to ideas, listens and pays attention, and provides guidance in solving job-related problems.

3. Organizational integration: describes the perception of the employee that they are a vital part of the organization. To facilitate this, the employee receives information about the immediate work environment, such as department plans and personnel news.

4. Media quality: refers to the quality of meetings, written directives, and other important communication channels. In addition, assesses adequacy of the total amount of communication in the organization.

5. Co-worker communication: includes three primary areas: satisfaction with horizontal and informal communication, degree of activity with the organizational grapevine, and the degree of accurate and free-flowing communication.

6. Corporate information: refers to the broadest kind of information about the whole organization. For example, notification of changes, information about the organization's financial standing, and information about the overall mission of the organization.

7. Personal feedback: refers to feedback from supervisor to subordinate and is considered one of the strongest dimensions, because workers in general need to know how they are being judged, how their performance is being appraised, and if the criteria are fair.

8. Relationship with subordinates: This area is only assessed by supervisors, and focuses on their satisfaction with communication with their subordinates. It examines the level of employee receptiveness to downward communication, and the willingness to send good information upward.

Various researchers have confirmed the reliability and validity of the CSQ survey (Hecht, 1978; Crino & White, 1981; Clampitt & Girrard, 1986 and 1987; Pincus, 1986). The overall reliability of the CSQ is 0.94, with an inter-item within scale reliability ranging from 0.86 to 0.75 (Greenbaum, et al., 1988). The face validity and discrimination validity are high, and the factor stability is moderate. The instrument has been used in a wide variety of organizations including manufacturing plants, television stations, school districts, consulting firms, banks, hotels, mental health centers, airlines, police departments, and hospitals (Clampitt & Downs, 2004).

Personal Demographic Factors

Status and CS

Recall that status indicates the individual's employment category; Army, Air Force, Navy, Civilian Government Service, or Local National. Lines of communication at LRMC are complex as shown in figure 5. Employees have a primary supervisor and this is the person who is the individual evaluating the subordinate's performance and is in the best position to observe duty performance on a day-to-day basis. All employees also have a secondary supervisor who also evaluates the same subordinate's performance but usually this is based on broader criteria. The primary or secondary supervisor could be an Air Force, Army, or civilian. This multiplies the number of personnel who are required to be fluent in the Air Force, Army, and civilian policies and procedures.

One supervisor may have multiple Army, Air Force, government civilians and local nationals, as subordinates. And each category of personnel has their own evaluation report to

complete and feedback requirements. Each of these forms is totally different and are completed in a different manner. For example, evaluations of local nationals may be hand written, but military evaluations must be completed on the computer. Feedback between the supervisor and subordinate is also mandated, however there are different requirements for each category of personnel. For example, Air Force supervisors must provide feedback to subordinates at least annually. In the Army, supervisors must provide feedback quarterly, and in some cases monthly. These complex requirements may hinder rather than foster communication satisfaction.

Complex lines of communication also create confusion at times. Air Force members may receive a directive, and Army members may receive a contradictory directive. For example, Air Force members may be directed to wear reflective safety equipment only during the fall and winter months when there are more hours of darkness. But Army members may be required to wear the same reflective safety equipment year round. This type of confusion does not foster communication satisfaction.

Finally, each category of personnel commonly use their own particular words, phrases, and acronyms. Terms and phrases must be clarified and "translated" so that all personnel understand. Without any translation, these phrases and acronyms create barriers to effective communication and clear understanding.

Rank and CS

Perez (2000) found that higher ranking civilian employees had low communication satisfaction. This may be due to higher expectations from the senior ranking employees than lower ranking employees. Lower ranking personnel usually have less experience and/or

education than higher ranking personnel. Education and experience may affect the manner in which the individual communicates and relates to their supervisor. Individuals may use their previous experience to access communication methods, and gain valuable information not easily available to others with less experience. In contrast, lower ranking employees may rely on co-workers to assist them in the unfamiliar situation. Individuals with more experience and education will also assist other employees with less experience or who are lower in rank.

Time on Station and CS

Recall that this term indicates the length of time the individual has been working at LRMC. A high rate of turnover or a short time on station affects new employees' access to effective communication channels. Establishing mutual trust, respect, and reciprocal influence, must begin again due the change in assignment.

Turnover also affects the new employee's access to effective communication channels. New employees may not have immediate access to a computer, e-mail, and common announcements transmitted to older employees with these tools. New employees may not be aware of key bulletin boards where other messages and information is posted.

The new employee has not established the sense of belonging that other employees may have established. They are further challenged with coping in a new environment, and learning a new culture and language. Employees who remain behind are expected to assist with the orientation and training of the new employees, in addition to fulfilling their current job duties and responsibilities.

Time in Service and CS

Length of service is a term that describes the time a person has been employed by the same employer. Military members who have less experience may not realize the various communication methods and venues. Personnel with less experience may not be interested in organizational news or planed changes. Military members with more experience may be more interested in participating in the organizational communication methods and receiving appropriate organizational communication.

Assigned Deputy Commander and CS

Recall that this study will survey personnel that are assigned under the Deputy Commander for Clinical Services (DCCS) and the Deputy Commander for Nursing (DCN). Landstuhl staff assigned to an in-patient area (or under the DCN) typically rotates shifts, while their supervisor is usually assigned to day shift. This may reduce the contact between the employee and the first line supervisor, in addition to the secondary supervisor. Personnel under the DCCS serve the out-patient population, and contact between the employee and supervisor may be more consistent because both are working the same duty hours. Therefore, the employee's assigned deputy commander may influence communication due to requirements to work rotating shifts, less contact with supervisor, and other employees.

In chapter one, the topic of nurse-physician communication was discussed. Weinstein et al (2003) believes that the nature of the nurse-physician relationship is set by the tone that exists between the chief nurse executive and the chief medical officer. Zimmerman (1993) supports this belief, noting that death rates were lower in hospitals that reported a higher quality of nurse-

physician communication. In addition, Shortell (1994) noticed a lower risk-adjusted length of stay, lower nurse turnover, and perceptions of increased quality of care and ability to meet family member needs, associated with good nurse-physician communication.

Gender and CS

Male military members may be more career minded and thus more interested in organizational communication, which will be reflected in their level of communication satisfaction. Female military members may also be career minded, but their focus may be diverted my marriage and family.

On the other hand, male and female military members may prioritize the various aspects of communication satisfaction differently. Males may rank personal feedback higher, and females may find media quality more important.

Glen, Rhea and Wheeless (1997) surveyed 153 male and female nurses regarding their interpersonal communication satisfaction with physicians. Results indicated that same-sex interactions were significantly more satisfying for female nurses, while mixed-sex interactions were more satisfying for male nurses.

Age and CS

Perez (2000) found government civilian employees in the age group 46 – 50 indicated the lowest level of communication satisfaction, and the next age group 51 – 65 reported moderately low levels of communication satisfaction. Perhaps older employees are experiencing burnout, or have higher expectations.

At LRMC, the individual's age may be a factor when assessing communication satisfaction. The young member may be concentrating on learning more about their new career in the military, and may not be focused on organizational plans or financial standing. The older member may be more focused on their supervisor's feedback, because they are interested in advancing in rank or desire an assignment recommendation.

Race and CS

Miliken and Martins (1996) found that cultural diversity will decrease group effectiveness at early stages of formation. These researches assumed it takes time for members to overcome their interpersonal differences associated with lower levels of attraction and social integration. Following this adjustment period, performance can be enhanced by diversity (Jablin and Putnam, 2001). However, Miliken and Martins (1996) also found that people who are ethnically different than the majority may experience less positive emotional responses to their employing organization. And, Peltokorpi (2006) concluded ethnic diversity has a negative impact on interpersonal communication between two racial groups employed at one organization.

LRMC personnel may certainly experience different levels of communication satisfaction based on their ethnicity, yet military training emphasizes team work and collaboration. A high level of communication is a necessity in a hospital environment where quality patient care can only be delivered through multi-level coordination and cooperation.

Participant's Supervisor Time on Station and CS

Supervisors who have recently arrived to LRMC may be distracted learning new communication channels and local networks rather than enhancing communication with subordinates. In addition, they are challenged with coping in a new environment and learning a new culture and language.

Participant's Supervisor Time in Service and CS

Supervisors with a longer time in service have usually learned and practiced a wide range of communication skills, so participants who have a supervisor with a longer time in service may have a higher level of communication satisfaction. Supervisors with less time in service may not have had the advantage of experience to enhance their communication skills.

Participant's Supervisor Gender and CS

Glen et al (1997) found that same-sex interactions were significantly more satisfying for female nurses, while mixed sex interactions were more satisfying for male nurses. In this hospital setting there are more females employed than males. The ratio and interaction between female and male, supervisor and subordinate may influence communication satisfaction.

Participant's Supervisor Race and CS

The supervisor's ethnic race may influence the participant's communication satisfaction. Military training emphasized team work and collaboration, however not all LRMC personnel attend the same military courses. And, approximately 30% of LRMC personnel are civilians

who have not attended any military courses, however they may attend various civilian courses. In addition to inconsistent training, Miliken and Martins (1996) found that it takes time for members to overcome their interpersonal differences, and Peltokorpi (2006) concluded ethnic diversity had a negative impact on interpersonal communication.

Participant's Supervisor Status and CS

One supervisor may have multiple Army, Air Force, Navy, Government Civilians and Local Nationals, as subordinates. And each category of personnel has their own evaluation report to complete, and feedback requirements. Each of these forms is totally different and are completed in a different manner. For example, evaluations of local nationals may be hand written, but military evaluations must be completed on the computer. Feedback between the supervisor and subordinate is also mandated, however there are different requirements for each category of personnel. For example, Air Force supervisors must provide feedback to subordinates at least annually. In the Army, supervisors must provide feedback quarterly, and in some cases monthly. These complex requirements may hinder rather than foster communication satisfaction.

Participant's Supervisor Rank and CS

Perez (2000) found that higher ranking civilian employees had low communication satisfaction. However, what is unknown is the influence of the supervisor's rank on communication satisfaction. Low communication satisfaction of higher ranking employees may influence the participant's communication satisfaction.

Manager Category and CS

Supervisors may have distinctively different attitudes and behaviors from personnel who do not manage others. Supervisors may have the responsibility for personnel of any status (Army, Air Force, Navy, Government Service or Local National) and interaction with any or all of these personnel may influence their communication style and behaviors.

Research Question

RQ2 – Which personal demographic factors influence the quality of communication satisfaction?

Organizational Citizenship Behavior (OCB) Measures

Chester Barnard (1938) was probably the first to study the organization as a "cooperative system" (Organ et al, 2006). Barnard realized that formal structure and controls may have their place, but they do not define how cooperative systems function in an organization. He further explains the importance of individuals providing spontaneous support and contributions beyond the content of contractual obligations, and that through these efforts less strain is placed on formal authority. Roethlisberger and Dickson (1939) draw a distinction between formal and informal organization (Organ, 2006). Formal organizations include systems, policies, rules, and regulations. These researchers believe that the formal organization alone cannot account for the sentiments and values residing in the social organization. Through this social organization, individuals or groups of individuals are informally differentiated, ordered, and integrated. The informal social organization may be a prerequisite necessary for effective collaboration, and may facilitate the functioning of the formal organization.

Related to the broad concept of the social organization is pro-social organizational behavior (PSOB), which George and Brief (1992) defined as any "behavior in an organizational setting aimed at improving the welfare of someone to whom the behavior is directed" (p. 311). Another related broad concept is extra-role behavior, which Van Dyne et al (1994) defined as behavior that attempts to benefit the organization and that goes beyond existing role expectations. Under the umbrella of these general theories are two specific models of organizational behaviors, organizational citizenship behavior (OCB) and contextual performance (CP).

Smith, Organ, and Near (1983) were one of the first authors who introduced the concept of organizational citizenship behavior (OCB). Organ and Ryan (1995) clarified that organizational citizenship behavior represents individual behavior that is "discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate, promotes the effective functioning of the organization" (Organ and Ryan, 1995, p 776). They defined the basic concept as those behaviors exhibited by workers that are not formally rewarded. Other authors have further described organizational citizenship behavior as those behaviors for which employees do not receive training to perform, and employees are not punished for failing to exhibit (Bolino, 1999). Bienstock, DeMoranville and Smith (2003) also described organizational citizenship behavior as behaviors that arise from independent, individual initiative on the part of the service provider, shown to affect customer satisfaction.

Bormand and Motowidlo (1993) defined contextual performance (CP) as behaviors that sustain a culture of cooperation and interpersonal supportiveness. They also conceived of two dimensions, job dedication and interpersonal facilitation. Job dedication refers to behaviors that are directed toward the organization, and interpersonal facilitation includes behaviors that are directed toward organizational members, behaviors such as, helping, cooperating and volunteering. Contextual performance makes no restrictive assumptions about expectations stated in the job description or incentives (George and Brief, 1992). Van Scotter and Motowidlo (1996) recommended that the definition of interpersonal facilitation should be changed to include motivational elements of job dedication. And, it does not

address compliance or adherence to company policies (Organ and Ryan, 1995; Borman and Motowidlo, 1997).

The framework of CP makes no reference to expectations outlined in a job description or the prospect of formal rewards. Organ and Ryan (1995) believe that OCB equally emphasizes attitudinal and personality factors that determine OCB, and it is less likely to be constrained by limitations of ability or by work processes. Organ (2006) further believes that the concepts of OCB and contextual performance (CP) are different. Organizational citizenship behavior specifies contributions that are neither required by the job description nor rewarded by formal incentives. To add to this confusion, researchers commonly use OCB and CP studies and concepts to justify and further examine these behaviors.

Motowidlo (2000, p 117) acknowledges, "If they are interested in helping behavior because they believe it is 'individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and they in the aggregate promotes the effective functioning of the organization (Organ, 1988, p 4),' they might declare that they are studying an aspect of OCB according to its original definition." Motowidlo (p 118) further states, "Whether they also declare that they are studying 'extra-role," or 'contextual," or 'citizenship' behavior is probably not particularly important except, perhaps, to explain why they want to study interpersonal helping and what it is about interpersonal helping they want to study." Motowidlo (2003) goes on to state that no single taxonomic structure is likely to prove best for all purposes. Kaufman and Borman (2004, p 413) note, "The overlap both

conceptually and empirically between CP and OCB domains resulted in Organ's (1997) observation that the two terms could be considered as synonymous."

One of the purposes of this study is to learn more about individual behavior that is not formally rewarded, but promotes the effective functioning of the organization. This study also reveals more information about behaviors that employees do not receive any training to perform, and are not penalized for failing to perform (appendix E). Based on the purpose of this study and the above information, it is appropriate to use OCB as a variable for this research.

Organizational Citizenship Behavior Research

Scholars describe several types of behaviors that are considered characteristic of organizational citizenship behavior. Most authors have studied these types of behaviors: altruism, generalized compliance, civic virtue, courtesy, and sportsmanship (Becker & Vance, 1993). Altruism refers to behavior that is directly and intentionally aimed at helping a specific person in face-to-face situations. Smith, et al. (1983) stated that altruism describes those behaviors that go above and beyond the call of duty, and that benefit or serve other individuals. Bolino (1999) described altruism as behaviors directed at helping a specific person at work. Becker & Vance (1993) further divides altruism into two sub-categories, local and distant.

Employees performed local altruism behaviors when they:

- Helped others who were absent,
- Volunteered for things that were not required,
- Oriented new people even though it was not required,

- Helped others who had heavy workloads,
- Made innovative suggestions to improve the branch, and
- Attended functions not required, but helped the company image.

Employees performed distant altruism behaviors when they:

- Answered questions of someone in another department,
- Attempted to help someone in another department,
- Showed someone where to go to get what they needed,
- Explained a regulation or procedure to someone, and
- Did all they could to help serve the customer.

A second organizational citizenship behavior is termed conscientiousness or generalized compliance. This is defined as employee conscientiousness that surpasses enforceable work standards, and behaviors that are not formally rewarded yet ultimately benefit the organization (Bolino, 1999). Organ and Moorman (1993) describe this type of organizational citizenship behavior as a more impersonal type of conscientiousness that does not provide immediate aid to a particular individual, but is indirectly helpful to other people in the organization.

The third organizational citizenship behavior is sportsmanship. Bachrach, Bendoly, and Podsakoff (2001) describe this behavior as the employee's concern to avoid complaints; avoid consumption of time dealing with trivial non-task related matters; and avoid finding fault with the behaviors of teammates. Bolino, (1999) further describes sportsmanship as the tolerance for nuisances on the job, enduring impositions or inconveniences without compliant.

Bolino (1999) describes courtesy as the act of "touching base" with others before taking actions or making decisions that would affect their work, in addition to active participation and

involvement of employees in company affairs. Bachrach et al. (2001) describe the final organizational citizenship behavior, civic virtue, as activities that people can perform to improve their team's effectiveness.

Aside from these core organizational citizenship behaviors, other authors contributed further characteristics. Graham and Verma (1991) suggest three categories of behaviors that capture the characteristics of organizational citizenship behavior: organizational obedience, organizational loyalty, and organizational participation. Employees exhibiting these behaviors recognize and accept the necessity and desirability of rational structure of rules and regulations in an organization. Employees show this respect for organizational rules, such as punctuality, completing assigned tasks, and acting responsibility with respect to organizational resources. Employee loyalty refers to allegiance to the organization, and those behaviors that enhance the organization's reputation, and exhibit collaboration with others to serve the interests of the organization. Finally, employee participation and involvement in organizational governance involves attending meetings, even if they are not required, sharing ideas with others, and staying informed about organizational affairs (Bienstock, et al. 2003).

Van Dyne, Graham and Dienesch (1994) include loyalty and obedience, but also include advocacy participation, functional participation, and social participation. Van Dyne et al. (1994) define advocacy as employee innovative behavior, or willingness to be controversial and engage one's coworkers. Functional participation refers to employee self-development and volunteering; social participation involves attending meetings and group activities.

Williams and Anderson (1991), make a distinction between organizational citizenship behavior directed toward individuals (OCBI) which is distinct from organization citizenship

behavior directed toward the organization (OCBO). OCBO behaviors benefit the organization in general, e.g., "gives advance notice when unable to work or adheres to informal rules." OCBI behaviors immediately benefit specific individuals, and indirectly contribute to the organization.

Podsakoff, Ahearne, and MacKenzie (1997) concluded that citizenship behaviors may enhance organizational performance "because they 'lubricate' the social machinery of the organization, reduce friction, and increase efficiency" (Podsakoff et al. 1997, p 263). Organizational citizenship behavior reduces the need to devote scarce resources to purely maintenance functions, and frees these resources to devote to more productive purposes. Managerial productivity may increase when employees exhibit citizenship behaviors and provide suggestions to improve performance, or when employees avoid creating problems for coworkers – allowing the manager to avoid crisis management. Organizational citizenship behaviors serve as an effective means of coordinating activities between team members, and enhancing the organization's ability to attract and retain the best people by making it a more attractive place to work. Podsakoff et al. (1997) observed that more experienced employees help less experienced ones solve work-related problems, and when this behavior continues, group cohesiveness increases and makes the organization more attractive place to work, reducing voluntary turnover, and increasing productivity.

Podsakoff et al. (1997) relates sportsmanship with work group performance. Sportsmanship behavior allows the manager to expend less time and energy managing change and gaining employee cooperation. In addition, the lack of sportsmanship is likely to have detrimental effects on group cohesiveness, and makes the atmosphere less attractive to coworkers. In the same way, avoiding problems for others (exhibiting courtesy) reduces

intergroup conflict and diminishes the need to spend time on conflict management activities (Organ et al., 2006).

Allen and Rush (1992) discovered that because employees who perform organizational citizenship behavior make a manager's job easier, this produces an affective response and enhances the perception the manager has of the subordinate. These authors also conclude that behaviors associated with altruistic motives are likely to positively influence performance judgments.

Organizational citizenship behavior also benefits an organization by reducing the performance variability, allowing managers to easily plan and allocate scarce resources. OCB may help to enhance an organization's ability to adapt to changing environments (Organ et al., 2006).

Bolon (1997) studied organizational citizenship behavior among hospital employees, and found a significant relationship between affective commitment and organizational citizenship behavior directed toward the individual. Affective commitment refers to the employee's emotional attachment, identification, and involvement with the organization. Bolon (1997) explains that an individual becomes so emotionally attached and involved with an organization that the individual willingly assists other individuals, because this action is perceived as contributing to the organizational goals and values.

Wech (2002) found a positive association between organization citizenship behavior-organization (OCBO) and leader-member exchange (LMX). Leader-member exchange behaviors were positively related to perceptions of fairness of the supervisor. This supports the idea that employees who have a low quality leader-member exchange relationship might resent

their supervisor, and perceive him/her as unfair, or perceive that they are treated less well than an employee who has a high-quality exchange relationship.

In a similar study, Donaldson, Ensher and Grant-Vallone (2000) investigated mentoring relationships, and found there was a significant difference between the quality of an employee's mentoring relationship and their level of organizational commitment. Protégés in high quality mentoring relationships performed at higher levels of citizenship behavior at work than protégés in low or moderate quality mentoring relationships. Non-professional employees in quality mentoring relationships were more likely to: have a strong belief in and acceptance of organizational goals and values, be willing to exert considerable effort on behalf of the organization, and have a strong desire to maintain organizational membership.

Stamper and Van Dyne (2003) compared part-time and full-time service employees and organizational citizenship behavior. These scholars studied two specific types of citizenship behavior, helping, and voice. Helping occurs when one employee assists other employees with their work or work-related activities. Voice involves making suggestions for innovations or improvements in policies and procedures. Stamper and Van Dyne (2003) found that full-time employees performed more helping behaviors than part-time workers. This is understandable in that part-time employees are less likely to get high levels of pay, benefits, information, training or recognition. In addition, when employees work more hours, there is more opportunity for employer investments to accrue rather than employees who work fewer hours, which reduces potential benefits to the organization. Employers are less likely to provide extra inducements to part-time workers, who may not believe they have anything to gain by exerting extra effort and make contributions. Moorman and Harland (2002) also studied temporary employees and

concluded that commitment, and obligation to the organization, and perceptions of positive client actions, were all positively correlated with supervisor ratings of organizational citizenship behavior performance. Temporary employees may provide high levels of performance in their temporary assignments if the conditions are right.

Wagner and Rush (2000) sampled United States nurses and found that job satisfaction, organizational commitment, and trust in management, were germane for the younger participants, whereas the dispositional variable of moral judgment was a unique predictor of altruistic organizational citizenship behavior among the older participants. The authors conclude that older employees may have internalized the value of helping behaviors to their organization, and acted instinctively when provided with an opportunity to behave in an altruistic manner. The younger participants may lack the life experience necessary for internalizing the concept of personal sacrifice for the greater good, and instead placed greater value on their individual perceptions of fair treatment by the organization.

Measuring Individual Organizational Citizenship Behavior in a Military Hospital

Organizational behavior at Landstuhl Regional Medical Center is best assessed using Organizational Citizenship Behavior theory, because:

1. The OCB theory applies to all members of the organization, whether or not the person is a supervisor or a subordinate;
2. The results of previous studies of OCB are associated with the leader-member exchange model;

3. OCB is one of the most widely studied topics in organizational behavior, with the belief that these positive behaviors enhance the success of the organization.

4. This is an exceptional opportunity to examine organizational citizenship behaviors within a large healthcare organization. Landstuhl is the next stop for patients arriving from Afghanistan or Iraq, and the health care personnel have provided medical treatment to over 25,000 casualties (Tieman,2003). Also, the mix of employees at Landstuhl is rarely found in any military or civilian organization. LRMC thus presents a unique environment for study, and measuring citizenship behaviors will reveal if such behaviors enhance performance and efficiency in an organization that is required to care for a large number of wounded patients.

5. There are several surveys used to measure Organization Citizenship Behavior (OCB, Appendix D). The survey developed by Smith et al. (1983) has been frequently used and is a 16 item questionnaire, assessing altruism, generalized compliance, civic virtue, courtesy, and sportsmanship. This OCB questionnaire has a reliability ranging from 0.81 and 0.91 (Organ, et al., 2006), and the questions are suitable to use in different work settings.

Personal Demographic Factors

Status and OCB

Recall that status indicates the individual's employment category: Army, Air Force, Navy, Civilian Government Service, or Local National. There are many reasons individuals may choose to work for the military branch of the government. Some may want the hands-on, "boots on the ground" Army experience which may also increase the individual's personal risk. Others

may be motivated to join the Air Force which is less motivated by hand to hand combat, and more interested in technological aspects of the Air Force mission. Even civilians must carefully choose to work for the government due to pay and salary differences with comparable civilian positions. These reasons for joining and working for the military may influence responses to the OCB survey.

Rank and OCB

Rank may influence responses to the OCB survey because some individuals of a particular rank may feel a sense of resentment towards others with a different rank. For example, enlisted personnel may feel resentment towards officers, military members may feel resentment towards civilian personnel, or lower ranking officers may feel resentment towards higher ranking officers. In a different way, personnel of the same rank may feel a sense of loyalty for others of the same rank. On the other hand, military personnel of the same rank and in the same career field may be in competition with each other for promotion.

Time on Station and OCB

The length of time an individual has been working at LRMC may also affect themselves and co-workers due to their experiences at LRMC and accumulated knowledge of LRMC. Personnel with more experience may accomplish tasks faster because they are more familiar with local procedures, or they may know where to obtain needed supplies or information quicker then less experienced personnel. Personnel employed at LRMC longer have a greater opportunity to meet more of their co-workers and establish better lines of communication. Through these interactions, more experienced personnel have the opportunity to develop a

higher sense of loyalty and commitment to the organization than newly assigned personnel. New employees need the time and opportunity to learn about their unfamiliar environment. While they are learning, new employees will be less effective on the job.

Time in Service and OCB

Although Organ (1995) found that there is no indication that tenure with an organization has any appreciable connection with altruism, it seems reasonable that this variable would have an influence on other dimensions of OCB. For example, as the individual progresses in their career, their demonstration of citizenship behaviors may increase due to a sense of loyalty and commitment towards the organization. Or conversely, personnel may feel burned out after serving with the military for a period of time and demonstrate fewer citizenship behaviors.

Assigned Deputy Commander and OCB

Recall that this study will survey personnel that are assigned under the Deputy Commander for Clinical Services (DCCS) and the Deputy Commander for Nursing (DCN). The profession of the individual may influence OCB behaviors, and there is a general division of professions by deputy commander. The majority of nurses are assigned under the DCN, and the majority of physicians, physician assistants etc. are assigned under the DCCS. Consequently, it is reasonable to expect OCB behaviors based on personal profession.

Working conditions may influence OCB behavior, for example personnel under the DCN typically rotate shifts, and personnel under the DCCS primarily work day shift. Personnel who work evenings and nights have less contact with other hospital personnel and patients just because there are fewer people in the hospital during this time. Night shift personnel may need

to rely on each other because there are fewer resources available. Whereas, personnel working the day shift have more contact with other hospital personnel and patients, and access to resources. Therefore, the employee's assigned deputy commander may influence OCB behavior due to their work schedule.

Gender and OCB

Females may demonstrate more altruistic or helping behaviors over male personnel. Females may also be more social and value mutual cooperation and therefore exhibit courtesy and sportsmanship OCB behavior. Males may be more individualistic and strive to become more distinctive than other males. Males may also be more competitive and therefore exhibit few citizenship behaviors. Organ & Ryan (1995) was one of the few to study gender and OCB and found that there is no indication that gender has any appreciable connection with altruism. However, this is only one dimension of OCB, and it is reasonable to expect this variable would have an influence on other dimensions of OCB.

Age and OCB

Wagner and Rush (2000) sampled United States nurses and found that the dispositional variable of moral judgment was a unique predictor of altruistic organizational citizenship behavior among the older participants. The authors conclude that older employees may have internalized the value of helping behaviors to their organization, and acted instinctively when provided with an opportunity to behave in an altruistic manner. The younger participants may lack the life experience necessary for internalizing the concept of personal sacrifice for the

greater good, and instead placed greater value on their individual perceptions of fair treatment by the organization.

Results of this study could be applied to the personnel at LRMC. However, the opposite finding may also be possible where the older employee has job burned out and is no longer able or willing to demonstrate OCB behaviors. The younger employee may have the energy and enthusiasm to demonstrate more OCB behaviors. In either case, age appears to be a relevant factor for OCB.

Race and OCB

Chattopadhyay (1999) found racial dissimilarity between peers negatively influenced altruism for white employees in minority dominated groups but not for minority employees in white dominated groups. Ensher, et al (2001) studied perceptions of discrimination from supervisors, co-workers and the organization along with the effects on OCB. The authors developed a survey to measure perceived discrimination, and used Organ's (1988) OCB questionnaire. All three levels of discrimination had an effect on OCB. Not entirely unexpected, the greater discrimination that employees perceived from co-workers, the less likely they were to engage in OCB. However, organizational discrimination was the most consistent predictor of citizenship behaviors. Conversely, Mann (2007) surveyed raters and employees within five different workplaces, and found no significant difference in OCB due to rater ethnicity. These findings make race an interesting independent variable to study at LRMC with its highly diverse population.

Participant's Supervisor Time on Station and OCB

Supervisors with a longer time on station have had more time interacting with subordinates and co-workers. They are also more familiar with local procedures, and may have a higher sense of loyalty and commitment to the organization. Supervisors with these attitudes and beliefs may influence the participant's OCB scores.

Participant's Supervisor Time in Service and OCB

Supervisors who have a longer time in service may feel burned out and demonstrate fewer citizenship behaviors. Supervisors with these behaviors may influence participant's OCB scores. Or the converse may be true – supervisors with a longer time in service may have higher citizenship behaviors and enhance these same behaviors of the participant.

Participant's Supervisor Gender and OCB

Males and females may demonstrate different kinds and levels of citizenship behaviors and this is also true of the supervisor. Because supervisors demonstrate different levels of citizenship behaviors, this may influence the participant's citizenship scores.

Participant's Supervisor Race and OCB

Two studies cited earlier (Chattopadhyay, 1999; Ensher, 2001) found that race had an impact on citizenship behaviors. Based on these findings, the race of the supervisor may have an impact on participant OCB scores.

Participant's Supervisor Status and OCB

Status refers to the individual's employment category: Army, Air Force, Navy, Government Civilian or Local National. Differences between the supervisor and participant's employment category may influence citizenship behaviors of the participant. On the other hand, when the supervisor and participant's employment category are the same, OCB scores may be higher.

Participant's Supervisor Rank and OCB

Enlisted personnel may feel resentment towards their supervisor who happens to be an officer. Military members may feel resentment towards their civilian supervisor, or lower ranking officers may feel resentment towards higher ranking officers. A supervisor with these feelings may decrease OCB attitudes and behaviors of the participant.

Manager Category and OCB

Supervisors may have distinctively different attitudes and behaviors from personnel who do not manage others. Supervisors may have the responsibility for personnel of any status (Army, Air Force, Navy, Government Service or Local National) and interaction with any or all of these personnel may influence their citizenship behaviors. Supervisors may have interaction with more support or logistic personnel. Supervisors with these additional responsibilities and interactions may exhibit different citizenship behaviors.

Research Question

RQ3 – Which personal demographic factors influence the quality of organizational citizenship behavior?

CHAPTER 3

Research Design and Methodology

Introduction

This chapter explains the research design, and provides details regarding data collection and the planned analysis. The first section reviews the rationale for the study, and the second section lists the variables. The next section describes the participants and explains the research design. The final sections describe the research instruments, the data collection methods, and procedures.

Rationale for Study

Hospitals are challenged to provide quality patient care in an environment that has become highly complex and technical. Perhaps as a result, civilian hospitals (and one could safely assume military hospitals as well) have experienced a significant increase in sentinel events. In addition, civilian and military hospitals face shortages in physicians, along with a generalized shortage of nurses. Workload for all hospital staff has risen significantly, with an increase in the number of patients, and the shorter length of stay. These demands have produced widespread job dissatisfaction, and an increase in staff turnover, which in turn has a cumulative effect on hospital staff, reducing morale, and ultimately affecting patient care (see Chapter 1).

Despite such challenges, both military and civilian hospital leaders are expected to operate their organizations at the highest level of effectiveness. Success has traditionally been measured by the achievement of the hospital's goals. However, due to increasingly

complex environments, methods that measured past performance may not work as well in the current environment.

This study examined the influence of a variety (17, see next section) of personal demographic factors on three organizational measures that have been shown to be relevant for successful organizational function: leader-member exchange, communication satisfaction, and organizational citizenship behavior. The study was designed to discover factors that are most relevant for the success of the military medical mission at Landstuhl Regional Medical Center (LRMC).

Variables

There are three primary (global) dependent variables tested in this study:

1. Leader-Member Exchange (LMX) score;
2. Communication Satisfaction Questionnaire (CSQ) score;
3. Organizational Citizenship Behavior (OCB) score.

There are also 13 secondary dependent variables tested in this study. The first eight are the dimensions of CSQ, and the last five are the dimensions of OCB:

1. Communication climate score;
2. Supervisory communication score;
3. Organizational integration score;
4. Media quality score;
5. Co-worker communication score;
6. Corporate information score;

7. Personal feedback score;

8. Relationship with subordinates (for those who are supervisors) score;

9. Altruism score;

10. Generalized compliance score;

11. Civic virtue score;

12. Courtesy score;

13. Sportsmanship score.

There are 17 independent (personal demographic factors) variables:

1. Status (Army, Air Force, Navy, Civilian Government Service, Local National);

2. Rank (Officer 1 – 6, Enlisted 1 – 9, GS 1 – 13, LN 1 – 10);

3. Time on Station (< 6 months, 6 – 18 months, > 18 months);

4. Time in Service (< 5 yrs, 6 – 10 yrs, 11 – 15 yrs, 15 – 20 yrs, > 20 yrs);

5. Assigned Deputy Commander (Clinical Services - DCCS, Nursing – DCN);

6. Gender;

7. Age (at the time the participant took the survey);

8. Race (Hispanic, American Indian, Asian, African American, Native Hawaiian, White, Other);

9. Participant's supervisor time on station (< 6 months, 6 – 18 months, > 18 months);

10. Participant's supervisor time in service (< 5 yrs, 6 – 10 yrs, 11 – 15

yrs, 15 – 20 yrs, > 20 yrs);

11. Participant's supervisor gender;
12. Participant's supervisor race (Hispanic, American Indian, Asian, African American, Native Hawaiian, White, Other);
13. Participant's supervisor status (Army, Air Force, Navy, Civilian Government Service, Local National);
14. Participant's supervisor military rank (Officer 1 – 6, Enlisted 1 – 9);
15. Participant's supervisor GS rank (GS 1 – 13);
16. Participant's supervisor LN rank (LN 1 – 10);
17. Manager Category.

Participants and Procedures

Landstuhl Regional Medical Center (LRMC) employs over 1500 health care professionals who are assigned direct patient care duties or primary supporting roles. The Medical Center is considered primarily an Army facility, and so the majority of the assigned personnel belong to the Army (Table 1). As previously mentioned in Chapter 1, an integral part of the Army hospital staff are Air Force personnel who are assigned to the Medical Operations Squadron. Air Force personnel include a wide range of specialties, nurses, support staff, and other ancillary employees.

Table 1.

Breakdown of Landstuhl Regional Medical Center personnel (2002)

	Permanently Assigned	Borrowed Manpower	Temporarily Assigned	TOTAL
Army Officers	203	33	106	342
Army Enlisted	452	2	196	651
Air Force Officers	56	36	18	110
Air Force Enlisted	107	64	33	204
Civilians (Government Service and Local Nationals)	556	0	0	556
Navy	2	0	6	8
Department of Veterans Affairs	5	0	0	5
TOTAL	1,382	135	359	1,876

This study will focus on the personnel assigned under the Deputy Commander Clinical Services (DCCS) and Deputy Commander for Nursing (DCN). The only personnel excluded are individuals assigned under the Deputy Commander for Administration (DCA) and the Deputy Commander for Primary Care (DCPC). The DCA supervises personnel working in information management, logistics, staff education, and patient administration. The DCPC supervises personnel working in the eight geographically separated clinics located in Germany, Belgium, and Italy.

Approval to conduct this study was initially obtained from the commander of European Regional Medical Command, which maintains oversight of LRMC. Approval was further obtained from LRMC, Information Management Division (IMD), DCCS and DCN. Research procedures were also approved by the LRMC Research Committee, University of Oklahoma IRB, and the Walter Reed Army Medical Center Clinical Investigation Committee, and Human Use Committee of LRMC approved this research. Finally, approval

to conduct this study was obtained from the LRMC commander. All subjects who enrolled in the study voluntarily agreed to participate and gave written informed consent.

Research Design

The study was designed to examine the factors that may influence leadership, communication, and citizenship behaviors at Landstuhl Regional Medical Center (LRMC), the largest military medical facility in Europe. Unlike previous studies, which usually examined only one or two elements, this study will assess three broad measures: LMX, CSQ and OCB. An extensive literature search through over 150 articles and multiple databases failed to reveal any studies performed with this broad intent and purpose.

The study is unique in several ways. In addition to conducting a survey of physicians and nurses, other health care professionals will be included. The other professionals work in the areas of physical therapy, occupational therapy, audiology, optometry, social work, chaplaincy, quality management, pharmacy, radiology, and laboratory facilities. This survey also included ancillary staff in nutritional medicine, medical technicians, nursing assistants, and administrative personnel.

Another unique aspect of this study is that it also included personnel who work primarily in an out-patient clinic environment. Previous studies focused only on in-patient staff, or were only interested in responses from management, physicians, and nursing staff.

Purposely eliminated from this study are personnel assigned under the Deputy Commander for Administration. These employees are not involved with hands-on patient care, and are not part of the primary motivation for the study. Also eliminated from the

survey are personnel assigned under the Deputy Commander for Primary Care. The majority of these employees are assigned to out-patient clinics that are geographically separate from LRMC. Army, Air Force, Navy, government civilians and local nationals were involved in the study. This mixture of employees is rarely found in any military or civilian organization, and presents a unique environment to study.

Hospital personnel who are only temporarily assigned to this facility were also involved with this study. Personnel can be temporarily assigned anywhere from a few days to several months or a year. Creating trust and respect is difficult under such a circumstance, and likely presents a challenge to effective delivery of patient care.

The method of using surveys to collect data was chosen for this study for several practical reasons. Members of the military are familiar with this method, and usually complete surveys throughout the year to obtain opinions regarding command and leadership activities, equal opportunity concerns, and satisfaction with base facilities. The survey method is an efficient way to obtain results quickly and accurately from a large number of employees. Finally, each measure chosen for this study was developed as a survey, and all are well validated.

Research Instruments

Three primary survey instruments were used for this study: LMX - 7 (Graen and Uhl-Bien, 1995), CSQ (Downs and Hazen, 1977), and OCB (Smith et al., 1983). All relevant information was collected regarding individual demographic information.

The Leader-member exchange survey (LMX - 7, Appendix C) examines the relationship that followers have with their leader. The questionnaire addresses very practical aspects of leadership, drawing attention to the individual relationship that followers have with their leader. It has been found useful in gauging a follower's level of satisfaction with their leader, and in unearthing differences in perception of the relationship between leader and follower. The scale is a seven item measure that a number of studies have used to examine mutual trust, respect, and obligation between leaders and followers in cross-cultural settings (Graen & Uhl-Bien, 1995). The LMX - 7 questionnaire has a reliability of 0.92 (Thomas, 2004).

The Downs and Hazen (1977) communication satisfaction questionnaire (CSQ, Appendix D) was developed in the mid-1970s to determine the relationship between communication and job satisfaction. The CSQ consists of 40 statements in 8 categories (dimensions) that respondents must rate on a 5-point Likert-type scale, which ranges from very satisfied to very dissatisfied. Two sections of the questionnaire concerning job satisfaction and productivity are not formally considered dimensions of communication satisfaction, and will not be analyzed as part of this study. Respondents were also asked open-ended question regarding ways to increase communication satisfaction. Although this is important information to consider, it is not a formal dimension of communication satisfaction and will not be part of the analysis.

The dimensions of the CSQ are: (1) communication climate; (2) supervisory communication; (3) organizational integration; (4) media quality; (5) co-worker communication; (6) corporate information; (7) personal feedback; (8) relationship with

subordinates. The survey is relatively short and understandable instrument, which can be completed in a maximum time of 15 minutes. The reliability is 0.94 (Greenbaum, Clampitt & Willihnganz, 1998).

Organization citizenship behavior (OCB, Appendix E) questionnaire is a 16 item questionnaire, assessing altruism, generalized compliance, civic virtue, courtesy, and sportsmanship. This survey was developed by Smith et al. (1983). The OCB questionnaire has a reliability ranging from 0.81 and 0.91 (Organ, et al., 2006), and the questions are suitable to use in different work settings. Three items were reverse-scored just as Smith (1983) initially performed, and all of these questions are in the dimension of sportsmanship. Original questions under the dimension of courtesy were worded awkwardly and negatively. This awkward wording had a high potential to create confusion when participants attempted to answer using the 1-5 Likert scale. The original question stated, "Does not take extra breaks," and was rephrased for this study to read, "Do you take extra breaks?" The next original question stated, "Does not take unnecessary time off work." and was rephrased, "Do you take unnecessary time off work?" The final original question stated, "Does not spend a great deal of time in idle conversation." and was rephrased, "Do you spend time in idle conversations?" The rephrased questions are easier to understand, and allow the participant to provide responses that are more accurate. These items were also reverse scored.

Information regarding employee demographics were obtained from the survey found under appendix F. There are 14 questions on this survey to determine the independent variables needed for this study.

Data Collection

After obtaining the list of personnel assigned and their e-mail addresses, the survey was delivered to 1,413 staff members on June 26, 2008. Four additional e-mails were sent to participants who did not respond to any of the earlier requests. Participants had over 60 days to respond and complete the survey, 550 (39%) activated the survey of these 62 (4.5%) partially responded to demographic questions but did not begin the actual survey, leaving 488 (34.5%) who completed the survey. This left 784 (55.5%) who did not respond to the survey request, and 79 (5.5%) who opted out of taking the survey.

Participants who preferred to complete the survey by hand could pick up a copy from the hospital's general information desk along with a pre-paid envelop. Each envelop was also pre-addressed with the mailing address and the return address. Consent was obtained from each participant before they began the survey. If the participant did not consent, the *SurveyMonkey* computer program redirected the participant so they would bypass the entire survey. Participants who preferred the hard copy of the survey also completed the consent prior to starting the survey which is identical to the *SurveyMonkey* computer version (Appendix G).

Participants who completed the survey had the opportunity to explain answers they provided after the leadership and organizational citizenship questions. At the beginning and end of the communication satisfaction questions, participants were asked to indicate how communication could be changed to increase their satisfaction.

Written responses will be kept anonymous and retyped, compiled, and shared with the hospital commander, DCCS and DCN.

CHAPTER 4

Results

Introduction

Multiple tests for internal consistency and inter-item correlation were performed on all valid participant survey results. The population under study is described statistically, and standard tests for significance of the overall dependent variable scores were performed. MANOVA tests on the combined dependent variables (LMX, CSQ, and OCB) against a selection of 7 primary independent variables (time-on-station, time-in-service, rank, race, gender, status, and assigned commander) were performed. Military ranks were combined with the equivalent government civilian and local national rank. Eliminated from the results section are significant effects involving the participant racial-identity "Don't Know" group, as interpretation of this data is difficult, and in addition, the group only comprises 3% of the participants. In addition, seven independent variables were not analyzed: participant age, supervisor time-on-station, supervisor time-in-service, supervisor gender, supervisor race, supervisor status, and supervisor rank. Participant age was eliminated because of the close association with rank. The separate supervisor independent demographic variables were eliminated because multivariate tests indicated no likely significant effects, and were not deemed as relevant as the primary demographic factors.

Subsequent ANOVA tests were completed to examine and measure the effect of the selected 7 primary independent variables on the separate LMX, CSQ, and OCB scores. In addition, 7 way ANOVA tests were performed for the dimensions of CSQ and OCB against

the same selection of primary independent variables. All tests were accomplished using SPSS 15.0, graduate student version.

Finally, additional analyses were performed as a follow-up, initiated by discovery of a published study (Bendi, 2000). Based on this study, participants were separated into three successive dichotomous groups: participants who were the same status, race and gender as their supervisor, and participants who were different status, race and gender from their supervisor. Then, ANOVA tests were performed to examine and measure the effect of this demographic variable (same/different gender) on the LMX, CSQ and OCB scores and their subordinate dimensions.

Internal Consistency

Cronbach's alpha for LMX with this study was .94 (n = 492). This result is comparable to the internal consistency reliability (.92) found in Thomas (2004).

The Cronbach's alpha for CSQ was found to be .96 (n = 474), with dimensional values ranging from a low of .86 (organizational integration) to a high of .91 (communication climate and personal feedback). This compares well with the overall reliability from Greenbaum (1988) of .94, and with Gray (2004), who found a range from .83 (supervisor communication) to a high of .93 (media quality).

The Cronbach's alpha for OCB was found to be .55 (n = 470), with dimensional ranges from a low of .34 (generalized compliance) to a high of .75 (altruism). This compares with the range Podsakoff (1990) found, from .70 (civic virtue) to a high of .88 (altruism). Lower internal consistency for OCB with this study may be due to the lower number of

participants completing the OCB survey. Variation in the number of participants may also have affected the internal consistency on some of the instruments. A total of 492 completed the LMX survey, 474 participants completed CSQ survey, and 474 participants fully completed the OCB survey.

The most significant measure that was influenced by the variation in the number of participants is OCB, particularly for the dimension of generalized compliance. The reason for this variation may be linked to the type of questions. The OCB survey questions ask the participant about individual job performance, whereas the LMX and CSQ questions assess the participant's opinion. Because the OCB questions are directly asking about job performance, participants may not answer truthfully. Finally, internal consistency for OCB may be lower because these were the last questions on the survey, and the participant may have experienced survey fatigue or become distracted due to the length of the survey.

Population Characteristics

Data regarding population characteristics are described in this section. Not all participants completed the survey; 546 responded, 54 partially completed, 492 completed demographic questions and the LMX survey questions, while 474 completed the entire survey. Some participants who partially completed the survey actually activated the survey and began to respond to demographic questions but did not begin the survey questions. Others completed the demographic questions but not all of the survey questions. Because of this, the number of participants who completed each survey varies.

There were slightly more females (56%) that completed the survey than males (44%). Whites were the largest cohort at 69%, African American 12%, Hispanic 9%. Only 1 participant identified themselves as Native Hawaiian, and 13 participants identified their race as "don't know." These participants were combined into the category of "don't know" to facilitate analysis. Racial identity was nearly identical from the parents to the participant shown in table 2.

Table 2.

Identified Race of Parents and Participants.

Father's Race	Percent	Mother's Race	Percent	Participant's Race	Percent
Hispanic	9%	Hispanic	9%	Hispanic	9%
American Indian	1%	American Indian	1%	American Indian	1%
Asian	6%	Asian	7%	Asian	6%
African American	12%	African American	12%	African American	12%
White	69%	White	69%	White	69%
Don't Know	2%	Don't Know	2%	Don't Know	3%

The largest age group to complete the survey were participants in their 30s (34%), the next largest age group were in there 40s (29%). The majority of the participants were assigned under the DCCS (69.1%), the remaining were assigned under DCN (31%).

The bulk of respondents were Army (31%), and the next largest groups were GS (25%), and Navy (24%) (table 3). "Time in service" was evenly distributed from 1 to 20 years (table 4). "Time on station" is roughly equal for 6-18 months (43%) and over 18 months (48%), and for less than 6 months (8%) (table 5). Most of the participants were "non-managers" (65%). The predominant rank was Captain and Major (22%) and the next

largest was E-5 and E-6 (20%). Only 25 local nationals completed the survey, which constitutes 5% of the total sample size, while government service personnel comprised 25% of the sample. For the purpose of this study, participant rank was divided into 6 categories: officers, enlisted, government civilian with equivalent enlisted rank, government civilian with equivalent officer rank, local national with equivalent enlisted rank, and local national with equivalent officer rank (table 6). These categories enable a better way to study participants with similar rank.

Table 3.

Participant Status.

Status	Frequency	Percent
Army	154	31.39%
Air Force	76	15.45%
Navy	116	23.58%
Government Civilian	120	24.39%
Local National	26	5.28%
Total	492	100%

Table 4.

Participant Time in Service.

Time in Service	Frequency	Percent
< 5 years	115	23.37%
6 – 10 years	112	22.76%
11 – 15 years	89	18.09%
16-20 years	76	15.45%
Over 20 years	100	20.33%
Total	492	100%

Table 5.

Participant Time on Station.

Time on Station	Frequency	Percent
< 6 months	42	8.54%
6 – 18 months	214	43.50%
> 18 months	236	47.97%
Total	492	100%

Table 6.

Rank Combined

Rank	Frequency	Percent
1 (All officers)	184	37.40%
2 (All enlisted)	162	32.93%
3 (GS equivalent enlisted rank)	22	4.47%
4 (GS equivalent officer rank)	98	19.92%
5 (LN equivalent enlisted rank)	21	4.27%
6 (LN equivalent officer rank)	5	1.02%
Total	492	100%

Tests for Significance

One-sample t-tests for significance were run on overall and dimensional scores for LMX, CSQ and OCB. Mean overall scores for LMX, CSQ, and OCB versus theoretical population value were significantly different from, and in fact higher than, their corresponding theoretical value with $p < .001$ (see Table 7). In particular, the overall OCB score is the largest, relative to the theoretical average.

Sample mean for CSQ dimensions ranged from a high for supervisory communication (4.96) to a low for communication climate (4.37), however managers have a

sample mean of 5.32 (table 8). The mean values were significantly higher than the theoretical mean (4.00). Sample means for OCB dimensions ranged from a high for generalized compliance (4.75) to a low for civic virtue (3.12) (table 9), and these values were again significantly higher than the theoretical mean.

Table 7.

Overall Test for Significance

Dependent Variable	Sample *M*	Theoretical *M*	*p*
Leader-member Exchange (LMX)	3.70	3.00	< .001
Communication Satisfaction (CSQ)	4.74	4.00	< .001
Organization Citizenship Behavior (OCB)	4.07	3.00	< .001

Table 8.

Dimensional CSQ Results.

CSQ Dimensions	Sample *M*	Theoretical *M*	*p*
Communication Climate	4.37	4.00	< .001
Supervisory Communication	4.96	4.00	< .001
Organizational Integration	4.91	4.00	< .001
Media Quality	4.77	4.00	< .001
Co-worker Communication	4.79	4.00	< .001
Corporate Information	4.74	4.00	< .001
Personal Feedback	4.64	4.00	< .001
Managers Only	5.32	4.00	< .001

Table 9.

Dimensional OCB Results.

OCB Dimensions	Sample *M*	Theoretical *M*	*p*
Altruism	3.68	3.00	< .001
Generalized Compliance	4.75	3.00	< .001
Civic Virtue	3.12	3.00	< .001
Courtesy	4.47	3.00	< .001
Sportsmanship	4.47	3.00	< .001

Significant Results

A MANOVA was conducted using the combined three dependent variables (LMX, CSQ and OCB) with the following primary independent variables: time on station, time in service, rank (combined military and government civilian), race, gender, and status. A second MANOVA was then conducted against manager status (manager vs. non-manager) only.

Effect sizes are measured using partial eta squared, and evaluated according to Cohen (1988) with the corresponding thresholds: small = Cohen d = .0 - .29, partial eta squared ≤ .02; medium = Cohen d = .3 – .69, partial eta squared = .021 – .1; large = Cohen d ≥ .7, partial eta squared > .1. The standard acceptable level of observed power is typically .80 or higher; significant results from this study are reported having power $\simeq$ .60 or higher. Significance level was consistently set at .05. All MANOVA data reported below are based on Wilks' Lambda calculations. Tukey's honestly significant difference (HSD), or Tukey *a,* is used to make all pairwise comparisons between groups and for examining homogeneous subsets on the combined independent variables.

Multivariate Tests

1. The only primary independent variable found to have a significant effect was participant race ($n = 470$, $F = 2.64$, $p = .001$, partial eta squared = .058, power = .988).

2. For the second (one-way) MANOVA, manager status (manager vs. non-manager) was found to have a significant effect on the combined dependent variables ($n = 470$, $F = 3.634$, $p = .013$, partial eta squared = .023, power = .796).

Leader-Member Exchange

Research Question 1: Which personal demographic factors influence the quality of leader-member exchange (LMX) score?

MANOVA multiple-comparison tests reveal a significant effect of time-on-station on LMX score, between participants with less than 6 months, and 6 – 18 months ($p = .030$). ANOVA tests also reveal significant effects of time on station on LMX ($n = 492$, $F = 3.119$, $p = .045$, partial eta squared = .013, power = .599). Participants who have been on station less than 6 months have a significantly higher LMX score ($M = 28.31$) than participants who have been on station between 6 – 18 months ($M = 25.40$), with $p = .034$.

There was a significant effect of rank and status on LMX score ($n = 470$, $F = 3.796$, $p = .024$, partial eta squared = .034, power = .687).

The second MANOVA test of between-subjects effects demonstrate significant effect of manager category (manager vs. non-manager), on LMX score ($n = 470$, $F = 6.423$, $p = .012$, partial eta squared = .014, power = .715). Follow-up ANOVA shows that

managers have a significantly higher LMX score (M = 26.93) than non-managers (M = 25.35), (n = 492, F = 5.849, p = .016, partial eta squared = .012, power = .675).

Communication Satisfaction

Research Question 2: Which personal demographic factors influence Communication Satisfaction (CSQ)?

Overall Communication Satisfaction

MANOVA multiple-comparison tests present a significant difference between participants with less than 6 months time-on-station and both 6 -18 months (p = .011), and over 18 months (p = .010). Follow-up ANOVA testing also present significant effects of time-on-station on overall CSQ score (n = 474, F = 4.99, p = .007, partial eta squared = .021, power = .813). Participants with time-on-station less than 6 months have a significantly higher overall CSQ score (M = 185.40) than both time-on-station 6 – 18 months (M = 164.37) (p = .008) and over 18 months (M = 164.37) (p = .007).

Communication Climate

ANOVA tests of between-subject effects on communication climate reveal a significant effect of participant race on communication climate (n = 474, F = 3.649, p = .003, partial eta squared = .077, power = .924). Follow-up ANOVA tests reveal a significant effect of race on communication climate score (n = 474, F = 4.291, p = .001, partial eta

squared = .044, power = .963,) which show that African Americans have a significantly higher (M = 24.22) communication climate score than Whites (M = 21.40) (p = .05).

ANOVA multiple-comparison tests demonstrate a significant effect of time-on-station on communication climate score (n = 474, F = 4.75, p = .009, partial eta squared = .020, power = .792). ANOVA also demonstrate that participants who have been on station less than 6 months have significantly higher (M = 25.15) communication climate score than participants who have been on station 6 -18 months (M = 21.62) (p = .012), and over 18 months (M = 21.57) (p = .010).

In addition, there was a significant two-way interaction effect of time in service and gender on communication climate score (n = 474, F = 3.384, p = .010, partial eta squared = .058, power = .845). And, a significant three-way interaction effect of time-on-station, time-in-service and rank on communication climate (n = 474, F = 2.631, p = .035, partial eta squared = .046, power = .730).

Supervisory Communication

ANOVA multiple-comparison tests show a significant effect of time-on-station on supervisory communication score. Participants who have been on station less than 6 months have a significantly different supervisory communication score than both participants who have been on station 6 – 18 months (p = .031) and over 18 months (p = .046). Follow-up ANOVA tests show a significant effect of time-on-station on supervisory communication score (n = 474, F = 3.539, p = .030, partial eta squared = .015, power = .658). Participants who have been on station less than 6 months have significantly higher (M = 27.65)

supervisory communication than both participants who have been on station 6 – 18 months (M = 24.45) (p = .025), and over 18 months (M = 24.66) (p = .037).

Three-way ANOVA tests of between-subject effects expose significant results of the combined interaction time-on-station, time-in-service, and rank on supervisory communication score (n = 474, F = 3.381, p = .010, partial eta squared = .058, power = .844).

Organizational Integration

Multiple comparison tests present significant effects of time on station between less than 6 months and over 18 months on organizational integration score, p = .038. ANOVA shows a significant effect of time on station on organizational integration score (n = 474, F = 3.199, p = .042, partial eta squared = .013, power = .611). Participants who have been on station less than 6 months have significantly higher (M = 26.67) organizational integration than participants who have been on station over 18 months (M = 24.16), p = .031.

Two-way ANOVA test of between-subject effects present significant effects of the combined interaction rank and status on organizational integration score (n = 474, F = 3.674, p = .027, partial eta squared = .032, power = .672).

Three-way ANOVA test of between-subject effects reveal significant effects of the combined interaction: time on station, time in service, and rank on organizational integration score (n = 474, F = 3.172, p = .015, partial eta squared = .054, power = .818).

Media Quality

Multiple comparison tests demonstrate a significant effect of participant time-on-station less than 6 months and either 6 – 18 months ($p = .010$) and over 18 months ($p = .015$) on media quality score. Follow-up ANOVA testing shows significant effects of time on station on media quality score ($n = 474$, $F = 4.902$, $p = .008$, partial eta squared = .020, power = .805) which revealed that participants who have been on station less than 6 months have significantly higher ($M = 26.85$) media quality than either participants who have been on station 6 – 18 months ($M = 23.51$), $p = .007$, and over 18 months ($M = 23.68$), $p = .010$.

Two-way ANOVA test of between-subject effects present significant effects of the combined interaction: time in service and gender on media quality score ($n = 474$, $F = 2.84$, $p = .025$, partial eta squared = .049, power = .768).

Three-way ANOVA test of between-subject effects show significant results of the combined interaction: time on station, time in service and rank on media quality score ($n = 474$, $F = 2.58$, $p = .038$, partial eta squared = .045, power = .722).

Three-way ANOVA test of between-subject effects expose significant results of the combined interaction: time on station, rank and status on media quality score ($n = 474$, $F = 5.13$, $p = .025$, partial eta squared = .023, power = .616).

Co-Worker Communication

Multiple comparison tests present significant effects of time on station less than 6 months than either 6 – 18 months ($p = .008$) and over 18 months ($p = .013$) on co-worker communication score. Follow-up ANOVA tests show significant effect of time on station on

co-worker communication score (n = 474, F = 4.682, p = .010, partial eta squared = .019, power = .785). Participants with time on station less than 6 months have significantly higher (M = 26.73) co-worker communication score than either participants time on station 6 – 18 months (M = 23.63) p = .008, and participants on station over 18 months (M = 23.84), p = .013.

Two-way ANOVA test of between-subject present significant results of the combined interaction: time in service and gender on co-worker communication score (n = 474, F = 2.70, p = .032, partial eta squared = .047, power = .742).

Two-way ANOVA test of between-subject effects show significant results of the combined interaction: time on station and gender on co-worker communication score (n = 474, F = 3.22, p = .042, partial eta squared = .029, power = .611).

Three-way ANOVA test of between-subject effects expose significant results of the combined interaction: time on station, time in service and rank on co-worker communication score (n = 474, F = 3.40, p = .010, partial eta squared = .059, power = .849).

Corporate Information

Multiple comparison tests show significant effects of time on station less than 6 months than either participants on station 6 – 18 months (p = .045) and participants over 18 months (p = .039) on corporate information score. Follow-up ANOVA test demonstrate significant results of time on station on corporate information (n = 474, F = 3.248, p = .040, partial eta squared = .013, power = .618). Participants time on station less than 6 months

have significantly higher (M = 25.76) co-worker communication score than either 6 – 18 months (M = 23.49) p = .043, and participants over 18 months (M = 23.45), p = .037.

Three-way ANOVA test of between-subject effects illustrate significant results of the combined interaction: time on station, time in service and rank on corporate information score (n = 474, F = 2.93, p = .022, partial eta squared = .050, power = .782).

Personal Feedback

Multiple comparison tests show significant effects of time on station less than 6 months than either 6 – 18 months (p = .022) and participants over 18 months (p = .011) on personal feedback score. Follow-up ANOVA test presents significant results of time on station on personal feedback score (n = 474, F = 4.365, p = .013, partial eta squared = .018, power = .754). Participants on station less than 6 months has significantly higher (M = 26.40) personal feedback score than either 6 – 18 months (M = 23.06) (p = .020) and participants over 18 months (M = 22.79) (p = .010).

Two-way ANOVA test of between-subject effects show significant results of the combined interaction: rank and status on personal feedback score (n = 474, F = 4.33, p = .014, partial eta squared = .038, power = .747).

Three-way ANOVA test of between-subject effects demonstrate significant results of the combined interaction: time on station, time in service and rank on personal feedback score (n = 474, F = 2.96, p = .021, partial eta squared = .051, power = .786).

Organizational Citizenship Behavior

Research Question 3: Which personal demographic factors influence the quality of organizational citizenship behavior (OCB) score?

Overall Organizational Citizenship Behavior

MANOVA tests of between-subjects effects reveal significant effects of race on overall OCB score ($n = 470$, $F = 4.061$, $p = .002$, partial eta squared = .086, power = .950). ANOVA shows significant effects of race on overall OCB score ($n = 470$, $F = 3.174$, $p = .008$, partial eta squared = .033, power = .883). African Americans have significantly higher ($M = 66.60$) overall OCB score than Hispanics ($M = 62.36$) $p = .005$. And, Whites have significantly higher ($M = 65.45$) overall OCB score than Hispanics ($M = 62.36$) $p = .016$.

MANOVA tests of between-subject effects present significant results of the combined two way interaction: time in service and rank on overall OCB score ($n = 474$, $F = 2.37$, $p = .031$, partial eta squared = .062, power = .807).

MANOVA tests of between-subjects effects illustrate significant results of the combined two way interaction: race and gender on overall OCB score ($n = 474$, $F = 2.72$, $p = .031$, partial eta squared = .048, power = .746).

Altruism

Multiple comparison tests show significant effects of race on altruism score, Hispanics have significantly different altruism score than either African Americans (p = .001) and Whites (p = .016). Follow-up ANOVA reveal significant effects of race on

altruism score (n = 470, F = 3.29, p = .006, partial eta squared = .034, power = .896). African Americans have significantly higher (M = 15.67) altruism score than Hispanics (M = 13.39) p = .002. And, Whites have significantly higher (M = 14.81) altruism score than Hispanics (M = 13.39) p = .016.

Two-way ANOVA tests of between-subjects effect present significant results of the combined interaction: time in service and rank on altruism score (n = 474, F = 4.01, p = .001, partial eta squared = .10, power = .971).

Three-way ANOVA tests of between-subjects effects demonstrate significant results of the combined interaction: time on station, time in service and status on altruism score (n = 474, F = 2.74, p = .044, partial eta squared = .036, power = .658).

Generalized Compliance

Multiple comparisons show significant effects of race on generalized compliance score (Asians vs. White, p = .018). Follow-up ANOVA illustrate significant effects on generalized compliance score with race (n = 470, F = 2.74, p = .019, partial eta squared = .029, power = .824). Whites have significantly higher (M = 14.37) generalized compliance score than Asians (M = 13.66) p = .031.

Two-way ANOVA tests of between-subjects effects shows significant results of the combined interaction: time in service and race on generalized compliance score (n = 474, F = 2.36, p = .004, partial eta squared = .14, power = .982).

Two-way ANOVA tests of between-subjects effects shows significant results of the combined interaction: race and status on generalized compliance score (n = 474, F = 2.46, p = .046, partial eta squared = .043, power = .698).

Two-way ANOVA tests of between-subjects effects demonstrate significant results of the combined interaction: gender and status on generalize compliance score (n = 474, F = 3.17, p = .044, partial eta squared = .028, power = .603).

Three-way ANOVA tests of between-subjects effects shows significant results of the combined interaction: rank, gender and status on generalize compliance score (n = 474, F = 3.47, p = .033, partial eta squared = .031, power = .645).

Three-way ANOVA tests of between-subjects effects present significant results of the combined interaction: time in service rank and race on generalized compliance score (n = 474, F = 3.78, p = .024, partial eta squared = .034, power = .685).

Civic Virtue

Multiple comparisons tests demonstrates significant effects of time on station 6 – 18 months and over 18 months (p = .018) on civic virtue score. Follow-up ANOVA tests shows significant effect of time on station on civic virtue score (n = 470, F = 4.52, p = .011, partial eta squared = .019, power = .77). Participants who have been on station over 18 months have significantly higher (M = 9.72) civic virtue score than participants who have been on station 6 – 18 months (M = 9.11) p = .024.

Multiple comparisons tests demonstrate significant effects of rank on civic virtue score. There is a significant difference between group 2 (all enlisted) and group 1 (all

officers) $p = .001$, and group 2 (all enlisted) and group 3 (GS equivalent enlisted) $p = .001$. Follow-up ANOVA tests shows significant effect of rank on civic virtue score ($n = 470$, $F = 5.81$, $p = .000$, partial eta squared = .059, power = .994). Participants in group 2 (all enlisted) have significantly higher ($M = 10.02$) civic virtue score than either group 1 (all officers, $M = 8.96$) $p = .001$, and group 3 (GS equivalent enlisted, $M = 7.91$) $p = .002$. Participants in group 5 (LN equivalent enlisted) have significantly higher ($M = 10.42$) civic virtue score than group 3 (GS equivalent enlisted, $M = 7.91$) $p = .011$.

Courtesy

Two-way ANOVA tests of between-subjects effects reveal significant results of the combined interaction: race and gender on courtesy score ($n = 474$, $F = 2.65$, $p = .034$, partial eta squared = .047, power = .734).

Sportsmanship

Two-way ANOVA tests of between-subjects effects show significant results of the combined interaction: race and gender on sportsmanship score ($n = 474$, $F = 2.91$, $p = .022$, partial eta squared = .051, power = .779).

Additional Analyses

Same Status

Additional analysis was performed based on the research by Bendi (2000). Based on this study, participants were separated into two groups, participants who were the same

status as the supervisor, and those who were not the same status. ANOVA tests were performed to examine and measure the effect of this demographic variable on the LMX, CSQ and OCB scores and their subordinate dimensions were performed. No significant differences were found between participants with the same status and their supervisor and participants who had a different status than their supervisor.

Same Race

Participants were separated into two groups, participants who were the same race as the supervisor and who were not the same race. ANOVA tests were performed to examine and measure the effect of this demographic variable on the LMX, CSQ and OCB scores and their subordinate dimensions were performed. No significant differences were found between participants and their supervisor with the same race and participants who had a different race than their supervisor.

Same Gender

Participants were separated into two groups, participants who were the same gender as the supervisor and participants who were a different gender. ANOVA tests were conducted and found no significant differences with LMX and OCB scores and between participants who were the same gender as the supervisor and those who were different gender.

Participants who were the same gender as the supervisor had a significantly different overall CSQ score than participants who were different gender as their supervisor ($n = 474$,

F = 5.35, *p* = .021, partial eta squared = .011, power = .64). Participants who were the same gender (*n* = 255) as the supervisor had significantly higher overall CSQ score (*M* = 170.06) than participants with different gender (*n* = 219) than their supervisor (M = 161.41).

Participants who were the same gender as the supervisor had a significantly different CSQ communication climate score than participants who were different gender as their supervisor (*n* = 474, *F* = 6.62, *p* = .01, partial eta squared = .014, power = .73). Participants who are the same gender as their supervisor had significantly higher (*M* = 22.66) CSQ communication climate score than participants that are a different gender (*M* = 21.00).

Participants who were the same gender as the supervisor had a significantly different CSQ corporate information score than participants who different gender as their supervisor (*n* = 474, *F* = 5.77, *p* = .017, partial eta squared = .012, power = .67). Participants who are the same gender as their supervisor had significantly higher (*M* = 24.27) CSQ corporate information score than participants that are a different gender (*M* =23.04).

CHAPTER 5

Analysis and Discussion

Introduction

This chapter reviews and evaluates results of the data analysis, and then significant findings are reviewed in order of dependent variable and demographic factors.

Effect sizes are measured using partial eta squared, and evaluated according to Cohen (1988) with the corresponding thresholds: small = Cohen d = .0 - .29, partial eta squared ≤ .02; medium = Cohen d = .3 – .69, partial eta squared = .021 – .1; large = Cohen $d \geq .7$, partial eta squared > .1. The standard acceptable level of observed power is typically .80 or higher; significant results from this study are reported having power $\underline{\sim}$ .60 or higher. Significance level was consistently set at .05. Following the discussion, conclusions are drawn, and limitations of this research are listed. Finally, implications for future research are described.

Leader-member Exchange

Research Question 1: Which personal demographic factors influence the quality of leader-member exchange (LMX) score?

Time on station showed significant effects on LMX, though the power was low, and effect size was small. This is the beginning of the first trend throughout this study where 9 (or 60%) of the 15 significant effects are related to time on station. In addition, 10 (or 40%) of the 25 two and three-way significant ANOVA results also involve time on station.

Because time on station has a significant effect on LMX, this leads to a further examination of LMX theory and survey questions. In the process of developing LMX theory, researchers proposed a life cycle model of the LMX relationship. Graen and Uhl-Bien (1991) developed a leadership making model which describes the life cycle of a leadership relationship (figure 5).

	Phase 1: Stranger	**Phase 2: Acquaintance**	**Phase 3: Partner**
Roles	Scripted	Tested	Negotiated
Influences	One way	Mixed	Reciprocal
Exchanges	Low quality	Medium quality	High quality
Interests	Self	Self / other	Group



Figure 5. Life Cycle of Leadership Relationships.

Based on this research, participants with a shorter time on station should have a lower LMX. However, participants with a shorter time on station may be affected by the excitement of the new assignment in Germany. Or, the higher LMX for participants with a short time on station may reflect the high quality contact the participant had with their supervisor during this short period of time. Several LMX questions may be rated higher if the quality of the leadership contact was short. The first LMX question asks if the participant knows where they stand with your supervisor. This may be answered more positively with a new leader subordinate relationship because of the military requirement for interaction to establish standards of conduct and job expectations. Question 2 may be rated higher in a new relationship and asks if the supervisor understands the participant job problems and needs. The supervisor does not need to know the participant to understand job

problems and needs, the supervisor just needs to convey this understanding to the subordinate. Question 7 may be rated higher and asks how the participant would characterize the working relationship with the supervisor. With high quality contact in the first six month on station, the participant may score this question high to indicate that the relationship was extremely effective.

The participant needs a higher quality relationship with their supervisor to adequately answer the other four LMX questions. Question 3 asks how well the supervisor recognizes the subordinate's potential. In order to answer this question, the supervisor needs to effectively communicate with the subordinate and observe their behavior. Then, the supervisor must communicate any recognized potential. Question 4 attempts to determine the chance that the supervisor would use his or her power to help the subordinate solve work related problems. Similarly, question 5 tries to verify the chance that the supervisor would "bail you out" at his or her expense. To satisfactorily reply, the subordinate must have a relationship with their supervisor to be able to anticipate their response. Establishing this relationship takes time and trust. Finally, question 6 tries to determine the level of confidence the subordinate has to defend and justify his or her supervisor's decision. Supervisors must effectively communicate sufficient information to the subordinate to defend any decision. In addition, the subordinate must have the trust and confidence in their supervisor to justify his or her decision. In order to satisfactorily answer these survey questions, the subordinate and supervisor must have adequate time and opportunity to establish their work relationship.

On the other hand, according to Graen and Uhl-Bien (1991) participants with a longer time on station should have higher LMX. Nevertheless, lower scores may be a consequence of the high operations tempo of the active medical center, and this may lead to burnout. Due to these high job demands, contact with the supervisor may be limited. Lower scores may be a consequence of the differences between military services or the organizational structure of LMRC, evident by a written comment, "One chain of command and not three." Several written comments substantiate this point, "My supervisor is Army and does not understand AF policies and procedures," and "I feel my supervisor plays favorites." Another reason for lower LMX may be due to working requirements, participants comment, "My supervisor works days, I work nights, so we rarely see each other," or supervisors may not work directly with you in the job area, *my supervisor* (italics added) "has no idea what we do here." Participants also commented that "Supervisors change too often." Long term leader – subordinate relationships are difficult to maintain when a new supervisor is assigned every year.

Several comments were written regarding temporary assignments to LRMC and how it has affected the leader-member relationship. "Reduce staff turbulence and improve personnel strength management (recruitment and retention) to adequately resource functions." New personnel must learn Army regulations, standards and terminology, "It was a bit of a rocky transition to the 'Army way' but we settled in and became a highly functional team." The Army way also brings new perceptions, "Cultures of the different branches often time bring about priority dilemmas, soldier first, mission first, patient care, admin needs, etc. are not necessarily in the same order depending on the branch of service."

Leaders may not focus on the professional development of the temporary member, “As a temporary component, development and opportunity is not a focus of my supervisor.” Further, “Mentoring in our career fields occurs but not in terms of promotions. This is one negative aspect of working in a tri-service (not Joint) environment; that my supervisor has no idea how I can get promoted.” Another participant commented, “Difficult working relationship due to inconsistent leadership behaviors and communication skills.”

A second MANOVA showed the only significant effect with manager status (manager vs. non-manager). Follow-up ANOVA showed significant results on LMX with manager status, but observed power was low along with effect size. In any event, managers have significantly higher LMX score than non-managers. Managers have usually been in service longer than non-managers, because managers have more experience in leadership roles.

Particularly informative are the written comments related to leadership, one participant wrote, “All leaders are not created equally. I currently work with a leader who listens to me, provides me with positive feedback and is not afraid to let me know when I am incorrect. Knowing that I can speak to him about issues that are arising and that I will receive useful feedback makes me perform my job better and has trained me to be a better leader.” Another stated, “I have been doing my job for 18 years and this is the first supervisor that has his employee's back and it willing to help us solve our problems. He is not about making himself look good to make rank.” However, a different participant stated, *My supervisor* (italics added) “asks for things to be done but, does not back me up or give

me the authority to accomplish those tasks." One more commented, *My* (italics added) "Supervisor is okay on a personal level, but as a supervisor he is very ineffective."

Communication Satisfaction

Research Question 2*:* Which personal demographic factors influence the quality of communication satisfaction (CSQ) score?

The MANOVA between-subjects tests revealed a significant effect on overall CSQ with time on station. Effect size was moderate and observed power met acceptable standards. Participants who have been on station less than 6 months have higher overall CSQ than participants who have been on station longer. It is interesting that this mirrors the LMX data.

Analysis found that personnel with a shorter time on station have higher communication satisfaction. Just like LMX, this finding is also paradoxical. The longer the participant is on station the more opportunities and channels of communication can be established. However, this analysis shows that participants with a shorter time on station have higher communication satisfaction scores. Regardless, lower scores may be a consequence of the high operations tempo and increasing job demands of the active medical center leading to burnout, and limited contact with the supervisor.

Written comments reflect several areas of discontent with regards to communication, "There is a lack of communication between the whole hospital and staff members."

"Talk to everyone as a whole a make enlisted and officer feel part of the team and teach to work together regardless of rank. Rank should be used when necessary but everyone

deserves the same respect. Focus on talking to one another regardless of indifferences and what not to get the mission accomplished."

"I find that having a military support staff, hinders potentials in my department and communication of their "additional duties" are never planned out far enough to provide replacements. Military support staff are always tasked to do "other" duties not related to their primary role. I can never predict whether I could fully practice on a week to week basis."

"Being a multi-service hospital it's hard when your supervisor on the hospital side is Air Force and being tasked by the "Army" side and then having to justify them to both sides..."

"Our organization is unique because we are a Tri-Service Hospital I would like to see more shared power between the services. The Air Force and Navy have great ideas and insight they really communicate well and from my perspective, much better than the Army. If we could find common ground with the same agenda we could be a more efficient and happier organization."

Communication Climate

Participant time on station has a significant effect on communication climate. This ANOVA had high power and moderate effect size. Just like the LMX results and the overall CSQ results, this finding is also paradoxical. Logically, the longer the participant is on station the more opportunities and channels of communication can be established. However, this analysis shows that participants with a shorter time on station have higher

communication satisfaction scores. This may also be a consequence of high operations tempo of the active medical center. And, due to high job demands, contact with the supervisor may be limited.

Communication climate differences were found with racial identity, African Americans have higher scores over Whites. This analysis showed high power and moderate effect size. Miliken and Martins (1996) found that people who are ethnically different than the majority may experience less positive emotional responses to their employing organization. Peltokorpi (2006) found that ethnic diversity has a negative impact on interpersonal communication between two racial groups employed at one organization.

A significant two-way interaction was also discovered, time in service and gender had a significant effect on communication climate. Power exceeded the standard level and effect size was moderate. Male military members may be more career minded and thus more interested in organizational communication. On the other hand, male and female members may prioritize the various aspects of communication satisfaction differently. Glen et al. (1997) surveyed male and female nurses regarding their communication satisfaction with nurses. Results indicated that same-sex interactions were significantly more satisfying for female nurses, while mixed-sex interactions were more satisfying for male nurses.

A significant three-way interaction of time on station, time in service and rank on communication climate score was found. This analysis had slightly lower power, but moderate partial eta. In addition, this is the beginning of a second trend that occurs only with the CSQ findings. Time in service is related to rank in that the longer you are in the service,

particularly the military, the higher the rank the individual may attains. This finding may also strengthens the first trend linking time on station with the dependent variable.

Communication climate involves communication that motivates workers to meet organizational goals, and this may inspires them to identify with the organization. Written comments show frustration understanding organizational goals, *Need* (italics added) "understanding *of* organizational goals and what part we as a department and as a program are responsible for with clear goals with time frames established. This is a disconnect from higher leadership." A different participant commented, "Immediate leadership needs to make a decisive commitment to mission and verbalize it in a clear, concise message to all team members."

Supervisory Communication

Again, personnel with a shorter time on station have higher supervisory communication. Personnel who are on station less than six months have significantly higher supervisory communication than personnel who have a longer time on station, similar to the LMX and CSQ. Power was slightly low along with effect size.

Again, the same three-way interaction of time on station, time in service and rank on supervisory communication score was significant. Power was acceptable and effect size was moderate. The influence of this triad can really be seen through the written comments.

Remember that, supervisory communication includes both upward and downward aspects of communication, and measures the extent that a supervisor is open to ideas and listens. Written comments described general dissatisfaction with the flow of information,

"Limited downward flow of information," and "Zero communication makes it to the CO." Another participant stated, "Communication appears to be blocked within the chain of command." This participant wrote, *Need* (italics added) "more direct communication about what is expected and about the goals of the unit. Especially working through problems together with the supervisor."

New personnel may not be aware of these barriers, and may be more focused on learning about their new job and may be able to listen more effectively. Perhaps personnel with a longer time on station are more distracted by job demands and the high operations tempo. Further complicating communication is the unique mixture of military personnel. Written comments reflect this perception, *my supervisor* (italics added) "takes the side of any Army personnel even someone of lower rank." From a different perspective a participant wrote, "I don't' see my supervisor as 'helpful' to anyone's career except for fellow Air Force members." Another participant commented, "I feel my supervisor knows nothing about me or my abilities and does not seem interested in finding out."

Organizational Integration

Time on station was once again a significant influence on this dependent variable. Participants with shorter time on station have higher organizational integration score than participants with longer time on station. However, the power was slightly low along with effect size. In addition, the same three-way interaction was significant on organizational integration score with time on station, time in service and rank. Power with this analysis was above standards along with effect size.

To analyze this information, remember that organizational integration describes the perception of the employee that they are a vital part of the organization, this is accomplished through information about the immediate work environment, news about department plans, and personnel news.

Sections may have several bulletin boards each highlighting a different theme, for example quality management or infection control. In addition, each section may have several binders that contain extensive information regarding section policies and procedures, and personnel schedules. Participants who have been on station longer may be overwhelmed with all of the communication venues, in addition to demands of working in a military medical center.

Written comments describe multiple barriers that participants face attempting to obtain organizational information. “There is a buffer between hospital communication and my supervisor. I am not able to accurately rate hospital level *commo* (communication), I just know I am not receiving any from my supervisor.”

“I'd like to have a clue about what is planned. I'm used to working as a team and the teamwork is segregated or not strong between the different departments.”

“There has to be a way were duty personnel can go and receive information. If it's even by Division or sections. Too often people say they never got that email or that person did not tell me. Leaders must get the information out and out in a timely manner.”

Media Quality

Once again a significant variable is time on station, and found that personnel with a shorter time on station have higher media quality. Power met the minimum standard, and effect size was moderate. In addition, the same two-way interaction was found to be significant on media quality with time in service and gender. This same interaction was also significant on communication climate. Power was slightly lower than the usual standard, but effect size was moderate. Finally, the same three-way interaction was significant on media quality with time on station, time in service and rank. Power was slightly lower than the usual standard and effect size was moderate.

To begin to understand this complex mixture of these findings, recall that media quality refers to the quality of meetings, written directives and assesses the adequacy of the total amount of communication in the organization. New personnel may have scored media quality higher because of their previous experience, and compared this experience to their new situation.

Analysis of the two-way interaction with time in service and gender must entail a review of the population statistics of the participants. There are more females with a length of service less than 10 years (n = 148) and only 73 males during this same time period. After 10 years, there are 50% fewer females (n = 70), where the number of males have stayed about the same (n = 87). Male and female participants in service over 20 years are nearly identical, males (n = 49) and females (n = 47). The 50% reduction in the number of females may reflect a decision to separate due to personal family demands.

Based on written comments, there is a strong reaction to the high use of electronic media. Over time, this may become overwhelming and employees may ignore the high number of e-mails. Written comments received describe dissatisfaction with this type of communication throughout the organization, "Waste of time reading e-mail," and "Less e-mail." A different participant commented, "24 hour sections have a more difficult time with communication than 8 hour Monday – Friday sections because there are separate teams who never see each other and information is not disseminated as it should and could be." In addition, "I find it very challenging to stay informed here, and wish that I didn't have so many meetings and that less emails were sent out."

Co-Worker Communication

Again, personnel who have been on station longer have higher co-worker communication. Power was slightly lower than the acceptable standard and effect size was low. In addition, the same two-way interaction was significant on co-worker communication with time in service and gender. This same interaction was also significant on communication climate and media quality. Power was slightly lower than standard, but effect size was moderate. Finally, the same three-way interaction was significant on co-worker communication with time on station, time in service and rank. Power was acceptable and effect size was moderate.

Co-worker communication refers to horizontal and information communication, the degree of activity with the organizational grapevine, and the degree of accurate and free-flowing communication. New personnel need more assistance and contact with co-workers

to learn about their new assignment and settle into their new home. When new personnel are settled in, this contact may fall off, reflecting the outcome of this analysis.

Written comments reflect general dissatisfaction with accurate and timely communication, "Communication for shift-workers is difficult, especially with such a reliance on e-mail. I am often too busy while working to check my e-mail and subsequently often miss immediate deadlines." Another participant stated, "I find it very challenging to stay informed here, and which that I didn't have so many meetings and that less emails were sent out." A different participant agreed, (comment capitalized by participant) "MORE VERBAL COMMUNICATION. EMAILS ARE ONLY GOOD IF YOU HAVE THE TIME TO READ THEM." Finally, this participant confirms existence of the grapevine, "Rumor-mill is alive and well and the best source of info about what is actually going on around here. All other communication is top down with no reception of any info going upwards."

Corporate Information

Again, personnel who have been on station longer have higher co-worker communication. Power was slightly lower than the acceptable standard and effect size was low. The same three-way interaction was significant on corporate information with time on station, time in service and rank. Power was slightly lower than the acceptable standard and effect size was moderate.

Corporate information refers to the broadest kind of information about the whole organization, for example financial standing or the mission of the organization. Personnel with a shorter time on station have higher scores. Perhaps these participants are easily and

eagerly listening to this information related to their new organization. Contrary, participants who have been on station longer may feel the effects of burnout and therefore "tune out" this type of information.

Written comments show frustration with corporate information, *Need* (italics added) "understanding *of* organizational goals and what part we as a department and as a program are responsible for with clear goals with time frames established. This is a disconnect from higher leadership." "Talk to everyone as a whole a make enlisted and officer feel part of the team and teach to work together regardless of rank. Rank should be used when necessary but everyone deserves the same respect. Focus on talking to one another regardless of indifferences and what not to get the mission accomplished."A different participant commented, "Immediate leadership needs to make a decisive commitment to mission and verbalize it in a clear, concise message to all team members."

Personal Feedback

Again, time on station has a significant effect, showing that personnel with less time on station have higher scores. Power was slightly lower than acceptable standards and effect size was low. A two-way interaction was significant on personal feedback with time in rank and status. Power was slightly lower than standard, but effect size was moderate. Finally, the same three-way interaction was significant on personal feedback with time on station, time in service and rank. Power was slightly lower than acceptable standard and effect size was moderate.

Feedback between supervisor and subordinate is mandatory, however the frequency differs with each service. Feedback also differs from officer, enlisted, and is based on rank and status of the individual. Feedback is mandatory for all new personnel this may explain the high initial score. High operations tempo may explain the decrease after 6 months especially when the supervisor is preoccupied and overwhelmed. A participant commented, "I do not receive positive feedback, but I do hear about what it is I am doing wrong. However that information is not timed to allow for me to explain or correct it effectively." Further, "Have supervisors give timely feedbacks, provide personal communications rather than just e-mails." Additionally, "More one on one counseling with clear goals for the department and program defined and a time line for implementation."

Participant status plays a significant role in daily activity at LRMC. A considerable number of Navy personnel have only been part of LRMC during the past two years. Many of the local nationals have been employed at LRMC for decades and GS personnel must move about every 5 years. It is interesting to analyze a breakdown of the participant status and rank table 10. It is understandable to note the large number of Army personnel who completed the survey, and slightly more enlisted participants completed the survey. It is surprising to see the number of Navy who participated, with about equal number of officer and enlisted. However, the number of GS personnel who completed the survey were even slightly higher than Navy.

Table 10.

Participant Status and Rank.

Status	Officer	Enlisted	Total
Army	80	67	147
Air Force	34	36	70
Navy	59	54	113
GS	22	97	119
LN	5	20	25
TOTAL	200	274	474

The following written comments voices the frustration created by working with various military services, “I find that having a military support staff, hinders potentials in my department and communication of their "additional duties" are never planned out far enough to provide replacements. Military support staff are always tasked to do "other" duties not related to their primary role. I can never predict whether I could fully practice on a week to week basis.” “Being a multi-service hospital it's hard when your supervisor on the hospital side is Air Force and being tasked by the "Army" side and then having to justify them to both sides...” “Our organization is unique because we are a Tri-Service Hospital I would like to see more shared power between the services. The Air Force and Navy have great ideas and insight they really communicate well and from my perspective, much better than the Army. If we could find common ground with the same agenda we could be a more efficient and happier organization.”

Organizational Citizenship Behavior

Research Question 3: Which personal demographic factors influence the quality of organizational citizenship behavior (OCB) score?

This is the only the second time that race has had a significant effect on a dependent variable, the first was with communication climate. This analysis showed that race had a significant effect with overall OCB, specifically African Americans and Whites have higher overall OCB than Hispanics. Power exceeded standards and effect size was moderate. This effect maybe because African Americans make up 12.2% of the participants, Whites makeup 68%, while Hispanics make up only 9.3% of the participants. Ethnic similarity may enhance citizenship behavior. Aquino and Bommer (2003) studied performance of OCB and indicators of social status, hierarchical position, gender and race, to predict employees' vulnerability of to being victimized. This study found that race moderates the effect of citizenship behavior, suggesting that positive referent or exchange powers that one gains from performing acts of citizenship may be offset by negative social stereotypes associated with being African-American.

A two-way interaction was significant on overall OCB with time in service and rank. Power met the standard, and effect size was moderate. A second two-way interaction was significant on overall OCB with race and gender. Power was slightly lower than standard, but effect size was moderate. Time in service is related to rank in that the longer you are in the service, particularly the military, the higher the rank the individual may attains.

Many written comments apply to citizenship behavior, "I work 10-12 hours a day. It is hard to keep up that level of performance and not "coast" at some point. By the end of the

week my productivity goes down." In addition, "I used to volunteer more when I worked M – F," and "There is very little incentive to volunteer for extra things here. The required work load is stressful enough to accomplish without doing more." Personnel working shifts have difficulty volunteering, "Working night shift . . . precludes a lot of 'extra' help given."

Altruism

Participant race has a significant effect on altruism, showing that African Americans and Whites have higher altruism over Hispanics. Power exceeded standards and effect size was moderate. A two-way interaction was significant on altruism with time in service and rank. Power exceeded the standard, and effect size was low. Finally a three-way interaction was significant on altruism with time on station, time in service and status. Power was slightly below standard, but effect size was moderate.

Altruism refers to behavior that is directly and intentionally aimed at helping a specific person in face-to-face situations. Smith, et al. (1983) stated that altruism describes those behaviors that to above and beyond the call of duty, and that benefit or serves other individuals. Several written comment apply to altruism, "Due to several staff members that continuously complain about everything, I have become quite discouraged and am ready to go to a different department." Another participant wrote, *I am* (italics added) "frequently left alone in the office while others go for 2 hour lunches, shopping to the bank or mailroom during duty hours." "A few of my co-workers often engage in unnecessary time off; idle conversations; surfing the internet at work; calling in sick; taking extra breaks; disappearing

when work needs to be done. This is de-motivating when supervisors turn a blind eye and treat them differently."

Generalized Compliance

Participant race has a significant effect on generalized compliance, showing that Whites have higher altruism over Asians. Power exceeded standards and effect size was moderate. A two-way interaction was significant on generalized compliance with time in service and rank, as seen previously with altruism. Power exceeded the standard, and effect size was moderate. Another two-way interaction was significant on generalized compliance with time in service and race, which is the same two-way interaction seen in altruism. Power was high and effect size was moderate. Finally, a three-way interaction was significant on altruism with time on station, time in service and status, which was also seen with altruism. Power was slightly below standard, but effect size was moderate.

Generalized compliance describes behavior that surpasses enforceable work standards, and behaviors that are not formally rewarded yet ultimately benefit the organization. Whites were found to have significantly higher scores over Asians. The difference between these two groups may be due to the survey questions for this dimension, in particular the question, "How often is your attendance at work above the norm?" This may have confused some participants, in a military environment attendance at work is mandatory.

Written comments reflect issues related to generalized compliance, "We work our butts off here. The core group never takes time off, we don't want to put more burden on the

others." And, "If I can get the assignment done just as well and in half the time, what is my reward? Nothing." Written comments reflect lack of involvement with organizational activities, "I spend so much time working, that I have no desire to partake in "organizational" events outside of the work schedule."

Civic Virtue

For the first time, participants who were on over 18 months had higher civic virtue than participants who were on station between 6 – 18 months. Power was slightly below the standard level and effect size was low.

And for the first time, participant rank had a significant effect on civic virtue. Enlisted had higher civic virtue than officers or GS equivalent enlisted. Local national equivalent enlisted has higher civic virtue than GS equivalent enlisted. Power and effect size were both high.

Recall that civic virtue describes behaviors that improve team effectiveness. It is interesting that participants with a higher time on station had higher civic virtue. Perhaps this added experience at LRMC promotes teamwork.

The difference between enlisted and officers may be due to the difference in promotion opportunities for each group. Government service personnel do not meet a promotion board, but instead are usually promoted when and if they seek out a new job. Officer and enlisted personnel are promoted based on past performance, which in part is tied to organizational goals. Because government service personnel have limited promotion

potential, they may continue performing the same job duties for years, which may lead to job burnout.

Local national equivalent enlisted have higher civic virtue than GS equivalent enlisted. This effect may be due to the longevity of many local nationals, who may stay employed at LRMC for decades. Local nationals are aware they may be employed for years to come and make more of an effort to enhance teamwork and promote these behaviors in others. Whereas GS equivalent enlisted must move on a regular basis. An additional factor that may influence civic virtue is the fact that local nationals are only permitted to supervise lower ranking GS personnel. And, local nationals are not permitted to supervise military personnel, but GS personnel may supervise military personnel and local nationals. These regulations may affect civic virtue with any of these groups.

Courtesy

Continuing with significant findings involving race, a two-way interaction of race and gender was significant on courtesy. Power was slightly below the standard, and effect size was moderate. Questions involving courtesy ask about taking extra breaks, time spent in idle conversation and taking unnecessary time off. These are activities that are primarily managed by the supervisor and the individual employee. Personnel that are also influenced by these behaviors and attitudes are co-workers who must work harder when others are on a break.

Sportsmanship

A two-way interaction race and gender was significant on sportsmanship, the same interaction seen in courtesy. Questions involving sportsmanship ask about underserved breaks, coasting toward the end of the day, and the time spent with personal phone conversations. Just like the dimension of courtesy, sportsmanship behaviors are primarily managed by the supervisor and the individual employee and co-workers.

Additional Analysis, Same Gender and CSQ Score

Participants who had the same gender as a supervisor had a significantly higher overall CSQ, communication climate and corporate information, than participants who had a different gender as a supervisor. Power was slightly lower than the standard for all three dependent variables, and effect size was low.

Researchers agree that sharing an attribute produces interpersonal attraction that could be reflected in the tendency for similar people to communicate with each other more frequently (Reagans, 2005). Ensher and Murphy (1997) studied the amount of contact between mentor and protégé, and found that liking, satisfaction and contact with the mentor were higher when protégés perceived themselves to be more similar to their mentors. Glen, Rhea and Wheeless (1997) surveyed 153 male and female nurses regarding their interpersonal communication satisfaction with physicians. Results indicated that same-sex interactions were significantly more satisfying for female nurses, while mixed-sex interactions were more satisfying for male nurses. In this hospital setting there are more

females employed than males and this ratio and interaction between female and male, supervisor and subordinate may influence communication satisfaction.

Brass (1995) found that "similarity is thought to ease communication, increase predictability of behavior, and foster trust and reciprocity" (p. 51). Burleson, Albrecht and Sarason (1994) reported that male and female communication may be affected by the individual's role, and the organization's managerial philosophy. Females in caretaking roles are expect to communication in a supportive manner which would enhance a woman's communication competence.

Follow-up Analysis: Correlation

Several independent variables were consistently found to have a significant effect in this study, among these time on station, time in service, rank, and status. All of these variables showed significant interaction effects as well. Therefore it would be of interest to further probe the relationship between some of these independent variables, and between them and one or more of the dependent variables.

The most logical next step is to perform a correlation analysis. As rank and status are non-ordinal variables and therefore analysis is more problematic for this study, a correlation analysis was performed on time on station, time in service, and the various CSQ dimensions. The results show a significant correlation between time on station and time in service (r = .203, alpha = .01). The remaining correlation results with the dependent variables are shown in Table 11.

Table 11.

Correlation Matrix

Correlation Matrix (Pearson *r*)	Time on Station	Time in Service	Communication Climate	Supervisor Communication	Organizational Integration	Media Quality	Co-Worker Communication	Corporate Information	Personal Feedback	Altruism
Time on Station	1	.203**	-.096*	-.070	-.097*	-.085	-.080	-.080	-.102*	.066
Time in Service	.203**	1	.039	-.033	.005	-.026	.025	.020	-.020	.028

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Time in service did not correlate with any dimension. However, time on station did show a significant correlation with the CSQ dimensions of communication climate, organizational integration and personal feedback. Scatter plots with best fit lines are shown for these three correlations in Figures 6, 7 and 8.

Regarding the significant correlation between time on station and time in service, for which a scatter plot is shown in Figure 9, this effect is of moderate size ($r^2 = .04$). This may help to explain the consistent significant effect of the three-way interaction of time on station, time in service and rank on many of the dependent variables. It is not clear why time on station would be significantly correlated with time in service, given that the typical rotation at LRMC would range from 0 to 3 years, whereas time in service usually range from 2 to 20 years. This would be an interesting aspect to investigate in a follow-up study.

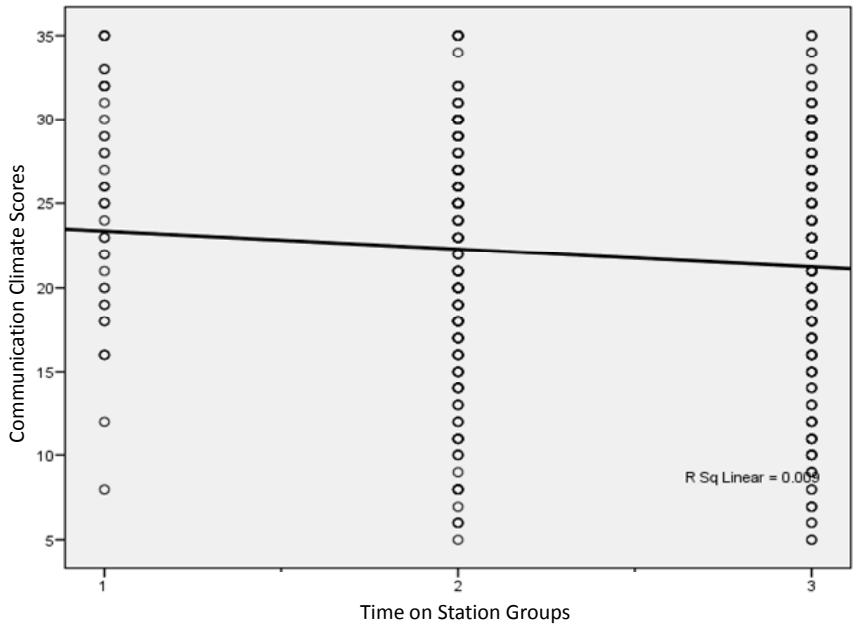

Figure 6. Correlation Between Communication Climate Scores and Time on Station

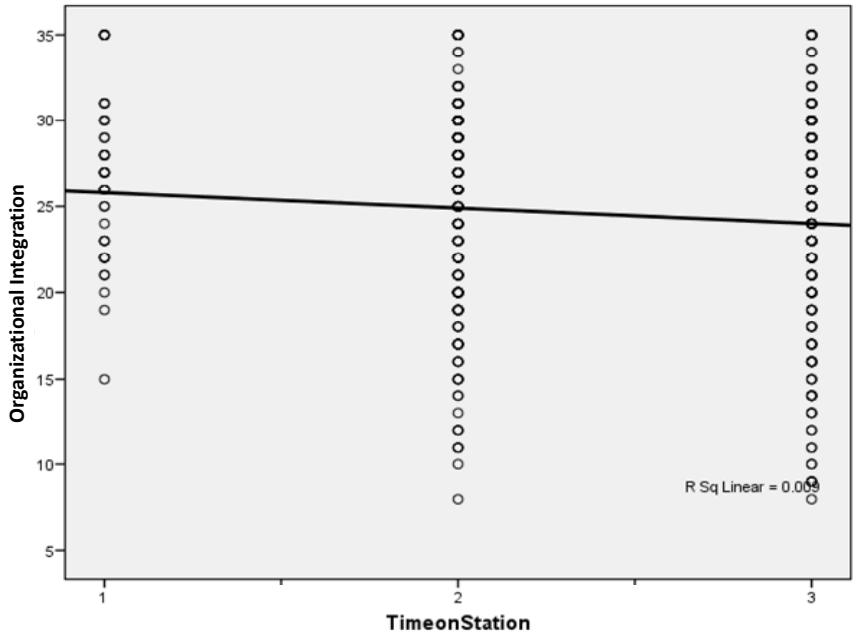

Figure 7. Correlation Between Organizational Integration and Time on Station

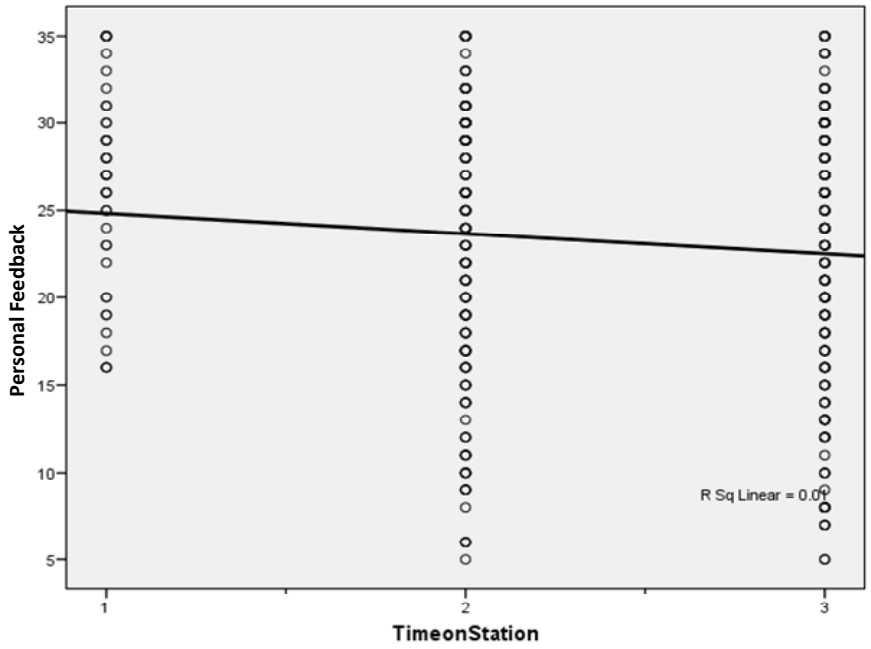

Figure 8. Correlation Between Personal Feedback and Time on Station

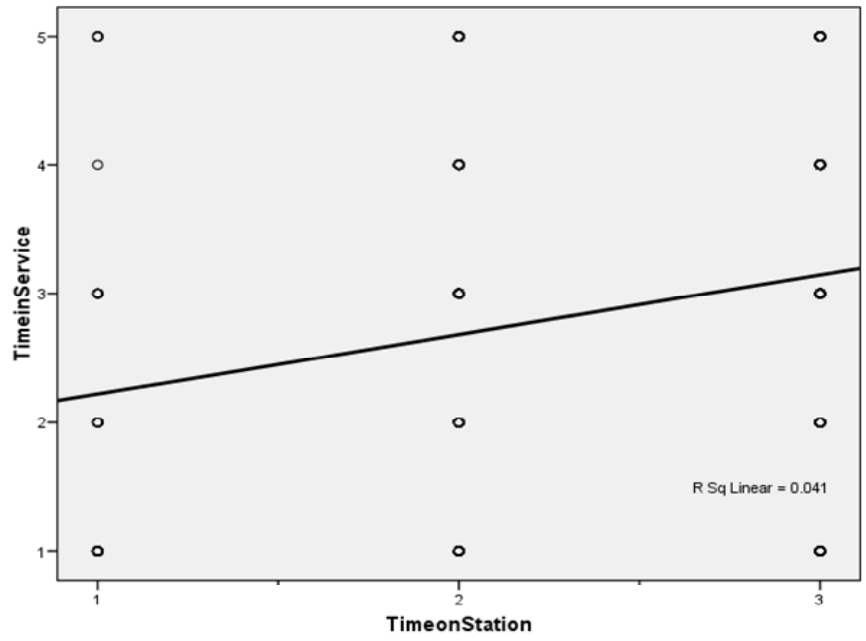

Figure 9. Correlation Between Time in Service and Time on Station

Conclusions

Personnel with less than 6 months time on station had a higher LMX and CSQ over personnel with longer time on station. New personnel may be excited by the new assignment in Germany. They may need months to locate a new home to rent and un-pack, during this time the new person may need more frequent contact with their supervisor to complete these necessary steps. Higher LMX and CSQ may reflect the contact the participant had with their supervisor during the period.

By contrast, personnel with longer time on station had a lower LMX and CSQ score. This data may reflect the fall off in contact after the individual has settled in to their new assignment. In addition, lower LMX and CSQ may be the result of the high operations tempo at an active medical center and equally high job demands. Written comments demonstrate this stress, “More openness and continuous acknowledgement of continuous sacrifices made during this time of war and always dwindling resources.” And, “Mission creep and mission expansion has made it difficult to accomplish everything that needs to be done.”

Race was a further noteworthy factor, “African Americans” had a higher over OCB than Whites. And, African Americans and Whites had higher altruism Hispanics. While, Whites had higher generalized compliance over Asians. Self-categorization research shows that a person is more likely to identify with an attribute when a small number of people share it (McGuire and Padawer-Singer, 1979; McGuire et al., 1979; Tafjel and Turner, 1979; Turner, 1987; Brewer, 1991). Findings show that an Asian male is more likely to identify with the attribute Asian when there are few Asians around. But, the Asian male is more

likely to identify with the attribute male when there are relatively few men. Authors conclude that identification with an attribute increases the probability that an individual will have strong ties to people who also share the attribute. Authors also found as the size of the social category grows, identification declines, and category members are less likely to be connected by a strong tie.

Time on station, time in service and rank had a combined effect on all of the seven CSQ dimensions (communication climate, supervisor communication, organizational integration, media quality, co-worker communication, corporate information, personal feedback). Coupled with this information is the trend where time on station had a significant effect on overall LMX, overall CSQ and dimensions, which constitutes 9 (or 60%) of the 15 dependent variables.

The only significant effect with manager category (manager vs. non-manager) showed significant results on LMX. Managers have significantly higher LMX score than non-managers. Managers have usually been in service longer than and have more experience in leadership roles.

Racial identity had a significant effect on overall OCB, altruism, general compliance, along with communication climate. Racial identity was also part of the combined effect with courtesy, sportsmanship.

Finally, Participants who were the same gender as their supervisor had higher overall CSQ, communication climate and corporate information. Glen et al (1997) found that same-sex interactions were significantly more satisfying for female nurses, while mixed sex interactions were more satisfying for male nurses. In this hospital setting there are more

females employed than males. The ratio and interaction between female and male, supervisor and subordinate may influence communication satisfaction.

Limitations of the Research

There are several limitations regarding this research, the first involves the demographic characteristics of the population. All personnel assigned under DCCS and DCN were surveyed, and a 35% return rate was obtained. This is sufficient to conduct accurate testing with certain demographic categories, however other categories were marginal. In particular race and the subcategories of "Native Hawaiian, American Indian, and Don't know." In addition, the number of local nationals that participated were marginal.

A second potential weakness of this study involves the timing when the survey was distributed. The survey was initially sent out at the end of June 2008, and this follows a very active year for LMRC personnel. LRMC personnel were involved with two arduous inspections, Joint Commission on Accreditation of Hospital Organizations and Quality Management. These inspections compete with the stress of the high operations tempo. Another unique stress includes the involvement of Naval personnel. Naval personnel were assigned to augment LRMC personnel beginning 2 years ago due to the high number of patients. Assignments were typically 12 months, however, some Naval personnel volunteered to remain an additional year. This situation complicated lines of supervision, which may have influenced this study. In addition, during the summer months, typically 33% of the hospital personnel move to their next assignment. Sending the survey out at the end of June boarders on this active time period.

Variation in the number of participants may have affected the internal consistency on some of the instruments. A total of 492 completed the LMX survey, 474 participants completed CSQ and OCB survey. The reason for this variation may be linked to the type of questions. The OCB survey questions ask the participant about individual job performance whereas the LMX and CSQ questions assess the participant's opinion. Because the OCB questions are directly asking about job performance, participants may not answer truthfully. Finally, internal consistency for OCB may be lower because these were the last questions on the survey and the participant may have experienced survey fatigue or become distracted due to the length of the survey.

Implications for Future Research

This study was the first to examine leadership, communication and citizenship behavior from all three branches of the service employed at one facility. Results of this study set the way for future surveys at multi-service medical centers due to the mandates from the 2005 Base Realignment and Closure Plan which constructed multiple joint military medical sites.

This research adds to the previous studies of Graen and Uhl-Bien (1991) which described the life cycle of the leadership relationship. They described the development of the LMX relationship over time, growing from low to high quality. Obviously sometime after 6 months LRMC employees experience a decrease in the development of the LMX relationship. Future research could study this development more closely by matching

supervisor and subordinate. This aspect could also be studied by conducting sequential studies.

This research adds to previous studies regarding interpersonal attraction from Reagans (2005). Participants who had the same gender as a supervisor had a significantly higher CSQ score than participants who had a different gender as a supervisor.

This study augments previous findings related to self-categorization and found that racial identity had a significant effect on CSQ communication climate, overall OCB, altruism, general compliance. Authors (McGuire and Padawer-Singer, 1979; McGuire et al., 1979; Tafjel and Turner, 1979; Turner, 1987; Brewer, 1991) conclude that identification with an attribute increases the probability that an individual will have strong ties to people who also share the attribute.

Based on these findings, future research should examine the interaction between LMX, CSQ and OCB. The importance of this interaction is partially explained with previous research which has shown that LMX quality is a powerful predictor of communication satisfaction in organizations (Mueller & Lee, 2002; Lamude et al. 2004). Mueller and Lee (2002) found that the higher the quality of LMX, the greater the amount of communication satisfaction that the members perceived to characterize their interpersonal contexts. These researchers also concluded that subordinates can learn about and actively engage in communicative behaviors that positively affect the quality of LMX with their superiors. Subordinates can show greater competence and performance in work/task assignments, do things that may increase liking and trust, and utilize impression-management strategies (Bauer & Green, 1996). By improving the quality of LMX with superiors, subordinates are

likely to experience more informal and formal rewards (including “motivators”), interact with their superiors within a more open communication environment (e.g., greater feedback opportunities in decision making, information sharing, and the like), and thus experience more satisfying communication at the workplace. Grain and Uhl-Bien (1991) argue that leaders should create a special relationship with all subordinates. Leaders should look for ways to build trust and respect with all of their subordinates, thus making the entire work unit an in-group. Leaders should look beyond their own work unit and create quality partnerships with individuals throughout the organization. Behaviors that build trust and facilitate quality relationships also promote a higher level of communication.

Mueller and Lee (2002) find that LMX quality is significantly related to how subordinates feel about their communication experiences. Findings indicate that the quality of LMX affects perceptions of communication satisfaction, beyond that of the superior-subordinate context. The quality of LMX appears to be strongly and positively related to communication satisfaction in larger group and organizational contexts. The LMX quality not only affects subordinates' satisfaction with communication with their superiors, but also their satisfaction with communication practices within organizational contexts. Thus, it would appear that the quality of LMX has a "spillover" or "ripple" effect on perceptions of communication satisfaction in other forms of communication interaction.

Communication researchers are also exploring how communication behavior directly affects or is affected by the quality of LMX. Fairhurst, Robers and Starr (1987) found that verbal content, and the way something is said by a subordinate, may be critical to the success as an ingratiation technique. Linguistic forms used to minimize social distance

between the member and the leader includes self-disclosure, humor, and expressions of mutual affection and support.

Ilies et al, (2007) performed a meta-analytic review of the relationship between the quality of leader–subordinate exchanges (LMX) and citizenship behaviors performed by employees. Results based on 50 independent samples (N = 9,324) indicate a moderately strong, positive relationship between LMX and citizenship behaviors. The results also support the moderating role of the target of the citizenship behaviors on the magnitude of the LMX–citizenship behavior relationship. The authors describe this leader-member relationship as having high levels of trust, interaction, support, and formal and informal rewards (Dienesch & Liden, 1986). Such relationships include the exchange of material and nonmaterial goods that extend beyond what is specified in the formal job description (Liden et al., 1997; Liden & Graen, 1980). Thus, to reciprocate in high LMX relationships, it is likely that subordinates go beyond required in-role behavior and engage in citizenship behaviors in order to maintain a balanced or equitable social exchange (Wayne et al., 2002).

Deluga (1994) believes that in a social exchange relationship, subordinates experiencing equitable treatment (higher-quality exchanges) may feel obligated to reciprocate by performing non-prescribed OCB that benefits the organization. In contrast, subordinate perceptions of inequitable treatment (lower-quality exchanges) may result in the reduction of OCB. Subordinates with a lower-quality exchange might find many excuses to limit their contributions to prescribed job specifications. The author concludes that the quality of LMX is positively connected with organizationally desirable courtesy, conscientiousness, altruism and sportsmanship, but not civic virtue OCB. Deluga explains

that perhaps perceived supervisor fairness is the social exchange conduit (i.e., subordinates modify their behavior as a function of perceived equity) through which higher-quality LMX and OCB operate.

Settoon, Bennett and Liden (1996) confirm that the quality of LMX is strongly associated with subordinate perceptions of organizational supportiveness, and with independent ratings of subordinate's OCB. The quality of the exchange relationship motivates employees to engage in OCB by increasing their sense of obligation, desire to reciprocate, trust and liking, and their commitment to the leader. Truckenbrodt (2000) found a significant relationship between the quality of the supervisor-subordinate relationship and subordinates' commitment and altruistic organizational behavior.

The basis for the relationship between communication satisfaction and organizational citizenship behavior can be explained with the theories of Rioux and Penner (2001). These researchers believe that organizational citizenship occurs through communication practices, and is influenced by attributing motives for these interactions. They also suggest that organizational members may perform OCBs to satisfy needs and achieve goals.

Thus as noted, previous studies have shown an interaction between LMX, CSQ and OCB, however these studies have not examined the interaction of these theories together. A study of this nature should help explain the different perceptions of employees and enhance the understanding of the relationship between these theories.

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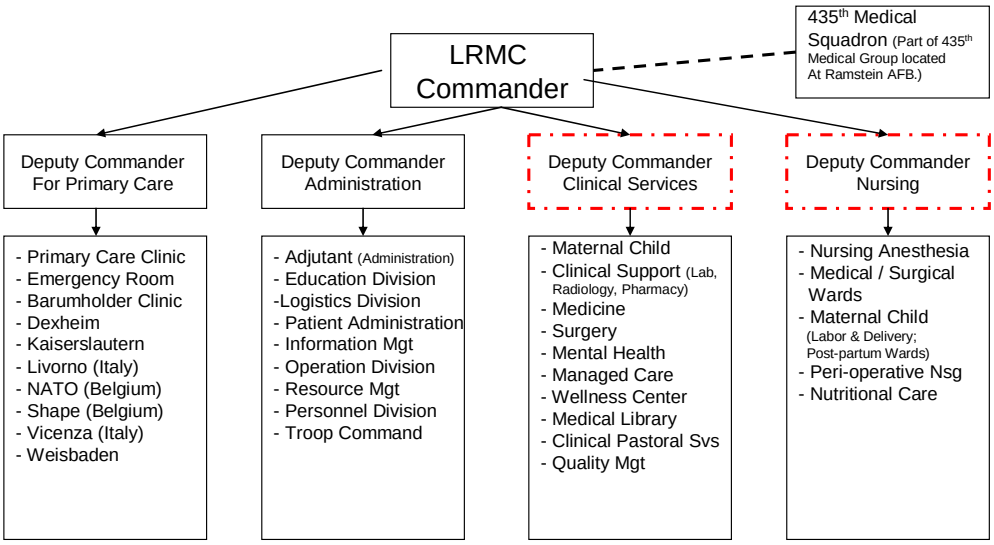
Appendix A

Landstuhl Regional Medical Center Organization Chart



Appendix B

Dependent and Independent Variables

There are three primary dependent variables tested in this study:

1. Leader-Member Exchange (LMX) score;
2. Communication Satisfaction Questionnaire (CSQ) score;
3. Organizational Citizenship Behavior (OCB) score.

There are 13 secondary dependent variables tested in this study. The first eight are the dimensions of CSQ, and the last five are the dimensions of OCB.

1. Communication climate score;
2. Supervisory communication score;
3. Organizational integration score;
4. Media quality score;
5. Co-worker communication score;
6. Corporate information score;
7. Personal feedback score;
8. Relationship with subordinates (for those who are supervisors) score;
9. Altruism score;
10. Generalized compliance score;
11. Civic virtue score;
12. Courtesy score;
13. Sportsmanship score.

There are 17 independent (personal demographic category) variables:

1. Status (Army, Air Force, Navy, Civilian Government Service, Local National);

2. Rank (Officer 1 – 6, Enlisted 1 – 9, GS 1 – 13, LN 1 – 10);

3. Time on Station (< 6 months, 6 – 18 months, > 18 months);

4. Time in Service (< 5 yrs, 6 – 10 yrs, 11 – 15 yrs, 15 – 20 yrs, > 20 yrs);

5. Assigned Deputy Commander (Clinical Services - DCCS, Nursing - DCN);

6. Gender;

7. Age (at the time the participant took the survey);

8. Race (Hispanic, American Indian, Asian, African American, Native Hawaiian, White, Other);

9. Participant's supervisor time on station (< 6 months, 6 – 18 months, > 18 months);

10. Participant's supervisor time in service (< 5 yrs, 6 – 10 yrs, 11 – 15 yrs, 15 – 20 yrs, > 20 yrs);

11. Participant's supervisor gender;

12. Participant's supervisor race (Hispanic, American Indian, Asian, African American, Native Hawaiian, White, Other);

13. Participant's supervisor status (Army, Air Force, Navy, Civilian Government Service, Local National);

14. Participant's supervisor military rank (Officer 1 – 6, Enlisted 1 – 9);

15. Participant's GS rank (GS 1 – 13);

16. Participant's LN rank (LN 1 – 10);

17. Managers Only.

Appendix C

LMX Questionnaire

Respondent & Researcher version (same).

Source: Graen and Uhl-Bien (1995)

Instructions: This questionnaire contains items that ask you to describe your relationship with your supervisor. For each of the items, indicate the degree to which you think the item is true for you.
*At the end of this section you will have an opportunity to explain any of your answers.

1. Do you know where you stand with your supervisor . . . do you usually know how satisfied your supervisor is with what you do?

Rarely	Occasionally	Sometimes	Fairly often	Very often
1	2	3	4	5

2. How well does your supervisor understand your job problems and needs?

Not a bit	A little	A fair amount	Quite a bit	A great deal
1	2	3	4	5

3. How well does your supervisor recognize your potential?

Not a bit	A little	Moderately	Mostly	Fully
1	2	3	4	5

4. Regardless of how much formal authority is built into your supervisor's position, what are the chances that your supervisor would use his or her power to help you solve problems in your work?

None	Small	Moderate	High	Very high
1	2	3	4	5

5. Again, regardless of the amount of formal authority your supervisor has, what are the chances that he or she would "bail you out" at his or her expense?

None	Small	Moderate	High	Very high
1	2	3	4	5

6. I have enough confidence in my supervisor that I would defend and justify his or her decision if he or she were not present to do so.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

7. How would you characterize your working relationship with your supervisor?

Extremely ineffective	Worse than average	Average	Better than average	Extremely effective
1	2	3	4	5

8. Now you have the opportunity to explain any of your answers to gave in the leadership section.

Appendix D

Communication Satisfaction Questionnaire (CSQ)

I. Respondent Version of Questionnaire.

Source: Downs and Hazen (1997)

Instructions: The following questions relate to your level of satisfaction with your job.

1. How satisfied are you with your job?
0 1 2 3 4 5 6 7 8 9 10

2. In the past 6 months, what has happened to your level of satisfaction? (Circle one)
1 = Stayed the same 2 = Gone up 3 = Gone down

3. If the communication associated with your job could be changed in any way to make you more satisfied, please indicate how:

Listed below are several kinds of information often associated with a person's job. Please indicate how satisfied you are with the amount and / or quality of each kind of information by circling a number 1 through 7 in the space provided.

1 = Very dissatisfied
2 = Dissatisfied
3 = Somewhat dissatisfied
4 = Indifferent
5 = Somewhat satisfied
6 = Satisfied
7 = Very satisfied

4. Information about my progress in my job.	1	2	3	4	5	6	7
5. Personnel news.	1	2	3	4	5	6	7
6. Information about *hospital* policies and goals.	1	2	3	4	5	6	7
7. Information about how my job compares with others.	1	2	3	4	5	6	7
8. Information about how I am being judged.	1	2	3	4	5	6	7
9. Recognition of my efforts.	1	2	3	4	5	6	7
10. Information about *section* policies and goals.	1	2	3	4	5	6	7
11. Information about the requirements of my job.	1	2	3	4	5	6	7
12. Information about government regulatory action	1	2	3	4	5	6	7

affecting my *hospital*.							
13. Information about changes in the *hospital.*	1	2	3	4	5	6	7
14. Reports on how problems in my job are being handled.	1	2	3	4	5	6	7
15. Information about employee benefits and pay.	1	2	3	4	5	6	7
16. Information about company profits and financial standing.	1	2	3	4	5	6	7
17. Information about accomplishments and / or failures of the *hospital*.	1	2	3	4	5	6	7
18. Extent to which my superior knows and understands the problems faced by *staff*.	1	2	3	4	5	6	7
19. Extent to which the *hospital's* communication motivates and stimulates an enthusiasm for meeting its goals.	1	2	3	4	5	6	7
20. Extent to which my superior listens and pays attention to me.	1	2	3	4	5	6	7
21. Extent to which the people in *the hospital* have great ability as communicators.	1	2	3	4	5	6	7
22. Extent to which my supervisor offers guidance for solving job related problems.	1	2	3	4	5	6	7
23. Extent to which the people in *the hospital* have great ability as communicators.	1	2	3	4	5	6	7
24. Extent to which the *hospital's* publications are interesting and helpful.	1	2	3	4	5	6	7
25. Extent my supervisor trusts me.	1	2	3	4	5	6	7
26. Extent to which I receive on time information needed to do my job.	1	2	3	4	5	6	7
27. Extent to which conflicts are handled appropriately through proper communication channels.	1	2	3	4	5	6	7
28. Extent to which the grapevine is active in the organization.	1	2	3	4	5	6	7
29. Extent to which my supervisor is open to ideas.	1	2	3	4	5	6	7
30. Extent to which horizontal communication with other employees at my level is accurate and free-flowing.	1	2	3	4	5	6	7
31. Extent to which communication practices are adaptable to emergencies.	1	2	3	4	5	6	7
32. Extent to which my work group is compatible.	1	2	3	4	5	6	7
33. Extent to which meetings are well organized.	1	2	3	4	5	6	7
34. Extent to which the amount of time my supervisor has given me is about right.	1	2	3	4	5	6	7
35. Extent to which written directives and reports are clear and concise.	1	2	3	4	5	6	7

36. Extent to which the attitudes toward communication in the company are basically healthy.	1	2	3	4	5	6	7
37. Extent to which informal communication is active and accurate.	1	2	3	4	5	6	7
38. Extent to which the amount of communication in the company is about right.	1	2	3	4	5	6	7

39. How would you rate your productivity in your job? (Circle one)
1 = Very low 2 = Low 3 = Slightly lower 4 = Average
5 = Slightly higher than most 6 = High 7 = Very high

40. In the last 6 months, what has happened to your productivity? (Circle one)
1 = Stayed the same 2 = Gone up 3 = Gone down

41. If the communication associated with your job could be changed in any way to make you more productive, please tell how:

Answer the follow section only if you are a MANAGER OR SUPERVISOR.

42. Extent to which my subordinates are responsive to downward directed communication.	1	2	3	4	5	6	7
43. Extent to which my staff anticipate my need for information.	1	2	3	4	5	6	7
44. Extent to which I can avoid having communication overload.	1	2	3	4	5	6	7
45. Extent to which my subordinates are receptive to evaluation, suggestions, and criticisms.	1	2	3	4	5	6	7
46. Extent to which my staff feel responsible for initiating accurate upward communication.	1	2	3	4	5	6	7

II. Researcher Version of CSQ Questionnaire

The questions are grouped according to communication satisfaction dimensions. The last two sections concerning job satisfaction and productivity are not formally considered dimensions of communication satisfaction, and will not be analyzed as part of this study.

A. *Communication Climate Questions*

19. Extent to which the hospital's communication motivates me to meet its goals.	1	2	3	4	5	6	7
21. Extent to which the people in my organization have great ability as communicators.	1	2	3	4	5	6	7
23. Extent to which the hospital's communication makes me identify with it or feel a vital part of it.	1	2	3	4	5	6	7
26. Extent to which I receive in time information needed to do my job.	1	2	3	4	5	6	7
27. Extent to which conflicts are handled appropriately through proper communication channels.	1	2	3	4	5	6	7

B. *Supervisory Communication*

20. Extent to which my superior listens and pays attention to me.	1	2	3	4	5	6	7
22. Extent to which my supervisor offers guidance for solving job related problems.	1	2	3	4	5	6	7
24. Extent to which the *hospital's* publications are interesting and helpful.	1	2	3	4	5	6	7
29. Extent to which my supervisor is open to ideas.	1	2	3	4	5	6	7
34. Extent to which the amount of time my supervisor has given me is about right.	1	2	3	4	5	6	7

C. *Organizational Integration Questions*

4. Information about my progress in my job.	1	2	3	4	5	6	7
5. Personnel news.	1	2	3	4	5	6	7
10. Information about *section* policies and goals.	1	2	3	4	5	6	7
11. Information about the requirements of my job.	1	2	3	4	5	6	7
15. Information about employee benefits and pay.	1	2	3	4	5	6	7

D. *Media Quality Questions*

25. Extent my supervisor trusts me.	1	2	3	4	5	6	7
33. Extent to which our meetings are well organized.	1	2	3	4	5	6	7
35. Extent to which written directives and reports are clear and concise.	1	2	3	4	5	6	7
36. Extent to which the attitudes toward communication in the hospital are basically healthy.	1	2	3	4	5	6	7
38. Extent to which the amount of communication in the hospital is about right.	1	2	3	4	5	6	7

E. *Co-Worker Communication Questions*

28. Extent to which the grapevine is active in the organization.	1	2	3	4	5	6	7
30. Extent to which communication with other employees at my level is accurate and free-flowing.	1	2	3	4	5	6	7
31. Extent to which communication practices are adaptable to emergencies.	1	2	3	4	5	6	7
32. Extent to which any work group is compatible.	1	2	3	4	5	6	7
37. Extent to which informal communication is active and accurate.	1	2	3	4	5	6	7

F. *Corporate Information*

6. Information about *departmental* policies and goals.	1	2	3	4	5	6	7
12. Information about government action affecting my company.	1	2	3	4	5	6	7
13. Information about changes in the organization.	1	2	3	4	5	6	7
16. Information about *hospital* profits and financial standing.	1	2	3	4	5	6	7
17. Information about accomplishments and / or failures of the *hospital*.	1	2	3	4	5	6	7

G. *Personal Feedback Questions*

7. Information about how my job compares with others.	1	2	3	4	5	6	7
8. Information about how I am being judged.	1	2	3	4	5	6	7
9. Recognition of my efforts.	1	2	3	4	5	6	7
14. Reports on how problems in my job are being handled.	1	2	3	4	5	6	7
18. Extent to which my superior knows and understands the problems faced by subordinates.	1	2	3	4	5	6	7

H. *Relationship with Subordinate Questions*

Answer the follow section only if you are a MANAGER OR SUPERVISOR.

42. Extent to which my subordinates are responsive to downward directed communication.	1	2	3	4	5	6	7
43. Extent to which my staff anticipate my need for information.	1	2	3	4	5	6	7
44. Extent to which I can avoid having communication overload.	1	2	3	4	5	6	7
45. Extent to which my subordinates are receptive to evaluation, suggestions, and criticisms.	1	2	3	4	5	6	7
46. Extent to which my staff feel responsible for initiating accurate upward communication.	1	2	3	4	5	6	7

I. *Job Satisfaction Questions*

1. How satisfied are you with your job?

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

2. In the past 6 months, what has happened to you level of satisfaction? (Circle one)
1 = Stayed the same 2 = Gone up 3 = Gone down

3. If the communication associated with your job could be changed in any way to make you more satisfied, please indicate how:

J. *Productivity Questions*

39. How would you rate your productivity in your job?

1 = Very low	2 = Low	3 = Slightly lower	4 = Average	5 = Slightly higher than most	6 = High	7 = Very high

40. In the last 6 months, what has happened to your productivity? (Circle one)
1 = Stayed the same 2 = Gone up 3 = Gone down

41. If the communication associated with your job could be changed in any way to make you more productive, please tell how:

Appendix E

Organizational Citizenship Behavior (OCB) Survey

I. Respondent Version of Survey

Source: Smith, et al. (1983)

1 = Never
2 = Seldom
3 = Half the time
4 = Frequently
5 = Almost always

#	SURVEY QUESTION	1 = Never	2 = Seldom	3 = Half the time	4 = Frequently	5 = Almost always
1	How often do you assist your supervisor with his or her work?	1	2	3	4	5
2	How often do you make innovative suggestions to improve department?	1	2	3	4	5
3	How often do you volunteer for things that are not required?	1	2	3	4	5
4	How often do you orient new people even though it is not required?	1	2	3	4	5
5	How often do you help others who have been absent?	1	2	3	4	5
6	How often do you attend functions not required but that help organization's image?	1	2	3	4	5
7	How often do you help others who have heavy workloads?	1	2	3	4	5
8	How often do you take undeserved breaks?	1	2	3	4	5
9	How often do you coast toward the end of the day?	1	2	3	4	5
10	How often do you spend a great deal of time with personal phone conversations?	1	2	3	4	5
11	How often do you punctual?	1	2	3	4	5
12	How often do you give advance notice if unable to come to work?	1	2	3	4	5
13	How often do you attendance at work is above the norm?	1	2	3	4	5
14	How often do you take extra breaks?	1	2	3	4	5
15	How often do you spend time in idle conversations?	1	2	3	4	5
16	How often do you take unnecessary time off work?	1	2	3	4	5

17. Now you have the opportunity to explain any of your answers you gave in the organizational citizenship behavior section.

II. Researcher Version of Survey

1 = Never
2 = Seldom
3 = Half the time
4 = Frequently
5 = Almost always

#	SURVEY QUESTION	1 = Never	2 = Seldom	3 = Half the time	4 = Frequently	5 = Almost always
A. *Altruism*						
3	How often do you volunteer for things that are not required?	1	2	3	4	5
4	How often do you orient new people even though it is not required?	1	2	3	4	5
5	How often do you help others who have been absent?	1	2	3	4	5
7	How often do you help others who have heavy workloads?	1	2	3	4	5
B. *Generalized Compliance*						
11	How often are you punctual?	1	2	3	4	5
12	How often do you give advance notice if unable to come to work?	1	2	3	4	5
13	How often is your attendance at work above the norm?	1	2	3	4	5
C. *Civic Virtue*						
1	How often do you assist your supervisor with his or her work?	1	2	3	4	5
2	How often do you make innovative suggestions to improve your section or division?	1	2	3	4	5
6	How often do you attend functions not required but that help the organization's image?	1	2	3	4	5
D. *Courtesy*						
14	How often do you take extra breaks?	1	2	3	4	5
15	How often do you spend time in idle conversations?	1	2	3	4	5
16	How often do you take unnecessary time off work?	1	2	3	4	5
E. *Sportsmanship*						
8	How often do you take undeserved breaks?	1	2	3	4	5
9	How often do you coast toward the end of the day?	1	2	3	4	5
10	How often do you spend a great deal of time with personal phone conversations?	1	2	3	4	5

17. Now you have the opportunity to explain any of your answers you gave in the organizational citizenship behavior section.

Appendix F

Demographic Questions

1. How long have you continuously worked at Landstuhl Regional Medial Center?
   - Less than 6 months
   - Between 6 – 18 months
   - Over 18 months

2. How long have you served as a soldier, airman, seaman, civil servant or local national?
   - Less than 5 years
   - Between 6 -10 years
   - Between 11 – 15 years
   - Between 16 – 20 years
   - Over 20 years

3. Are you male or female?
   - Male
   - Female

4. Indicate which deputy commander you work for.
   - DCCS
   - DCN

5. State your age on the day of you completed this survey. _____ years old

6. What is your father's race?
   - Hispanic/Latino or Spanish
   - American Indian or Alaska Native
   - Asian
   - Black or African American
   - Native Hawaiian
   - White
   - Don't know

7. What is your mother's race?
   - Hispanic/Latino or Spanish
   - American Indian or Alaska Native
   - Asian
   - Black or African American
   - Native Hawaiian
   - White
   - Don't know

8. What racial group do you claim?
   - o Hispanic/Latino or Spanish
   - o American Indian or Alaska Native
   - o Asian
   - o Black or African American
   - o Native Hawaiian
   - o White
   - o Don't know

9. What is your current status?
   - o Army
   - o Air Force
   - o Navy
   - o Government Service
   - o Local National

10. Please indicate your current military rank or grade.
   - o O-1 / O-2
   - o O-3 / O-4
   - o O-5 / O-6
   - o WO-1 / CW-2
   - o CW-3 / CW-4 / CS-5
   - o E-1 / E-2
   - o E-3 / E-4
   - o E-5 / E-6
   - o E-7 / E-8 / E-9

11. Please indicate your current government service grade.
   - o GS-1 / GS-2
   - o GS-3 / GS-4
   - o GS-5 / GS-6
   - o GS-7 / GS-8
   - o GS-9 / GS-10
   - o GS-11 / GS-12 / GS-13

12. Please indicate your current local national grade.
   - o LN-1 / LN-2
   - o LN-3 / LN-4
   - o LN-5 / LN-6
   - o LN-7 / LN-8
   - o LN-9 / LN-10
   - o LN-11 / LN-12 / LN-13

13.How long has your supervisor continuously worked at Landstuhl Regional Medical Center?

- o Less than 6 months
- o Between 6 – 18 months
- o Over 18 months

14. How long has your supervisor served as a soldier, airman, civil servant or local national?

- o Less than 5 years
- o Between 6 -10 years
- o Between 11 – 15 years
- o Between 16 – 20 years
- o Over 20 years

15. Is your supervisor male or female?

- o Male
- o Female

16. Please indicate what you think the race of your supervisor is?

- o Hispanic/Latino or Spanish
- o American Indian or Alaska Native
- o Asian
- o Black or African American
- o Native Hawaiian
- o White
- o Don't know

17. What is the current status of your supervisor?

- o Army
- o Air Force
- o Navy
- o Government Service
- o Local National

10. Please indicate the military rank of your supervisor.

- o O-1 / O-2
- o O-3 / O-4
- o O-5 / O-6
- o WO-1 / CW-2
- o CW-3 / CW-4 / CS-5
- o E-1 / E-2
- o E-3 / E-4
- o E-5 / E-6
- o E-7 / E-8 / E-9

11. Please indicate the civilian grade of your supervisor.
    - o GS-1 / GS-2
    - o GS-3 / GS-4
    - o GS-5 / GS-6
    - o GS-7 / GS-8
    - o GS-9 / GS-10
    - o GS-11 / GS-12 / GS-13

12. Please indicate the local national grade of your supervisor.
    - o LN-1 / LN-2
    - o LN-3 / LN-4
    - o LN-5 / LN-6
    - o LN-7 / LN-8
    - o LN-9 / LN-10
    - o LN-11 / LN-12 / LN-13

Appendix G

SurveyMonkey Survey

1. Introduction

PURPOSE OF THE RESEARCH STUDY: The purpose of this study is to assess the quality of leadership, communication, and organizational citizenship at LRMC, as reported by employees that are directly involved with patient care. Thus, only personnel assigned under the DCCS or DCN will have this opportunity. The study will examine how these measures are influenced by a variety of individual employee demographic variables: status, military rank, assigned deputy-commander, time on station, time in service, gender, age, race, supervisor's time on station, supervisor's length of service, supervisor's gender, supervisor's race, and supervisor's status. The degree to which each employee demographic factor influences the resulting scores for leadership, communication, and organizational citizenship will be analyzed.

PROCEDURES: If you agree to be in this study, you will be asked to complete demographic questions, and a survey that measures the quality of Leader-Member Exchange, Communication Satisfaction, and Organizational Citizenship.

ALTERNATIVE PROCEDURES: Participants who do not have access to a computer or who would prefer to complete a survey by hand can request a hard copy to complete. A pre-paid envelope will be included for return of the survey. Participants can pick up hard copies of the questionnaires at the hospital Information Desk.

RISKS AND BENEFITS OF BEING IN THE STUDY: Participants will be inconvenienced for 20-25 minutes while completing the survey, however your commander has approved your participation with this research study. Although unlikely, some participants may have difficulty answering questions. Participants should respond to the best of their knowledge, and there are several opportunities to explain your answers. Although unlikely, some particpants may feel awkward, uneasy or uncomfortable when answering. Participants may stop the survey at any time.

There are no tangible benefits to participation, however some questions may generate open discussions with co-workers and supervisors. In addition, participants may have the satisfaction of knowing their participation will benefit research into leadership, communication and organizational citizenship at LRMC.

COMPENSATION: None.

VOLUNTARY NATURE OF THE STUDY: Participation in this study is voluntary. Your decision whether or not to participate will not result in penalty or loss of benefits to which you are otherwise entitled. If you decide to participate, you are free not to answer any question or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

LENGTH OF THE PARTICIPATION: Usually 20-25 minutes to complete all parts of the survey.

CONFIDENTIALITY: The records of this study will be kept private and your supervisor will not have access to your responses. In published reports, there will be no information included that will make it possible to identify you as a research participant. Research records will be stored securely. No personal identifiers will be used during this research. Through the services of "SurveyMonkey.com" an announcement regarding the survey will be sent by e-mail using their "invitation collector." The confidentiality / anonymity feature in SurveyMonkey will be engaged. Individual responses will be kept anonymous and will only be viewed by the principle investigator, associate investigator and collaborating personnel. Aggregate data and written responses will be retyped, compiled, and shared with the hospital commander, the DCCS and DCN. None of the responses would place the subject at risk of criminal or civil liability or damage the subject's financial standing, employability or reputation.

The data that is collected is kept private and confidential. Any original data will be destroyed, and only aggregate, non-identifiable data will be kept beyond the study for further analysis.

2. Consent to Participate

CONTACT AND QUESTIONS: If you have concerns or complaints about the research, the researcher conducting this study, Cathy Gardner, can be contacted by phone in the United States at 719 314 9361, or by e-mail at cathy.m.gardner-1@ouedu. Or contact Dr. Dan O'Hair by phone in the United States at 405-324-1619, or by e-mail at hdohair@ou.edu. In the event of a research-related injury, contact the researcher. You are encouraged to contact the researcher if you have any questions. If you have any questions, concerns, or complaints about the research and wish to talk to someone other than the individuals on the research team, or if you cannot reach the research team, you may contact the University Of Oklahoma - Norman Campus Institutional Review Board (OU-NC IRB) in the United States at 405-325-8110 or irb@ou.edu.

1. CONSENT TO PARTICIPATE

I have read the above information. I have asked questions and have received satisfactory answers. I consent to participate in the study. (Depending on your response, you will be directed to the next appropriate section.)

- ○ YES, I consent to participate in this research study.
- ○ NO, I do not consent to participate in this research study.

3. Demographics

2. How long have you continuously worked at Landstuhl Regional Medical Center?

- ○ Less than 6 months
- ○ Between 6-18 months
- ○ Over 18 months

3. How long have you served as a soldier, airman, civil servant or local national?

- ○ Less than 5 years
- ○ Between 6-10 years
- ○ Between 11-15 years
- ○ Between 16-20 years
- ○ Over 20 years

4. Are you male or female?

- ○ Male
- ○ Female

5. Indicate which deputy commander you work for.

- ○ DCCS
- ○ DCN

6. State your age on the day you completed this survey.

You age today _____

7. The next three questions ask you about your parent's race and the race you claim.

What is your father's race?

- ○ Hispanic / Latino or Spanish: from Cuba, Mexico, Puerto Rico, South/ Central America or other Spanish culture
- ○ American Indian or Alaska Native
- ○ Asian: from the Far East, Southeast Asia or the Indian subcontinent including, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, Philippine Island, Thailand, Vietnam.
- ○ Black or African American: origins in any of the black racial groups of Africa.
- ○ Native Hawaiian or other Pacific Islander: origins from Hawaii, Guam, Samoa, other Pacific Islands
- ○ White: origins from Europe, Middle East or North Africa.
- ○ Don't know.

8. What is your mother's race?

○ Hispanic / Latino or Spanish: from Cuba, Mexico, Puerto Rico, South/ Central America or other Spanish culture	○ American Indian or Alaska Native	○ Asian: from the Far East, Southeast Asia or the Indian subcontinent including, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, Philippine Island, Thailand, Vietnam.	○ Black or African American: origins in any of the black racial groups of Africa.	○ Native Hawaiian or other Pacific Islander: origins from Hawaii, Guam, Samoa, other Pacific Islands	○ White: origins from Europe, Middle East or North Africa.	○ Don't know.

9. What racial group do you claim?

○ Hispanic / Latino or Spanish: from Cuba, Mexico, Puerto Rico, South/ Central America or other Spanish culture	○ American Indian or Alaska Native	○ Asian: from the Far East, Southeast Asia or the Indian subcontinent including, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, Philippine Island, Thailand, Vietnam.	○ Black or African American: origins in any of the black racial groups of Africa.	○ Native Hawaiian or other Pacific Islander: origins from Hawaii, Guam, Samoa, other Pacific Islands	○ White: origins from Europe, Middle East or North Africa.	○ Don't know.

10. What is your current status?

Depending on your response, you will be directed to the next appropriate question.
If you are a member of the military, your next question will be #11.
If you are government service, your next question will be #12.
If you are local national, your next question will be #13.

○ Army	○ Air Force	○ Navy	○ Government Service	○ Local National

4. Military Rank

11. Please indicate your current military rank or grade.

- ○ O-1 / O-2
- ○ O-3 / O-4
- ○ O-5 / O-6
- ○ WO-1 / CW-2
- ○ CW-3 / CW-4 / CW-5
- ○ E-1 / E-2
- ○ E-3 / E-4
- ○ E-5 / E-6
- ○ E-7 / E-8 / E-9

5. Government Service Grade

12. Please indicate your current government service grade.

- ○ GS-1 / GS-2
- ○ GS-3 / GS-4
- ○ GS-5 / GS-6
- ○ GS-7 / GS-8
- ○ GS-9 / GS-10
- ○ GS-11 / GS-12 / GS-13

6. Local National Grade

13. Please indicate your current local national grade.

- ○ LN-1 / LN-2
- ○ LN-3 / LN-4
- ○ LN-5 / LN-6
- ○ LN-7 / LN-8
- ○ LN-9 / LN-10
- ○ LN-11 / LN-12 / LN-13

7. Supervisor Demographics

In the following section, please answer a few questions about your supervisor.

Your supervisor is the person who provides regular feedback regarding your job performance and completes your evaluation report.

Please answer to the best of your knowledge.

14. How long has your supervisor continuously worked at Landstuhl Regional Medical Center? Please answer to the best of your knowledge.

- ○ Less than 6 months
- ○ Between 6-18 months
- ○ Over 18 months

15. How long has your supervisor served as a soldier, airman, civil servant or local national?

- ○ Less than 5 years
- ○ Between 6-10 years
- ○ Between 11-15 years
- ○ Between 16-20 years
- ○ Over 20 years

16. Is your supervisor male or female?

- ○ Male
- ○ Female

17. Please indicate what you think the race of your supervisor is?

- ○ Hispanic / Latino or Spanish: from Cuba, Mexico, Puerto Rico, South/ Central America or other Spanish culture.
- ○ American Indian or Alaska Native.
- ○ Asian: from the Far East, Southeast Asia or the Indian subcontinent including, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, Philippine Island, Thailand, Vietnam.
- ○ Black or African American: origins in any of the black racial groups of Africa.
- ○ Native Hawaiian or other Pacific Islander: origins from Hawaii, Guam, Samoa, other Pacific Islands.
- ○ White: origins from Europe, Middle East or North Africa.
- ○ Don't know.

18. What is the current status of your supervisor?

Depending on your response, you will be directed to the next appropriate question.
If your supervisor is a member of the military, your next question will be #19.
If your supervisor is a member of government service, your next question will be #20.
If your supervisor is a local national, your next question will be #21.

- ○ Army
- ○ Air Force
- ○ Navy
- ○ Government Service
- ○ Local National

8. Military Rank of Supervisor

19. Please indicate the military rank of your supervisor.

- ○ O-1 / O-2
- ○ O-3 / O-4
- ○ O-5 / O-6
- ○ WO-1 / CW-2
- ○ CW-3 / CW-4 / CW-5
- ○ E-1 / E-2
- ○ E-3 / E-4
- ○ E-5 / E-6
- ○ E-7 / E-8 / E-9

9. Government Service Grade of Supervisor

20. Please indicate the civilian grade of your supervisor.

- ○ GS-1 / GS-2
- ○ GS-3 / GS-4
- ○ GS-5 / GS-6
- ○ GS-7 / GS-8
- ○ GS-9 / GS-10
- ○ GS-11 / GS-12 / GS-13

10. Local National Grade of Supervisor

21. Please indicate the Local National grade of your supervisor.

- ○ LN-1 / LN-2
- ○ LN-3 / LN-4
- ○ LN-5 / LN-6
- ○ LN-7 / LN-8
- ○ LN-9 / LN-10
- ○ LN-11 / LN-12 / LN-13

11. Leadership

INSTRUCTIONS: This questionnaire contains items that ask you to describe your relationship with your supervisor.

For each of the items, indicate the degree to which you think the item is true for you.

* At the end of this section you will have an opportunity to explain any of your answers.

22. Do you know where you stand with your supervisor . . . do you usually know how satisfied your supervisor is with what you do?

○ 1 = Rarely ○ 2 = Occasionally ○ 3 = Sometimes ○ 4 = Fairly often ○ 5 = Very often

23. How well does your supervisor understand your job problems and needs?

○ 1 = Not a bit ○ 2 = A little ○ 3 = A fair amount ○ 4 = Quite a bit ○ 5 = A great deal

24. How well does your supervisor recognize your potential?

○ 1 = Not a bit ○ 2 = A little ○ 3 = Moderately ○ 4 = Mostly ○ 5 = Fully

25. Regardless of how much formal authority is built into your supervisor's position, what are the chances that your supervisor would use his or her power to help you solve problems in your work?

○ 1 = None ○ 2 = Small ○ 3 = Moderate ○ 4 = High ○ 5 = Very High

26. Regardless of the amount of formal authority your supervisor has, what are the chances that he or she would "bail you out" at his or her expense?

○ 1 = None ○ 2 = Small ○ 3 = Moderate ○ 4 = High ○ 5 = Very High

27. I have enough confidence in my supervisor that I would defend and justify his or her decision if he or she were not present to do so.

○ 1 = Strongly disagree ○ 2 = Disagree ○ 3 = Neutral ○ 4 = Agree ○ 5 = Agree Strongly agree

28. How would you characterize your working relationship with your supervisor?

○ 1 = Extremely ineffective ○ 2 = Worse than average ○ 3 = Average ○ 4 = Better than average ○ 5 = Extremely effective

29. Now you have the opportunity to explain any answer you gave in the LEADERSHIP section.

12. Communication

INSTRUCTIONS: The following questions relate to your level of satisfaction with your job.

30. How satisfied are you with your job?

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

31. In the past 6 months, what has happened to your level of satisfaction?

○ 1 = Stayed the same ○ 2 = Gone up ○ 3 = Gone down

32. If the communication associated with your job could be changed in any way to make you more satisfied, please indicate how.

13. Communication Continued

Listed below are several kinds of information often associated with a person's job. Please indicate how satisfied you are with the amount and/or quality of each kind of information by choosing the appropriate number.

INSTRUCTIONS: Use the scale below to answer the following questions.

1 = Very dissatisfied
2 = Dissatisfied
3 = Somewhat dissatisfied
4 = Indifferent
5 = Somewhat satisfied
6 = Satisfied
7 = Very satisfied

With each question please rate your level of satisfaction concerning:

33. Information about my progress in my job.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

34. Personnel news.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

35. Information about hospital policies and goals.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

36. Information about how my job compares with others.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

37. Information about how I am being judged.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

38. Recognition of my efforts

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

39. Information about section policies and goals.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

40. Information about the requirements of my job.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

41. Information about government regulatory action affecting the hospital.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

42. Information about changes in the hospital.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

43. Reports on how problems in my job are being handled.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

44. Information about employee benefits and pay.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

45. Information about profits and / or financial standing.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

46. Information about achievements and / or failures of the hospital.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied

14. Communication Continued

INSTRUCTIONS: Please indicate how satisfied you are with the following topics by selecting the appropriate answer.

47. Extent to which my supervisor understands the problems faced by staff.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

48. Extent to which the hospital's communication motivates me to meet its goals.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

49. Extent to which my supervisor listens and pays attention to me.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

50. Extent to which the people in the hospital have great ability as communicators.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

51. Extent to which my supervisor offers guidance for solving job related problems.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

52. Extent to which the hospital's communication makes me identify with it or feel a vital part of it.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

53. Extent to which the hospital's communications are interesting and helpful.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

54. Extent to which my supervisor trusts me.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

55. Extent to which I receive in time information needed to do my job.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

56. Extent to which conflicts are handled appropriately through proper communication channels.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

57. Extent to which the grapevine is active in the organization.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

58. Extent to which my supervisor is open to ideas.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

59. Extent to which communication with other employees at my level is accurate and free-flowing.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

60. Extent to which communication practices are adaptable to emergencies.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

61. Extent to which my work group is compatible.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

62. Extent to which meetings are well organized.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

63. Extent to which the amount of supervision given me is about right.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

64. Extent to which written directives and reports are clear and concise.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

65. Extent to which attitudes toward communication in the hospital are basically healthy.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

66. Extent to which informal communication is active and accurate.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

67. Extent to which the amount of communication in the organization is about right.

○ 1 = Very dissatisfied ○ 2 = Dissatisfied ○ 3 = Somewhat dissatisfied ○ 4 = Indifferent ○ 5 = Somewhat satisfied ○ 6 = Satisfied ○ 7 = Very satisfied

68. How would you rate your productivity in your job?

○ 1 = Very low ○ 2 = Low ○ 3 = Slightly lower ○ 4 = Average ○ 5 = Slightly higher than most ○ 6 = High ○ 7 = Very high

69. In the last 6 months, what has happened to your productivity?

○ 1 = Stayed the same ○ 2 = Gone up ○ 3 = Gone down

70. If the communication associated with your job could be changed in any way to make you more productive, please explain how:

71. Are you a manager or supervisor?

Depending on your response, you will be directed to the next appropriate question.
If you are a manager or supervisor, your next question will be #72.
If you are not a manager of supervisor, your next question will be #77.

○ Yes ○ No

15. Communication: For managers or supervisors only.

These questions focus on upward and downward communication with your current subordinates.

INSTRUCTIONS: Only complete this section if you are a manager or supervisor. Use the scale below to answer the following questions.

1 = Very dissatisfied
2 = Dissatisfied
3 = Somewhat dissatisfied
4 = Indifferent
5 = Somewhat satisfied
6 = Satisfied
7 = Very satisfied

72. Extent to which my staff are responsive to downward directed communication.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied
○	○	○	○	○	○	○

73. Extent to which my staff anticipate my need for information.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied
○	○	○	○	○	○	○

74. Extent to which I can AVOID having communication overload.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied
○	○	○	○	○	○	○

75. Extent to which my staff are receptive to evaluations, suggestions, and criticisms.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied
○	○	○	○	○	○	○

76. Extent to which my staff feel responsible for initiating accurate upward communication.

1 = Very dissatisfied	2 = Dissatisfied	3 = Somewhat dissatisfied	4 = Indifferent	5 = Somewhat satisfied	6 = Satisfied	7 = Very satisfied
○	○	○	○	○	○	○

16. Organizational Citizenship Behavior

You are almost done! This is the last section of the survey.

* At the end of this section you will have an opportunity to explain any of your answers.

INSTRUCTIONS: Use the scale below to answer the following questions.

1 = Never
2 = Seldom
3 = Half the time
4 = Frequently
5 = Almost always

Please indicate HOW OFTEN:

77. Assist your supervisor with his or her work?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

78. Make innovative suggestions to improve your section or division?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

79. Volunteer for things that are not required?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

80. Orient new people even though it is not required?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

81. Help others who have been absent?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

82. Attend functions not required but that help the organization's image?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

83. Help others who have heavy work loads?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

84. Take undeserved breaks?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

85. Coast toward the end of the day?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

86. Spend a great deal of time with personal phone conversations?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

87. You are punctual?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

88. Give advance notice if unable to come to work?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

89. Is your attendance at work above the norm?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

90. Do you take extra breaks?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

91. Do you spend time in idle conversations?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

92. Do you take unnecessary time off work?

○ 1 = Never ○ 2 = Seldom ○ 3 = Half the time ○ 4 = Frequently ○ 5 = Almost always

93. Now you have the opportunity to explain any answer you gave in the ORGANIZATIONAL CITIZENSHIP BEHAVIOR section.