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The Impact of Disruptive Behavior on Operating Room Nurse Satisfaction

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THE IMPACT OF DISRUPTIVE BEHAVIOR ON
OPERATING ROOM NURSE SATISFACTION

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Philosophy

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Title: The Impact of Disruptive Behavior on Operating Room Nurse Satisfaction

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Evidence suggests that disruptive communication patterns and disruptive behaviors exist in the hospital operation room (O.R.) in association with formal professional roles (Coe & Gould, 2007; Higgins & MacIntosh 2010; Leach, Myrtle, & Weaver 2011; Ong et al., 2010). These behaviors include such actions as intimidation, bullying and hostility (Gilmore, 2003). O.R. nurses experience stress in part due to the critical nature of the work (Bianchi, 2008; Coe & Gould, 2008). Although nurses are trained to address and manage this job-related stress, unnecessary stress related to poor teamwork and conflict can be disruptive (Kane, 2009). This dissertation uses the theory of stress to help understand the relationship between disruptive behavior in the O.R. and nurse satisfaction. The process of individual appraisal of stress (Lazarus, 1966) and the role it plays in the personal evaluation of stress (Lazarus, 1999) were considered. A questionnaire was distributed to O.R. nurses working at participating hospitals and was collected anonymously. It included questions developed from a focus group discussion as well as questions from The Nursing Stress Scale, the Ways of Coping Questionnaire, and The Index of Work Satisfaction. Results showed correlations between disruptive behavior and both dissatisfaction and intent to leave.

TABLE OF CONTENTS

Chapter		Page
I	INTRODUCTION	1
	Issues and Experiences Reported.....	2
	Objectives of This Dissertation Study	4
	Nurse Stress	5
	Nurse Satisfaction	6
	Significance of This Dissertation Study	7
	Purpose of This Study.....	8
	Definition of Terms.....	9
II	LITERATURE REVIEW	12
	Disruptive Behavior	12
	Disruptive Behavior in the O.R.	16
	Causes of Disruptive Behavior	20
	Conceptual Framework.....	24
	Responsive Behaviors.....	24
	Regulatory Agencies.....	28
	Theoretical Framework.....	30
	Stress Theory	30
	Stress Theory and Job Satisfaction in Relation to Nurses	39
	Nurse Satisfaction and Intent to Leave	43
	Purpose of the Research Question and Research.....	44
	Professional Demographic Factors Associated with the O.R.	45
	Gender.....	45
	Physical Seclusion	46
	Conflict	47
	Rituals and Traditions.....	48
	Nursing Staff Involvement.....	49
	Medical Staff Involvement	51
	Dependent Variables.....	53
	Nurse Satisfaction	53
	Nurse Intent to Leave the Profession	56
	Stress.....	58
	Coping.....	61
	Hypotheses and Causal Model.....	62

Chapter	Page
III	METHODS 65
	Research Design and Sampling 65
	Focus Group..... 66
	Questionnaire Development..... 67
	Questionnaire Distribution..... 69
	Response Rates by Hospital..... 71
	Control Variables 72
	Independent Variable: Disruptive Behavior 74
	Dependent Variables..... 75
IV	RESULTS 78
	Data Analysis 78
	Univariate Results..... 79
	Demographic and Other Control Variables 79
	Bivariate Results 83
	Reliability..... 84
	Normality 84
	Outliers..... 85
	Independent Variable: Disruptive Behavior 85
	Dependent Variables: Satisfaction and Intent to Leave 86
	Dependent Variables: Stress and Coping..... 88
	Bivariate Correlations 91
	Scatter Plot Between Disruptive Behavior and Satisfaction..... 92
	Scatter Plot Between Disruptive Behavior and Intent to Leave 92
	Hierarchical Multivariate Regression Analysis 93
	Summary 103
V	CONCLUSION AND DISCUSSION..... 106
	Summary of Results..... 106
	Descriptive Findings 106
	Linear Regression Results..... 107
	Relationship to Previous Research..... 107
	Other Findings and Discussions..... 108
	Limitations and Weaknesses..... 109
	Ethical Considerations 113
	Suggestions for Future Research 113
	REFERENCES 116

APPENDICES	132
Appendix A - Focus Group Responses	132
Appendix B - Informed Consent and Questionnaire.....	135

LIST OF TABLES

Table		Page
1	Number of Surveys Distributed and Response Rates by Hospital.....	72
2	Descriptive Statistics.....	81
3	Frequency Distributions.....	81
4	Descriptive Statistics for the Five Variables.....	90
5	Parametric Bivariate Correlations.....	92
6	Summary of Hierarchical Regression Analysis for Variables	105

LIST OF FIGURES

Figure		Page
1	Lazarus' appraisal model	34
2	Hypothesized conceptual model	64
3	Model 1 normal p-p plot	96
4	Model 1 scatter plot	96
5	Model 2 normal p-p plot	99
6	Model 2 scatter plot	99
7	Model 3 normal p-p plot	102
8	Model 3 scatter plot	102
9	Revised hypothesized conceptual model	105

CHAPTER I

INTRODUCTION

Nurse-physician relationships are one of the most important aspects of the clinical hospital environment (Makadon & Gibbons, 1985; Manojlovich, 2005) and are consistently ranked with issues of nursing autonomy, control, decision-making, professional growth opportunities, and retention (Arford, 2005) as salient to nurses. More importantly, the quality and the effectiveness of those relationships have been linked to patient outcomes, including increased mortality and morbidity, infection, and length of stay. Specifically, ineffective nurse-physician relationships and communication patterns have been linked to medication errors, patient injuries, and patient deaths (Arford, 2005). Despite the growing awareness and acknowledgment of this assertion, ineffective communication and disruptive behavior patterns continue to exist within the surgical environment (Coe & Gould, 2007). These behaviors include, but are not limited to, intimidation, bullying, hostility, verbal abuse, and avoidance (Gilmore, 2003). Nurses are substantially more likely to experience verbal, physical or psychological abuse on the job when compared to many other professions (Higgins & MacIntosh, 2010).

According to a Voluntary Hospital Association (VHA) survey involving 1,500 nurses, physicians, and administrators, as many as 75% of the respondents expressed a belief that strong links exist between disruptive behavior in hospitals and substandard patient outcomes (Rosenstein, 2002). A larger, more recent study conducted with the VHA West Coast used a 22-question survey to find that disruptive behavior in the hospital environment was widespread. A total of 88% of the nurses and 51% of the physicians surveyed indicated that they had witnessed disruptive physician behavior in the hospital, and 73% of the nurses and 48% of the physicians surveyed indicated that they had

witnessed disruptive nurse behavior (Rosenstein & O’Daniel, 2008). One survey conducted in 2004 by the American College of Physician Executives (Weber, 2004) showed that 95% of physician executives reported encountering disturbing, disruptive or potentially dangerous behaviors on a regular basis throughout various areas in the hospital. Similar surveys have been conducted by professional nursing organizations, such as the Association of Operating Room Nurses (AORN). A study published in the September 2001 edition of the AORN Journal reported 91% of the nurse respondents had experienced verbal abuse within the last year (Kostka, 2005). At times, physicians and nurses demonstrate behaviors that are intended to undermine or “set-up” colleagues for failure, which may needlessly place the patient’s well-being at risk. Examples of such behaviors include withholding information or providing incorrect information to team members in relation to intentions, processes, and changes (Lingard, Garwood, & Poenaru, 2004).

Issues and Experiences Reported

This dissertation researched documents that suggest the existence of aggressive and disruptive behaviors in some operating room (O.R.) environments and investigated the nature and extent of such behavior. This research involved highly educated medical professionals who work within stereotypical roles. Investigating the nature and extent of practices and interactions often generates relief and appreciation of the fact that behavior has been addressed. But it also has the potential to bring about resistance, hostility, and retaliation from those who control the practices. This research aims to explore the presence, the nature and the extent of disruptive behaviors in the O.R.

The O.R. is a critical and stressful area isolated from the rest of the hospital

(Bianchi, 2008; Chen, Lin, Wang, & Hou, 2009; Coe & Gould, 2007). It exists as a place where clinical professionals work closely with each other day after day and for hours on end under stressful conditions. In addition, patients undergoing surgery are typically unconscious in response to being anesthetized (Reynolds & Timmons, 2005), which means that no one other than the small team of clinicians can hear or judge the conversations and interactions (Watson, 2002).

Ideally, this social environment might involve individuals who possess equally effective communication skills and high levels of self-esteem and confidence. However, this is not typically the dynamic among a diverse group of individuals. Rather, what tends to occur is the presence of a variety of confidence levels and varying degrees of self-esteem. One could argue that the organizational structure and the designated professional roles of nurses and surgeons should effectively support and foster healthy communication patterns, interactive relationships and rational behaviors through their focus on concrete goals, thereby compensating for the disparity in confidence and self-esteem (Arford, 2005). However, evidence suggests that ineffective communication patterns and disruptive behaviors exist in the O.R., despite the presence of formal professional roles and responsibilities (Coe & Gould, 2007; Higgins & MacIntosh, 2010; Leach, Myrtle, & Weaver, 2011; Ong et al., 2010). These behaviors include insulting and intimidating statements, verbal abuse, yelling, blaming, and disrespect (Kostka, 2005; Rogers et al., 2011). Studies have indicated that highly educated individuals are not immune to disruptive and aggressive behavior (Straus, 2007). Despite the ideal structure and function expected of this highly skilled group, the O.R. team has been described as a group of individuals who work in a silo and often act as a team but sometimes as a pseudo team

(Rogers et al., 2011), meaning that it gives the appearance of a team.

I address the issue of disruptive behavior in the O.R. by first describing and defining the problem through an extensive literature review. In recent years, articles describing nurse-physician relationships within the O.R. have been published as commentaries in a variety of professional journals and clinical sources (Coe & Gould, 2007; Higgins & MacIntosh, 2010; Leach et al., 2011; Lingard et al., 2004; Makary, Sexton, & Freischlag, 2006; Watson, 2002) as opposed to being based on scholarly research. A small number of studies have been conducted specifically on conflict and disruption that occurs in the O.R. (Arakelian, Gunningerg, & Larsson, 2008; Higgins & MacIntosh, 2010). I discuss these studies and explore similarities in the findings. However, none of the studies has focused on nurse stress and nurse satisfaction in the O.R. in direct response to disruptive behavior. Below I discuss several theoretical perspectives that provide insight into nurse-physician relationships and the presence of disruptive behaviors in the O.R. I use Stress Theory as the primary approach to my research on this subject. I then define and examine the factors and specific variables associated with nurse-physician relations and disruptive behaviors and evaluate their ultimate effect on job dissatisfaction of nurses. Finally, I discuss nurse and physician retention and its implications for hospitals. I offer specific reasons why hospital leadership should be concerned with and interested in nurse-physician relationships as they apply to retention and the operational and financial sustainability of the hospital in the current environment of health care reform and economic recession.

Objectives of This Dissertation Study

The O.R. is a critical environment in which every participant must display

excellent decision-making, physical observational skills, skillful technical intervention, and problem solving (Leach et al., 2011). The act of performing surgery involves cutting and probing into the human body in an invasive and unnatural manner. The body is designed to fight against invading organisms and objects—including scalpels, needles, surgical instruments, and human hands. Not only does the body's natural defense mechanism present minute-by-minute challenges, but numerous things can go wrong; unexpected complications are highly probable. Some complications can be life-threatening. A skillful and cohesive surgical team, through its intense focus on controlling the physical environment and its constant readiness to respond instantly to anything that threatens to disrupt it, assures that a successful outcome will be achieved.

The team's ability to manage the human body through this invasive and unnatural process requires more than systematic control of instruments and regimented anatomical surgical procedures—it requires a healthy social environment grounded in a cohesive group that shares solidarity and processes associated with accountability and mutual respect.

Nurse Stress

Workplace stress has been studied extensively. Research in the healthcare environment has shown that nursing is considered to be a particularly stressful profession (Gelsema et al., 2006; Healy & McKay, 2000; Wu, Chi, Chen, Wang, & Jin, 2010).

Although nurses are trained to address and manage this job-related stress, unnecessary stress related to poor teamwork and conflict can take its toll (Kane, 2009). Stress has a negative impact on the functionality of nursing (Lim, Bogossian, & Ahern, 2010).

Internationally, research has shown that nurse stress influences job satisfaction and intent

to leave the job (Chen et al., 2009). Given the diverse nature of nursing and the presence of many stressors inherent to the job (Rout, 2000), effectively assessing stress levels is sometimes difficult. Nevertheless, any attempt to reduce or remove unnecessary stress depends upon a thorough understanding of the phenomenon of nurse stress (McVicar, 2003).

Nurse Satisfaction

Nurse satisfaction has been studied extensively in the professional work environment. One recent study showed that nurses experience both extrinsic and intrinsic satisfiers in performing their jobs and that the traditional variables associated with nurse satisfaction, such as hours, pay, and benefits, are no longer the most significant satisfiers (Craft-Morgan & Lynn, 2009). Factors such as staffing patterns, workloads, relationships with peers, workgroup cohesion, autonomy, and relationships with physicians are now important factors in nurse satisfaction (Kovner, Brewer, Wu, Cheng, & Suzuki, 2006). A study linking the practice environment to nurse satisfaction showed that communication between nurses and physicians is also a significant factor (Manojlovich, 2005).

Adams and Bond (2000) have defined job satisfaction as the level or degree of positive affect that individual feel toward their work. Nurse satisfaction has been described as a positive concept that describes a nurse's attitude toward work (Utriainen & Kyngas, 2009). Several types of job satisfaction theories have been applied to nursing in recent years. They include discrepancy theories that assess the degree to which a person's known needs are satisfied through their work; equity theories that compare rewards and compensation; and expectancy theories that are related to individual motivation and perspective (Adams & Bond, 2000). Murrells, Robinson and Griffiths (2009) argued that

“expectancy theory identifies the employee’s perception, rather than the objective characteristics of the job as the main determinant of job satisfaction” (p. 121).

Significance of This Dissertation Study

Regardless of an observer’s level of experience or involvement within the O.R., it is apparent that disruptive behavior in the O.R. is a threat to patient care and patient safety (Patterson, 1996). This behavior interferes with communication and processes that are essential to patient safety. Communication and working relationships between nurses and physicians are a labyrinth, and the interaction between them does not involve a “simple two-point hierarchical discourse—a game where one player is all powerful and the other entirely submissive” (DiPalma, 2004, pp. 297-298). Beneath the disruption, tension, fear, and frustration, every nurse and physician alike knows that patients and their families benefit greatly from effective and healthy nurse-physician communication and collaboration (DiPalma, 2004). However, this realization does not explain the ongoing manifestation of these disruptive behaviors and their effects on nurse satisfaction.

Only recently have governing bodies such as the Joint Commission (JCAHO) begun to address the effects that social interactions and communication patterns have on the work environment and respond with regulatory requirements intended to reduce and remove disruptive behaviors from the clinical arena. With the expanding belief that disruptive behavior presents a potential threat to patient safety (Rosenstein & O’Daniel, 2008) as well as the new and increasingly stringent leadership requirements for addressing and preventing such behavior imposed by the Joint Commission (JCAHO, 2004), there is a need for continued research, awareness, accountability and responsiveness. Hospitals will be increasingly evaluated on the social dynamics and the

communication patterns in the O.R., including assessing whether disruptive behavior is present in the working relationships of those in the O.R. during Joint Commission surveys, and accreditation will be contingent upon compliance.

This dissertation research draws on social theory to explore the impact of this behavior on nurses. More importantly, this research was designed as an attempt to show a link between disruptive behaviors in the O.R. and decreased nurse satisfaction. The investigation was centered on the belief that the social environment and the culture of the O.R. are significant variables associated with disruptive behaviors, and it focused on the stress produced by these behaviors in the social environment and the subsequent decrease in nurse satisfaction.

Nursing is a stressful job, and O.R. nursing is known to be an exceptionally stressful specialty area (Arora et al., 2010; Vowels, Topp, & Berger, 2012). This work will always be stressful due to its very nature. However, work stress has been linked to a reduction in nurse satisfaction (Chen et al., 2009), which has been shown to be a precursor to intent to leave the job. The resulting staff turnover, vacancy, and insufficient staffing patterns can contribute negatively to quality and to patient outcomes. From this perspective, nurse satisfaction is important to hospital leadership because patient care cannot be rendered and hospitals cannot operate with insufficient numbers of nurses.

Purpose of This Study

The purpose of this dissertation study is to explore whether disruptive behavior in the O.R. has a negative influence on stress among nurses, which in turn negatively influences nurse work satisfaction. In addition, the study seeks to determine whether or not stress related to disruptive behavior contributes to intent to leave the job. Identifying

and clarifying the sources of stress and finding ways of coping offer the potential for interventions that may reduce turnover and increase nurse retention.

Nursing is facing what some believe to be its most significant worldwide shortage in history at a time when the services are needed most (Caers et al., 2008; Lambert & Lambert, 2008). O.R. professionals must function as a team in order to reach successful outcomes. It seems an impossible task to create and maintain stable teams if people are frequently quitting and leaving the group (Rogers et al., 2001), particularly if a major factor is stress related to disruptive behaviors in such stressful environments as the O.R.

Definition of Terms

Stress. Stress among nurses has been defined as “a perceived mismatch between the expectations of the role and the nurses’ ability to deal with it” (Vowels et al., 2012, p. 6). Nurses work in one of the most challenging and stressful professions (Chen et al., 2009). O.R. nurses in particular experience stress in part due to the critical and emergent nature of the work, emotional demands, advanced technology including robotics, rigid time schedules, and poor communication among team members (Bianchi, 2008; Coe & Gould, 2008). For the purpose of this dissertation, stress in the O.R. is defined as any event or interaction that is perceived or appraised as stressful. It is the degree to which the homeostatic state is upset or disturbed (Hobfoll, Schwarzer, & Chon, 1998).

Job satisfaction. Job satisfaction is defined as the level or degree of positive affect that nurses feel toward their work (Adams & Bond, 2000). It represents whether nurses feel personally and professionally fulfilled in their work. In its most simplistic form, it is defined as the extent to which nurses like their jobs (Zangaro & Soeken, 2007). The level of job satisfaction in nursing has traditionally been associated with excessive

paperwork, long hours including weekends and holidays, stress, and exhausting work. However, satisfaction varies between nursing specialties and between types of work (Utriainen & Kyngas, 2009).

Intent to leave. A nurse's intent to leave the job is often the precursor to turnover. Intent to leave is defined as a feeling of unhappiness and discontentment with the work environment to the degree that the nurse experiences a desire to leave the job. Although it was not measured in this study, turnover is defined as the act of leaving one's job. While numerous factors have been associated with both intent to leave and nurse turnover, researchers have recently shown that nurse-physician relations is also a factor in both (Rosenstein, Russell, & Lauve, 2002; Wanzer, Wojtaszczyk, & Kelly, 2009).

Coping. Coping is defined as the manner in which individuals respond to stressful events and conditions that they encounter (Lazarus, 1999). Coping involves both cognitive and behavioral attempts to manage external or internal demands that are perceived as stressful (Hays, Mannahan, & Wallace, 2006).

The operating room (O.R.). For the purpose of this dissertation, the O.R. is defined as the room or rooms within the hospital surgical services department. It is the room where the team of surgeons, anesthesiologists, nurses and technicians perform invasive surgical procedures on anesthetized patients. It represents a specific room, occasionally referred to as the surgical suite.

The Joint Commission. The Joint Commission is an independent organization that surveys, certifies and accredits health care programs, services, and organizations throughout the United States. Its accreditation is recognized throughout the healthcare industry as a reflection of quality. Prior to February 2007, the Joint Commission was

known as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

References prior to 2007 will include the JCAHO citation.

CHAPTER II

LITERATURE REVIEW

This chapter explores the literature on disruptive behavior between nurses and physicians. I draw on contemporary social theory in an effort to demonstrate the effects of such behavior, which includes decreased nurse satisfaction. I examine theories regarding stress as a possible framework for understanding the environment in which disruptive behaviors occur. This theoretical framework addresses factors such as responsive behaviors, collaboration, and nurse-physician relationships.

Disruptive Behavior

In a first of its kind 1967 study published in the Archives of General Psychiatry, Leonard Stein (1967) referred to nurse-physician interaction as the “doctor-nurse game”. Stein stated that this unique relationship is typically portrayed through a stereotype. He suggested that there exist certain attitudes requiring that all participants play the game and that these attitudes create significant barriers in effective communication. When both physicians and nurses play the game well and their performance is consistent with their expected roles, effective outcomes are obtained and all participants are content. However, when the rules of the game are not followed, a much different response is observed. Stein described this behavior in the following manner:

The penalties for a game failure, on the other hand, can be severe. The physician who is an unskilled gamesman and fails to recognize the nurses’ subtle recommendation message is tolerated as a ‘cod’... The nurse who does see herself as a consultant but refuses to follow the rules of the game in making her recommendations has hell to pay. The outspoken nurse is labeled a ‘bitch’ by the

surgeon. The psychiatrist describes her as unconsciously suffering from penis envy and her behavior is the acting out of her hostility towards men. Loosely translated, the psychiatrist is saying she is a bitch. The employment of the unbright outspoken nurse is soon terminated (p. 701).

Stein's (1967) study, which involved direct observation and dialogue among clinicians, defined the theory of the game as well as the rules of the game, the genesis of the game, which includes both nursing and medical student training and behaviors, and reward and punishment systems that support the game. The study explored and emphasized personal perceptions and issues of identity as well as protective behavioral mechanisms used by both male and female clinicians in relation to their interactions. Stein's summary of the findings is both profound and disturbing, given the fact that the study was published 47 years ago. As Stein (1967) concluded, "the major disadvantage of a doctor-nurse-like game is its inhibitory effect on open dialogue which is stifling and anti-intellectual. The game is basically a transactional neurosis, and both professions would enhance themselves by taking steps to change the attitudes which breed the game" (p. 702). There are startling similarities between physician-nurse relationships in 1967 and throughout subsequent decades (Nursing91, 1991).

A study of three South Wales hospitals published in 2000 sought to determine whether the interpersonal relationships between physicians and nurses was in fact different than those described by Stein in 1967 and whether his observations were still relevant (Snelgrove & Hughes). Thirty-three years after Stein's study, most physicians still did not believe that it was appropriate to share the rationale for their decisions or allow their decisions to be affected by nursing interventions or critiques (Snelgrove &

Hughes, 2000). The study involved telephone interviews with nurses and physicians whose names were randomly drawn from staffing rosters. The initial findings indicated that the vast majority of physicians and nurses expressed their perspectives in terms that reflected the traditional hierarchal model of a physician-dominated environment and division of labor. Snelgrove and Hughes (2000) were surprised by the data. They hypothesized that the dynamics had markedly changed since Stein published his results and that historical role identification had become less pronounced. Their results suggested, however, that their hypothesis was false. The study indicated that both nurses and physicians continue to perceive their place within the healthcare environment to be that of fairly traditional roles.

A 2002 study of nurses (Rosenstein et al.) found that 90% of the respondents had witnessed disruptive behavior, and more than 30% knew nurse peers who left the hospital because of disruptive physician behaviors. Behaviors that include such activities as insulting statements, yelling, or blaming others have been shown to interfere with the effectiveness of working relationships (Rogers et al., 2011) and lead to decreased nurse satisfaction (Wanzer et al., 2009). The Institute for Safe Medication Practices (ISMP) published results of a 2003 survey focused on workplace intimidation. They conducted the survey in response to a concern that the healthcare environment tolerates and even fosters intimidation. A total of 2,095 healthcare professionals (1,565 nurses, 354 pharmacists, and 176 other professionals) responded to the survey (ISMP, 2003). The study showed that intimidating behaviors are not limited to physicians. Nonetheless, physicians demonstrated and engaged in intimidating behaviors more often and more intensely than did nurses, pharmacists, or supervisors. Patient safety was shown to be

jeopardized by this behavior. Almost half of the respondents indicated that previous exposure to intimidation had altered the way in which they approach medication order clarification, and 34% reported that the physician's stellar clinical reputation and fear of confrontation prevented them from questioning a medication order, despite their concerns (ISMP, 2003).

A 2004 nationwide study conducted by VitalSmarts and the American Association of Critical-Care Nurses (Maxfield, Grenny, McMillan, Patterson, & Switler, 2005) focused specifically on communication between healthcare professionals. Researchers conducted interviews, focus groups, and observations and collected data from more than 1,700 survey respondents, including 175 administrators, 106 physicians, 1,143 nurses, and other staff. Data analysis identified several areas of concern. One of these areas is the concept of disrespect. The data indicated that 77% of nurses perceived they work with individuals who are insulting, condescending, or rude, and 33% work with a small number of individuals who are considered to be verbally abusive, as demonstrated by shouting, name-calling, or swearing. The research found that the more frequent the undesirable behavior and the longer it persists, the greater the employee's desire to quit his/her job (Maxfield et al., 2005). The study also identified a disturbing theme regarding clinician silence. Healthcare workers, nurses, and physicians alike routinely witness colleagues making mistakes, cutting corners, or demonstrating varying levels of incompetence, yet many fail to address the person, even if they are in the presence of the caregiver during the event. Some nurses choose to avoid conflict or feel that they won't be supported by their peers or by leadership if they report the observation (Higgins & MacIntosh, 2010). The majority of respondents to this survey indicated that it was very

difficult to nearly impossible to confront healthcare clinicians in these situations because of fear of the response. The behavior itself increases risk to patient safety, yet people feel that speaking up is also a threat to personal safety (Maxfield et al., 2005). Bosk (2006) also believed that one of the most common obstacles to speaking up and addressing concerns of such nature is fear of the effects of confrontation.

Additional literature offers a similar perspective. In 2006, the Agency for Healthcare Research and Quality published an article, “Is the Surgical Personality a Threat to Patient Safety,” which offered several case studies regarding silence in the face of error or incompetence. It showed that physicians and nurses appear to avoid conflict even when it represents a potential or imminent threat to patient safety (Bosk, 2006). One of the most common obstacles to speaking up and addressing concerns of such nature is fear of the effects of confrontation (Bosk, 2006).

Disruptive behavior in the operating room. The O.R. is considered to be one of the most challenging and professionally stimulating departments for nurses to work within the hospital (Chen et al., 2009). The surgeon, nurse, surgical tech, and anesthesiologist ideally form an effective team during surgical procedures. Some have referred to the O.R. environment as the ultimate example of multi-professional teamwork (Coe & Gould, 2007). The orthopedic surgeon, neurologist, cardio-thoracic surgeon, anesthesiologist, and trauma nurse together save lives in situations in which victims of massive trauma would otherwise die. Each has an individual place and a unique value within the group. But together, they form something completely different from, and greater than, the individual components. This description is consistent with Durkheim’s (2002) analogy of a living cell existing merely of primitive molecules of matter that

becomes something different, something greater, through the association of all individual components. The value resulting from this synergistic process is realized in the interaction and collaboration of all those involved and the outcome of the surgical patient experience. The presence of disruptive behavior in the O.R., however, appears to undermine this synergistic process and potentially compromise the desired outcome (Coe & Gould, 2007; Higgins & MacIntosh, 2010).

Nurses and physicians are expected to work together in the social and the physical aspects of their jobs in the O.R. more closely than in any other area of the hospital (Coe & Gould, 2007). A study (Lingard et al., 2004) conducted in the O.R. of an urban academic medical center concluded that cross-disciplinary conflict and disruption between nurses and physicians can increase the difficulty of resolving tension that occurs during surgery and can interfere with effective communication and collaboration. Disruptive behaviors in the O.R. have been well documented in the literature. These behaviors include insulting statements, yelling or screaming, blaming others (Rogers et al., 2011), intimidation, bullying, hostility, verbal abuse, and avoidance (Goettler, Butler, Shackelford, & Rotondo, 2011; Piper, 2003).

A study published in 2005 focused on emotional labor and the “hostess role” in the O.R. (Timmons). Although the concept of emotional labor has been examined in relation to various professions, including nursing, this was the first such study specific to nursing within the O.R. environment. Rather than analyze the relationships between nurse and patient, this study focused specifically on emotional labor as it applies to the relationships between O.R. nurses and surgeons (Timmons, 2005). The study applied a qualitative ethnographic approach to a purposeful sample of 20 staff members at five

hospitals over a period of nine months. The dominant theme that emerged was that of a nurse filling a “hostess” role, meaning that the nurses either spent much of their time keeping surgeons happy or avoiding any action or communication that would upset surgeons. When a surgeon silently holds out his hand without stating which instrument he wants or stomps around the O.R. suite to pick up a new gauze sponge instead of asking for it, the behavior generates tension, anxiety and stress (Higgins & MacIntosh, 2010). While on the surface this may appear rather benign, the actions can be quite unsafe. Some behaviors reported in the study involved nurses failing to act on observations of poor practice in order to avoid antagonizing the surgeon, even though the poor practice represented a risk to the safety of the anesthetized patient (Timmons, 2005). In situations involving verbal aggression between people involved in some type of interactive relationship, verbal aggression against the other person tends to increase the risk of escalation and physical assault, as opposed to merely serving as a cathartic or tension-reducing mechanism (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Nurses can lose confidence when they are the recipient of disruptive behavior, resulting in feelings of worthlessness, insecurity and guilt (Higgins & MacIntosh, 2010).

The overall act of performing surgery typically requires a surgeon and the addition of two or three nurses functioning in the roles of scrub nurses and circulating nurses. Highly effective and seasoned O.R. nurses can add significantly to the surgeon’s experience, to the ability to accomplish the specific clinical task, and to the outcome of the procedure and the overall process as well. Nurses who function within the O.R. are highly specialized professionals who practice their profession with specific skill and knowledge of specialized equipment, environmental risks, unique complications, and the

critical nature of the situation (surgically invading the body while pharmaceutically suspending the patient somewhere between life and death). These nurses, like their surgeon and anesthesiologist counterparts, represent an essential, yet scarce, resource.

Nurse satisfaction is critical to the health of the O.R. In addition, an efficient and productive O.R. is critical to the financial health of the acute care hospital in the face of complex and diminishing reimbursement structures. The Joint Commission, through its collaboration with the Voluntary Hospitals of America (VHA), claimed that the cost of filling a vacant RN position equals the cost of his/her salary for one year (JCAHO, 2008a). For example, the average salary for a medical-surgical nurse in 2008 was \$46,000. At a turnover rate of 20%, a hospital that employs 600 RNs at this level of salary will spend \$5,520,000 annually to replace 120 RNs (JCAHO, 2008a). The clinical training and orientation associated with replacing an O.R. nurse represents even greater investments in time and resources due to the level of critical skills required in the O.R.

Stress among nurses can be associated with psychosomatic symptoms of physical illness, such as headaches and back pain. Research has shown that stress and burnout are contributing factors in the development of mental and physical illness (Olofsson, Bengtsson, & Brink, 2003; Kane, 2009). One recent study that questioned 106 nurses in two hospitals about stress and symptoms of illness found that a correlation exists between nurses' stress, physical symptoms of illness, and nurses' dissatisfaction with their jobs. However, "lack of professional respect and recognition by authorities and doctors is the major cause of dissatisfied nurses..." (Kane, 2009, p. 31). Another study by Olofsson, Bengtsson and Brink (2003) which surveyed nurse stress found that the demands associated with interpersonal relationships in nursing place nurses at risk for illness.

The collaborative focus of nurses, physicians, and healthcare administrative and medical staff leaders should create and promote a culture in which patient safety, quality outcomes, and patient satisfaction become symbols of a new solidarity, supported by behaviors that follow a different ideology. This concept might be considered a radical shift in the response to, and the value placed upon, the historical environment. Certainly, the long-standing culture within the O.R. and the powerful, sacred symbols that exist, will not be quickly or easily influenced and altered. Goffman's (1959) early research into group interaction asserted that a person's ego may be passionately associated with the group, role, or symbol and that a person's perception of self may be deeply tied to this association. The "surgical personality" (Bosk, 2006) can be seen as a reflection of this concept. Goffman suggested that disruptive behaviors can be associated with three factors: interaction, social structure, and personality. Starting with the individual is not sufficient in explaining patterns of behavior and predicting future behaviors (Goffman, 1959) because the individual is, in a sense, static until brought into relation with others through human interaction. The stressors produced through this interaction, when taken in context with the social structure of the O.R., appear to be bountiful.

Causes of disruptive behavior in the O.R. Previous attention to disruptive behavior has in many instances focused on strong personalities or deviant patterns of behavior. Bandura (1969) suggested that some people resort to the use of aggression because it has very high utilitarian value. He described aggression as dominance displayed through physical and/or verbal assertion and believed that some individuals can effectively obtain things, remove barriers, gain control of circumstances and situations, stop provocation, and dominate others through the use of aggression in the interest of

obtaining their goals.

The motivation for demonstrating aggressive behavior has in recent decades moved from a theory of instinct-driven forces to a theory of stressor or frustration-produced drive to act. This perspective suggests that interference with obtaining one's goals and objectives will result in frustration and stress, which will then result in an aggressive response designed to cause harm to the person believed to be responsible for the interference (Bandura, 1973). This theory asserts that at a basic psychological level, anger is simply an expression of emotion in response to some stressful event or situation that is important to the individual. When a stressful event is seen as input, the emotion is simply the output in response to the event. In other words: "In goes a frustration or an offense for which someone else is to blame and could have avoided, and out comes anger—almost certainly. The outputs are highly probable but are not absolutely certain because the inputs can still be perceived in different fashions" (Frijda, 1988, p. 272).

Physician orders can serve as a stressor to both nurses and physicians because they serve as the driving force within the O.R. Some orders are based upon predetermined protocols, while others are associated with situational circumstances or the individual preference of the surgeon. Order-givers and order-takers share in a relationship to sacred symbols. However, their orientation and emotional connection to the symbols are different. To the order-taker, the symbol may become what Collins called a "negative sacred object". As Collins (2004) asserted, "Order-givers identify themselves with the sacred objects of their organization; they respect these symbols as ideals, and are foremost in requiring other people to kowtow to them too... Order-takers, on the other hand, have an ambivalent attitude toward the dominant symbols. They are alienated from these

symbols, and privately speak and think of them cynically, if they can get away with it” (p. 114).

The surgical environment is reflective of this description. There is a tendency for surgeons to feel and demonstrate a need to maintain hierarchical order within the department, both in the O.R. suite as well as the department periphery, such as the Recovery Room, Endoscopy Suite, or Pre-op area. The O.R. suite, however, represents the core of the interaction, the center of the activity where the surgical procedure takes place and where the surgeon’s training and skill are at the center of attention. There is an expectation of specific performance from all team members in a manner that maintains specific hierarchical order (Higgins & MacIntosh, 2010). Historically, the surgeon at this point in time acts in a manner consistent with “the captain of the ship” mentality. When the expectations of the captain are not met, hierarchical order quickly assumes control and things don’t go well from the perspective of a collaborative team. Collins (2004) stated, “When symbols are violated or ritual procedures go badly, members of tight, localized groups respond with anger and fear, especially if rituals are backed up by coercion on the power dimension” (p. 117). These situations can often increase stress.

Kemper (1988) described a particular type of disruptive anger often referred to as “righteous anger”. It is typically characterized by isolated, abrupt, and intense emotional outbursts that result in highly stressful situations. People often express righteous anger in situations where a sacred symbol has been abused or violated. Since sacred symbols are representative of people’s status and power, a violation of the symbol is perceived as a violation or disregard for that status (Kemper, 1988). The symbolic representation of the surgeon as captain of the ship and the power vested in the medical profession can bring

about displays of righteous anger when confronted by nurses who question orders or who fail to respond as expected or when frustrated by administrative decisions and interventions. Righteous anger is typically intense because the person behaves with a strong sense of security in the fact that community support exists (Collins, 2004). In the above example, that confidence would be grounded in the support of the hospital's medical staff and extended medical community.

However, if deviant personalities in nurses and physicians were solely responsible for the nature of disruptive behaviors, these individuals would not be tolerated long by patients, colleagues and administration. The consistent disruption and resulting stress would prompt a clear and compelling need for intervention. Rather, research has shown that disruptive behaviors in the O.R. are typically not perpetual, but intermittent (Lapenta, 2004). They tend to occur somewhat unexpectedly and sporadically, not with every surgical procedure every day of the week. People tend to behave differently in different situations with varied circumstances. In the O.R., these may include a defective instrument, an unexpected complication, physical fatigue, physical hunger, concern with a colleague's ability or performance, or personality conflicts between specific surgical team members.

The professional status and designation of nurses and physicians offers a sense of belonging within the structure of the O.R. team but also presents clear delineations between the two professions. The historically strong perceptions of the nursing and medical staff roles, both internal and external to the group, are supported by long-standing symbols. The "M.D." or "D.O." credentials alone are directly associated with significant emotions regarding authority, power, and control and serve as a significant sacred symbol

within the healthcare environment (Higgins & MacIntosh, 2010; Rogers et al., 2011).

The historical rituals, belief systems, biases, and power and control systems in the O.R. are well entrenched and supported by strong traditional professional cultures that often hold tightly to established levels of power and control, which in part serve to define specific roles and statuses. Within this culture and environment, patient safety, satisfaction, and outcomes—all significant contemporary drivers of reimbursement, as well as quality scores and credentialing outcomes—are gaining greater significance as factors in whether hospitals and healthcare systems will survive the current environment of healthcare reform and the national economic recession (Clark, 2012). In addition, the growing nursing shortage presents a significant challenge to hospitals in their attempts to meet the needs of ever-increasing patient volumes. Consequently, immediate and effective levels of change regarding disruptive behaviors are necessary.

Recognizing, engaging and collaborating with strong personalities in the O.R. can be beneficial because “the person who dominates the micro-situation has the possibility (which may be overt or only subjectively felt) of gaining recognition in the larger group context” (Collins, 2004, p. 122). This suggests that if nurse satisfaction is to be increased, healthcare leaders must find a way to access and influence the strong personalities within the O.R. in order to bring about change.

Conceptual Framework

Responsive behaviors. When nurses and physicians don’t communicate effectively, orders can be misinterpreted, and medication and other treatment errors can result. Consequently, when physician behaviors are disruptive or passive aggressive, the unnecessary result can be tragic (Lassen, Fosbinder, Minton, & Robins, 1997). Though

behavior is not predetermined, it is a choice based on a personal perspective or attitude. Behaviors, however, are influenced by emotion. The most basic emotions are referred to as primary emotions, and include fear, anger, happiness, and sadness. Collins (2004) analyzed these emotions by assessing their levels of emotional energy—high vs. low. He suggested that they represent unique blends of emotion and cognition. In other words, individuals have the ability to choose their responses, but the choices are influenced by the level of emotional intensity and volatility at work within the situation. Mismanaged emotions can result in behaviors that draw focus away from the established goal. In the O.R., the collaborative focus is the patient. Disruptive behavior and issues of personal power and control can overshadow the obvious benefits of effective communication and respectful, collaborative team dynamics (Kramer & Schmalenberg, 2003).

Patterson (1996) stated that nurses often fail to fully act in the best interest of the patient when confronted with aggressive, intimidating, or disruptive behavior from a physician. They become emotionally engaged in the conflict and allow fear, defensiveness, and apprehension to inhibit or even paralyze their responses. Patterson (1996) wrote that “every hospital administrator and nurse, especially operating room nurses, knows how this can damage the confidence of the team. I don’t think people function as effectively as they could, for example, on a sponge count, in the face of a disruptive outburst” (p.10). In most stressful situations, people continue to work, but not quite as well as prior to the onset of the stressor (Olofsson et al., 2003). Nurses may also fear retribution from the medical staff or from the hospital leadership (Higgins & MacIntosh, 2010; Molea, 2006). In situations in which the hospital administration tolerates such behavior from physicians, nurses often believe that it would be professional

suicide to confront the physician. Hospitals that treat physicians as customers, and that treat the customer as if he were always right, facilitate a culture of indifference that leads to nurse dissatisfaction (Arford, 2005). Some nurses fear being labeled a whistleblower among their colleagues and peers (JCAHO, 2008c). Even when hospitals and healthcare organizations have addressed such behavior, they have typically directed the person to impaired physician committees, believing that the substance abuse approach was less confrontational and offered a less painful alternative to addressing disruptive behavior (Porto & Lauve, 2006). However, a 2004 survey conducted by the American College of Physician Executives (ACPE) suggested that less than 10% of physician behavior issues were related to substance abuse (Weber, 2004).

Collaboration. Collaboration among physicians and nurses has been suggested to be central to patient safety (Makadon & Gibbons, 1985). It is the foundation of numerous contemporary models and is increasingly required and assessed by governing bodies and accrediting organizations. However, in many cases, highly effective clinical collaboration between nurses and physicians continues to be an unobtainable ideal (Henneman, 1995). Collaboration in healthcare has been defined as “the joint communicating and decision-making process with the expressed goal of satisfying the patient’s wellness and illness needs while respecting the unique qualities and abilities of each professional” (Henneman, 1995, p. 360). Makary et al. (2006) suggested that collaboration is in the eye of the beholder. The results of a study published in *The Journal of the American College of Surgeons* (Makary et al., 2006) suggested that nurses and surgeons view collaboration in the O.R. quite differently.

Analysis of survey responses from nurses and surgeons indicated that the two

professions do not see eye-to-eye. While surgeons rated collaboration and teamwork throughout the department as high 85% of the time, nurses rated collaboration and teamwork as high only 48% of the time. More often than not, nurses tended to describe good collaboration as being heard and acknowledged and having their input respected. However, most physicians described it as having nurses who anticipate their needs and follow their instructions (Makary et al., 2006).

Studies have also suggested that the approaches to communication are quite different between nurses and physicians. Nurses tend to adopt an educational perspective by informing patients of their responsibilities and encouraging them to change their behaviors. Physicians tend to approach conversations with nurses from a biomedical or scientific perspective as opposed to a patient-centered focus (Collins, 2005). Effective communication, however, is essential to the process of collaboration. Peter Halford, chief of staff at a 446-bed acute care hospital, pointed out the challenge of team communication: “It’s a team, but it’s hard for some of the older physicians to adapt to that because they’re used to just giving orders” (Tieman, 2002, p. 27). He suggested that effective communication and collaboration as an objective is easier to describe than to accomplish, but he believed that everyone must continually look for ways in which they can effectively promote communication and collaboration, thereby facilitating safer and more efficient patient care. The Joint Commission reported that ineffective communication patterns among healthcare professionals were responsible for 70% of 2,455 reported sentinel events, with approximately 75% of the affected patients dying as a result of the behavior (Sirato, 2007).

The need for improved communication and collaboration is becoming increasingly

evident in the rapidly-changing modern healthcare environment. In order to assure the highest levels of patient outcomes, doctors and nurses in the new healthcare system must be willing to be flexible, cooperative, and collaborative and strive to significantly increase communication about roles, values and practices (Savette, 2004). The new environment means:

Collaborative practice is not a process involving side-by-side efforts; rather it is a drawing together of the valued contributions of all team members to reach the best possible solutions. Collaboration involves developing shared meanings (not simply information exchange) and building trust (Lindeke, 2005, p. 98).

Regulatory agencies. The Joint Commission has taken notice of disruptive behavior and in recent years has attempted to address disruptive behavior. In a news release (JCAHO, 2008c), the organization suggested that rude language and hostile behavior among and between health care clinicians poses a serious threat to patient safety and the overall quality of care. On January 1, 2001, the organization issued a set of medical staff standards that required hospitals to create and implement a non-disciplinary process for addressing physician behavior. Then, in 2008, the Joint Commission expanded its standards and intensified its approach, suggesting in a recent sentinel alert publication that any and all disruptive behaviors should not be tolerated (JCAHO, 2008b). In the same sentinel alert, the organization further defined its definition: “Intimidating and disruptive behaviors include overt actions such as verbal outbursts and physical threats, as well as passive activities such as refusing to perform assigned tasks or quietly exhibiting uncooperative attitudes during routine activities.” On January 1, 2009, a new Joint Commission standard involving disruptive behavior was implemented in which both

hospital leadership and physician leadership are held accountable. Among ten specific performance elements, hospitals are required to have a code of conduct that clearly defines acceptable, inappropriate, and disruptive behaviors and to have a process through which disruptive and inappropriate behaviors are effectively managed. The Joint Commission did not limit its definition to physicians, noting that any disruptive behavior is a risk to patient safety, regardless of the person demonstrating the behavior. However, the healthcare industry widely recognizes that disruptive physician behaviors can have a greater impact on the overall system because of their relative position of power within the healthcare environment (Porto & Lauve, 2006).

Hospitals are taking action in preparation for Joint Commission surveys. Under Performance Standard LD.03.01.01, hospital administration will be held accountable for any instances of unresolved disruptive behavior. Should staff members complain to surveyors or acknowledge the presence of unresolved disruptive behavior when asked by surveyors, the survey could be negatively affected if it is determined that leadership has not effectively addressed it. The overall Joint Commission survey scoring process is complex and extensive. However, certain standards carry more weight than others, especially those associated with patient safety. This new disruptive behavior standard is contained in the “Culture of Safety” section within the “Leadership” chapter. This can be a costly venture, particularly if the survey is not successful. It is estimated that a Joint Commission survey for a 500-bed hospital system can cost as much as \$80,000 to \$100,000 (Healthcare Benchmarks & Quality Improvement, 2003).

The latter half of the twentieth century brought tremendous change in the way science viewed our world and all things that exist within it. Traditional belief systems and

longstanding theories have been turned upside down and in some cases shattered by new insights and technologies. Scientists now embrace the concept of connections and dynamic interrelationships as opposed to hierarchical building blocks. For hospitals and healthcare systems, this suggests that the quality of its many diverse relationships is the essential component to success, and this places new responsibilities on leaders. From this perspective, “there are not blocks of anything; the universe is composed of relationships. Nothing comes into visible existence until it is in relationship with some other energy field” (Wheatley, 2001, p. 14). Leaders need to focus greater attention on understanding, facilitating, and fostering relationships with people both internal and external to the organization.

The hospital environment and the overall healthcare system is changing and becoming more diverse and less regimented in the way that care is provided. Effective and successful outcomes are being assessed through connections and interactions as opposed to the historical “cure and heal” philosophies. For example, removing an appendix was once considered a simple, structured and predictable process. Now, the potential for hospital-acquired infections, falls and injury, wrong site surgery, medication errors through miscommunication, lack of effective coordination due to the involvement of multiple specialties and disciplines, and expanded medication regimens have created an environment that requires flexibility, continuous engagement, and effective interaction.

Theoretical Framework

In this dissertation I use the theory of stress and coping to help understand the relationship between disruptive behavior in the O.R. and nurse satisfaction.

Stress theory. Stress has been discussed and categorized as a stimulus or

antecedent, as a response or a consequence, and as an association or interaction (Jennings, 2008). Some researchers have found a correlation between stress and illness (Selye, 1956), while others study stress as a psychological phenomenon involving many variables as well as a relationship between an individual and the environment (Lazarus & Folkman, 1984). Stimulus-response theories of stress are based upon empirical investigations that involve a particular response based upon a particular environmental stimulus. These theories are often described in the context of structural engineering. For example, environmental stressors place stress on a bridge, which produces structural strain. In a similar manner, environmental conditions act as stressors because they place stress on the individual and produce psychological strain (Hobfall et al., 1998).

During World War II, the effects of stress became more evident and, in response, interest in the phenomenon increased. Conditions and associated terms such as “battle fatigue” and “war neurosis” became common among healthcare and social researchers, and the Vietnam War produced terms such as “post-traumatic stress disorder.” The common variable with all of these conditions and terms is that they imply a causative external environmental factor that is dissociated from the individual, who is represented as a passive victim (Lazarus, 1999). I argue in this dissertation that the phenomenon of stress is more complex than this historical perspective and that contemporary stress theories involving human perception, appraisal, and previous experiences offer appropriately significant variables in the stress and coping process as it applies to disruptive behaviors in the O.R.

Stress can be defined as the physical and psychological response experienced when the demands of one’s environment outweigh one’s available resources (Kane,

2009). While some stress is a normal aspect of life and beneficial in regard to motivation and action, stress that becomes intense, repeated, or sustained can lead to an inability to cope and a negative situation referred to as distress (Kane, 2009). Most studies pertaining to nurse satisfaction and nurse stress involve cross-sectional designs (Gelsema et al., 2006) and typically focus on a variety of aspects related to the nursing environment. Some studies include disruptive behaviors and nurse-physician relationships in the surveys, while others don't take these factors into consideration (Kovner et al., 2006; Murrells et al., 2009). While job stress has a direct effect on job satisfaction (Almost, Doran, McGillis-Hall, & Spence-Laschinger, 2010), few studies, if any, have addressed disruptive behavior in the O.R. and nurse satisfaction from the perspective of stress.

Richard Lazarus (1999; Lazarus & Folkman, 1984), who spent the majority of his professional academic life researching stress, believed that stress could not be adequately or effectively assessed from the perspective of environment alone. In other words, stress could not be defined as a mere predictable, programmed response to any number of environmental stimuli: "It is more fruitful to view [stress] in relational terms—that is, as the product of the interplay of two sets of variables, those in the immediate environment and those within the person" (Lazarus, 1999, p. 12). His concept supports the view that, just as the environment affects the individual, the individual affects the environment.

While stress is a complex process involving interaction and appraisal, the phenomenon of stress and coping begins with a stressor and a response. The stimulus serves as the input and the response as the output (Lazarus, 1999). Researchers throughout the post-WWII decades have built upon this foundation. Selye (1974) proposed that stress could be divided into two basic types. He described healthy stress,

such as stress associated with concern for others, the desire to improve oneself, or individual attempts to better circumstances in one's life, as "eustress." The unhealthy or destructive form of stress, which is often demonstrated by anxiety, anger, and aggression, he defined as "distress." Lazarus (1966) suggested three basic types of stressors: harm/loss, threat, and challenge. Most importantly, he suggested that individual appraisal was involved with each type and that the appraisal process is different between types. Harm/loss deals with damage or loss that has already taken place. Threat has to do with harm or loss that has not yet occurred but is possible or likely in the near future. Challenge consists of the sensibility that, although difficulties stand in the way of gain, they can be overcome with verve, persistence, and self-confidence. Each is coped with differently (Lazarus, 1999, p. 33).

Lazarus (1999) later expanded his theory of stress to include emotions and identified 15 basic emotions: envy, jealousy, anxiety, fright, anger, guilt, shame, sadness, relief, hope, happiness, pride, love, gratitude, and compassion. Each of these emotions, as demonstrated through behaviors, provides insight into the way in which the individual has appraised the situation and chosen to cope with the stressor. While emotions are complex, diverse, and difficult to assess and measure empirically, emotions are present when stress is present. Therefore, "we cannot sensibly treat stress and emotion as if they were separate fields without doing a great disservice to both" (Lazarus, 1999, p. 36).

Emotions are often considered to be unpredictable and irrational. In fact, emotions do tend to conflict with reason but not in an exclusionary manner. Rather, they conflict in a struggle for balance and compromise. They interact in an effort to maintain homeostasis. In a sense, "emotions are the product of reason in that they flow from how we appraise

what is happening in our lives. In effect, the way we evaluate an event determines how we react emotionally” (Lazarus, 1999, p. 87). This is not to say that emotions are the focus of stress theory. Rather, they are related to stress as a conceptual unit through their interactions and their connections to stress and coping. Lazarus (1999) believed that this combination is responsible for what he referred to as “relational meaning,” which represents the individual’s assessment of the personal significance of a given situation. Earlier research asserted that stress and emotion are dependent on each other in a manner that prevents them from being effectively studied independently (Lazarus, 1999). Emotions play a role in the individual’s appraisal of the situation or event, which in turn establishes the degree of stress.

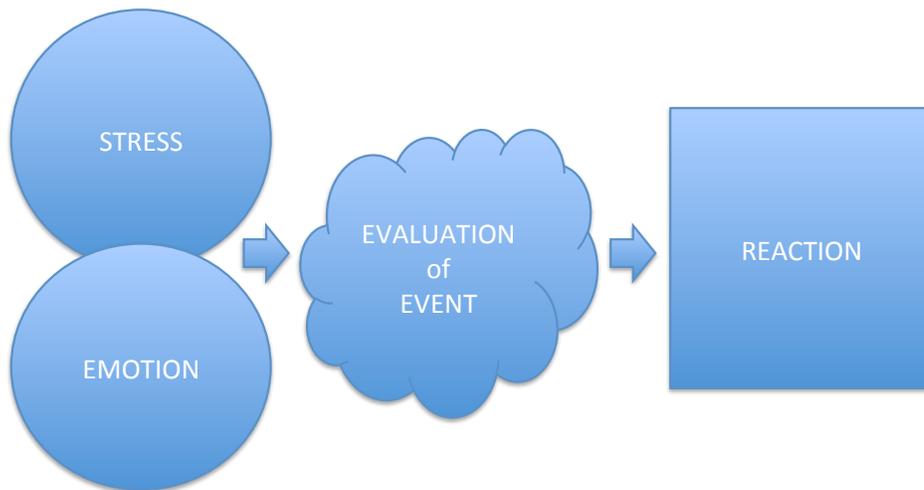


Figure 1. Lazarus’ appraisal model.

The appraisal process is central to Lazarus' theory of stress (Hobfoll et al., 1998). It involves more than mere perception – it is a personal evaluation (Lazarus, 1999). The way in which an individual appraises a situation or an encounter is largely responsible for the assessment of threat, the coping response selected, and the type of responsive behavior demonstrated. While medicine and the physical sciences tend to define stress as a response, Lazarus' theory of stress implies that this approach is far too simplistic and circular in that it does not attempt to answer the question of why an environmental stimulus generates a particular stress response from the individual. It is circular because the medical approach merely points back to the stimulus, which points back to the response (Lazarus, 1999). Instead, “it is the meaning constructed by a person about what is happening that is crucial to the arousal of stress reactions” (Lazarus, 1999, p. 55). This concept is consistent with the definition of stress that I provided earlier in this chapter regarding the balance between environmental demands and individual resources. Lazarus used the analogy of a seesaw, a simple child's toy, to describe this concept of balance. Anxiety is often experienced and expressed when the demands of an environmental stressor outweigh a person's ability to cope (McVicar, 2003). When the parameters of this disparity increase to significant levels, the anxiety becomes pathological and expands to the level of trauma, often involving fear, panic, depression, and hopelessness.

Fear is a common short-term emotion associated with stress. It often involves a sense of uncertainty whether one can withstand or survive the perceived threat (Frijda, 1988). Although fear can be a common emotion and may serve as a defense mechanism, it can also be a negative and debilitating response to particular social situations. A negative response to fear can significantly interfere with group activities and interactions,

especially in regard to situations in which balance and harmony are critical to success (Collins, 2004). The surgical environment is a situational activity that requires such a balance, where a focused group effort is necessary to restore balance and harmony to the patient's physical body. Within group interactions, fear can often be "an anticipatory emotion, the expectation of being hurt... fear is kind of social cringing before the consequences of expected actions" (Collins, 2004, p. 126). Certainly, any member of the O.R. team can abruptly experience fear when an unexpected complication or stressful event occurs. The surgeon may experience a fear response when the patient unexpectedly hemorrhages. The scrub nurse may experience fear in the form of a sinking feeling when the sponge count is inaccurate after closing the surgical incision (indicating that something may have been left inside the patient). The anesthesiologist may experience fear when the patient demonstrates a fatal cardiac arrhythmia during a critical phase of surgery resulting from a previously unknown allergy to an anesthetic. Clinicians are trained, however, to respond to such unexpected situations associated with the human body, and their responsive actions tend to be focused and intense. Chambliss (1989) referred to this phenomenon as the "mundanity of excellence" in that highly trained specialized group members are not distracted by anything, including fear. Medical personnel are not, however, trained to this extent in regard to human interaction and sociological rules of engagement. Consequently, stress is often the result of interpersonal interactions. Fear may also produce anger expressed as a defense mechanism by both nurses and physicians toward members of the surgical team in an attempt to hide the fear so that personal esteem and positional power are not compromised. Fear of losing credibility as the surgeon may produce outbursts of righteous anger supported by the

desire to maintain clinical respect and recognition, which is in turn supported by the formal authority of the medical community and the medical society. Researchers have found that “when symbols are violated or ritual procedures go badly, members of tight, localized groups respond with anger and fear, especially if rituals are backed up by coercion on the power dimension” (Collins, 2004, p. 117). In this situation, and for the purpose associated with this dissertation research, righteous anger represents a stressor in regard to disruptive behavior and nurse satisfaction.

Lazarus (1999) referenced the work of Grinker and Spiegel when linking individual thought, assessment of resources, choice of behavior, and reflection of individual past experiences with appraisal. This concept of past experiences can be associated with the earlier works of Goffman (1967), who stated, “While it may be true that the individual has a unique self all his own, evidence of this possession is thoroughly a product of joint ceremonial labor” (p. 85).

Bandura and Collins later spoke of this concept in their research into human behavior as it relates to self-esteem and human interaction. Collins (2004) believed that people are unique in large part due to their patterns of interactions with others through various situations over time. Goffman (1967) explained this concept as “not, then, men and their moments. Rather, moments and their men” (p. 3). He suggested that everyday encounters between individuals influence, shape, mold, and create the individuals themselves. In an effort to provide a more contemporary analogy, Collins (2004) suggested the phrase, “Not persons and their passions, but passions and their persons” or “every day will have its dog” as opposed to “every dog will have its day” (p. 5). This interaction between individuals and the complexity of social and interpersonal dynamics

that flow and evolve throughout this social exchange, energized by emotion, serves to influence and affect all those involved (Collins, 2004).

Appraisal occurs constantly during human interaction. In fact, it operates at both conscious and unconscious levels and can be defined as primary or secondary appraisal (Lazarus, 1999). Primary appraisal involves an initial assessment and evaluation of whether or not the situation or event poses a threat to one's goals or security. If the individual does not consider the event to be a threat, it will not produce a stress response. However, if the individual appraises that the event does indeed pose a threat to personal goals and safety, a condition of stress will result. This stress can fall into one of three categories. Harm/loss involves damage that has already been experienced. Threat concerns damage that may occur in the future. Finally, challenge consists of obstacles faced through the process of eustress. Secondary appraisal is a cognitive-evaluative process that determines what can be done in response to the stressful situation or event. This represents the foundational assessment of the available resources and coping options (Lazarus, 1999).

The process of coping involves the manner in which individuals manage the stressful situations and events in their lives. When coping is effective, stress tends to be low. Coping processes can reduce the intensity of stress reactions and are therefore essential to the study of stress and emotion (Lazarus, 1999). The coping process involves questions such as: Do I need to do something? What should I do? Can I do it? When should I do it? What are the risks? Appraisal and coping are collaborative processes that work together in responding to stress (Lazarus, 1999). The more confidence a person has in his or her ability to face danger and overcome obstacles, the more probable it is that the

person will experience challenge as opposed to threat when experiencing stress. Some researchers believe that “a sense of inadequacy promotes threat” (Lazarus, 1999, p. 77). This concept is consistent with theories of self-efficacy (Bandura, 1997, 2000).

In the context of stress theory, the concept of appraisal and coping is relevant to the O.R. environment and the existence of disruptive behaviors and nurse satisfaction when one examines how nurses deal with stress. The O.R. is a stressful environment by the very nature of the work being performed (Chen et al., 2009; Higgins & MacIntosh, 2010). Stressors are present in varying degrees at all times (Bianchi, 2008). Add to this environment the phenomenon of disruptive behaviors, and stress levels will increase (Higgins & MacIntosh, 2010). The way in which nurses respond to this stress is a critical factor in relation to numerous variables discussed earlier in this dissertation research, including nurse satisfaction. An inquiry into nurse satisfaction among and between different nurse specialties and departments (Boyle, Miller, Gajewski, Hart, & Dunton, 2006; Utriainen & Kyngas, 2009) reported that the least satisfied groups of nurses were found in surgical services and emergency services. Both areas are often recognized as highly stressful environments in which to work.

In this dissertation, I have used the stress theory of Richard Lazarus with incorporation of appraisal and self-efficacy to study nurse satisfaction in the O.R. in response to the presence of disruptive behavior. The purpose of this dissertation is to understand the perceptions of O.R. nurses in relation to the effects of disruptive behaviors on nurse stress and nurse job satisfaction.

Stress theory and job satisfaction in relation to nurses. Stress in the nursing profession was first researched in 1960 (Menzies, 1960) and has been of increasing

interest over the last several decades (Gelsema et al., 2006; Jennings, 2008) in response to the well-documented and accepted connection between stress and disease and the increasing pressures and strains on nurses resulting from changes in technology and the complexity of patient care. In part, the attention is reflective of the fact that nurses make up the largest, and arguably the most significant, segment of the hospital staff (Wanzer et al., 2009). Through advancements in technology, new procedures, changes in reimbursement, as well as increased knowledge and available resources, much of healthcare can be performed or delivered on an outpatient basis. Consequently, when physicians admit patients to the hospital, they are admitting them for the primary purpose of receiving nursing care. According to some researchers, “Nurses are the backbone of the medical system” (Chen et al., 2009).

Yet conflict and communication barriers between nurses and physicians continue to exist, which lead to increased levels of nurse stress and nurse job dissatisfaction (Tabak & Koprak, 2007). The connection between these two elements has been documented and shows that they lead to other unfavorable conditions, such as nurse turnover and nurse vacancy in the face of an impending nursing shortage, as well as financial constraints, medical error, and patient harm (Adams & Bond, 2000; Huber, 1995). However, these conditions are not the focus of this study.

In their research involving nurse stress, Lambert and Lambert (2001) expanded upon the stress theory offered by Lazarus and defined stress in the nursing profession as “a perceived mismatch between expectations of the role and the nurse’s ability to deal with it” (Vowel et al., 2012, p. 6). A recent study showed that nurses experience negative stress as a result of the social environment associated with their workplace (Olofsson et

al., 2003). In addition, the level of job satisfaction among nurses is closely associated with conflict in the workplace (Almost et al., 2010; Spetz & Herrera, 2010). A significant percentage of this conflict arises between nurses and physicians (Tabak & Koprak, 2007). Nurses function in a dynamic and complex environment where multiple people and various professional disciplines share in the provision of patient care. Their professional relationship with physicians is unique and serves as a critical element of the nurse's work environment. The quality of this interaction between nurses and physicians is particularly influential in how nurses value their work and view their role (Adams & Bond, 2000). Professional workplace relationships that involve conflict, as opposed to effective collaboration and support, cause nurses to feel betrayed, angry, stressed, and dissatisfied (Almost et al., 2010).

Buerhaus, Donelan, DesRoches, and Hess (2009) reported that the quality of nurses' relationships with physicians and with fellow nurses has not significantly changed over time. However, their study suggested that between 2006 and 2008 there were more instances of nurses reporting that they had experienced stress as a result of abuse at work or a hostile work environment than in prior years. It is unclear whether the behavior has increased over time, whether this study offered greater opportunity to report than was previously available, or whether other environmental or social conditions contributed to this increase.

A study of California nurses examined whether job satisfaction increased between 2004 and 2006 (Spetz & Herrera, 2010). Researchers reported that satisfaction with their relationships with physicians had improved slightly over the period of time. A study by Rout (2000), however, found historical evidence of conflict, with physicians serving as

significant stressors for nurses, and demonstrated that stress associated with lack of communication appears to have a negative influence on nurse satisfaction.

It is important to understand the ways in which nurses respond to stress created by nurse-physician conflict and disruptive behaviors because the way nurses appraise and perceive any specific event, problem, or stressor will have a significant effect on the coping strategies that are applied (Healy & McKay, 2000). A recent study (Tabak & Koprak, 2007) examined the tactics adopted by nurses when attempting to resolve conflict with physicians and assessed the degree to which the responsive behaviors affected the level of nurse stress and nurse job satisfaction. The study involved nurses from specialty areas including internal medicine, orthopedics, geriatrics, urology, and surgical services. Researchers hypothesized that there is a direct correlation between the way in which a nurse chooses to resolve conflict with physicians and the level of stress that is experienced in the job. They also hypothesized that there would be an inverse relationship between the degree of stress and the level of nurse job satisfaction. Tabak and Koprak (2007) compared nurses with the five main behavioral values identified in Rahim and Bonoma's (1979) conflict resolution model that includes patterns of behavior referred to as Integrating (problem solving), Obliging (smoothing), Dominance (controlling), Avoidance, and Compromise. Results indicated that the use of Integrating and Dominance by nurses is associated with lower levels of nurse stress, while the use of Obliging and Avoidance is associated with higher levels of nurse stress. In addition, the study showed that when stress increases, nurse job satisfaction decreases. It would appear that the nurses' behavior is a significant factor in the degree of stress and associated job satisfaction they report, even in regard to disruptive behavior.

Nurse satisfaction and intent to leave the job. Substantial research has been conducted in relation to nurse satisfaction, primarily in regard to its association with burnout and turnover. While much of this early research is not based on empirical studies, more recent inquiries have used integrated theoretical models to approach nurse satisfaction and intent to leave the job (Kovner et al., 2006). One such model incorporates psychological factors, economic factors, and sociological theory to address the variables associated with turnover (Kovner et al., 2006). For the purpose of this dissertation, O.R. nurse job satisfaction is defined as the degree of personal affect toward one's job (Utrianinen & Kyngas, 2009). This definition is consistent with job satisfaction theories defined by Adams and Bond (2000) in which job satisfaction is related to the degree to which a person's wants and needs are satisfied by his or her work.

As stated earlier in this chapter, a systematic review of the published literature suggests that two main themes exist in relation to sources of nurse satisfaction: interpersonal relationships and the delivery of care to patients (Utrianinen & Kyngas, 2009). In the O.R., the delivery of care is different from that of other departments and units within the hospital (Chen et al., 2009, Higgins & MacIntosh, 2010). The immediate feedback associated with interpersonal interaction between patient and nurse encountered in most other departments is absent in the O.R. because the patient is typically unconscious. Consequently, interpersonal relationships gain more significance in regard to nurse satisfaction in this unique environment. O.R. nursing has been described as mentally, physically, and emotionally demanding, and the additional strain created by the presence of disruptive behaviors can often be overwhelming (Higgins & MacIntosh, 2010). When stressors become perpetual and nurses become overwhelmed in response to

the seemingly insurmountable stress, professional burnout is often the result (Jennings, 2008).

In the current healthcare system, hospital and physician reimbursements are driving factors in creating an environment in which errors are more common than one would expect or desire (Kohn, Corrigan, & Donaldson, 2000). Quality, patient outcomes, and customer service (both employee and patient) are increasingly becoming indicators of overall performance. The stress and coping paradigm offers a valuable approach to exploring and explaining this ongoing situation involving disruptive behaviors.

The Purpose of the Research Question and Research

The act of performing surgery involves invasive techniques that initiate complex and powerful reactions from the human body as it responds to the threat. A team approach is necessary because there must be a sufficient number of people not only to manage the physical tasks but also to provide diverse intellectual perspectives and skillful and logical insight. The surgeon cannot operate alone. Both physicians and nurses are necessarily valuable to the O.R. team. While the combination of tasks, equipment, and skills represent the essential components of the O.R., the interactive and collaborative behaviors involved throughout the process are significant factors (Leach et al., 2011). Successful O.R. processes and outcomes are based upon interdependent communication, collaboration, and mutual understanding (Arakelian et al., 2008).

As suggested earlier in this dissertation, the O.R. team's ability to manage the human body through the invasive and unnatural process of surgery requires more than systematic control of instruments and regimented anatomical surgical procedures—it requires effective relationships at a micro-level. Surgeons tend to define effectiveness as

an interaction in which things progress as the surgeon expects (Wanzer et al., 2009). This requires personal interactions that support and promote intellectual, emotional, and psychological harmony. This also requires interactions and relationships that support and promote mirrored synchronized behaviors and physical movements. Low levels of nurse retention and associated high rates of turnover undermine this desired goal because human relationships as a whole, and specifically at this depth, require time to develop, build trust and mutual respect, and solidify to the point that each team member, nurses and physicians alike, acts and interacts in a manner that is automatic and proactive and instinctive. In this situation, the nurse knows what the surgeon will need next, and the surgeon knows what the nurse will do next. However, the act itself is not the focus of attention. The harmony, trust, cohesiveness, mutual respect, and professional accountability—the professional relationship—is the essential element in assuring the most successful outcome (Leach et al., 2011). From this perspective, low levels of nurse retention are counterproductive to the goals of the nurse, the surgeon, the team, the hospital leadership, and to the facility overall (Craft-Morgan & Lynn, 2009; Sexton, Teasley, Cox, & Carroll, 2007).

Professional Demographic Factors Associated with the O.R.

Gender. Gender has historically represented a significant factor in nurse-physician relations. Nurses, who primarily are women, functioned in subordinate and supporting roles to traditionally male physicians (Davies, 1995). Separation of male and female is a common theme within society. Anthropologists have asserted that rituals associated with separation tend to promote integrity, sacredness, and self-worth for males while simultaneously diminishing the self-esteem of females (Bushy, 1989). In recent decades,

however, a steady shift has occurred in the traditional distribution of males and females in both the nursing and medical professions. This shift has exerted an influence on the culture but has not changed the underlying sociological gender-related stereotypes (Theodora, 2007). The nursing profession remains largely female and the medical profession primarily male, and this influence is still palpable in professional relationships (Tabak & Koprak, 2007).

Physical seclusion. The notion of physical seclusion as it relates to the O.R. is a common theme. The environment creates a subculture within the hospital and facilitates unique interpersonal relationships. Outside influence is necessary in order to bring about change within the environment. The culture of the social environment must be transformed within the existing barriers and limitations of the O.R. Within this environment exist individuals and individual behaviors. Weber believed that both rational and irrational behaviors exist. From this perspective, “action is instrumentally rational when the end, the means, and the secondary results are all rationally taken into account and weighed” (Calhoun, 2002, p. 186). Irrational behaviors, on the other hand, can be considered “meaningfully oriented action” in that they are often based upon an emotional reaction or an automatic response (Calhoun, 2002, p. 186). Weber asserted that society is held together by the values and meaning systems of individuals, yet he recognized that individuals are not always rational in their responses and actions.

The social environment of the O.R. is specialized and small in size. The group of individuals within the surgical suite during surgery is often comprised of only four clinicians and a patient. Emotions and subtle behaviors are exceptionally noticeable in such small and closely oriented groups. Face-to-face encounters of this nature are filled

with subtle and not-so-subtle messages that are easily observed and recognized in such close quarters. These messages include glances, gestures, movements, postures, and verbal statements that continuously feed into the interaction and the situation, regardless of whether or not the actions are intentional (Goffman, 1967). In these situations, individuals must be keenly aware of their actions and the responses that they generate. The O.R. subculture is important to the hospital as a whole in regard to the service that it provides, the technology that it offers, and the way in which clinicians work together. One way to describe this phenomenon is that “collective conscience can exist in little pockets rather than one huge sky covering everybody in the society” (Collins, 2004, p. 15). The O.R., and its environmental characteristics, is an isolated pocket with an identity uniquely different from other areas and departments anywhere else in the hospital (Coe & Gould, 2008; Higgins & MacIntosh, 2010).

Conflict. Conflict is a natural and common element within all human relationships. It is an intrinsic component of day-to-day life (Cosser, 1957). The hospital, specifically the O.R., is no exception. When people interact in a social environment, there will be diverse and competing perspectives (Forte, 1997). Conflict results when people begin to perceive that others have negatively affected or are preparing to negatively affect them or something that is important to them (Frederick, Strong, & Von Gunten, 2002). The fundamental structure associated with a team environment involves diversity and differences in perspectives. However, if the competing perspectives are not managed effectively and constructively, the resulting behaviors will affect and potentially prevent the desired or expected outcome. Ultimately, “failure to resolve conflict in a timely manner decreases morale, diminishes loyalty, splinters teams, fosters distrust, and

increases turnover” (Briles, 2005, p. 32). In addition, if nurses fail to act and effectively address conflict as it occurs, they will fail to function as patient advocates and will regress into the historical role of subordinate to either more assertive and aggressive team members or to those with more open and effective conflict resolution skills (Baker, 1995). In the O.R., the provision of care will be disrupted. A recent study (Rogers et al., 2011) identified conflict in the O.R. as taking two forms: task-based and relationship-based. Nurse respondents said the latter leads to dissatisfaction, a feeling of personal incompetence, and an emotional toll. They described feeling dread and perpetual unresolved anger (Rogers et al., 2011). The study showed that “relationship-based conflict has profoundly negative effects on both team performance and team member satisfaction” (Rogers et al., 2011, p. 940). Researchers concluded that the critical, fast-paced, intense environment of the O.R. combined with the intense emotional aspect of relationship-based conflict results in an “explosive” environment (Rogers et al., 2011). A study involving tension and conflict in the O.R. used eight focus groups to explore team function (Lingard et al., 2004). Results showed that increasing tension throughout the normal workday can produce significant conflict. Even the most effective team can cross an invisible line at which point the tension threshold is surpassed and the quality of the social environment is at risk. The research suggested that this threshold varies between teams and is dependent upon past experiences and intersects. If the intersect involves particular themes, the threshold may be crossed more quickly and with more volatility (Lingard et al., 2004). In the O.R., these themes can be related to rituals and historical traditions.

Rituals and traditions. Rituals and traditions are common within the O.R., and

while their intent is often to maintain structure and cope with stress in this intensive environment, their influence also serves to support dysfunctional relationships. Bushy (1989) described specific social interactions believed to be associated with the various stages of surgical processes. Silence is associated with the initial incision; laughter and joking is commonly associated with routine processes of common procedures; an abrupt cessation of casual conversation takes place during the excision and repair phase, only to resume again while instruments are counted at the end of the procedure. Traditions often can be well-entrenched within a culture, even a profession. Anthropologists view rituals and traditions as an important part of society's structure in the sense that they serve as a "formal apparatus" for maintaining a semblance of order (Collins, 2004). Traditions offer social guidance because they are perceived as offering some element of truth. Traditions tell us that something is correct because it has always been done that way (Monette, Sullivan, & DeJong, 2005). However, rituals and traditions can promote and harbor dysfunction as well. Rituals can be successful or unsuccessful in bringing about the desired result. They can also have multiple and varied levels of success or failure. From this perspective, rituals are stratified. Two significant types of stratification rituals include power and status, both of which are factors in the O.R.

Nursing staff involvement. Most of the published information regarding ineffective nurse-physician relationships focuses on the physician component, which appears to be a significant factor. However, when discussing the concept of collaboration, a phenomenon that requires more than one party, it is appropriate to consider nurse behavior as well. There exist numerous variables that prevent or inhibit nurses from participating equally in the process of communication and collaboration. One factor is that

nurses' intra-disciplinary relationships can be ineffective because of competitive and hierarchical characteristics. Nurses talk about each other in derogatory ways, and during situations involving conflict, nurses don't always support each other as colleagues but instead often side with those outside of the nursing profession, such as physicians (Daiki, 2004). When confronted by disruptive, aggressive or intimidating physician behavior, nurses often demonstrate powerlessness, a common behavior associated with oppressed groups. There is a tendency for powerless people and groups to "admire and imitate those they perceive as powerful. In contempt of their peers, they long to join the ranks of their oppressors and thus they accept their values, while disregarding their own" (Daiki, 2004, p. 45). Because of the attention to physician behavior, nurses have historically remained reactive to events as opposed to proactive to the opportunity of collaborative cultural change (Henneman, 1995).

However, the reality is that both professions must be willing and ready to work together to share knowledge, insight, and expertise in an effort to promote safety and optimal patient outcomes. A safe environment cannot exist when hierarchies and self-imposed power structures are allowed to take precedence over collaborative processes. A safe culture is one that is free of hierarchy and one that not only permits but also expects individuals to speak up in the presence of conflict and in the best interest of the patient (Smith, 2004). Depree (1997) wrote of the "function of hope" in reference to the needs of individuals within an organization as well as society as a whole. In support of hope, he believed that identity is an important component because it correlates with inclusion. In other words, "identity means to know and to be known. Identity means to be respected. Identity means to be heard. Identity means the chance to be chosen. Identity means I have

a name and a place” (Depree, 1997, p. 37). A healthy sense of personal and professional identity is influenced at varying levels of society. This concept, often referred to as self-confidence, self-esteem, or self-efficacy, has a place in the phenomenon of nurse-physician relations in the O.R. in light of the fact that a healthy sense of self-efficacy is an important component of human response and adaptation to challenging and stressful life situations (Bandura, 1995; Gillespie, Chaboyer, Wallis, & Grimbeek, 2007). Effective self-efficacy can be described as “beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations. Efficacy beliefs influence how people think, feel, motivate themselves, and act” (Bandura, 1995, p. 2). Nurses must be able to act in the face of conflict in order to assure that the patient remains their primary focus and that patient safety remains their ultimate objective.

Medical staff involvement. The unique structure of the O.R. environment, combined with numerous regulatory standards, quality initiatives, legal restrictions, cost containment initiatives, challenges to the physician’s autonomy, as well as the historical culture, results in conflict between personal power and external controls. Watson (2002) believed that combining the powerful and omnipotent physician stereotype, the subservient nurse stereotype, and the unstable surgical environment can lead to catastrophic outcomes. Individuals seek to exercise some aspect of control over the events that affect their lives by exerting power or influence within environments or social structures in which they have some sense of command. This phenomenon permeates practically everything that people do throughout their lives (Bandura, 1995). Despite the fact that nurses are knowledgeable and capable members of the surgical team, many surgeons still cling to historical and antiquated stereotypes. This presents conflict at

varying levels in the O.R. In the name of avoiding conflict, however, bad behavior, including minor disrespect, outbursts of anger, discourtesy, sexual banter and innuendo, and distasteful jokes often are accepted as part of the O.R. culture (Watson, 2002). A qualitative study of disruptive physician behaviors in the O.R. found that “in one hospital, nurses, administrators, and other physicians did nothing about a surgeon who had tantrums if the operating room temperature wasn’t just right (he actually threw instruments at nurses). The nursing director dismissed it as stress” (Mason, 2002, p. 7).

Power can be expressed in healthy and balanced interactions that effectively guide the plan of care for the patient, or it can be expressed in confrontational and autocratic assertions that serve no purpose in promoting quality of care and patient safety.

Communication patterns between nurses and physicians can be conflictive to the point that they become dysfunctional and disruptive. Conflict of this nature tends to develop out of competition for status and power (Arford, 2005).

Medical staff power can manifest itself in different forms. Not only is it expressed in aggressive and disruptive confrontations, but it can also be demonstrated more covertly. A physician who responds with silence is often equally as disruptive as a physician who acts out through a loud and angry temper tantrum. Physicians who don’t answer their pages or intentionally avoid answering questions can also undermine quality and safety (Smith, 2004). The healthcare community refers to this individual as a disruptive physician. Multiple definitions exist for this term, each slightly different in the way in which it expresses the perspective of the author(s). Some refer to disruption as any behavior that ceases to be normative (Molea, 2006). The American Medical Association (AMA) has adopted the position that personal conduct that has a negative effect on patient

care is considered to be disruptive behavior (Rakatansky, 2000). There is an increasingly popular belief that disruptive behavior and associated competency concerns pose a greater threat to patient safety and patient outcomes than do issues of chemical dependency or alcohol consumption within the field of medicine (Doyle, 2004).

Dependent Variables

Nurse satisfaction. Job satisfaction is one of the most frequently discussed aspects of nursing in both descriptive and theoretical publications. Most often it is associated with nurse burnout, intent to leave, and nurse turnover (Mueller & McCloskey, 2009). Nursing is currently experiencing what some believe to be the beginning of its most significant and prolonged shortage in history (Craft-Morgan & Lynn, 2009; Spetz & Herrera, 2010; Wanzer et al., 2009; Zangaro & Soeken, 2007). As the Baby Boomer population reaches retirement age, greater numbers of nurses will be required to care for these individuals, stressing and straining the current supply of nurses to even greater degrees. Nurse satisfaction plays a key role in the ability to provide adequate nursing care to the population in light of the fact that nursing serves as the largest component of a hospital's clinical staff (Wanzer et al., 2009).

Numerous studies have identified factors associated with nurse satisfaction. Although historical factors have included such variables as salary, workload, hours, and autonomy, Dunn, Wilson, and Esterman (2005) and Adams and Bond (2000) found that relationships with other nurses is an important element. Manojlovich (2005) found that nurse-physician communication is significant in determining nurse satisfaction. One study (Wanzer et al., 2009) hypothesized that day-to-day communication patterns influence nurse satisfaction and showed that nurse-physician communication styles that included

listening, empathy, clarity and humor had a positive effect. Conclusions drawn by a recent study (Craft-Morgan & Lynn, 2009) included a recommendation that hospital leaders focus on improving nurse satisfaction through innovative job description redesign and the application of meaningful work environments while spending less time focusing on pay and benefits.

Nurse satisfaction represents a significant challenge because it has been linked to intent to leave and job turnover (Coshow, Davis, & Wolosin, 2009). Professional relationships and nurse-physician collaboration and communication are some of the most significant factors in creating and sustaining nurse satisfaction (Adams & Bond, 2000; Dunn et al., 2005; Manojlovich, 2005; McNeese-Smith, 1999; Sengin, 2003). Researchers have found that nurses believe physician communication patterns should involve more than simply given an order to the nurse while “most doctors still hold that this form of instrumental dialogue is all that is necessary” (Tabak & Koprak, 2007, p. 322). One recent study (Utriainen & Kyngas, 2009) reported three themes emerging from its research into nurse satisfaction: interpersonal professional relationships, patient care, and the organization of work. Interpersonal professional relations include relationships with physician and other nurses. One study (Dunn et al., 2005) found that these relationships were the most important indicator of nurse satisfaction. Another study (Verplanken, 2004) showed that nurses experienced higher levels of job satisfaction when these relationships included such values as participation, empowerment, participation, open discussion, and trust, (Utriainen & Kyngas, 2009). Patient care is a significant factor in nurse satisfaction because the direct assistance of nurses helps patients to heal both physically and emotionally. This process offers the personal reward of seeing patients return to their

homes and to productive lives and brings praise and personal recognition from grateful patients (Utriainen & Kyngas, 2009). Organization of work contributes to nurse satisfaction in a variety of ways and includes factors such as a work environment that allows nurses to fulfill their professional responsibilities and expectations, work hours that provide balance, and effective work-family relationships (Kovner et al., 2006; Utriainen & Kyngas, 2009). One study concluded that “nurses’ job satisfaction is primarily grounded on the communal aspects of nursing work: interpersonal relationships, social interaction, and communication” (Utriainen & Kyngas, 2009, p. 1009).

These factors are closely related to the three themes in relation to the nature of clinical nursing. The primary goal of nurses and physicians alike, the reason that these clinicians do what they do, is to provide care to patients in need. Regardless of personality types, personal agendas, and personal biases, the patient is the center of focus for every clinician. In order to assure that the appropriate care is delivered to the patient in a safe and effective manner, nurses and physicians must interact within the social structure of the hospital and must communicate in ways that offer clarity, promote understanding, and facilitate collaboration, resulting in supportive and trusting interpersonal relationships. Disruption in these factors can lead to lack of coordination, increased stress, and decreased nurse satisfaction.

An interesting and somewhat unique perspective applied to the problem of nursing satisfaction was demonstrated when researchers took a different approach and hypothesized that effective and sustained communication and collaboration between nurses and physicians can lead to increases in nurse job satisfaction (Wanzer et al., 2009). Researchers asserted that nurse job satisfaction is directly associated with nurse-physician

collaboration. The results of the study provide support for physician communication and collaboration that is based upon humor, clarity, timeliness, listening, and empathy during nurse-physician interactions and communications. Humor can relieve tension and defuse anger in a socially acceptable manner and can prevent painful or hurtful feelings (Buxman, 2008). This can be helpful to nurses and physicians, as “humor is considered to be an adaptive coping strategy because it enables individuals to reappraise stressful events as being less threatening and thus reduces their negative emotions” (Healy & McKay, 2000, p. 682). Somewhat surprising was the report’s finding that physician empathy was not significantly correlated with nurse job satisfaction. Rather, the use of communication patterns that were clear and appropriately humorous was more effective in improving nurse satisfaction. The researchers speculated, “It is likely that physicians also value clear and succinct messages from nurses” (Wanzer et al., 2009, p. 689). Disruptive physician behavior, however, interferes with clear and succinct communication and appears to contribute to nurses’ dissatisfaction (Manojlovich, 2005).

Nursing satisfaction, as it relates to stressful situations brought about by disruptive behavior, can be recognized in various patterns of responsive behaviors. Some people respond to stressful environments by withdrawing from the situation and becoming quiet, depressed, and dependent on support; some develop anxiety-related symptoms or psychosomatic illnesses; some turn to alcohol or medications for help; some choose to constructively address the stressors (Bandura, 1969). Individual responses to stress can be affected by differences in social status, educational backgrounds, and levels of accomplishment or professional prestige. While nurses and physicians are both licensed, highly trained professionals, there are often disparities in regard to social status,

educational levels, and distinction. As established earlier in this paper, the O.R. is a stressful environment by the very nature of the work that is involved (Higgins & MacIntosh, 2010). Add to this environment the traditional structure of the nurse-physician relationship involving subordination as well as the characteristics of the environment and the presence of disruptive behaviors, and the O.R. appears to be well suited for the application of stress theory as it relates to disruptive behaviors and nurse satisfaction. Through this research, I have attempted to demonstrate that disruptive behavior in the O.R. has a direct correlation to stress that leads to decreased nurse job satisfaction.

Nurse intent to leave the profession. The current shortage of nurses varies from state to state, but the overall problem is nationwide. The Iowa Department of Health, for example, estimated that the demand for nurses in 2005 exceeded supply by 8% (Russell, Sikdar, Imerman, & Orazem, 2008). The United States government has indicated that the increase in the number of nurses throughout the nation lags considerably behind the population growth. The supply of RNs nationally in 2000 fell short of demand by 111,000. In the same year, there were 782 employed RNs for every 100,000 people (USGAO, 2007). In 2005 the primary reasons for nurses leaving or not entering the profession were identified as meager salary and benefits, undesirable working hours, and a negative work environment (Allen, 2008). According to the Joint Commission, these factors have in part been responsible for 55% of nurses indicating that they would not recommend a career in nursing to their family, friends, or children (JCAHO, 2008a).

Hospital leadership should be concerned about and responsive to this issue because the largest share of the RN workforce is employed within the acute care hospital system. In 2004, 56% of all RNs were employed by hospitals; 12% were employed in ambulatory

care; 11% were employed in public health; the remaining 15% were employed in other areas such as education and insurance (USGAO, 2007). While the supply of nurses typically fluctuates on 10-year cycles between shortage, equilibrium, and surplus, the aging population is expected to have a greater effect as it significantly increases within the next two decades. A USGAO report (2007) suggested that in the United States, the number of people 65 and older will double between 2000 and 2030. People in this age category typically need access to healthcare and acute care hospitalization at a higher rate than younger people.

Of the primary factors affecting nurse retention (such as an aging RN workforce, increased workloads with sicker patients, increased stress, and undesirable work hours), the work environment plays a significant role in nurse dissatisfaction. In addition to overall stress and fatigue, some nurses have rated disruptive behavior as the single most significant factor contributing to job dissatisfaction (Falzetta, 2008). According to Rosenstein and O'Daniel (2008), studies suggest that there is a relationship between disruptive physician behaviors, decreased nurse job satisfaction, and increased nurse turnover rates. However, very little empirical research has been completed. Chen et al. (2009) found that the published literature did not include a single study that jointly addressed issues of job stress, coping behaviors, and nurse satisfaction in the O.R.

More than ever before, hospitals are struggling to maintain positive operating margins. They are exploring creative partnerships and affiliations in order to share resources and benefit from economies of scale through purchasing agreements and consolidation of services within healthcare systems. Given the increasing complexity of the acute care hospital setting, hospital leadership must be involved not only in the

immediate financial aspects of operations, but in the long-term aspects by maintaining a culture of safety. The CEO in particular must be actively engaged in ensuring that patient-centered processes are created, applied, and embraced (Shorr, 2007). By increasing RN retention, hospital leadership could realize significant decreases in cost, measurable increases in quality of care and patient satisfaction, and increases in efficiencies (JCAHO, 2008a).

Stress. Stress among O.R. nurses has been studied since the late 1970s (Bianchi, 2008), primarily in relation to the critical nature of the environment and the specialized work being performed. Lives are at risk during surgery. The micro-level collaboration and coordination that occurs in the O.R. between team members is essential to a successful surgical outcome (Leach et al., 2011). Socially-generated stress and fear, particularly in its disruptive form, has no place in an environment such as the O.R. Ideally, the interaction between these individuals would be focused and harmonious both in relation to goals and behavior. To reach this desired outcome, nurses and physicians in the O.R. must develop a focused response in regard to their emotions and their concentration. This demands more than simply acknowledging the task at hand, such as an assembly line worker correctly inserting a bolt into an engine block. It requires a deep emotional and intellectual focus of attention (Collins, 2004). The analogy of a bomb squad working carefully together to defuse an explosive device, a legal team coordinating its research and intellect in the courtroom during a critical phase of litigation, or a neurosurgical team performing a complex brain procedure all serve as examples of this ideal situation. The participants both give and take within the interaction. As the individuals become increasingly focused on the activity, their shared emotion is intensified and the overall

mood is influenced and changed as the activity becomes the overwhelming center of attention and focus. Durkheim referred to this as the collective conscious, and Collins refers to it as collective effervescence. Collins (2004) offered the analogy of a cheering crowd at a sporting event, a spiritual group at a religious ceremony, or the conversation between a group of individuals whose interactive rhythm and mood change as they get caught up in the conversation. The O.R. team shares in this experience.

Nurses and surgeons, when viewed as the ultimate example of multi-professional teamwork (Coe & Gould, 2007), can be seen as holding power positions. Powerful people, those with high levels of self-esteem, confidence, strength, enthusiasm, and initiative, don't need to become angry or to demonstrate anger because they can accomplish their goal or get their way without it. In this sense, expressing anger is a demonstration of weakness (Collins, 2004). Why then do higher educated, highly trained individuals, functioning within well-defined traditional formal power structures react in disruptive ways? One factor associated with the way that people respond to an event is the individual's appraisal of the situation based upon previous exposure to frustrating and stressful events and to subsequent expressions of disruptive anger. In the case of confrontational and aggressive disruptive behaviors demonstrated by a surgeon, or the passive aggressive and undermining statements and actions of a surgical nurse, the immediate response is a product of previous interactions and conditioning (Collins, 2004). Because individuals at the receiving end of the order-giving process typically have no direct influence on the order-giving ritual, they typically cope with stress through resistance when out of direct interaction with the order-giver. This differentiation can be referred to as "front stage" versus "backstage" personalities (Collins, 2004).

This behavior has been shown to exist throughout the O.R. environment at many levels and in various disciplines in response to stress. Nurses who make negative, emotionally defensive comments to their peers in response to the verbally abusive or aggressive behavior of a surgeon, surgeons who make negative and sarcastic or belittling comments to their peers and to nurses about administration in response to administrative decisions or interactions, or nurses who brood and withdraw in response to condescending and humiliating comments directed at them by a surgeon, all reflect this backstage personality. The recipient of this anger, often the order-taker or the perceived order-taker, frequently responds in either anger or fear or a combination of the two. Regardless of the intensity of the stressor, the key here is the individual's appraisal of the personal ability to cope. A recent study (Vowels et al., 2012) involving stress on the O.R. found that major events typically shown to create stress, such as a patient death or an unexpected emergency, were no longer considered to have the highest impact, primarily because of their infrequent occurrence. Rather, routine and recurring low- to moderate-level stressful events were shown to have the most significant impact on O.R. nurses.

Coping. Coping can be described as the manner in which individuals address and manage stressful events and conditions in their lives (Lazarus, 1999). Coping can be further defined as both cognitive and behavioral attempts to manage external or internal demands that are perceived by the individual as taxing (Hays, Mannahan, & Wallace, 2006). Coping behaviors and activities can be problem-oriented with an outward focus on actively managing the stress-producing problem or changing the stressful situation through direct influence. Conversely, coping behaviors can be emotion-oriented with an inward focus on resolving the emotional distress through behaviors such as avoidance and

detachment (Lambert & Lambert, 2008). Emotion-oriented coping behaviors are generated by the unpleasant and undesirable emotional effects brought on by the stressor as opposed to activities that would alleviate the stressor itself (Lim et al., 2010). They treat the symptom, not the problem.

There is a considerable amount of literature regarding nurse stress and the ways in which nurses cope with stress in their work environments. Some studies have involved cross-cultural samples to explore and demonstrate similarities across different countries (Bianchi, 2008; Healy & McKay, 2000; Lim et al., 2010; Lim, Hepworth, & Bogossian, 2011). A 2009 study (Chen et al.) surveyed 112 O.R. nurses about coping behaviors. Two subscales were created from the original questionnaire that organized the responses into either constructive or destructive coping strategies. The study showed that the 10 most frequently used coping behaviors fell under the constructive subscale. A 2011 study (Lim et al., 2011) involving Singaporean nurses identified three themes specific to coping with stress: taking time out to relax, seeking emotional support, and relying on personal belief systems such as religion, culture, or even luck. Regardless of the country, studies have shown that problem-solving coping behaviors are used more often and with better outcomes than emotional responses to stress (Lambert & Lambert, 2008). When coping is effective in managing the stressor, the level of stress is often lower (Lazarus, 1999).

Hypothesis and Conceptual Model

As demonstrated throughout this chapter, published literature has suggested that disruptive behavior in hospital settings is associated with undesirable outcomes such as compromised patient safety, higher infection rates, tension, anxiety, stress, confusion, surgical complications, poor nurse satisfaction, and nurse retention. This study explored

the following research question and tested the following three hypotheses generated from the literature review.

Research Question: Does the presence of disruptive behavior in the operating room (O.R.) have a direct impact on O.R. nurse job satisfaction and intent to leave the nursing profession?

Hypothesis 1: The appraisal of stress in the operating room (O.R.) will have a direct and negative impact on O.R. nurse job satisfaction. As the level of stress increases, the level of nurse job satisfaction will decrease and intent to leave will increase.

Hypothesis 2: The level of disruptive behavior in the operating room (O.R.) will have a direct and negative impact on nurse satisfaction. As the level of disruptive behavior increases, the level of nurse job satisfaction will decrease and intent to leave will increase.

Hypothesis 3: The presence of effective coping skills and methods used by nurses in the operating room (O.R.) will have a positive impact on O.R. nurse satisfaction and intent to leave will decrease.

Independent Variables: The primary independent variable is perceived level/amount of disruptive behavior experienced by the nurse respondents in the O.R. in which they work. Other independent variables include nurse stress and nurse coping.

Primary Dependent Variables: The presence/degree of nurse job satisfaction. Intent to leave the job.

Relevant control variables include such items as the specific hospital, amount of time employed as an O.R. nurse, level of education, and the primary role within the O.R.

According to my hypothesis, disruptive behavior (the independent variable) will directly decrease nurse satisfaction (dependent variable). It is hypothesized that decreased

nurse satisfaction will lead to an increase in employment exits and a decrease in nurse retention for the hospital or healthcare organization.

This study involved a focus group and a subsequent quantitative measurement of variables through a questionnaire. The variables were linked through the application of stress theory as demonstrated in the conceptual model in Figure 1. Hospital administrative leadership, physician leadership, and nursing leadership will be interested in the results as this research addresses an issue of importance to all three groups: nurse satisfaction and an intent to leave the profession of O.R. nursing.

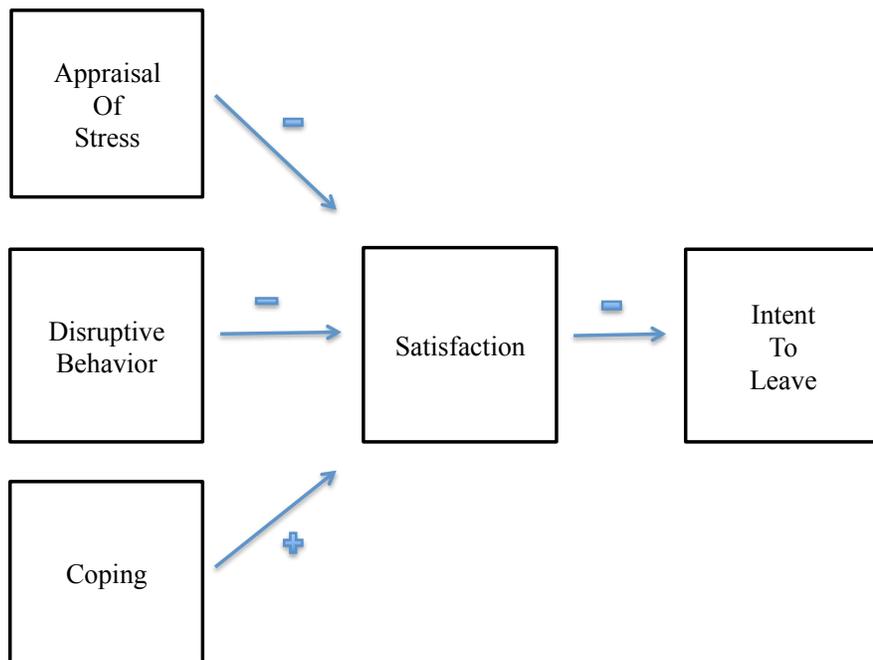


Figure 2. Hypothesized conceptual model.

CHAPTER III

METHODS

This chapter presents and describes the overall methodology that was applied to this inquiry into disruptive behavior in the operating room (O.R.) and the effect it has on nurse satisfaction. This chapter describes the method for collecting the sample and explains the two-phase approach to the study. A description of the control and demographic variables used in the measurement is provided. Next, validity and reliability associated with research into disruptive behaviors, nurse satisfaction, coping mechanisms, and intent to leave the profession are explored and discussed. Finally, the analytical procedures used to test the hypothesis are discussed.

Research Design and Sampling

This study into disruptive behaviors in the O.R. was conducted using a quantitative approach with a cross-sectional design. A questionnaire was distributed to O.R. nurses working at participating hospitals and was collected anonymously. Data were coded to protect individual participants. Both females and males were involved in this study, although the O.R. nurse population is more traditionally female. Participants ranged in age from 24 to 70 years old. The anticipated high end of the age range was based upon the traditional retirement age of 65.

This study measured nurse satisfaction and nurse intent to leave the job in response to the presence of disruptive behaviors in the O.R. Consistent with certain parameters and limitations associated with this doctoral research, the inquiry focused on active O.R. nurses. It included all categories of O.R. nurses associated with the participating hospitals, even traveling or temporary agency O.R. nurses. In addition, it included all full-time,

part-time, and per diem categories of employment. However, it did not address other traditional O.R. team members such as physicians, scrub techs, or surgical assistants. In addition, it did not include nurses working in other areas of the O.R., such as pre-operative and post-operative departments. There were two phases to this research: phase 1 involving a focus group, and phase 2 involving a questionnaire.

Focus group. In preparation for developing the questionnaire, a focus group discussion was conducted through purposeful sampling. The group consisted of O.R. nurse volunteers from an acute care community hospital not associated with the questionnaire distribution. The purpose of the focus group was to determine the group's definition of disruptive behavior, the coping skills used by the group members, and how group members feel when they experience disruptive behaviors. This limited inquiry provided information and data that was used for the construction and validation of the questionnaire.

The participating facility was a 106-licensed bed community hospital in south central Pennsylvania. It was not part of a larger health system. The hospital offers general surgery as well as a variety of specialty surgeries. The Chief Nursing Officer (CNO) was contacted via telephone to discuss this research. Following the call, a two-page summary of this research was mailed, and a follow-up phone call was conducted to answer questions and allow the researcher to ask whether the hospital was interested in participating in phase 1 of this research. Subsequently, the desire to participate in this research was confirmed by the CNO and the Director of Surgical Services. The six O.R. nurse participants responded to a request presented to them by the director.

The focus group met in a conference room outside of the O.R. environment to

promote confidentiality. Informed consent forms were distributed and collected.

Discussion began with a brief explanation of the purpose and the objective of the study, and participants were asked a series of questions regarding disruptive behavior in the O.R., the behaviors that exemplify disruptive behavior, how they feel when they are the focus of disruptive behavior, how they feel when they witness someone else experiencing disruptive behavior, whether or not disruptive behavior makes their work more stressful, and how they cope with this stress. Group participants were asked to consider the questions individually, anonymously write their thoughts on the paper provided to them, and then share their thoughts and answers during a group discussion. A copy of the results can be found in Appendix A. The information obtained through this group discussion was used to develop instruments to measure disruptive behavior, satisfaction, intent to leave the job, coping strategies, and perception of stress responses to disruptive behavior.

Questionnaire development. Given the unique, secluded, privileged, and private environment of the O.R. and the significant potential for unintentional observer influence as seen in the Hawthorne effect, a self-reporting approach was used in this research through the distribution of a questionnaire.

Nurse satisfaction and retention in response to disruptive behaviors in the O.R. has not been studied in sufficient scope or frequency to produce a data collection tool specifically designed to meet the aims of this doctoral research. Consequently, my research involved the creation of a questionnaire for use in this dissertation. The process of creating this questionnaire involved the dissertation chair, the dissertation committee, and the university Institutional Review Board (IRB) to assure that all necessary and

appropriate parameters, components, and guidelines were effectively addressed.

Significant attention was devoted to question design in order to assure fair and objective questions and the avoidance of question loading. The validity of the questions, the order of questions, and the flow of the questions all received consideration and scrutiny.

Validity is of significant importance if this research is to be accepted and embraced by the healthcare community. From this perspective, validity is important not only from an academic level but an operational level as well.

The survey was distributed to O.R. nurses at the participating hospitals. From the perspective of the individual nurse participant, it measured the presence of, the type of, and the level of disruptive behaviors experienced in the O.R.; the intensity and frequency of the disruptive behaviors; the perceived level of stress experienced by the nurses in direct response to the behavior; and the degree to which the O.R. nurses were planning to quit their jobs or leave the O.R. and seek an alternative professional career path.

The questionnaire developed for this survey included questions consistent with the aims of this research. It included 14 disruptive behavior-related questions, 9 stress-related questions, 8 coping-related questions, 3 intent-to-leave questions, 9 professional demographic questions, and 10 personal demographic questions. It also included 14 questions from the Nursing Stress Scale (NSS), 18 questions from the Ways of Coping Questionnaire, and 10 questions from the Index of Work Satisfaction (IWS). Specific subscales of all three surveys were used due to concern regarding questionnaire size and the possibility that nurses would decide not to complete a lengthy survey. The subscales were selected based upon appropriateness to this doctoral research. From the NSS, I used factors II (Conflict with physicians), IV (Lack of support), and V (Conflict with other nurses).

From the Ways of Coping Questionnaire, the researcher used scales 1 (Confrontive coping), 4 (Seeking social support), 7 (Planful problem solving), and 8 (Positive reappraisal). And from the IWS, subscale: Interaction was used. Participants' names and any other information that might identify them was not included on the questionnaires.

Questionnaire distribution. The questionnaires were distributed at five participating hospitals located in northern Maryland, northern Virginia, and south-central Pennsylvania. Each represented a medium-sized community hospital offering general and specialty surgery.

The Director of Surgical Services and/or Director of Education at each hospital determined the number of questionnaires needed for each individual facility based upon the number of employees that matched the sampling criteria. Research packets were provided to the designated director at each facility in the number requested and included 1) an instruction sheet, 2) the informed consent form, 3) the questionnaire, and 4) a self-addressed stamped envelope. Each questionnaire was assigned an alphabetical letter corresponding to the letter assigned to each participating hospital. Participants were asked to read but not sign or return the informed consent, as completion of the questionnaire would be considered implied consent. The directors at all five hospitals decided to hand deliver the packets during staff meetings. No incentives were used in association with the distribution or completion of the questionnaires.

Hospitals B, C, and E consulted with their Institutional Review Boards. Hospitals B and C requested that I attend the full IRB June 2014 meetings to explain my research and to entertain questions. My interaction with both boards resulted in approval. Hospital E requested and received expedited IRB approval to perform my research. Hospitals A

and F decided that hospital IRB approval was not required.

A total of 143 surveys was distributed. The decision was based on the specific number of surveys requested by each hospital O.R. director. Two weeks after the delivery of the research packets at each hospital, I contacted the directors and shared with them the total number of returned questionnaires specific to their hospitals, and I provided a reminder letter for distribution to questionnaire recipients. The reminder letter thanked participants for considering the survey and encouraged them to complete and return the questionnaire in the self-addressed envelope provided. Hospitals B and C required a second follow-up telephone call and reminder letters four weeks after the initial delivery of the research packets due to low response rates. The letter reminded those who had not yet completed the questionnaire that all responses must be received by August 1, 2014. After five weeks, the response rate at hospitals B and C was below 20%. Both hospitals belonged to the same health system. I contacted the director, who stated that she was disappointed and perplexed. She stated that she would personally remind the O.R. nursing staff. One additional completed questionnaire was returned within the following week. A representative of Hospital D agreed to participate in the research, discussed with me the research both via telephone and in person, and requested 30 research packets. I met the O.R. Director in the hospital main lobby, delivered the questionnaires on the agreed-upon date, and reviewed the survey process. I attempted to contact the director several weeks later. However, he was unable to speak with me. Follow-up phone calls to the director were made one and two weeks after the delivery of research packets, and again at three and four weeks with no response to my detailed messages. A letter was mailed at week four with no response. It was assumed that the hospital decided not to participate.

Consequently, the hospital was removed from my research.

A total of 51 questionnaires were returned via the U.S. postal service. One of the questionnaires had been completed by a technician and was therefore excluded from this research. One questionnaire was incomplete and contained numerous written changes, which caused confusion as to the intended responses. This questionnaire was excluded. Four questionnaires were received intermittently over a five-week period of time following the August 1, 2014 deadline and were excluded from this research. Consequently, 45 completed surveys were included in the analysis of this research. The overall response rate was 31%.

Response rates by hospital. The sample size was the result of purposeful sampling designed to include only nurses that perform work in the O.R. This methodology excluded pre-operative and post-operative nurses as well as post-anesthesia care unit (PACU) nurses. This approach was intended to assure that my research measured the variables within the specific O.R. environment described in Chapters 1 and 2. The response rates for each of the five hospitals sampled are presented in Table 1.

Table 1

Number of Questionnaires Distributed and Returned by Hospital

	Questionnaires Distributed	Questionnaires Returned	Response Rate	Percent of Total
Hospital A	30	9	30%	6%
Hospital B	13	3	23%	2%
Hospital C	22	5	23%	3%
Hospital D	0	0	0%	0%
Hospital E	48	18	38%	13%
Hospital F	30	10	33%	7%
Total	143	45	31%	100%

Note. Hospital D was removed from my research but is included in table 1 to explain why the letter D was used in the process of questionnaire coding.

Control variables. Certain variables were included in this research into disruptive behaviors in the O.R. in an effort to control for potential spuriousness. These variables included environmental, work experience, education and socio-demographic variables.

Environmental. Certain aspects of the O.R. are unique to the environment. They include the specific hospital, the nurse's employment status, surgical specialty (role), and length of time in the role and at the hospital. The role of circulator typically allows the nurse to move about the room and leave the room during the surgical case, while scrub nurses are required to remain at the surgical table either across from or next to the surgeon.

Primary role in the O.R. was measured as 0=scrub nurse, 1=circulating nurse, 2=charge nurse. Work status was measured as 1=full time (FT), 2=part time (PT) and is reflective of the amount of time exposed to the environment.

Work experience. Length of time as a nurse, length of time as an O.R. nurse, and length of time in the current O.R. position were measured in years. The type of nurse was measured as Registered Nurse (RN)=1 and Licensed Practical Nurse (LPN)=2. The inquiry was limited to general nursing experience and O.R.-specific experience and did not include additional experience in other areas of the hospital or other specialties within nursing. This was strategic in an effort to focus on the O.R. environment.

Education. The respondents' levels of formal academic education and nursing education were both measured independently. Not all nursing programs involve an academic degree. In addition, some nurses choose to pursue formal education above and beyond that which is required to work as a nurse. Formal nursing education was measured as 1=AND (associate's nursing degree), 2=diploma, 3=BSN (bachelor's degree in nursing), 4=MSN (master's degree in nursing). Highest level of formal academic education was measured as 1=associate's degree, 2=bachelor's degree, 3=master's degree, 4=doctoral degree. Specialty training or certification was measured regarding the type of nursing (1=O.R., 2=other).

Socio-demographic. Variables specific to the sample of nurse respondents included age, gender, race, religious affiliation, marital status, children, home status, and income. This data was collected through personal characteristic questions within the questionnaire. Age was measured in the number of years, and children was measured in the number of children. Gender measured as a dichotomous variable and recorded as

0=female, 1=male. Race was measured as 1=Asian, 2=African-American, 3=Hispanic, 4=Caucasian, 5=Other. Religion was measured as 1=Catholic, 2=Protestant, 3=Muslim, 4=Buddhist, 5=Hindu, 6=Jewish, 7=other. Marital status was measured as 1=single, 2=married, 3=divorced, 4=widowed. Status of the physical home was measured by 0=rent, 1=own, 2=other. Status of the home environment was measured as 0=1 person living in the home, 2=2 persons living in the home, 3=3 persons living in the home, 4=4 or more persons living in the home. Total household income was measured as 1=1 income, 2=2 incomes, 3=3, 4=4 incomes.

Independent variable: Disruptive behavior. Disruptive behavior was the independent variable in my research. This variable was measured using questions developed during the focus group associated with phase 1 of my research. The participants were asked specific open-ended questions, and their responses were used to create the survey questions. I asked how they would define disruptive behavior in the O.R. Their responses included misguided focus, bullying, condescension, interference, and unprofessional and disrespectful behavior. I asked which specific behaviors exemplify their definitions of disruptive behavior in the O.R. Their responses included using sarcasm, cursing, negative body language, ignoring, throwing things, threatening, yelling, escalating volumes, jabs, physical aggression and aggressive gestures, negative statements, and blaming. I also asked if there was anything else that I should know about disruptive behavior in the O.R. Their responses included the following:

- He broke a pen and threw it at a nurse—I was a new nurse at the time.
- We have one [surgeon] who actually jumps up and down.
- Administration doesn't do anything [about it].

- It shouldn't be tolerated.
- The hospital says they're addressing it, but nothing happens.

Questions 1-7 as well as questions 9, 10-15, 18, 19, 29, and 30 in my questionnaire are specific to the presence and scope of disruptive behavior.

Dependent variables. Two primary dependent variables were included in my research. They are nurse satisfaction and nurse intent to leave the job. To measure nurse satisfaction, I used questions taken from surveys that have been included in previous nursing research and that have been published in nursing related journals. The surveys have been shown in previous research to have satisfactory reliability and validity. In the following section, I summarize these scales and discuss results associated with specific questions used in my research to compare and contrast the validity and reliability of the sample studied in my research.

Nurse satisfaction. Nurse satisfaction was addressed from two approaches. The first involved the focus group participants in phase 1 of my research. The group members were asked how they felt when they are the focus of disruptive behavior. Their responses include stupid, angry, belittled, irritated, bad about themselves, and worthless. I also asked how they feel when they witness someone else experiencing disruptive behavior. Their responses include angry, a desire to protect the person, embarrassed, and disgusted. Questions 8, 16, 17, 20, 21, 22, 26, and 27 were created in response to these specific responses.

The second approach involved the use of questions selected from The Index of Work Satisfaction. Developed by a health researcher from the University of Massachusetts (Stamps, 1997), the scale was designed to measure the level of work

satisfaction among clinical nurses. The scale has been used by the American Nurses Association to assist in Magnet Hospital certification. Magnet Hospitals are recognized for innovation and excellence in the practice and culture of nursing. The designation requires the organizations to develop and support processes that result in positive professional work environments for nurses. Within the subscales of the index, 10 questions are grouped under the category of Interaction. The questions address opportunities and requirements related to social and professional contact during work hours for both nurses and physicians and measure the results against job satisfaction. The author granted permission for these 10 items to be used in my questionnaire. They appear as questions 64 through 73.

Nurse intent to leave the job. Several questions were created based upon the focus group discussions. Questions 11 and 28 asked participants if bullying and disruptive behavior in the O.R. makes them want to avoid coming to work and question 31 asked participants if they are thinking of leaving the OR in response to disruptive behavior.

Nurse stress. During the focus group discussion in phase 1, participants were asked if the behaviors they defined as disruptive made their work more stressful. Their responses included the assertions that people have left because of it, that the behavior makes them not want to come to work, the behavior is mentally exhausting, that it causes them to lose focus on their patients, and that they worry they will make a mistake. Survey questions were not created specifically upon these responses because questions included in the Nursing Stress Scale (NNS) are similar in regard to their focus on conflict, criticism, difficulty working with someone, and fear of making mistakes. The Nursing

Stress Scale (NSS) was designed to measure the major sources of stress experienced by nurses working in hospital departments and was based upon 34 potentially stressful situations as identified by nurses and physicians (Gray-Toft & Anderson, 1981). The survey is organized in seven factors, or major categories of stress, three of which are relevant to my research into disruptive behaviors as they deal with conflict and support. Questions 33-40 of my questionnaire were taken from the NNS conflict with a physician subscale, questions 41 and 42 from the lack of support subscale, and questions 43 and 44 from the workload subscale. The initial research obtained several measures of reliability, all showing acceptable internal consistency. Validity was confirmed as well (Gray-Toft & Anderson, 1981).

Coping. During the focus group discussion, participants were asked how they cope with the stress generated by disruptive behavior. Their responses were numerous and varied. They included drinking [alcohol], complaining, crying, worrying, sleeplessness, overeating, yelling back, yelling at family or pets, leaning on each other for support, venting to others, and mirroring the stress-generating behavior. Survey questions 83, 84, and 85 were created in response to this information. Additional questions were selected from The Ways of Coping Questionnaire to assist in measuring coping as a co-variable but also so that responses associated with my research could be compared with this extensively-used scale in future analysis. Although the Ways of Coping Questionnaire was created in 1985 and is within the public domain, I contacted Susan Folkman, one of the authors (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), and was granted permission to use the survey questions in my questionnaire.

CHAPTER IV

RESULTS

Data Analysis

To test my hypotheses that the presence of disruptive behavior in the operating room (O.R.) is related to a decrease in nurse satisfaction and an increase in nurse intent to leave the job, I used a statistical inferential technique and three hierarchical multivariate regression models to interpret the data obtained from the sample of 45 participants and to draw conclusions regarding the hypotheses: 1) The appraisal of stress in the O.R. will have a direct and negative impact on O.R. nurse job satisfaction. As the level of stress increases, the level of nurse job satisfaction will decrease and intent to leave will increase, 2) The level of disruptive behavior in the O.R. will have a direct and negative impact on nurse satisfaction. As the level of disruptive behavior increases, the level of nurse job satisfaction will decrease and intent to leave will increase, and 3) The presence of effective coping skills and methods used by nurses in the O.R. will have a positive impact on O.R. nurse satisfaction and intent to leave will decrease.

In this chapter, I first describe the sample by providing frequency distributions of the demographic variables. These variables are included in Tables 2 and 3. Second, I present and describe additional descriptive statistics related to the control variables (stress and coping), the independent variable (disruptive behavior), and the dependent variables (satisfaction and intent to leave). These statistics are presented in Table 4. As demonstrated in the tables, no data were missing from the sample. Third, I discuss the normality of disruptive behavior and nurse satisfaction and intent to leave the job by considering the mean, mode, standard deviation, range, skew and kurtosis, as well as the reliability of each scale. Finally, I present three hierarchical multivariate regression

models and discuss the results using Pearson's r to test my hypothesis.

Univariate Results

Demographic and other control variables. The questionnaire, which is shown in Appendix B, asked 45 participants from five hospitals in three states for responses to 19 socio-demographic questions. Questions 74 through 82 addressed work-related variables. The sample included RNs only. The type of nursing education was distributed across all four types; bachelor's degree in nursing (BSN) was the most frequent (48.9%), associate's degree in nursing (AND) was the second most common (35.6%), followed by diploma (8.9%) and master's degree in nursing (MSN) as the least common (6.7%). The highest level of education followed a similar pattern; a bachelor's degree was the most common (53.3%), followed by an associate's degree (35.6%). All 45 of the respondents indicated that they had received specialty training related to their work as nurses. O.R. training was the most common specialty (86.7%). The majority of respondents (33) indicated that their primary role within the O.R. was that of circulating nurse (73.3%). Most surgical teams have one scrub nurse during a procedure but often have two circulating nurses because they typically circulate between rooms to obtain supplies or equipment, send specimens, or communicate information. Therefore, this sample result was expected. The number of years as a nurse ranged from 1 to 49 years, a span of 48 years, with a mean of 20 years. The number of years as an O.R. nurse ranged from 1 to 42 years, a span of 41 years, with a mean of 14.8 years. The number of years employed at the current hospital demonstrated similar results—the sample ranged from 1 to 41 years with a mean of 13.2 years. The ages of the nurse respondents ranged from 24 to 70 years, a span of 46 years, with a mean of 46.6 years. Since the national average age of a nurse is

47 years (AACN, 2012), the results were expected and are consistent with the larger sample. Also expected was the predominance of female respondents (93.3%), in light of the fact that the nursing profession remains predominantly female.

Questions 86 through 95 addressed personal and social variables. The majority of the nurse respondents were employed full-time (86.7%). Only six respondents reported working part-time (13.3%). There were no PRN employees in the sample. There was limited racial diversity within the sample. The majority reported to be Caucasian (93.3%). Only two respondents reported that they were Asian (4.4%) and one reported other (2.2%). Religious affiliation results were somewhat surprising in that 17 respondents (37.8%) selected other as their primary religion, despite including in the questionnaire six of the most prominent religions. One respondent (#32) selected the other option and then wrote, “Christian – I can’t believe that it’s not listed.” Although Catholic and Protestant are traditionally considered two separate denominations of the Christian faith, it is possible that some of the respondents did not understand this relationship when completing the questionnaire. Most of the respondents were married or cohabitating (84.4%). The frequencies of other options were fairly evenly distributed as separated or divorced (8.9%), single and never married (6.7%), and widowed (0%). Participants indicated that the vast majority of them own their homes (93.3%) while a smaller number rent their homes (4.4%). However, the question regarding primary source of income demonstrated a nearly bimodal distribution, with 51.1% of respondents indicating they were the primary source of household income while 48.9% were not. Table 3 presents the complete description of these variables.

Table 2

Descriptive Statistics

<i>Variables</i>	<i>n</i>	<i>Range</i>	<i>Mean</i>	<i>SD</i>
Years as a nurse	45	48	20.02	13.39
Years as an O.R. nurse	45	41	14.84	11.86
Years at current hospital	45	40	13.2	10.76
Age	45	46	46.58	12.3
Number of children	45	5	1.56	1.15
Number of incomes in home	45	2	1.8	0.46

Table 3

Frequency Distribution for Categorical Variables (N=45)

	<i>Frequency</i>	<i>Percent</i>
Primary Role		
Scrub Nurse	2	4.4
Circulating Nurse	33	73.3
Charge Nurse	6	13.3
Other	4	8.9
Work Status		
Full-Time	39	86.7
Part-Time	6	13.3
Type of Nurse		
RN	45	100
Associate's Degree Nurse		
Yes	16	35.6
Diploma Degree Nurse		
Yes	4	8.9
Bachelor's Degree Nurse		
Yes	22	48.9
Master's Degree Nurse		
Yes	3	6.7
Highest Education		
Associate	16	35.6
Bachelors	24	53.5

Masters	5	11.1
Specialty Training		
OR Specific	39	86.7
Other	6	13.3
Can Confide in One or More Co-Workers		
Yes	34	75.6
Can Confide in A Close Friend		
Yes	22	48.9
Can Confide in My Spouse or Partner		
Yes	36	80.0
Can Confide in Another Family Member		
Yes	15	33.3
For Stress I Take a Snack Break		
Yes	23	51.1
For Stress I Use Meditation		
Yes	10	22.2
For Stress I Listen to Music		
Yes	22	48.9
For Stress I Use Shopping		
Yes	15	33.3
For Stress I Use Spa		
Yes		
For Stress I Use Exercise		
Yes	21	46.7
For O.R. Stress I Use Wishful Thinking		
Yes	6	13.3
In O.R. I Definitely Try To Avoid Confrontation		
Yes	11	24.4
In O.R. I Will Confront the Person Responsible		
Yes	12	26.7

In O.R. I Use Problem-Solving Activities		
Yes	30	66.7
In O.R. I Get Engaged in the Situation		
Yes	7	15.6
Gender		
Female	42	93.3
Male	3	6.7
Race		
Asian	2	4.4
Caucasian	42	93.3
Other	1	2.2
Religious Affiliation		
Catholic	7	15.6
Protestant	19	42.2
Hindu	1	2.2
Jewish	1	2.2
Other	17	37.8
Status of Physical Home		
Rent	2	4.4
Own	42	93.3
Other	1	2.2
Marital Status		
Single, Never Married	3	6.7
Married, Co-Habiting	38	84.4
Separated or Divorce	4	8.9
Primary Source of Income		
Yes	23	51.1

Bivariate Results

As a preliminary test of the hypotheses, I used standard bivariate regression to explore the relationship between disruptive behavior and satisfaction and between disruptive behavior and intent to leave.

Reliability. To test for internal reliability and consistency in my scales, I conducted a reliability analysis of each scale using SPSS 22 and obtained Cronbach's Alpha for each scale. Alpha coefficients range in value from 0-1, and a value of 0.7 or higher is considered a minimum standard in determining the presence of reliability (Devellis, 2012). My analysis showed that disruptive behavior scored 0.87 (17 items/questions), indicating high reliability; satisfaction scored 0.83 (18 items/questions), indicating relatively high reliability; intent to leave scored 0.72 (3 items/questions), indicating acceptable reliability; stress scored 0.85 (12 items/questions), indicating relatively high reliability; and coping scored 0.87 (19 items/questions), indicating high reliability. In summary, all of the scales demonstrated good to excellent reliability, allowing them to be used for further analysis. Ideally I would have conducted exploratory factor analysis to assess the construct validity of my scales before computing reliability; however, my small sample size of 45 cases prohibited it.

Normality. I assessed each of the following variables for normality: disruptive behavior, satisfaction, intent to leave, stress, and coping. Based on my analyses I concluded that each of the variables was approximately normally distributed. To draw this conclusion, I applied several statistical methods including evaluation of skewness and kurtosis through examination of histograms, Q-Q plots, detrended Q-Q plots, and box plots. These results are discussed in detail in the following paragraphs. I used the Kolmogorov-Smirnov test of normality. The analysis showed non-significant results (value of more than 0.05) indicating normality for all five variables: disruptive behavior ($p=0.101$), satisfaction ($p=0.078$), intent to leave ($p=0.172$), stress ($p=0.134$), and coping ($p=0.116$).

Outliers. There were three outliers identified in my data. They are easily identified on the detrended Q-Q plots and the box plots. Two were associated with intent to leave, and one was associated with stress. I looked at the 5% trimmed mean to determine the presence of extreme outliers and to assess their level of influence on the sample. Disruptive behavior: Mean=38.33; 5% trimmed mean=38.30 (difference of 0.03). Satisfaction: Mean=62.97; 5% trimmed mean=63.03 (difference of 0.06). Intent to leave: Mean=8.55; 5% trimmed mean=8.62 (difference of 0.07). Stress: Mean=24.46; 5% trimmed mean=24.32 (difference of 0.14). Coping: Mean=40.37; 5% trimmed mean=40.41 (difference of 0.04). Since the arithmetic means and the 5% trimmed mean are minimally different, I made the assumption that the identified outliers are not extreme and that they are not having a significant influence on the distribution. I therefore included these outliers in my analysis. Normality and outliers are further discussed in the following sections specific to each of the five variables involved in the regression analysis associated with this research.

Independent variable: Disruptive behavior. Preliminary analysis of the data included an assessment of the histogram, which showed a slight negative skew with a pattern of valleys, indicating that the mean and the median are less than the mode. The valleys may be contributing to the slight skew. But since my sample is greater than 30, I can generalize it based upon central theorem and can therefore assume that larger samples would increasingly become approximately normal (Sanders, 1990). Also shown is a slightly light-tailed kurtosis (leptokurtic), suggesting a somewhat narrow range of data points. The mean and the median fall very close to each other in this display.

To further assess the shape and characteristics of the distribution, I used SPSS 22

to plot the observed values on the X axis and the expected values on the Y axis of a normal Q-Q plot. The results confirmed the presence of a reasonably normal distribution. The dots do not fall directly on the line, which indicates that it is not completely normal (shows a slight skew). However, all of the dots are very close to the line and show an unmistakable linear pattern in a positive direction. Therefore, I consider this to be close enough to normal to progress with analysis as it meets the assumption of normality. To visualize the pattern of observed and expected values differently, I plotted them on a detrended normal Q-Q plot. Here, the Y axis is the variance [difference] between what was observed and what was expected. The dots are scattered evenly and show no clustering. However, the pattern does show a vague upward direction. This analysis is consistent with the normal Q-Q plot, and it meets the assumption of normality. Finally, I examined the box-plot in my assessment of the distribution. There are no outliers seen on the box-plot for disruptive behavior. The median line is not perfectly centered; it shows a slight negative skew consistent with the histogram interpretation.

Dependent variables: Satisfaction and intent to leave. Preliminary analysis of the data specific to nurse satisfaction included an assessment of the histogram. The data demonstrated a very slight elongation of the left tail, indicating the presence of a slight negative skew and a mean and a median that are less than the mode. There are a few moderate valleys in the distribution, which may contribute to the slight skew. The pattern of distribution shows normal kurtosis (mesokurtic). Results of the normal Q-Q plot confirmed that the distribution is reasonably normal. The dots do not fall directly on the line, which indicates that it is not completely normal (shows a slight skew). The dots near the lower end are slightly farther away from the line than those at the upper end.

However, all of the dots are very close to the line and show an unmistakable linear pattern in a positive direction. Therefore, the distribution meets the assumption of normality. When the data are plotted on a detrended normal Q-Q plot, the dots are scattered evenly and show no clustering. Several dots at the lower end are slightly farther away from the 0.00 line than those at the upper end, which is consistent with the normal Q-Q plot. The pattern shows a vague upward direction. Overall, this interpretation is consistent with the normal Q-Q plot, and it meets the assumption of normality. Finally, there are no outliers seen on the box-plot for nurse satisfaction. The median line is not perfectly centered; it shows a slight negative skew. However, the deviation is extremely slight. Overall, the interpretation is consistent with the information gained in the histogram.

Analysis of the data specific to nurse intent to leave included an assessment of the histogram, which demonstrated a slight variation in the tails. The left tail is slightly longer than the right, indicating the presence of a slight negative skew to the left. There are far fewer valleys than seen in disruptive behavior and satisfaction. However, the skew is more pronounced in this variable than in the other two. The pattern of distribution shows slight light tailed kurtosis (leptokurtic). To further assess the presence and causes of skewness, I looked for outliers. When the distribution is assessed on a normal Q-Q Plot, the dots don't fall directly on the line, indicating skew. Consistent with the other two variables, the dots are very close to the line. The exception with the intent to leave variable is the presence of two outliers located at the lower end of the distribution. Although they are farther away than the other dots, they are considered approximately close to the line. The detrended normal Q-Q plot shows that all of the dots are evenly

distributed along the 0.00 line, except for two outliers. The dots are scattered but show a vague upward direction if the outliers are included. If the outliers are removed, the pattern shows that the data is very evenly distributed and close to the line. There are two outliers seen on the box-plot (two dots outside of the whiskers). Without the outliers, the box plot looks approximately normal with the appearance of an even distribution. I considered removing the outliers from my analysis based upon the appearance of the box plot. However, aside from the box plot, the overall analysis suggests that the two outliers do not significantly affect the distribution. All things considered, I decided to include the outliers in my analysis.

Dependent variables: Stress and coping. Preliminary analysis of the data specific to nurse stress included an assessment of the histogram. The data demonstrated a very slight elongation of the right tail, suggesting that the data sample has a slightly positive skew, which indicates that the mean is greater than the median. There are a few valleys in the distribution, which may be contributing to the slight skew. The pattern of distribution shows a slightly light tailed kurtosis (leptokurtic). Results of the normal Q-Q plot confirmed that the distribution is reasonably normal. The dots don't fall directly on the line, which indicates that it is not completely normal (shows a slight skew). One data point at the farthest low end of the line and one data point at the farthest high end are slightly farther away from the line than those between the two ends. However, all of the dots are close to the line and clearly show a linear pattern in a positive direction.

Therefore, the distribution meets the assumption of normality. When the data is plotted on a detrended normal Q-Q plot, the dots are scattered evenly and show no clustering. Several dots at the low and high ends are slightly farther away from the 0.00 line than

those in the middle, which is consistent with the normal Q-Q plot. The pattern shows a vague slightly upward direction with the inclusion of the far end data points. This visual interpretation remains if the outlier is removed. Overall, this interpretation is consistent with the normal Q-Q plot, and it meets the assumption of normality. There is one outlier observed on the box-plot (a single data point outside of the whiskers). However, there are no extreme outliers. Without the outliers, the box plot looks approximately normal with the appearance of an even distribution. I considered removing the outlier from my analysis based upon the appearance of the box plot. However, aside from the box plot, the overall analysis suggests that the data point does not significantly affect the distribution. In addition, the mean score (24.5) and the trimmed means score (24.3) for stress were similar. All things considered, I decided to include the outliers in my analysis.

Preliminary analysis of the data specific to nurse coping included an assessment of the histogram. The data demonstrated the presence of a reasonably normal mesokurtic distribution that is nearly symmetrical. There are no valleys in the distribution, unlike the output associated with several other variables. Results of the normal Q-Q plot confirmed that the distribution is reasonably normal. The dots don't fall directly on the line, which indicates that it is not completely normal. Two of the dots at the far lower end of the line and two at the far highest end are slightly farther away from the line than those in between. However, all of the dots are very close to the line and show an unmistakable linear pattern in a positive direction. Therefore, the distribution meets the assumption of normality. When the data are plotted on a detrended normal Q-Q plot, the dots are scattered evenly and show no clustering. Several dots at the far left and far right are slightly farther away from the 0.00 line than the others, which is consistent with the

normal Q-Q plot. The pattern shows a vague upward direction. Overall, this interpretation is consistent with the normal Q-Q plot, and it meets the assumption of normality. Finally, there are no outliers seen on the box-plot for nurse satisfaction. The median line is near the middle of the box, but not perfectly centered. However, the deviation is extremely slight. Overall, the interpretation is consistent with the information gained in the histogram.

Table 4

Descriptive Statistics for the Five Variables (N=45)

Variables	<i>M</i>	<i>SD</i>	Range	α
Stress	24.5	5.48	12.0-40.0	0.85
Coping	40.4	8.80	19.0-60.0	0.87
Disruptive Behavior	38.3	7.94	22.0-55.0	0.87
Satisfaction	63.0	7.03	49.0-76.0	0.83
Intent to Leave	8.56	1.90	3.00-12.0	0.72

Bivariate Correlations

To conduct preliminary tests of my hypotheses, I examined the correlations between the independent and dependent variables using Pearson Correlation r because the data met the assumptions to use this statistical technique. The closer the value of r is to zero, the greater the variation of the data points around the line of best fit, and the weaker the statistical association between the two variables. Conversely, the closer the value of r is to 1.0, the lesser the variation, and the stronger the statistical association. As shown in Table 5, there is a strong negative correlation between disruptive behavior and satisfaction (-0.67); the greater the extent of disruptive behavior, the lower the satisfaction reported by O.R. nurses. There was a moderate to strong positive correlation between disruptive behavior and intent to leave (0.46); the greater the extent of disruptive behavior, the greater the intent to leave.

Disruptive behavior and coping were moderately and inversely correlated (-0.38). Disruptive behavior and stress were also strongly and negatively correlated (-0.57). Although not directly associated with disruptive behavior and the primary aim of this research, stress and satisfaction were the most highly correlated variables in the data set ($r=0.78$). The higher the level of stress reported, the lower the degree of satisfaction reported. The coefficient is positive because higher scores on the stress scale indicated lower levels of stress.

In addition to Pearson correlation, I computed Spearman's ρ non-parametric correlations to determine whether significant relationships exist among the variables. The results were consistent with the results of the Person's correlations. Therefore, I do not report them here.

Scatter plot between disruptive behavior and satisfaction. Examination of the scatter plot (not shown) between disruptive behavior and satisfaction shows a cigar-shaped pattern in a downward direction (negative correlation/relationship). The trend is linear. The shape of the cluster is mostly uniform from end to end, supporting the assumption of homoscedasticity. The greater the disruptive behavior, the lower the satisfaction.

Scatter plot between disruptive behavior and intent to leave. The scatter plot (not shown) between disruptive behavior and intent to leave shows a diffuse cigar-shaped pattern in an upward direction (positive correlation/relationship). The trend is linear, except for the two outliers. The shape of the cluster is mostly uniform from end to end, supporting the assumption of homoscedasticity. The greater the disruptive behavior, the greater the intent to leave the job.

Table 5

Parametric Bivariate Correlations or Pearson's R (N=45)

Variables	1	2	3	4	5
1. Disruptive Behavior	-				
2. Intent to Leave	0.46**	-			
3. Satisfaction	-0.67**	-0.44**	-		
4. Stress	-0.57**	-0.41**	0.78**	-	
5. Coping	-0.38*	-0.22	0.27	0.24	-

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Hierarchical Multivariate Regression Results

I used ordinary least squares (OLS) multiple regression to test three models. I use these three models to explore whether satisfaction influences intent to leave and whether satisfaction mediates some of the effects of disruptive behavior by controlling for stress and coping. Ordinary least squares linear regression analyses were conducted on the three models to provide insight and evidence related to the conceptual model described in Chapter II. For the regression, the independent variables were entered sequentially in the order that they are presented in the conceptual model.

In the first regression model, I regressed satisfaction (DV) on disruptive behavior, coping, and stress. The results for Model 1 shown in Table 6 reveal moderate relationships between the two independent variables—disruptive behavior and stress—and satisfaction. For this sample, the standardized regression coefficient shows that disruptive behavior is a statistically significant and moderate predictor of satisfaction ($\beta = -0.34, p < 0.05$). The level of stress is also a very strong and significant predictor of satisfaction ($\beta = 0.60, p < 0.05$). Coping, however, was not a statistically significant predictor of satisfaction ($\beta = -0.00, p > 0.05$).

The potential for the presence of two or more variables correlating in a manner that could provide redundant information was a concern. The presence of multicollinearity would inflate standard errors and make it difficult to attribute unique effects to predictor variables. Collinearity diagnostics were performed on the three

independent variables in the model, and the resulting SPSS coefficients table (not shown) provided favorable results regarding the assumption of multicollinearity. Tolerance values of less than 0.1 are considered small and suggest that multiple correlation between independent variables is high, indicating the potential presence of multicollinearity. The tolerance value for disruptive behavior was 0.614; for stress, the value was 0.675; and for coping, the value was 0.856. These results indicate multicollinearity is not a great concern in this sample. I therefore included all three independent variables in my model.

The Normal P-P Plot of regression standardized residual and the scatter plot (shown in Figures 3 and 4) were analyzed to assess assumptions of normality, multicollinearity or homoscedasticity. The P-P plot demonstrates that the data points within regression Model 1 fall on a reasonably straight line with very little variation from end to end along a line that runs upward diagonally from left to right, suggesting reasonable normality. The data points show slightly more variation from the line in the upper half. Assessment of the scatter plot shows that the data points are distributed evenly in a scatter pattern, with most of the points dispersed around the zero center location. There is no evidence of significant outliers within the pattern.

I examined the R-Squared result to determine the extent to which the variance in satisfaction (DV) is explained by Model 1. The model of satisfaction that includes disruptive behavior, stress, and coping has a very high R-squared value of 0.688, which means that the three independent variables together explain 69% of the variance in satisfaction. Since my sample has an N of only 45, I also examined the adjusted R-square value to determine whether the sample size (N=45) influenced the result by overinflating the number. The adjusted R-squared value for this model was 0.67, which is only slightly

lower than the R-squared result. Both results suggest that a large percentage of the variance in satisfaction is explained by Model 1. In addition, the overall model is statistically significant.

I then examined the standardized coefficients to determine the extent to which each of these three independent variables uniquely contributes to the 69% of the variance in satisfaction when controlling for the others and to assess the strength of the relationships. Stress had the largest Beta of 0.60, followed by disruptive behavior with a Beta of -0.34. The final independent variable, coping, was shown to have minimal unique influence on satisfaction with a negligible Beta of -0.00.

After assuring there were no violations of assumptions regarding normality, multicollinearity or homoscedasticity, I assessed the ability of disruptive behavior (IV) to predict the level of satisfaction (DV) after controlling for the influence of coping (CV) and stress (CV). At step 1, coping and stress were entered into SPSS. The result explained 61.9% of the variance in satisfaction. After disruptive behavior was added at step 2, the total variance that was explained by the entire model was 69%. This result means that disruptive behavior explained an additional 6.9% of the variance in satisfaction after controlling for coping and stress. In the final model, only stress and disruptive behavior were statistically significant.

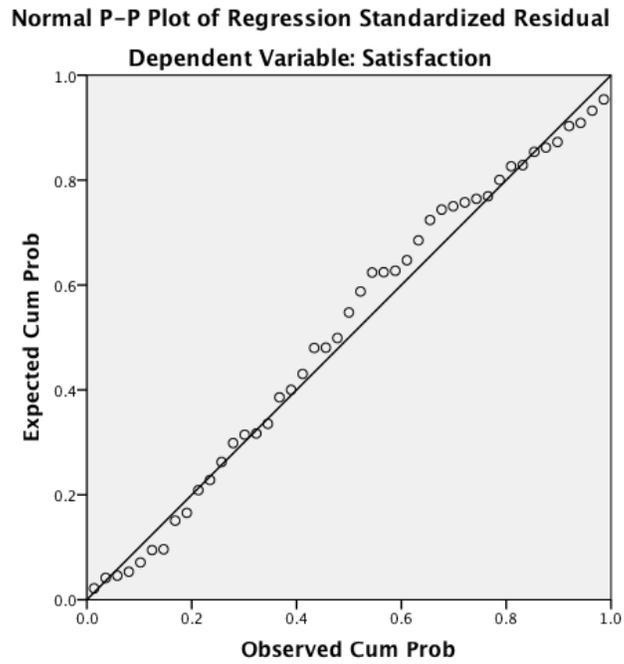


Figure 3. Model #1 normal p-p plot of regression standardized residual.

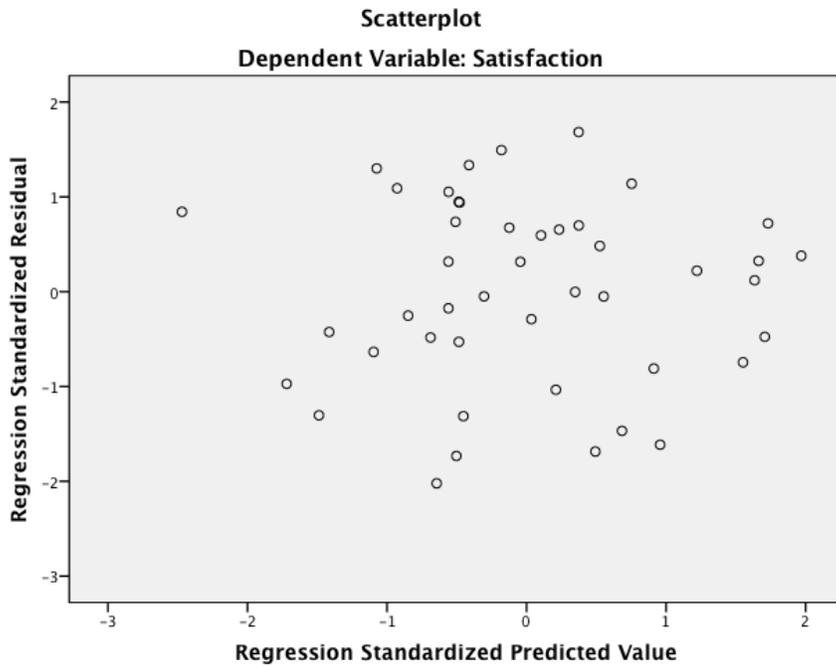


Figure 4. Model #1 scatterplot.

To test the second model, I regressed intent to leave (DV) on disruptive behavior, coping, and stress. The results shown in Table 6 reveal that disruptive behavior is a moderate predictor of intent to leave the job, and stress is a modest predictor of intent to leave. For this sample, the standardized regression coefficient for disruptive behavior is a statistically significant and moderate predictor of intent to leave ($\beta = 0.33$, $p < 0.05$). The level of stress is also a modest, though not statistically significant, predictor of intent to leave ($\beta = -0.21$). Coping, on the other hand, was not a significant predictor of intent to leave ($\beta = -.05$).

The potential for the presence of two or more variables correlating in a manner that could provide redundant information was a concern. The presence of multicollinearity would potentially add variability and inflate standard errors. Collinearity diagnostics were performed on the three independent variables in the model, and the resulting SPSS coefficients table (not shown) provided favorable results regarding the assumption of multicollinearity. Tolerance values of less than 0.1 are considered small and suggest that multiple correlation between independent variables is high, indicating the potential presence of multicollinearity. The tolerance value for disruptive behavior was 0.61; for stress, the value was 0.68; for coping, the value was 0.86. To further assess the assumptions, I considered the variance inflation factor (VIF) for the three independent variables. Disruptive behavior scored 1.63, stress scored 1.48, and coping scored 1.17. These results indicate that multicollinearity is not a great concern in this sample. I therefore included all three independent variables in my model.

The Normal P-P Plot of regression standardized residual and the scatter plot (shown in Figures 5 and 6) were analyzed to assess assumptions of normality,

multicollinearity, or homoscedasticity. The P-P plot demonstrates that the data points within regression model #2 fall on a reasonably straight line with very little variation from end to end along a line that runs upward diagonally from left to right, suggesting reasonable normality. The data points show slightly more variation from the line in the lower half. Assessment of the scatter plot shows that the data points are distributed evenly in a scatter pattern with most of the points dispersed around the zero center location. The data points are formed in a slightly flat and wide pattern when compared to the scatter plot of model #1. Two data points appear to fall slightly farther away from the group, one above and one below the lines to the left of the zero point.

To determine the extent to which the variance in intent to leave (DV) is explained by model #2, I examined the R-Squared result. The model of intent to leave that includes disruptive behavior, coping, and stress has an R-squared value of 0.25. Shown as a percent, this result suggests that these three independent variables together explain 25% of the variance in intent to leave. Since my sample has an N of 45, I also examined the adjusted R-squared value to determine whether the sample size (N=45) influenced the result by overinflating the number. The adjusted R-squared value for this model was 0.190, lower than the R-square result; this suggests that 19% of the variance in intent to leave is explained by model #2. The SPSS ANOVA output result of 0.07 (Sig. F change block 2) indicates that the overall model is not statistically significant.

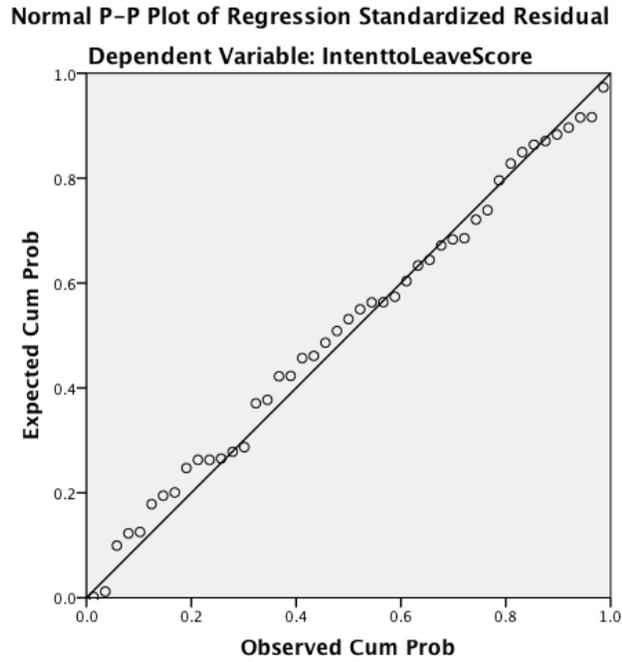


Figure 5. Model #2 normal p-p lot of regression standardized residual.

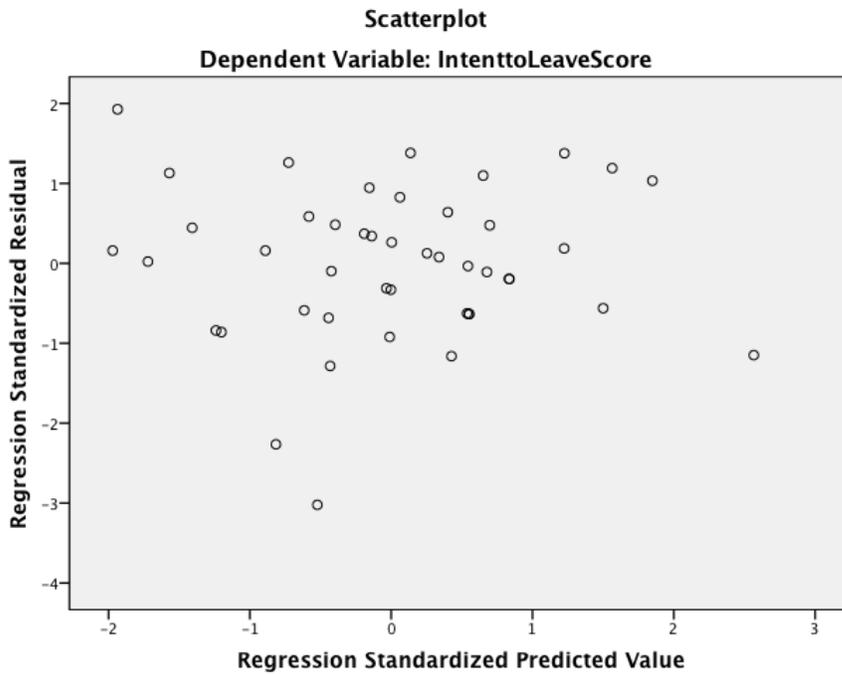


Figure 6. Model #2 scatterplot.

To test the third model, I regressed intent to leave (DV) on disruptive behavior, coping, stress, and satisfaction. The results shown in Table 6 reveal weak to moderate relationships between the three independent variables—disruptive behavior, stress, and satisfaction—and intent to leave. For this sample, the standardized regression coefficient shows that disruptive behavior is a moderate predictor of intent to leave ($\beta = 0.28, p > 0.05$) when satisfaction is added to the equation. The level of stress ($\beta = -0.13, p > 0.05$) and satisfaction ($\beta = -0.14, p > 0.05$) are modest predictors of intent to leave, although they are not statistically significant in Model 3 because of the small sample size. Coping was a very weak and not statistically significant predictor of intent to leave ($\beta = -0.05, p > 0.05$) in Model 3.

The potential for the presence of two or more variables correlating in a manner that could provide redundant information was a concern. The presence of multicollinearity would potentially add variability and inflate standard errors. Collinearity diagnostics were performed on the three independent variables in the model, and the resulting SPSS coefficients table (not shown) provided favorable results regarding the assumption of multicollinearity. Tolerance values of less than 0.1 are considered small and suggest that multiple correlation between independent variables is high, indicating the potential presence of multicollinearity. The tolerance value for disruptive behavior was 0.50; for stress, the value was 0.38; for coping, the value was 0.86; and for satisfaction, the tolerance score was 0.31. These results indicate multicollinearity is not a great concern in this sample because each is greater than 0.1. Therefore, all four of the independent variables were included in my model.

The Normal P-P Plot of regression standardized residual and the scatter plot were

analyzed to assess assumptions of normality, multicollinearity, or homoscedasticity. The P-P plot demonstrates that the data points within regression Model 3 fall on a reasonably straight line with very little variation from end to end along a line that runs upward diagonally from left to right, suggesting reasonable normality. Assessment of the scatter plot shows that the data points are distributed evenly in a scatter pattern with most of the points dispersed around the zero center location. Three data points appear to fall slightly farther away from the group, one above and two below the lines to the left of the zero point.

I examined the R-Squared result to determine the extent to which the variance in intent to leave (DV) is explained by Model 3. The model of intent to leave that includes disruptive behavior, stress, coping, and satisfaction has an R-squared value of 0.25. Shown as percent, this result suggests that these four independent variables together explain 25% of the variance in intent to leave. Since my sample has an N of 45, I also examined the adjusted R-squared value to determine whether the sample size (N=45) influenced the result by overinflating the number. The adjusted R-squared value for this model was 0.18, which is lower than the R-square result. I decided to focus on the adjusted score for my analysis and concluded that 18% of the variance in satisfaction is explained by Model 3. Overall, Model 3 is not statistically significant, primarily because of a small sample size.

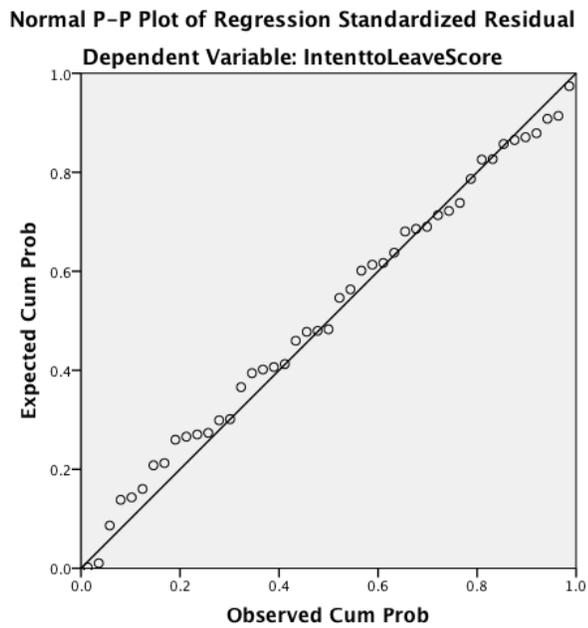


Figure 7. Model #3 normal p-p plot of regression standardized residual

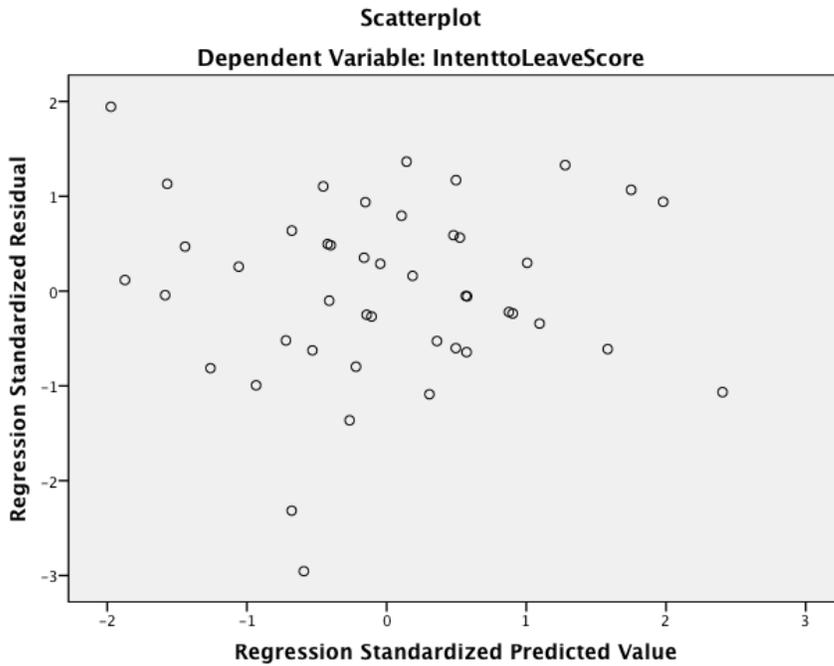


Figure 8. Model #3 scatterplot.

Summary

The descriptive data in my research was consistent with recent national research regarding demographic findings and with previously published research involving nurses. The distributions were approximately normal, and the outliers were included in the analysis after careful consideration. Hypothesis 1 was mostly supported by the multivariate analyses. As predicted, stress was strongly and negatively associated with satisfaction. Also, as predicted, stress was positively associated with intent to leave, although the relationship was modest. Hypothesis 2 was supported. As predicted, disruptive behavior was moderately related to both satisfaction and intent to leave. Hypothesis 3, however, was not supported. Coping was a very weak predictor of both satisfaction and intent to leave.

The bivariate correlation showed a strong relationship between disruptive behavior and stress. Regression Model 1 revealed a moderate relationship between disruptive behavior and satisfaction, with satisfaction decreasing as disruptive behavior increases in the O.R. environment. Stress was a strong predictor of satisfaction, with higher levels of stress lowering the levels of satisfaction. Coping had a very weak relationship with satisfaction with levels of stress and disruptive behavior controlled.

Regression Model 2 revealed a moderate positive relationship between disruptive behavior and intent to leave, indicating that intent to leave increases as disruptive behavior increases. Stress was modestly and negatively associated with intent to leave, although the relationship was not statistically significant because of the small sample size. Coping was not a significant predictor of intent to leave in the multivariate analyses.

Regression Model 3 showed that adding satisfaction to the model did not improve

prediction of intent to leave. Disruptive behavior was still a moderate predictor of intent to leave, although it was no longer statistically significant owing to the small sample size and its correlation with satisfaction. Stress and satisfaction were very modest, negative predictors of intent to leave but were not statistically significant. Coping was not related to intent to leave with the other independent variables controlled. Because the standardized regression coefficient for disruptive behavior only decreases slightly from Model 2 to Model 3 (.33 to .28), there is no evidence that satisfaction mediated the relationship between disruptive behavior and intent to leave. Rather, disruptive behavior appears to have a direct negative effect on satisfaction and a direct positive effect on intent to leave. In addition, stress appears to have a direct negative effect on satisfaction, and a weaker effect on intent to leave. As shown in Figure 9, I revised my Conceptual Model to reflect the results of my multivariate analyses.

Table 6

Summary of Hierarchical Regression Analysis for Variables (N=45)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Stress	0.76	0.14	0.60	-0.07	0.06	-0.21	-0.04	0.08	-0.13
Coping	-0.00	0.08	-0.00	-0.01	0.03	-0.05	-0.01	0.03	-0.05
Disruptive Behavior	-0.30	0.10	-0.34	0.08	0.04	0.33	0.07	0.05	0.28
Satisfaction							-0.04	0.07	-0.14
<i>R</i> ²		0.69			0.25			0.25	
<i>F</i> for change in <i>R</i> ²		9.11			3.55			2.11	

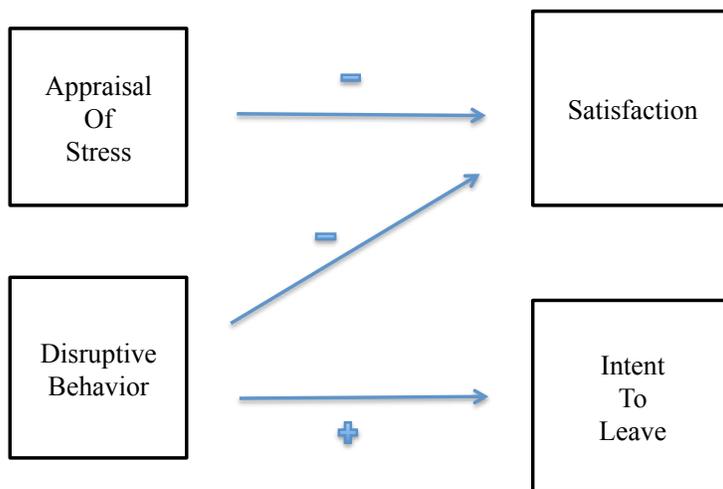


Figure 9. Revised conceptual model.

CHAPTER V

CONCLUSION AND DISCUSSION

This study examined the effects of disruptive behavior on nurse job satisfaction and nurse intent to leave the job among a sample of operating room (O.R.) nurses working in community hospitals in Maryland, northern Virginia, and south-central Pennsylvania. Prior to beginning my research, I hypothesized that disruptive behavior in the O.R. would have a direct and negative effect on O.R. nurse job satisfaction: as the level of disruptive behavior increased, the level of job satisfaction would decrease. I also hypothesized that disruptive behavior in the O.R. would have a direct and positive effect on nurse intent to leave the job: as the level of disruptive behavior increased, the level of intent to leave would increase. These hypotheses were based upon the application of stress theory. This study was conducted to test my hypothesis and to determine whether the research supports my conceptual model as described in Chapter II. If the research supports my hypotheses and my conceptual model, the study would offer empirical evidence.

Summary of Results

Descriptive findings. Most of the respondents were female (93.3%), which was expected in this predominantly female profession. Males account for 9% of the national nursing workforce (USHRSA, 2013). All of the nurses included in my sample were RNs. The vast majority of the respondents worked full-time, received O.R.-specific specialty training, and functioned as circulating nurses in their primary role. The majority were bachelor's-level prepared nurses (53.3%), and a bachelor's degree was their highest level of education. This result is consistent with the national nursing data related to education (USHRSA, 2013). The average number of years employed as a nurse was 20 years, and

the average number of years as an O.R. nurse was 14. The average number of years at the current hospital was 13. Most indicated that their household had more than one source of income. These statistics are important considerations regarding intent to leave.

Linear regression results. Standard OLS multiple linear regression was used to test the hypotheses because the research and the data were best suited to this approach. In this next section, I present and summarize the statistical analysis results related to each of these hypotheses.

As predicted, the multivariate analyses showed that disruptive behavior has a moderate negative relationship with nurse satisfaction. This result supports my hypothesized inverse relationship between disruptive behavior and nurse satisfaction; the more disruptive behavior, the lower the level of job satisfaction. I also found that disruptive behavior is a moderate predictor of intent to leave, although it was not statistically significant when satisfaction was added to the model because of the small sample size. Hypothesis 2, therefore, was supported.

Relationship to Previous Research

Disruptive behavior has been shown to present a threat to patient safety by leading to preventable adverse events that contribute to increased patient mortality (Rosenstein & O'Daniel, 2008). In addition, disruptive behavior appears to contribute to decreased nurse satisfaction and decreased nurse retention (Tieman, 2002). Studies involving disruptive behavior in the clinical setting have been conducted by nursing organizations, physician organizations, healthcare leadership associations, and regulatory agencies. All have demonstrated common themes involving patient safety and physician-nurse communication. Additionally, studies have indicated that frustration and displeasure with

the work environment contributes to nurse dissatisfaction and to the increasing nursing shortage (Rosenstein & O'Daniel, 2008).

While stressors associated with professional nurses have been explored extensively during the last 20 years (Gelsema et al., 2006), I have been unable to locate a study that attempted to use stress theory to assess nurse satisfaction in regard to disruptive behaviors in the O.R. Numerous articles have documented the presence of disruptive behaviors in the O.R., and many have addressed nurses' stress in the O.R. However, empirical research linking stress theory, disruptive behavior and nurse satisfaction appears to be lacking. From this perspective, my research contributes to the literature by documenting the pernicious effects of disruptive behavior in the O.R. Specifically, disruptive behavior is negatively associated with nurse satisfaction and positively associated with intent to leave.

Other Findings and Discussions

As shown in Table 3, when asked the manner in which they most often respond to stressful situations in the O.R., 66.7% of the sample indicated that they use problem-solving activities, 86.7% of the sample indicated that they avoid wishful thinking, and 75.6% indicated that they don't avoid confrontation. This may suggest some level of confidence and engagement in response to disruptive behavior in the O.R. However, only 27% of the sample indicated that they generally confront the person responsible for the stress, and even fewer (15.6%) indicated that they engaged in the situation. This may suggest that the participants in this study feel confident about responding to stressful situations, but they are unable to take action and actually engage in the conflict. When asked to identify the time-out measures most often used in response to stressful situations

in the O.R., only 8% indicated that they use the spa, and 22% said that they use meditation. Approximately half of the sample said they use exercise (46.7%), and a similar percentage said they use food (51.1%). This is an interesting finding in that food (overeating) and exercise (physical activity) are often associated with different and opposite results in regard to body weight and physical health.

The coping behaviors used by nurses in response to stressful situations in the O.R. demonstrated some interesting responses that are worth mentioning, as they may offer the opportunity for future research. When asked with whom they could confide when work gets stressful, the majority (75.6%) selected co-workers. In addition, 48.9% confide in close friends, 80% confide in a spouse or partner, and 66.7% confide in another family member. This may suggest that stress is not effectively managed or contained within the work environment and that work-related stress carries over into the employees' home environment. The overall health of the employee as well as workplace confidentiality may be at risk.

Limitations

As demonstrated in my literature review, the problem of disruptive behaviors in the O.R. is long-standing, well-established in the literature, and widespread throughout the national and, to varying degrees, even global healthcare environments. Owing to resource constraints, my study was limited to 5 hospitals. Unfortunately, only 45 O.R. nurses responded to the survey. Because of the small sample size I could not conduct exploratory factor analyses to refine my scales. In addition, although my survey included a number of important control variables, I could not include them in my multivariate analyses. Nevertheless, the findings are very suggestive that disruptive behavior is an

important determinant of nurse satisfaction and intent to leave.

The number of dependent variables included in this research is limited. While stress and coping have been hypothesized to be affected by disruptive behavior, this study analyzed them as covariates and assessed the presence and amount of stress and coping within the sample as opposed to exploring a potential statistical correlation with disruptive behavior. This represents an opportunity for expanded future research. The sample size presents limitations with regard to the types of statistical analyses I could conduct. For example, I could not test a more complex causal model. Future research that involves a larger sample size is necessary to refine the scales, in particular the measure of disruptive behavior, and to conduct a more thorough statistical analysis.

The length of the survey and the number of questions may have served as a limitation and a weakness in this research specific to the rate of return. The questionnaire was 9 pages long and included 95 individual questions. As suggested in numerous locations throughout this dissertation, nurses have busy and stressful jobs, and the O.R. environment is highly regulated in regard to process and time. The number of questions in relation to the amount of available time may have been a factor in the low response rates. The choice of location for questionnaire distribution may have been a weakness as well. When contacted during the survey process regarding low response rates, leaders at two of the participating hospitals suggested that nurse participants' fear of retribution, retaliation and being singled out may have been a factor in their institutions' specific response rates.

An additional limitation in this research involves the choice of respondents. This dissertation has presented numerous variables associated with disruptive behaviors, and

certainly nurses are not the only individuals associated with or affected by this behavior. O.R. techs, surgical assistants, anesthesiologists, surgeons, department managers, and hospital administrative leaders all share in this problem. This inquiry does not value one more than the others, neither does it imply that nurses are more at risk for dissatisfaction than any of the others. Nevertheless, for the purpose of this doctoral research, the number of variables addressed and the breadth and scope of the project had to be limited. This does not in any way suggest that the data and the study are not beneficial or that they will not contribute to the overall body of knowledge. On the contrary, this limited research will serve as a foundational component of further research in which larger studies involving greater numbers of variables will be conducted in an effort to address and resolve the problem.

This study into disruptive behaviors in the O.R. was conducted through a cross-sectional design and questionnaire. Unlike an experimental design's ability to control for variables that are not specifically included in the study, cross-sectional studies account for extraneous variables through statistical controls and analysis as opposed to random assignment and the use of control groups. In particular, it can be difficult to control for a number of threats to internal validity. However, there are specific reasons that a cross-sectional survey was most appropriate to this inquiry: time availability, scope of the inquiry, and access to resources such as funding.

The subject matter studied involves the healthcare community. The professions of medicine and nursing support a delivery of care model that is scientifically grounded and evidence-based. Physicians are trained as scientists. Nurses are trained scientifically as well with the addition of psycho-social concepts such as relationships, support systems,

and interpretation of meaning. When choosing between a qualitative and a quantitative approach to the study of disruptive behaviors in the O.R., I gave significant consideration to the audience that will be reading the completed study and interpreting the data. This is an important factor to note when considering the degree to which my conclusions are to be professionally recognized, accepted, and, hopefully, embraced. A quantitative approach was selected because of the traditional scientific nature of this community and its emphasis on physical evidence and empirical data. In addition, much of the literature published in professional journals and read by physicians and nurses involves quantitative studies. The subjects in this dissertation inquiry are most familiar with quantitative research.

With this cross-sectional survey, I took care to assure that certain criteria were established in order to make an assertion. First, I demonstrated a statistical association between the independent and the dependent variables. Second, time order was established based upon logical reasoning. Third, I used sound logic and theory. Another important issue related to cross-sectional survey research is the use of reliable and valid measures. Because disruptive behaviors in the O.R. have not yet been quantitatively measured, a focus group was conducted and a set of items to measure disruptive behavior were created specifically for this dissertation research. In addition, other scales were adopted and modified from established and accepted nurse surveys.

The most significant limitation associated with this study involves the overall size of the sample. Nonetheless, this exploratory study shows the value of the approach that I used, and the results are highly suggestive of a strong, negative impact of disruptive behavior in the O.R.

Ethical Considerations

Primary ethical considerations associated with this doctoral research involving human subjects include permission, confidentiality, and privacy (HHS, 1993). Additional considerations include honesty, objectiveness, sincerity, the vulnerability of the participants, and many other variables. Overall, protecting human subjects from physical or psychological harm as a result of the research was a primary concern. The extent to which harm can occur is not always easily seen or predicted (Walliman, 2005). Therefore, careful consideration has been applied to this study. The Institutional Review Board (IRB) at Indiana University of Pennsylvania (IUP) served as the official body through which I assured that subjects involved in this research have been protected from harm. The IRB evaluated physical, psychological, social, legal, and economic risks (IUP IRB Manual, 2012). In addition, the administration and IRB associated with each participating hospital had the opportunity to assist in assuring the safety of the nurses involved in this study.

Suggestions for Future Research

This study effectively addressed disruptive behavior in the O.R. as it relates to O.R. nurse satisfaction and O.R. nurse intent to leave the job. Additional future research is warranted to further explore the effects of disruptive behavior in the O.R. This should be accomplished through additional research utilizing the questionnaire created for this study and should include larger sample sizes as well as different facilities, such as large medical centers and university teaching hospitals to compare and contrast results between and among types of hospitals. Additional research samples should also include anesthesiologists, surgeons, and O.R. technicians to assess the effects of disruptive behavior beyond the scope of nursing. The descriptive data related to the covariates stress

and coping suggests that expanded research is needed to explore potential correlations with disruptive behavior. Responses appear to indicate that the O.R. nurses included in this sample either lack or are not utilizing effective coping skills in response to workplace stress. The O.R. is considered to be one of the most stressful areas in which to work within the hospital (Bianchi, 2008; Chen et al., 2009; Coe & Gould, 2007). Some stressors are intrinsic to the nature of the work while others are necessary to ensure patient safety. Any unnecessary stressors effecting the O.R. environment and the O.R. team members should be identified and prevented. Further research into coping with necessary stress as well as understanding and preventing unnecessary stressors should be the responsibility of every O.R. and hospital administrative leader. As the Baby Boom segment of the population progresses through retirement age in the next two decades and the need for access to healthcare services significantly increases, the need for nurses will also increase. Unless the current trends are altered and reversed, the demand for nurses will significantly surpass the supply. Hospital leadership will need to address this issue if effective staffing ratios and patient safety are to be maintained within the acute care hospital environment (Keogh & Martin, 2004). Cohn (2009) believed that “clinical and financial outcomes can improve when healthcare administrators, physicians, nurses, and board members learn to work more interdependently” (p. 5). Addressing and reducing disruptive behavior should improve nurse satisfaction and nurse retention, thereby strengthening the strategic position of hospitals in preparation for the impending increases in nursing demand.

This study investigated the relationship between disruptive behavior in the O.R. and nurse intent to leave the job. It should be noted that intent to leave and job turnover

are not one and the same. While this study demonstrated a relationship between disruptive behavior and intent to leave, additional research is needed to determine the extent to which O.R. nurses are actually leaving their jobs in response to the behavior. Additionally, identifying and understanding the personal variables involved with an O.R. nurse's decision to leave is important in reducing job turnover (in other words, identifying factors outside of the workplace that either allow or don't allow a nurse to leave the job). The opportunity for additional and expanded research is extensive. And interest continues to grow: in the weeks and months following the close of my data collection timeline, I continued to receive completed questionnaires. I speculate that nurses may have kept the questionnaire in their lockers or mailboxes until they experienced a stressful event and were then motivated to complete the survey. However, this is merely speculation (but could stimulate future research into survey response behavior). In addition, two more hospitals have recently expressed interest in participating in my research. This dissertation research represents not only the requirement for completion of my doctoral degree but the foundation for continued research throughout my professional career. A conversation with The Joint Commission in Chicago has resulted in that prestigious organization's interest in my research. Additionally, a conversation with The National Patient Safety Foundation in Boston has resulted in the organization's interest in becoming involved in my research. Further investigation into disruptive behaviors in the O.R. will occur.

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APPENDIX A

FOCUS GROUP RESPONSES

Focus Group

Research: Disruptive Behavior in the OR and its Effect on Nurses
Satisfaction

Researcher: Michael E. Reyka, doctoral candidate, Indiana University of PA

Focus group: Hospital “1”

Date: Friday June 7, 2013 1:30pm

Location: Hospital “1” Staff lounge

Participants: Six (6) registered nurses (RNs), all seasoned OR nurses that have completed orientation to the hospital and to their positions in the OR

Discussion length: 42 minutes

Focus group questions and responses:

1) How would you define disruptive behavior in the operating room (OR)?

- Misguided focus
- Bullying
- Condescending
- Interferes with patient care
- Unprofessional
- Disrespectful

2) Specifically, what behaviors exemplify your definition of disruptive behavior?

- Sarcasm
- Cursing
- Negative body language
- Ignoring
- Throwing things
- Threatening people
- Yelling
- Escalating volumes – tone – (“one doctor actually jumps up and down”)
- Jabbing tag lines (“well, if you’d get out of your office more...you’ve been on vacation too long...”)
- Physical aggression and gestures
- Negative statements – (“you’re as dumb as shit”)

- Blaming
- Slamming doors
- Repeated questions and requests to set-up staff (“asking, ‘where’s the patient’ when he already knows where the patient is”)
- Pacing back and forth in front of staff
- Huffing and puffing
- A five-minute dissertation instead of an answer

3) How do you feel when you are the focus of disruptive behavior?

- Stupid
- Angry
- Belittled
- Irritated
- Like I’m a loser
- Feel bad about myself
- Worthless

4) How do you feel when you witness someone else experiencing disruptive behavior?

- Angry
- Want to protect the person
- Embarrassed for them (the recipient of the disruptive behavior)
- Want to stick-up for them
- Disgusted

5) Do you believe that this behavior makes your work more stressful?

- Absolutely
- People have left because of it
- Makes me feel exhausted – mentally
- Makes me think of reasons not to come to work
- Makes me focus on not making a mistake – lose focus on the patient

6) How do you cope with this stress?

- Drink (alcohol)
- Complain
- Cry
- Worry
- Lose sleep
- Eat
- Yell back

- Lean on each other
- Vent – to our supervisor and each other
- Passive aggressive behavior
- You get like them to survive
- Become hard-hearted
- Yell at the dog; kick the cat
- Take it out on my family

7) Is there anything else that I should know about disruptive behavior in the OR?

- “He broke a pen and threw it at the nurse – I was a new nurse”
- “We have one who actually jumps up and down”
- “Administration doesn’t do anything”
- “It shouldn’t be tolerated”
- “The hospital says they’re addressing it. But, nothing happens”
- “It’s a big problem. Something needs to be done.”

APPENDIX B

CONSENT FORM AND QUESTIONNAIRE

Informed Consent Form

You are invited to participate in this research study. The following information is provided in order to help you to make an informed decision whether or not to participate. If you have any questions please do not hesitate to ask. You are eligible to participate because you are a professional OR nurse.

The purpose of this study is to explore the nature and the extent of disruptive behaviors in the Operating Room (OR) and the effects of these behaviors on OR nurse satisfaction. Participation in this study will require approximately 60 minutes of your time and is not considered a part of your employment responsibilities. Participation or non-participation will not affect your employment status or your performance at this hospital. You will receive an invitation to attend a focus group discussion.

The information gained from this study may help us to better understand the nature and extent of disruptive behavior in the OR, the perceived level stress produced by the behavior, and the coping measures and behaviors used in response.

Your participation in this study is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the researcher or the hospital. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose to participate, you may withdraw at any time by notifying the Project Director or informing the person administering the test. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in strict confidence and will have no bearing on your academic standing or services you receive from the University. Your response will be considered only in combination with those from other participants. The information obtained in the study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

If you are willing to participate in this study, return of the completed questionnaire will serve as implied consent. If you choose not to participate, forward the unsigned copies to Michael Reyka at the address listed below.

Primary Researcher:

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This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

This survey addresses disruptive behavior in the OR. Please answer the following questions as truthfully as possible. All responses will be kept strictly confidential. When completed, please return the questionnaire in the attached self-addressed stamped envelope.

Questions:	Strongly Agree	Agree	Disagree	Strongly Disagree
1) While working in the OR, I often hear Insulting statements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) While working in the OR, I have had Insulting statements made directly to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) Yelling and screaming are common When I am working in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) I frequently hear vulgar language In the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) At time, OR personnel blame others when something goes wrong.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) I have experienced the use of intimidation in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) I have witnessed the use of intimidation in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) I feel less confident when I experience intimidation in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) I have experienced bullying in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10) I have witnessed bullying in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11) Bullying in the OR makes we want to avoid coming to work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12) At times, OR personnel ignore me during the course of my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13) I feel like there is often hostility demonstrated in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14)	I have experienced verbal abuse while working in the OR.	0	0	0	0
15)	I have witnessed verbal abuse while working in the OR.	0	0	0	0
16)	I feel angry when I experience verbal abuse in the OR.	0	0	0	0
17)	I feel humiliated when I am the focus of Verbal abuse in the OR.	0	0	0	0
18)	At times, I have witnessed physical aggression while working in the OR.	0	0	0	0
19)	While working in the OR, I have seen objects thrown in anger.	0	0	0	0
20)	I feel bad about myself when I am the focus of disruptive behavior in the OR.	0	0	0	0
21)	I lose focus of my patient when I experience disruptive behavior.	0	0	0	0
22)	When I feel stressed by disruptive behavior, I take it out on my family.	0	0	0	0
23)	I defend myself when faced with aggression while working in the OR.	0	0	0	0
24)	I avoid confronting aggressive behavior in the OR.	0	0	0	0
25)	I frequently use humor as a way to deal with stress in the OR environment.	0	0	0	0
26)	I feel exhausted when I experience disruptive behavior in the OR.	0	0	0	0
27)	Disruptive behavior results in decreased morale in the OR.	0	0	0	0
28)	In response to disruptive behavior	0	0	0	0

in the OR, I think of reasons not to come to work.

29) I feel that my hospital leaders Address disruptive behavior in the OR.

30) Disruptive behavior in the OR is not tolerated in my hospital.

31) I am thinking of leaving the OR in response to disruptive behavior.

32) ***Mark all that apply**
When I experience disruptive Behavior in the OR, I often... Cry Worry Drink Yell Eat Argue

Below is a list of situations that commonly occur in a hospital unit. For each item indicate by means of a check how often in your present position in the OR you have found the situation to be stressful.

	Never	Occasionally	Frequently	Very
Frequently				
33) Criticism by a physician.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34) Conflict with a physician.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35) Fear of making a mistake in treating a patient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36) Disagreement concerning the treatment of a patient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37) Making a decision concerning a patient when the physician is unavailable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38) Conflict with a supervisor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39) Criticism by a supervisor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40) Difficulty in working with a particular nurse (or nurses) in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41) Lack of opportunity to talk openly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

with other unit personnel about problems on the unit.

42) Lack of an opportunity to share experiences and feelings with other personnel on the unit. 0 0 0 0

43) Inadequate information from a physician regarding the medical condition of a patient. 0 0 0 0

44) A physician ordering what appears to be inappropriate treatment for a patient. 0 0 0 0

Think of the most stressful encounter that you experienced in the OR in the past week. Please read each item below and indicate, by the following rating scale, to what extent you used it in the situation.

	Not used	Used Somewhat	Used quite a bit	Used a great
deal				
45) Stood my ground and fought for what I wanted.	0	0	0	0
46) I expressed anger to the person(s) who caused the problem.	0	0	0	0
47) Tried to get the person responsible to change his or her mind.	0	0	0	0
48) I let my feelings out somehow.	0	0	0	0
49) I did something, which I didn't think would work, but at least I was doing something.	0	0	0	0
50) Talked to someone to find out more about the situation.	0	0	0	0
51) I asked a relative or friend I respected for advice.	0	0	0	0
52) Talked to someone about how I was feeling.	0	0	0	0
53) Accepted sympathy and understanding from someone.	0	0	0	0

54) Talked to someone who could do something concrete about the problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55) Just concentrated on what I had to do next; the next step.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56) I made a plan of action and followed it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57) Changed something so things would turn out all right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58) Drew on my past experiences; I was in a similar situation before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59) I knew what had to be done, So I doubled my efforts to make things work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60) Changed or grew as a person in a good way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61) I came out of the experience better than when I went in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62) Rediscovered what is important in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63) I changed something about myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For each of the following questions, indicate the degree to which you agree or disagree with the statement(s).

	Strongly agree	Agree	Disagree	Strongly disagree
64) The nursing personnel on my service don't hesitate to pitch-in and help one another when things get in a rush.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65) New employees are not quickly made to "feel at home" on my unit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66) There is a good deal of teamwork and cooperation between various levels of nursing personnel on my service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

67)	The nursing personnel on my service are not as friendly and outgoing as I would like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68)	There is a lot of "rank consciousness" on my unit; nursing personnel seldom mingle with others of lower ranks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
69)	Physicians in general don't cooperate with the nursing staff on my unit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
70)	There is a lot of teamwork between nurses and doctors on my unit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
71)	The physicians at this hospital look down too much on the nursing staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
72)	I wish the physicians here would show more respect for the skill and knowledge of the nursing staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
73)	Physicians at this hospital generally understand and appreciate what the nursing staff does.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
74)	My primary role in the OR is:	Scrub Nurse <input type="radio"/>	Circulating nurse <input type="radio"/>	Charge nurse <input type="radio"/>	Other <input type="radio"/>
75)	My work status is:	Full time <input type="radio"/>	Part time <input type="radio"/>	PRN <input type="radio"/>	
76)	Type of nurse: <input type="radio"/> <input type="radio"/>	RN	LPN		
77)	Nursing education:	Diploma <input type="radio"/>	AND <input type="radio"/>	BSN <input type="radio"/>	MSN <input type="radio"/>
78)	Highest level of education Completed:	Associate Bachelor <input type="radio"/>	Masters <input type="radio"/>	Doctoral <input type="radio"/>	
79)	Specialty training: <input type="radio"/> <input type="radio"/>	OR specific	Other		

80)
Number of years as a nurse: _____

81)
Number of years as an OR nurse: _____

82)
Number of years at current hospital: _____

83)
Check all that apply:
When work gets stressful,
I can definitely confide in:

One or more co-workers	Close friend	Spouse or partner	Another family member
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

84)
Check all that apply:
Exercise
I practice the following time-out
Procedures:

Snack	Meditate	Music	Shopping Spa
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

85)
When the OR gets stressful:
I get engaged

I use	I definitely	I will	I use
Wishful	try to avoid	generally	problem-
Thinking in the	confrontation	confront	solving
<input type="radio"/>	The person Responsible	activities	problem
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

86)
Age (birthdate)

Month	Day	Year

87)
Gender

Male	Female
<input type="radio"/>	<input type="radio"/>

88)
Race

Asian	African- American	Hispanic	Caucasian	Other
<input type="radio"/>				

89)
Religious affiliation
Other

Catholic	Protestant	Muslim	Buddhist	Hindu	Jewish
<input type="radio"/>					

90)
Marital status:

Single, never Married	Married/Co- habituating	Separated or divorced	Widowed
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

91)
Number of children: 0 1 2 3 4 5 or more
 0 0 0 0 0 0

92)
Status of physical home: Rent Own Other
 0 0 0

93)
Total number of people:
living in the home 1 2 3 4 5 or more
 0 0 0 0 0

94)
Total number of household incomes 1 2 3 4
 0 0 0 0

95)
I am the primary source of income Yes No
 0 0

Please return in the self-addressed stamped envelope the completed questionnaire.

Thank you for participating in this research.

Michael Reyka