STRUCTURAL EMPOWERMENT, PSYCHOLOGICAL EMPOWERMENT AND BURNOUT IN REGISTERED STAFF NURSES WORKING IN OUTPATIENT DIALYSIS

CENTERS

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ABSTRACT OF THE DISSERTATION

Structural Empowerment, Psychological Empowerment, and Burnout in Registered Staff Nurses Working in Outpatient Dialysis Centers

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This research examined the relationships among structural empowerment, psychological empowerment and burnout in a sample of staff nurses working in chronic hemodialysis units. The study examined relationships between the independent variable, structural empowerment and the dependent variable burnout, as well as exploring the relationship between psychological empowerment and burnout and between the two independent variables structural empowerment and psychological empowerment. A mediation model was tested to explain the relationship between structural empowerment, psychological empowerment and burnout.

A correlational research design was used. A convenience sample of 233 staff nurses between the ages of 24 and 68 was attained from a national organization of nephrology nurses. A self-administered, paper and pencil, mailed survey was used to collect data using four instruments: (a) Demographic data, (b) The Maslach-Burnout Inventory-Emotional Exhaustion Subscale, (c) The Psychological Empowerment Scale, and (d) The Conditions of Work Effectiveness Questionnaire-II.

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Statistically significant negative correlations were found between structural empowerment and burnout (r = -.44, p < .01) and psychological empowerment and burnout (r = -.34, p < .01). A statistically significant positive correlation was found between structural empowerment and psychological empowerment (r = -.59, p < .01). In addition, multiple regression analysis was used to test a mediation model. Results indicated that structural empowerment was an independent predictor of burnout in this sample; however, psychological empowerment was not an independent predictor of burnout and did not mediate the relationship between structural empowerment and burnout.

The testing of the theorized relationships has added to the knowledge base for antecedents to burnout in nurses working in chronic dialysis settings. Since psychological empowerment was found to be a homogeneous characteristic in this sample, it would be prudent to replicate this study in a multi-site sample of nurses who are both members and non member of a professional organization.

Preface

I would like to thank my husband, Patrick and my family for their love and support during this endeavor. Thanks to the members of the cohort who offered endless hours of support, assistance and advice throughout the years.

I would also like to thank the members of my committee for their time and expertise, especially my chairperson Dr. Charlotte Thomas-Hawkins, who has been patient, understanding and giving. This has been an unforgettable learning experience that I will never forget.

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CHAPTER 1

The Problem

Burnout is a global problem prevalent in human service professions (Maslach & Jackson, 1981; Maslach, Schaufeli & Leiter, 2001). The phenomenon of burnout is described as a process occurring as a result of chronic work stress (Freudenberger, 1980). The once energized and committed human service worker begins to experience psychological and physiological changes (Freudenberger, 1980; Maslach & Leiter; 1998).

Theorists agree that the process of burnout commences with emotional exhaustion (EE) (Freudenberger, 1980; Maslach & Jackson, 1981). Workers report feeling drained, unable to recover from the daily demands of the job, "used up", and lack energy to face work or the client (Maslach, 2003). In the second phase, depersonalization, the worker displays cynicism and disengages from the client-provider relationship. In the last phase of the process, personal accomplishment, workers experience a decrease in their perception of ability to accomplish their work well. Maslach (2003) provides an image for burnout as a flame, that at one time burned strong, now flickering to its end, a light going out. When this flame is extinguished, the individual becomes a cold empty shell, with little passion left burning inside, going through the motions of the work, caring less for the consequences, and feeling dissatisfaction with work and self (Maslach, 2003). In fact, many negative consequences are associated with burnout such as high absentee rates at work, poor work performance, physical illness, anxiety, depression, job- related accidents, poor family relationships, and resignation from the job (Clarke, Sloan & Aiken, 2002; Freudenberger, 1980; Glasberg, Erikkson & Norberg, 2007; Laschinger &

Finnegan, 2003; Leiter & Laschinger, 2006; Maslach et al. 2001; Maslach, 2003; Wright& Bonnet, 1997; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001).

Burnout occurs as a result of chronic stress in the work environment, leaving the individual feeling a loss of control or trapped in situations that are unceasingly upsetting (Cox, Kuk & Leiter, 1993; Maslach, 2003). Theorists contend that organizational factors in the work environment may be one cause of chronic work stress that leads to burnout in workers (Cherniss, 1980; Shaufeli, Enzman & Girault, 1998). Specifically, organizational factors such as high case loads, overtime, lack of administrative support, resources, control, and autonomy have been found to contribute to burnout (Cherniss, 1980; Freudenburger, 1980; Maslach, 2003).

While burnout may occur in any job, professionals with responsibilities focusing on the welfare of others are most susceptible (Freudenberger, 1980; Maslach, 2003). Providers such as physicians, social-workers, police, teachers, and nurses have been identified as professionals that are at high risk for burnout (Maslach & Jackson, 1981). Because the role of the human service provider is to solve problems and alleviate the sufferings of others, unfulfilled expectations of the worker may result in internal frustration and stress and lead to burnout (Cherniss, 1980; Freudenberger, 1980; Maslach, 2003; Maslach & Leiter, 1997).

One group at risk for burnout and of particular concern today is nurses. The current nursing shortage and projected continued shortage, along with the aging baby boomer generation puts society at risk for lack of registered nurses. Reports by the US General Accounting Office (GAO) have consistently indicated that burnout is a factor that has contributed to the current nursing shortage in the US (GAO, 2001, 2004, and

2007). Nurse burnout is important because it has been linked to negative consequences for the nurse, patient, and organization. Negative consequences for the nurse include low job satisfaction, poor health, and poor work performance; for the patient, safety, interference with processes of care, and low patient satisfaction; and for the organization, high absenteeism and turnover rates and overall job satisfaction (Aiken, Clarke, Sloane, Sochalski & Silber, 2002; Finegan & Laschinger, 2001; Laschinger, Sabiston & Kutszcher, 1997).

A significant body of research exploring burnout in hospital-based registered nurses (RNs) indicate that a work environment that is perceived by nurses as supportive of professional nursing practice is an important factor that contributes to decreased levels of nurse burnout (Aiken, et al., 2002; Leiter & Laschinger, 2006). Laschinger, Havens and Sullivan (1996) noted that hospital-based nurses perceived supportive work environments as those having empowerment structures in place. Structural empowerment (SE) in organizations is important because it provides nurses access to information, support, opportunity, and resources that enables them to provide care safely and effectively (Laschinger & Leiter, 2006; Manojlovich, 2005). Research has shown that nurses who work in environments with empowerment structures in place experience low levels of burnout (Hochwalder, 2007; Leiter & Laschinger, 2006).

Many theorists contend that structural empowerment in organizations also leads to psychological empowerment in its workers (Carless, 2004; Wallach & Mueller, 2006). Psychological empowerment is a psychological state that influences the workers' attitude and behavior (Conger & Kanungo, 1988; Menon, 2001; Thomas & Velthouse, 1990; Spreitzer, 1995a). Several theorists assert that psychological empowerment is an underlying mechanism that mediates the relationship between structural empowerment and worker outcomes such as burnout (Aktouf, 1992; Nielson, 1986, Spreitzer, 1995a; Vogt & Murrell, 1990). The basic proposition is that when individuals view their work environment as providing opportunities for, rather than constraints on, individual behavior and positive worker outcomes, they feel personally, i.e., psychologically, empowered. In turn, psychological empowerment leads to positive worker outcomes such as low levels of burnout (Hochwalder, 2007).

While much of the research on nurse burnout has been conducted in hospital settings, there is a beginning body of research that reveals a problem of nurse burnout in staff RN's who work in hemodialysis settings (Argentero, Dell'Olivio & Ferretti, 2008; Dermody & Bennet, 2008; Flynn, Thomas-Hawkins & Clarke, 2009; Klersy, Callegari, Martinelli, Vizzardi, Mavino, Montagna, Guastoni, Bellazzi, Rampino, Barbieri, Dal Canton & Polit, 2007; Urlich, 2005). Studies indicate that nurses working in outpatient hemodialysis facilities perceive their work environments as unsupportive, deficient in opportunity and resources, and overly demanding, thus making it difficult to provide quality care (Thomas-Hawkins, Denno, Currier & Wick, 2003). In fact, findings from Flynn, Thomas-Hawkins, and Clarke's (2009) research suggest that approximately 30% of staff nurses working in out-patient hemodialysis centers report burnout, a burnout prevalence that is similar to the percentage of nurses who experience burnout in hospital settings (Aiken et al., 2002). Additionally, nurses' negative ratings of the dialysis work environment significantly predict staff nurse burnout in outpatient dialysis settings (Flynn et al., 2009). These findings underscore an important need to further examine factors that contribute to nurse burnout in outpatient dialysis settings. Therefore, the purpose of this

study is to examine the relationships among structural empowerment, psychological empowerment and burnout in staff RNs working in outpatient dialysis settings.

Statement of the problem

1. What are the relationships among structural empowerment, psychological empowerment and burnout in staff RN's working in outpatient dialysis centers

Sub problems

- 1. Is structural empowerment inversely related to burnout in staff RN's working in outpatient dialysis centers?
- Is structural empowerment positively related to psychological empowerment in staff RN's working in outpatient dialysis centers?
- 3. Is psychological empowerment inversely related to burnout in staff RN's working in outpatient dialysis centers?
- 4. Does psychological empowerment mediate the relationship between structural empowerment and burnout in staff RN's working in outpatient dialysis centers?

Definition of Terms

Staff RN's working in outpatient dialysis centers are defined as registered nurses working in outpatient dialysis settings who are responsible for direct patient care for at least 50% of the work day.

Outpatient hemodialysis centers are defined as outpatient facilities that provide hemodialysis services to individuals with stage 5 chronic kidney disease, requiring renal replacement therapy (dialysis), regardless of ownership or profit status.

Burnout is theoretically defined as a syndrome experienced by an individual characterized by emotional exhaustion, reduced personal accomplishment and

depersonalization. Emotional exhaustion is defined as a physical and emotional fatigue that is unrelenting (Maslach & Jackson, 1981; Maslach, 2003). Burnout is operationally defined as a score by a participant on the emotional exhaustion sub-scale of the Maslach Burnout Inventory (MBI).

Structural empowerment (SE) is theoretically defined as an organization's ability to offer access to information, resources, support and opportunity in the work environment (Kanter, 1993). Information is defined as knowledge of the organization on policies, decisions, goals and data and offers a sense of meaning and purpose, increasing the ability of the worker to make decisions and judgments that contribute to the mission of the organization (Kanter, 1993; Laschinger, Purdy & Almost, 2007). Resources are defined as the necessary money, equipment and time to do the work (Kanter, 1993). Support is defined as feedback and guidance from peers, supervisors and others. Opportunity is defined as access to education and growth in the workplace (Kanter, 1993). Structural Empowerment is operationally defined as a participant's total score on the Conditions of Work Quality Effectiveness Scale–II.

Psychological empowerment is theoretically defined as one's perception that he or she has control over their environment and feels congruence between his or her values and those of the organization (Rappaport, 1987; Spreitzer, 1995b; Zimmerman, 1995). This is a four dimensional construct consisting of; (a) meaning, the value of the work to the individual; (b) competence, the ability to perform the work; (c) self-determination, autonomy; and (d) impact, the ability to influence outcomes (Spreitzer, 1995b). Psychological empowerment is operationally defined as a participant's score on the Psychological Empowerment Scale.

Delimitations

Literature indicates that individuals working in human service professions are at risk for burnout (Freudenberger, 1980; Maslach, 2003). It has been found that nurses working in hospital settings are prone to conditions of chronic work stress contributing to burnout (Aiken, Clarke, Sloane, Sochalski & Silber, 2002). Similarly, nurses' negative rating of the dialysis work environment is a significant predictor of burnout in staff RN's working in outpatient hemodialysis settings (Flynn et al., 2009). Therefore, this study will be delimited to staff RNs working in outpatient hemodialysis settings in the US.

Significance of the Study

The problem of burnout has been labeled a "global epidemic" (Maslach & Leiter, 1997). The consequences of burnout are striking and can affect the health of the employee, organization and the client (Maslach & Leiter, 1997). Employees may experience health problems manifested as extreme fatigue, sleep disorders, anxiety, depression, digestive disorders and even cardiac disease. These health problems contribute to absenteeism in the workplace that, in turn, have a negative impact on employee workload. The chronic stress that influences burnout may also contribute to employee drug and alcohol abuse, smoking, and eating disorders (Freudenberger, 1980). Additionally, burnout may lead to psycho-social problems such as impaired relationships with family, friends, and co-workers, loss of self esteem and life's meaning, and suicidal ideation (Freudenberger, 1980; Pines & Aronson, 1988).

The patient may experience the consequences of burnout as well. The "burned out" worker may lack the stamina and personal commitment to provide quality services safely and in a humanistic manner. In fact, empirical data draw a clear link between the "burned-out" worker and patient safety issues (Aiken, et al; Page, 2003). Research indicates that nurse work-loads, short staffing and burnout are related to negative consequences for the patient (Aiken et al.). High mortality rates, medication errors, avoidable medical errors, and patient satisfaction have been associated with burnout in hospital-based nurses (Aiken et al).

Burnout also has a negative impact on the financial health of the organization through high attrition rates, recruitment, marketing expenses, and training programs (Rivers, et al. 2005). The cost of nurse replacement can range from \$45,000 to \$65,000 depending on the specialty (JCAHO, 2008: O'Brien- Pallas, Griffin, Shamain, Buchan, Duffield, Hughes, Laschinger, North, & Stone, 2006). According to the Joint Commission for Hospitals (JCAHO) the average turnover rate for hospitals is 20%, and hospitals with higher turnover rates also report lower profit margins (JCAHO, 2008).

In summary, burnout can lead to negative patient, nurse, and organizational consequences. Research findings indicate that at least 30% of staff nurses who work in outpatient hemodialysis RN's report feeling "burned out" (Flynn et al., 2009). This is of particular concern today since RNs are employed in approximately 3600 dialysis facilities in the U.S. of which 93% are owned and operated by large bureaucratic corporations (CMS, 2006). Theorists posit that bureaucratic organizations like dialysis provider companies are likely to contribute to work environments perceived as unsupportive by nurses who work in these facilities. Equally as important, structural and psychological empowerment are likely important determinants of burnout in staff nurses in dialysis settings (Leiter & Laschinger, 2006; Pines & Aronson, 1988).

This study will be instrumental in filling the gap in knowledge concerning antecedents of burnout of staff RN's in outpatient hemodialysis settings. Moreover, findings from this study may help to inform federal and dialysis organization policy that assists in facilitating the provision of work environments that are structured to empower nurses, foster psychological empowerment, and reduce the chronic work stress associated with burnout in this setting.

CHAPTER 2

Review of the Literature

Relationships among structural empowerment, burnout and psychological empowerment will be examined in this research. In this chapter, theoretical and empirical support for these relationships will be discussed. In the first section, theories of the dependent variable, burnout are presented. In the second section, theoretical support for the concept of structural empowerment is presented. In the third section, theories of psychological empowerment are discussed. Empirical support for relationships among structural empowerment, psychological empowerment and burnout are then presented, followed by the theoretical rationale for the study and an outline of hypotheses that will be tested in this research.

Theories of Work-Related Burnout

For almost four decades, burnout has been a phenomenon of interest, especially in human service professions. Among the first to explain this phenomenon was Freudenberger (1975) who used the term to describe a progressive series of changes in attitudes and behaviors of counselors in a drug clinic. These volunteers were initially excited, dedicated and idealistic about providing their services. Freudenberger (1975) noted that, after a period of time, the counselors appeared exhausted, complained of frequent headaches, gastrointestinal symptoms, insomnia, and fatigue and behaved negatively towards clients and co-workers. Subsequently, they expressed feelings of guilt, low self-esteem and a lack of self confidence. Freudenberger (1975) posited that the nature of human service work, the responsibility and commitment to another's welfare, created stress for the worker. He further posited that there was an inherent quality in workers' personalities that affected their ability to cope with the stressors of the job, predisposing them to burnout.

Cherniss (1980) further described work-related burnout in human service work environments. Similar to Freudenberger, Cherniss (1980) noted that professionals working in human services are initially committed, idealistic and have more concern for the client than financial compensation, but over time may become cynical, apathetic, and lose interest in the work. Cherniss (1980) contends that many service professionals work for publicly funded institutions or large bureaucratic organizations, limiting the workers' salary, autonomy, and control, which creates stress in the worker. Subsequently, the theorist posits that these organizational characteristics (e.g. lack of autonomy and control over work) contribute to work stress that in turn leads to burnout. Cherniss (1980) conceptualizes burnout as a consequence of a work environment that fails to support the workers' ability to perform the work and make decisions. As a result of the stress and strain in the work environment the individual experiences emotional, physical, and behavioral changes that result in detachment from the work, somatic illness, and changes in attitude toward self and others.

Maslach (2003) theoretically defines burnout as a reaction to constant job-related stress caused by long-term emotionally demanding work. According to Maslach, burnout is theoretically defined as the individual's perception that they are physically and emotional drained and stressed as a result of the constant responsibility for the welfare of others. Maslach (2003) posits that burnout occurs as a result of high demands and situations in the workplace that, in turn, begins to erode the workers spirit. Furthermore,

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she proposes that committed workers begin to feel frustrated in their ability to perform their work well as a result of inadequate authority, resources, and lack of rewards. Individuals begin to believe that no matter how hard they work, they are unable to accomplish their goals in a meaningful way. Maslach further proposes that burnout has a negative effect on the physical health of the individual experiencing burnout. Along with the emotional and physical fatigue that is experienced, Maslach postulates that burnout may have physical manifestations such as problems with frequent colds, muscularskeletal pains, hypertension, gastric symptoms, and sleep disturbances such as nightmares and insomnia. In addition, the theorists assert that burnout also has negative effects on the individual's work performance, thus interfering with care processes. These theorists agree that burned out workers may have high absenteeism, fail to report to work on time, and lack organizational commitment and trust. Maslach conceptualizes burnout as a process that unfolds in three stages: emotional exhaustion, depersonalization, and decreased personal accomplishment.

The first stage of burnout is emotional exhaustion, defined as a state in which the individual feels "used up" (Maslach, 2003). Individuals may experience physical, emotional, and mental symptoms. This stage is characterized by an overwhelming feeling of a lack of energy and unrelenting fatigue. Individuals may have low energy and report feeing weak, chronically fatigued and may have insomnia, headaches, gastrointestinal symptoms, muscle pains and a change in eating habits. These individuals may be more susceptible to illnesses such as colds or flu. Persons experiencing work-related emotional exhaustion may also express feelings of hopelessness and helplessness and feel trapped in a bad situation. They may feel that they have nothing left within to offer to others.

Maslach describes this as a feeling of a "cold empty shell" making it difficult to feel sensitive to the needs of others. Theorists contend that anxiety, depression, substance abuse and suicide ideation may also occur.

Depersonalization follows emotional exhaustion. Depersonalization is defined as the loss of sensitivity to others. The individual exhibits a change in behavior and attitudes. Maslach (2003) explains that, in this stage, the individual begins to detach, disengage and distance themselves from clients, co-workers and the work. She posits that this negative and cynical response affects relationships with clients, co-workers and may trickle down into their personal relationship with family and friends.

In the final stage of burnout, workers experience feelings of decreased personal accomplishment. The individual feels frustrated and inadequate with their ability to help their clients, relate well to others, doubt their professional competence, ability to make decisions and feel a sense of failure. Subsequently the individual develops a lack of self-confidence in the ability to perform work well and experiences a decrease in self esteem, becoming dissatisfied with both personal and professional life.

In summary, burnout, particularly in healthcare, is a problem that may present negative consequences for nurses, patients and organizations. Although theorists initially focused on the individual difference of worker characteristics as major contributors to burnout, current theory has recognized that the nature of the work itself and the organizational culture have an important impact on burnout. Similar to the other theorists, Maslach (2003) posits that factors in the workplace are significant contributors to burnout. She proposes that increased workload, lack of autonomy and control over one's work along with the day to day concern for the care and welfare of others, lack of

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recognition, and conflicting organizational values significantly contribute to burnout. Consequently these factors produce constant stress which leads to a process of coping which changes both attitudes and behavior. Maslach's Burnout Theory (2003) is currently the most widely used. Furthermore, her theory has been used to explain the occurrence of burnout in nursing and other human service settings.

Theories of Structural Empowerment

Structural empowerment may be an important antecedent to worker burnout in healthcare organizations. Structural Empowerment is defined as access to organizational structures in the work environment through lines of communication, support, information, and resources, which offer workers opportunities to share in decision making processes, assist in control of resources, and grow in their jobs (Conger & Kanungo, 1988; Kanter, 1993; Mechanic, 1962; Mills & Ungson, 2003; Salanick & Pfeffer, 1974).

Kanter's Theory of Structural Power in Organizations (1993) asserts that informal and formal power in the workplace provides access to organizational structures that empower workers. Kanter asserts that in order to empower employees, organizations must have empowerment structures that are delineated as the structure of opportunity and the structure of power. Kanter defines the structure of opportunity as organizational attributes that enable the workers' ability to grow and develop in the job. According to Kanter, the organizational provision of opportunity significantly influences workers' motivation, productivity, commitment and degree of engagement in work. Kanter defines the structure of power as organizational attributes that enable workers to mobilize resources. Specifically, she asserts that structural power comes from three organizational sources- information, support and resources. Information is defined as the necessary knowledge and communication essential to the work of the organization. Resources are the necessary people, money, equipment and supplies that enable the worker to perform work effectively. Support is feedback, coaching and assistance that one receives from management, peers and others. Subsequently these organizational empowerment structures contribute to the workers' success in accomplishing organizational goals.

Kanter (1993) further proposes that together these two structures of opportunity and power positively influence employees' sense of empowerment. She asserts that, as a result, workers are more committed to their work and the organization, feel a sense of control and autonomy and experience less stress and burnout. Conversely, workers who feel powerless may experience a sense of failure in their work which in turn leads to negative attitudes and behaviors (absenteeism, turnover, and disengagement) that results in increases in worker stress and burnout.

In summary, structural empowerment is defined as organizational attributes, i.e. the structure of opportunity and the structure of power that enable worker empowerment and leads to positive worker attitudes and outcomes such as low levels of burnout.

Theories of Psychological Empowerment

Psychological empowerment is defined as a process through which individuals gain control (Peterson & Zimmerman, 2004; Rappaport, 1981; Zimmerman, 1995). Zimmerman (1995) asserts that psychological empowerment is comprised of the individual's interaction with their environment and intrapersonal perception of empowerment. Conger and Kanungo (1988) and Thomas and Velthouse (1990) define psychological empowerment as an intrapersonal sense of empowerment which occurs as a result of cognitive processes within the individual. They propose that workers shape their perceptions based on their interpretation of the organizational climate, i.e., constraining or empowering. Furthermore, Thomas and Velthouse (1990) contend that positive worker outcomes are determined by the workers' personal perceptions of empowerment, i.e., psychological empowerment, and not entirely by the empowerment structures of the organization.

Thomas and Velthouse (1990) identified four dimensions of psychological empowerment; competence, meaning, self determination and impact. Spreitzer (1995b) further defined and measured the four dimensions of psychological empowerment identified by Thomas and Velthouse (1990). According to Spreitzer, competence is defined as an individual's feeling that they have the ability to perform their work well. Specifically, this dimension of psychological empowerment is comprised of one's belief that he or she has the ability and technical competence necessary to complete the required tasks without resistance from the organization. Meaning is defined as the "degree to which people care about their work" (Spreitzer, 1995, pg.18). Spreitzer explains that workers want to feel that what they do counts and is congruent with their value system. The work takes on a personal meaning which in turn offers the individuals a sense of intrapersonal reward, gives them a sense of personal identity and integrity that energizes the workers and motivates them to do their best.

Spreitzer (1995b) also defines self determination as the degree to which workers have control over their work or are free to choose how to accomplish their tasks. Workers who experience self-determination feel a greater sense of autonomy because they feel they are free to make independent decisions and take on initiative without pressure from the organization, resulting in a greater sense of accountability and responsibility. Impact is the last dimension of psychological empowerment and is defined by Spreitzer (1995b) as the degree to which people feel they have important influence on their immediate work environments, co-workers and the organization as a whole. According to Spreitzer, individuals who are psychologically empowered believe that they do make a difference. They feel that their work has an important impact on others and that their contributions are taken seriously. In addition, workers perceive themselves as active participants in shaping organizational outcomes and they believe that they have a significant influence in the culture of the organization. These workers perceive a sense of personal control and feel empowered to act and experience less burnout.

A number of theorists assert that psychological empowerment mediates the relationship between structural empowerment and burnout. Laschinger (1996) expanded on Kanter's theory, especially with regard to healthcare work environments. She proposes that organizations with empowerment structures in place explain why the structural components of the work environment lead to low levels of burnout in its workers, but she contends that Kanter's theory does not explain the mechanism by which structural empowerment exerts its effects on burnout in workers, that is, how employees respond to the structurally empowered work environment. Laschinger postulates that employees' positive responses to a work environment are more than the workers ability to access empowerment structures. She posits that workers must feel personally empowered. Therefore, Laschinger hypothesizes that structural empowerment must lead to an inner sense of empowerment in the individual in order to have a positive effect on the worker.

Similarly, other theorists also contend that psychological empowerment is an underlying mechanism that mediates the relationship between structural empowerment and worker outcomes such as burnout (Aktouf, 1992; Vogt &Murrell, 1990; Nielson, 1986; Spreitzer 1995a). These theorists' basic proposition is that when individuals view their work environment as providing opportunities for, rather than constraints on, individual behavior and positive worker outcomes, they feel psychologically, i.e., personally, empowered. In turn, theorists assert that psychological empowerment leads to positive worker outcomes such as low levels of burnout (Hochwalder, 2007).

In summary, Conger and Kanungo (1988), Laschinger (1996), Thomas and Velthouse (1990), and Spreitzer (1995a) postulate that individuals may feel a sense of intrapersonal or psychological empowerment as a result of environmental factors (e.g., positive work environment structures). These theorists contend that organizational empowerment structures lead to psychological empowerment that, in turn, leads to positive work outcomes including low levels of burnout. Theorists contend that psychological empowerment may be the most important contributor of positive worker outcomes and may serve as an underlying mediating mechanism for the effects of structural empowerment on employee burnout.

Empirical Support for the Relationship Between Structural Empowerment and Burnout

A number of research studies have linked the work environment, in particular, organizational characteristics to burnout (Allen & Mellor, 2002; Linhblom, Linton, Fedili, Bryngelsson, 2006; Leiter, 1991; Leiter & Maslach, 1988; Maslach & Leiter, 2008; Schultz, Greenly & Brown, 1995). These studies indicate that a lack of supportive organizational attributes can hinder workers' control over practice, autonomy, access to

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resources and rewards, and participation in decision- making, and thus contribute to burnout. A paucity of studies, however, focused specifically on the relationship between structural empowerment and burnout.

Hatcher and Laschinger (1996) conducted a descriptive correlational study to test the relational proposition that power and opportunity (structural empowerment) are related to burnout in a sample of 87 nurses who worked in hospital settings. Structural empowerment was measured using a modified version of the Conditions for Work Effectiveness Questionnaire (CWEQ), and the Maslach Burnout Inventory for Human Services (MBI-HS) (Maslach & Jackson, 1981) was used to measure burnout. Study findings revealed that access to power and opportunity were significantly related to the three dimensions of burnout. Specifically, power and opportunity were inversely related to emotional exhaustion (r = -0.341, p = .004), depersonalization (r = -0.293, p = 0.02), and personal accomplishment (r = -0.363, p = 0.002). These findings are consistent with theoretical assertions that structural empowerment is inversely related to burnout.

Sarmiento, Laschinger and Iwasiw (2004) conducted a similar study to test the relational proposition that structural empowerment is related to burnout in a sample of 89 community college nurse educators. The purpose of this study was to determine if high levels of structural empowerment were associated with low levels of burnout among other nurse outcomes. Using a descriptive, correlational survey design, structural empowerment was measured using the CWEQ, Job Activities Scale, and Organizational Relationship Scale. Burnout was measured with the MBI-HS. Sarmiento et al. (2004) findings revealed that structural empowerment was significantly related to all dimensions of burnout in the theoretically expected direction (p = <0.01); specifically emotional exhaustion (r = -0.50), depensionalization (r = -0.04) and personal accomplishment (r = 0.38).

Schaufeli & Bakker (2004) conducted a study which linked job demands, and job resources with burnout. The investigators used a multi-sample (N=1698) which included employees from an insurance company, occupational health and safety services, a pension fund company, and a home-care institution. Burnout was measured using the Dutch version of the MBI, and job demands and resources were measured using Karasek's job content instrument. Similar to structural empowerment theory, Karasek's theory proposes that elements in the work environment, such as high demands, lack of resources, including feedback and social support may lead to a workers disengagement or emotional withdrawal. Structural equation modeling was used to determine the relationship of job demands and job resources to burnout and other concepts. Findings indicate that job demands and job resources were negatively related to each other (r = .38, p < 0.001), job demands were positively related to burnout (r = .23, p < 0.001).

In summary, there is empirical evidence that supports the proposition posed by theorists that structural empowerment is inversely related to burnout among nurses in healthcare settings. These studies, however, focused on nurses in academic and hospital settings. Research indicates that staff nurses working in outpatient hemodialysis centers experience burnout, and the organizational impact of both structural and psychological empowerment on burnout in this population of nurses has not been examined.

Empirical Support for the Relationship Between Psychological Empowerment and Burnout

Several studies have linked psychological empowerment to behavioral outcomes, such as job satisfaction, work performance, and burnout (Fuller, Morrison, Jones, Bridger & Brown, 1999; Hechanova, Alampay & Franco, 2006; Spreitzer, 1995a) in non-nursing populations. Only three studies were found that examined this relationship in nurses. Hochwalder & Brucefors (2005) conducted a study to explore the influence of psychological empowerment on ill health in 2011 nurses. Psychological empowerment was measured using Spretizer's Psychological Empowerment Scale; health was measured using several general health scales and the Maslach Burnout Inventory. Findings from this study indicate that psychological empowerment was significantly and inversely related to the emotional exhaustion dimension of burnout (p = <.001).

In a second study, Hockwalder (2007) explored the relationships among the psychosocial work environment, psychological empowerment, and burnout in a sample of 1356 Swedish nurses. One aim of the study was to determine the effect of psychological empowerment on burnout. Psychological empowerment was measured using Spreitzer's Psychological Empowerment Scale, and burnout was measured using the Maslach Burnout Inventory. Findings revealed that psychological empowerment and emotional exhaustion were moderately correlated (r = .40, p = <0.01).

In another study, Laschinger, Finegan, Shamian and Wilk (2003) used a longitudinal design to test the long-term effects of structural and psychological empowerment on burnout in a random sample of 192 staff nurses who worked in a hospital setting. To test the relationship between PE and burnout, psychological empowerment (PE) was measured using Spreitzer's Psychological Empowerment Scale and the emotional exhaustion (EE) subscale of the MBI was used as a measure of burnout. The investigators hypothesized that psychological empowerment at baseline would predict burnout three years later. Structural Equation Modeling (SEM) was used to determine the relationships among the variables. Findings revealed a fit of the hypothesized model ($\chi^2 = 198.68$, df = 85, IFI = .90, CFI = .90, RMSEA = .08) however, no p value is reported. In addition, findings revealed that psychological empowerment at baseline had a negative effect on emotional exhaustion three years later ($\beta = -.28$). That is, the inverse effect of psychological empowerment on burnout may persist over time.

In summary, these studies provide empirical support for the theoretical proposition that PE predicts burnout in nurses who work in hospital settings and provide evidence for the need to test this relationship in nurses who work in work settings outside of the hospital such as outpatient dialysis units.

Empirical Support for the Relationship Between Structural Empowerment and Psychological Empowerment

Several studies were found linking structural empowerment to psychological empowerment in non-nursing service workers (Corsun & Enz, 1999; Ergenli, Ari & Metin, 2007; Peterson & Speer, 2000). Corsun & Enz (1999) investigated the effect of support based relationships in the work environment on psychological empowerment in 292 service workers. The investigators defined and operationalized supportive organizational environment as peer support, customer support, and managerial support. Psychological empowerment was measured using Spreitzer's (1995b) Psychological Empowerment Scale. Findings from this study revealed that overall supportive relationships with peers and customers were more significant in predicting PE in workers than managerial support, in this work environment (p = <0.001). While findings from this study do not support the hypothesis that organizational support is a strong predictor of PE, it does suggest that overall, supportive relationships in the work environment are factors that influence PE.

Peterson and Speer (2000) conducted a study to investigate organizational characteristics similar to structurally empowering characteristics as predictors of psychological empowerment. The sample consisted of members of three service-agencies whose workers had advanced degrees in social services (n =127). Organizational attributes such as leadership, opportunity, social support, locus of control and competence were measured using Quinn & Spreitzer's Group-Based Belief System and Maton's Organizational Characteristics Scale. Psychological empowerment was measured using a scale developed and tested by Zimmerman (1995) and similar to Spreitzer's Psychological Empowerment Scale. Findings from this study suggest organizational characteristics influence PE based on ecological specificity (i.e. the specific work environment) {F, (2,118) = 5.16, p, .01}. These results imply that the organizational characteristics that influence PE depend on the type of work and the needs of the workers in a specific work environment.

Only one study was found that examined the relationship between structural empowerment and psychological empowerment in nurses. Laschinger, Finegan, Shamian and Wilk's (2003) aforementioned study, tested the long-term effects of structural and psychological empowerment on burnout in a random sample of 192 staff nurses who worked in a hospital setting. Structural empowerment, measured using the CWQE-II, predicted psychological empowerment at baseline ($\beta = .44$, p was not reported), providing empirical support for the theorized relationship between structural empowerment and psychological empowerment in nurses in hospital settings.

Empirical Support for the Mediating Role of Psychological Empowerment

Two studies found provided empirical support for the mediating role of psychological empowerment in the relationship between structural empowerment and burnout in nurses who work in hospital settings. In Hockwalder's (2007) examination of the relationships among the psychosocial work environment, psychological empowerment, and burnout in a sample of 1356 Swedish nurses, the mediating effect of psychological empowerment on the relationship between the psychosocial work environment and burnout was tested. Psychological empowerment was measured using Spreitzer's Psychological Empowerment Scale, burnout was measured using the Maslach Burnout Inventory, and the psychosocial work environment was measured using Karasek and Theorell's Scale. Similar to structural empowerment, Karasek and Theorell's Scale measures demand, control and social support in the work environment. Regression analysis was used to test the mediation model and revealed that the psychosocial work environment variables control and support had a negative effect on burnout ($\beta = -0.11$; B = -0.16; p = <0.001, respectively), and demand had a positive effect on burnout ($\beta =$ 0.49, $p = \langle 0.001 \rangle$. When psychological empowerment was entered into the regression model with psychosocial work environment variables, the effect of the psychosocial work environment on burnout diminished, suggesting that psychological empowerment mediates this relationship.

Similarly, in Laschinger, Finegan, Shamian and Wilk (2003) aforementioned longitudinal study designed to test the long-term effects of structural and psychological empowerment on burnout in a random sample of 192 staff nurses who worked in a hospital setting, structural equation modeling (SEM) was used to determine the relationships among the variables. In the model tested, psychological empowerment was an intervening variable, i.e., mediator, between structural empowerment and burnout. Model statistics indicated that the data fit the hypothesized model ($\chi^2 = 198.68$, *IFI* = .90, *CHI* = .90, *RMSEA* = .08), however the p value was not reported. Thus, this study provides empirical support for the theoretical assertion that psychological empowerment may mediate the relationship between structural empowerment and burnout in nurses who work in outpatient dialysis settings.

In summary these studies provide empirical support for the theorized relationships among structural empowerment, psychological empowerment and burnout. In addition, they support the proposition that psychological empowerment mediates the relationship between structural empowerment and burnout. However, these propositions have been tested predominantly in nurses in hospital settings. Burnout is a significant problem in registered nurses working in outpatient hemodialysis centers (Argentero, Dell'Olivio & Ferretti, 2008; Dermody & Bennet, 2008; Klersy et. al., 2007; Flynn, Thomas-Hawkins, & Clarke, 2009; Urlich, 2005), yet the relationships among structural empowerment, psychological empowerment, and burnout have not been tested in this population.

Theoretical Rationale

Theorist posit that burnout is an individual's perception that they are physically and emotional drained and stressed as a result of the constant responsibility for the welfare of others and is a particular problem among nurses. Furthermore theorists propose that structural empowerment is related to burnout (Kanter, 1993; Laschinger, 1996). Theorists also contend that structural empowerment leads to psychological empowerment (Conger & Kanungo, 1988; Laschinger, 1996; Thomas & Velthouse, 1990; Zimmerman, 19905). Moreover, theorists assert that psychological empowerment may be the underlying mechanism, i.e. mediator, by which structural empowerment exerts its influences on burnout.

The following hypothesis will be tested:

- Structural empowerment is inversely related to burnout in registered nurses working in outpatient hemodialysis centers.
- 2. Psychological empowerment is inversely related to burnout in registered nurses working in outpatient hemodialysis centers.
- 3. Structural empowerment is positively related to psychological empowerment in registered nurses working outpatient hemodialysis centers.
- When psychological empowerment is controlled for, the magnitude and significance of the relationship between structural empowerment and burnout will diminish.



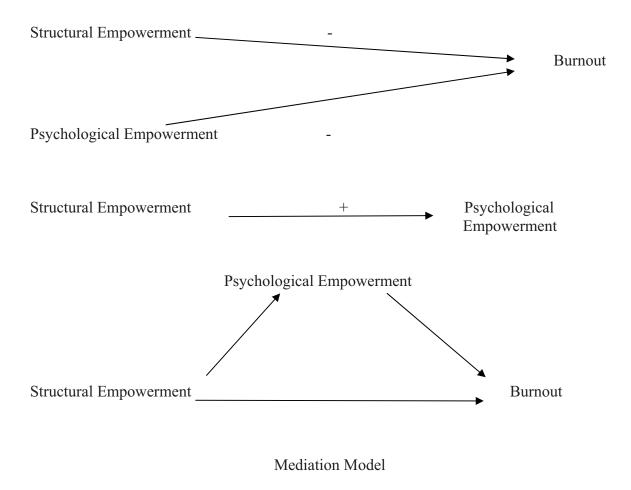


Figure 1.

CHAPTER 3

Methods

This chapter describes the research setting and design for this study including the sampling methods, sample, instruments and procedure for data collection and analysis. This study used a descriptive, correlational research design to investigate the relationships among burnout, structural empowerment and psychological empowerment. The three variables were examined without manipulation, consistent with the assumptions of a correlational research design (Brink & Wood, 1998).

Research Setting

A list of registered nurses currently working as staff nurses in outpatient dialysis settings in the United States was obtained from an organization of nephrology nurses. The organization maintains a membership list of approximately 12,000 RN's and LPN's who work in diverse nephrology settings and roles. The investigator obtained a list of 1,400 nurses randomly selected by the organization, meeting the criteria of registered nurses who identify themselves as staff RN's currently work in outpatient dialysis centers in the United States from the organization. Data were collected using a modified Tailored Design Method (TDM). This method is used specifically for conducting a mailed self-administered survey. The Tailored Design Method is based a series of five contacts with the respondent in order to maximize the response (Dillman, 2007). The first contact is pre-notice that the respondent will be receiving a questionnaire; the second contact is the questionnaire followed up with the third contact of a reminder/ thank you post card. The fourth contact is a replacement survey, and the fifth contact that is recommended is to mail a survey by a special delivery other than first class mail (Dillman, 2007). This was

modified by making only four contacts, a pre-notice was not mailed and the final contact was a reminder/thank you postcard via first class mail.

A paper and pencil self report survey, along with a cover letter and explanation of participant rights were sent to each selected participant's home address for completion. A self addressed stamped envelope was provided for the return of the survey. *Sample*

A systematic sampling method was used to select the names and addresses from the mailing list. In order to obtain the adequate number of responses, the investigator selected 500 names from the list. According to Polit & Beck (2008) systematic sampling is the selection of every kth case from a list or group. For this study, every third name from the list was selected until 500 names were obtained.

Power analysis for correlational and regression analysis was calculated to determine the appropriate sample size to yield sufficient power for these statistical techniques. For correlational analysis, using a moderate effect size (r = .30) based on the literature for structural empowerment, psychological empowerment and burnout (Hatcher & Laschinger, 1996; Hockwalder & Brucefors, 2005; Sarmiento et.al, 2004) a sample size of 84 was needed to obtain a power of .80 at a .05 significance level (Cohen, 1988). Using a moderate effect size ($f^2 = .15$), based on a review of the literature (Laschinger et. al., 2003), and a significance level of .05 and 10 predictor variables (the total number of subscales in the instruments), a minimum sample size of 119 was needed to obtain a power of .80 (Cohen, 1988) for regression analysis.

Of the 500 who received the mailed survey, a total of 310 nurses responded; 198 after the first mailed survey and 112 after the replacement survey, yielding a response

rate of 62%. Of the 310 responses, 77 were excluded because the respondent described the current position as management, and/or indicated working in an acute facility. A total of 233 respondents met the criteria of registered nurses currently working in chronic outpatient hemodialysis centers. Characteristics of the subjects are summarized in table 1.

Table 1

Demographic Characteristics of Subjects

Variable	n			%	
Gender					
Female	217		9	93	
Male	16		6.9		
Race					
White	1	.63		70	
African-American		19		8	
Asian		38	1	6.3	
Alaskan/Native		1		.4	
American					
Hispanic		6	2	2.6	
Mixed		2		.9	
Missing		4			
Educational Background					
Diploma		42	18		
Associates Degree	80		3.	4.3	
Bachelors	106		4	4.5	
Masters		4	1.7		
Type of Center					
Hospital Owned	1	.06	45.5		
Independently Owned	127		54.5		
Work Status					
Full Time	173		74.6		
Part Time	59		2	5.3	
	Range	Mean	Median	SD	
Age	24-68	49.6	50	8.6	
Years in current position	<1 year-40	9.6	7	7.9	
Year as a nurse	2-46	22.5	23	10.1	
Hours worked per week	16-70 37		40	7.8	

Instruments

Maslach Burnout Inventory Emotional Exhaustion Subscale

The Maslach Burnout Inventory Emotional Exhaustion subscale (MBI-EE) is the most widely used measure of burnout, especially for those involved in human service occupations (Schaufeli, 2001), and was used as a measure of burnout in this study. This instrument is a self-reported survey tool. This subscale alone has been found to be a valid and reliable measure to identify the emotional exhaustion dimension of burnout because it is the initial characteristic that occurs in the burnout process (Schaufeli, Enzmann & Girault, 1993; Shaufeli, Bakker, Hoogduin, Schapp & Kladler, 2001). The 9 item self-report Emotional Exhaustion subscale measures one's feelings of being exhausted or overextended in their work (Maslach & Jackson, 1981). The items are scored on a scale of 0-6, where 0 = never and 6 = every day. Scores can range from 0 to 54, with higher scores indicating higher levels of burnout. According to standardized norms, scores of 27 and above are considered high for medical personnel and indicate a state of job-related burnout (Maslach & Jackson & Leiter, 1996).

The psychometric properties for the MBI-EE subscale were investigated by Maslach & Jackson (1981). Reliability for the Emotional Exhaustion subscale has been established overall at $\alpha = .90$ (Maslach, Jackson & Leiter, 1996). Internal consistency reliability has been established at $\alpha = .84$ in a sample of 450 healthcare workers (Piko, 2005), an $\alpha = .89$ in a sample of 820 registered nurses in staff level positions in acute care hospitals (Vahey, Aiken, Sloan, Clarke & Vargas, 2004), and an $\alpha = .91$ in a sample of over 10,000 nurses in an international sample of registered staff nurses in acute care settings (Aiken, et. al., 2002). Stability has been demonstrated using test-retest reliability coefficients and the Emotional Exhaustion subscale demonstrated the highest test-retest correlation (.82) in social welfare and health service administrator graduate students at 2 to 4 week intervals, indicating that its use is a reliable and stable indicator for the presence of burnout.

Construct validity of the instrument was established in a series of early studies with individuals such as police officers, nurses, social workers, teachers and psychologists (n = 1,025) using principal components analysis with varimax rotation. In this analysis three factors emerged with Eigen values greater than one. The first factor, emotional exhaustion, consisting of 9 items, had item loading that ranged from .54 to .84. Total variance and item to total variations were not reported.

Convergent validity was established by analyzing responses of spouses, family members and co-workers in comparison to the worker. Ratings by the spouses, family members and co-workers were significantly and positively correlated to the response provided by the worker. In the workplace, co-workers rated the individual as being emotionally drained (r = .28, p < .05) and as being physically fatigued (r = .42, p < .001) due to work. These individuals scored high on the self reported emotional exhaustion scale. In addition, spouses of police officers who scored high on the emotional exhaustion scale rated their spouses as angry (r = .34, p < .001), anxious (r = .27, p < .001), and physically exhausted (r = .20, p < .01).

Discriminant validity was demonstrated by measures of psychological constructs that might be confounders of the experience of burnout, such as depression and job satisfaction. Studies indicate a low correlation between scores on job satisfaction and burnout in samples of lawyers, rehabilitation workers, mental health employees and public service workers (Maslach & Jackson, 1981). A number of researchers (Mier, 1984: Firth, McIntee, McKeown, & Britton, 1986) attempted to show a differentiation between burnout and depression and found weak support. However, Leiter & Durup's (1994) factor analysis provided the strongest support in this differentiation. Factor analysis indicated that the three-factor structure of burnout was most closely related to each other and not to aspects of depression.

In summary, the reliability and validity of the MBI-EE subscale has been established in various samples of service workers, such as nurses, police, teachers and social workers. This instrument is considered to be a reliable and valid tool to measure burnout in registered nurses working in outpatient dialysis settings.

The Conditions of Work Effectiveness Questionnaire

The Conditions of Work Effectiveness Questionnaire (CWEQ-II), (Laschinger, 1996) was used to measure structural empowerment in this study. This is a self- reported, paper and pencil survey instrument constructed to measure structural empowerment, i.e. access to information, support, resources and opportunity, formal and informal power. The Conditions of Work Effectiveness Questionnaire-II (CWEQ-II) is a 19-item instrument across 6 subscales as a measure of the respondent's perception of structural empowerment, and is comprised of four subscales that reflect the dimensions of structural empowerment, and two subscales which measure formal and informal power as theorized by Kanter. The 19 item instrument used a 5 point Likert scale ranging from 1 = never to 5 = a lot. The possible score range is 6 to 30; a high score indicates a high perception of structural empowerment (Laschinger, Finnegan, Shamain, & Wilk, 2001). Cronbach's alpha reliabilities were reported as 0.79 to 0.82 for the entire instrument and 0.71 to 0.90

for the subscales (Laschinger et al. 2001). A panel of experts on Kanter's theory established face and content validity (Laschinger et al, 2001). Construct validity of the CWEQ-II was established in a sample of nurses through confirmatory factor analysis (Laschinger, Finnegan, Shamain, and Wilk, 2001) and demonstrated a good fit of the hypothesized model (χ 2=279, df=129, CFI=.992, RMSEA=.054) to the data, however, no p value was reported.

In summary, this scale has been widely used to measure workers' perception of structural empowerment in the work environment, particularly that of nurses. Reliability and validity for this instrument have been established making this a valid tool to measure structural empowerment in this study.

Psychological Empowerment Scale

The Psychological Empowerment Scale constructed by Spreitzer (1995b) was used to measure psychological empowerment. It is a self report questionnaire designed to measure the four dimensions of psychological empowerment conceptualized by Thomas & Velthouse (1988): meaning, competence, self determination and impact. This instrument consists of 12 items, 3 items for each dimension of psychological empowerment, measured on a Likert-like scale. Reliability was determined using a sample of mid-level employees from an industrial organization and an insurance company (n =393). Cronbach's alpha reliability for this sample was 0.72. A second-order confirmatory factor analysis was used to assess both convergent and discriminant validity on the same sample (n =393). Results indicated an excellent fit (AFGFI =.93, RMSR =.04, NCNFI =.97) of the data to the hypothesized model, and moderate correlations were found among all four factors. Correlations ranged from .36, p = <.01 to .48, p = <.001, (Spreitzer, 1995b). In addition, Kraimer, Seibert and Liden (1999) tested Spreitzer's hypothesized model in two second order confirmatory factor analyses in staff nurses (n =160). Results showed substantial support for the four factor dimensions of empowerment hypothesized by Spreitzer (1995b). Kraimer et. al (1999) established convergent validity and discriminant validity in the same sample. Internal consistency reliability has been established in subsequent studies of staff nurses, and coefficient alpha was established at 0.87 in a sample of U.S. staff nurses (n =192) (Laschinger, Finegan, Shamain & Wilk, 2003) and 0.82 in a sample of 2011 Swedish registered staff nurses (Hochwalder & Brucefors, 2005).

In summary, the Psychological Empowerment Scale has been widely used to measure psychological empowerment, particularly in nurses. Reliability and validity have been established in several populations including nurses, making this a reliable and valid instrument to measure psychological empowerment in this study. Alpha reliabilities in this sample are summarized in Table 2.

Table 2.

Study	Sam	ole .	Alpha	a Reliab	ilities
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Instrument	Cronbach's Alpha
MBI-EE	.91
CWEQ-II	.92
PE	.91

Demographic Questionnaire

A Demographic Questionnaire was used to collect demographic information from study participants. Volunteers were asked to provide information on age, gender, race, and years of experience in nursing, years in current position, role in current position, dialysis center type, and level of education.

Human Subjects Protection

Permission to implement the study was obtained through the Institutional Review Board of Rutgers, The State University of New Jersey to ensure the protection of human subjects prior to any data collection. Risks to nurse participants were no greater than minimal, where the magnitude of harm or discomfort anticipated in the proposed research are not greater, in and of themselves, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. In addition, IRB permission was submitted to the nephrology nurse organization before the mailing list was obtained.

Data Collection

Data were collected using a modified Tailored Design Method (TDM) (Dillman, 2007). Paper and pencil self-report surveys, along with a cover letter explaining the research and requesting the participants' voluntary involvement and a postage paid return envelope was sent to the homes of the selected sample of registered nurses working in outpatient dialysis centers. Volunteers were asked to set aside 15 minutes of uninterrupted time to complete the survey. Dillman's (2007) Tailored Design Method consists of the use of several five contacts through the mail with the respondent in order to maximize the survey response rate, however, as previously mentioned this method was modified to four contacts. According to Dillman (2007), TDM should yield a response rate ranging from 58% to 78%. Consistent with TDM, participants received a survey packet sent via first class mail to their homes Each packet contained the study

instruments and a cover letter from the Principal Investigator (PI) that included (a) an explanation of the study purpose and invitation to participate, (b) an assurance of confidentiality and the participant's right to choose not to participate or to terminate participation at any time, (c) a summary of risks and benefits, (d) contact information for the Principal Investigator and Rutgers University IRB, and (e) instructions to place the completed instruments in a self-addressed stamped envelope provided in the packet for return to the PI. Nurses were informed in the cover letter that completion of the survey served as consent to participate. Each survey was pre-coded with a unique identifier code to facilitate tracking of survey returns and follow-up mailings to non-responders.

One week following the survey mailing, a reminder letter/thank you card was sent to participants. A record of non-responders was maintained by the investigator. A second questionnaire package was sent to non-responders 3 weeks after the initial contact with a post-card reminder one week later for non-responders to the second packet mailing. *Data Analysis Plan*

A statistical database was created by the PI using the Statistical Package for the Social Sciences (SPSS) version 16.0 for Windows (SPSS, 2007). Demographic data and participant responses to study instruments were entered into the SPSS database by the PI. A descriptive analysis of the demographic data was conducted to describe the sample characteristics including means and standard deviations for the demographic variables. Frequency tables, histograms, and scatter plots were used to assess distribution of study variables for normality. Tests for skewness and kurtosis were also conducted. Data were inspected for inconsistencies, outliers, and wild data entry codes. A code book which includes copies of the original data set and the cleaned data set, copies of the basic descriptive, correlation, regression analyses, syntax, output, and notes to self were created to document the analysis file.

Correlational analysis of the study variables were conducted using both Pearson Product Moment Correlation and Chi Square for nominal level data. In line with a conservative approach, a two-tailed test of significance set at .05 level was used, even if the hypothesized relationship was directional (Polit & Beck, 2008). The correlation matrix was examined to determine if the demographic variables were significantly correlated with the dependent variable to determine the need to control for these in subsequent analyses. In addition, the correlation matrix was examined to determine if structural and psychological empowerment variables are significantly related to burnout.

To test hypotheses one through three, multivariate analysis using multiple regression was used to test the relationships among the variables. To test hypothesis four, Baron and Kenny's method for testing mediation was used (Baron & Kenny, 1986). According to Baron and Kenny, a mediating variable is an intervening or underlying mechanism that explains the relationship of the independent variable to the dependent variable. A mediating variable is useful to explain how or why a relationship exists between the independent variable and the dependent variable (Baron & Kenny, 1986). Baron and Kenny state that the following conditions must be present to establish mediation: (a) the independent variable (SE) must be significantly related to the mediator (PE); (b) the independent variable (SE) must be significantly related to the dependent variable (BO); and (c) the mediator (PE) must be significantly related to the dependent variable (BO). Congruent with Baron and Kenny (1986) a series of three regressions were conducted to determine if significant relationships among study variables exist in order to

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test the mediation model. The first regression equation tested the relationship between structural empowerment and burnout. The second regression tested the relationship between structural empowerment and psychological empowerment. In the third regression, structural empowerment and psychological empowerment total scores were entered into the regression simultaneously. In this regression complete or partial mediation is determined. Complete mediation occurs if, after controlling for the effects of the mediating variable on the dependent variable, the effect of the independent variable and the dependent variable becomes zero, or in partial mediation the effect of the independent variable on the dependent variable diminishes and the intervening variable becomes more significant (Baron & Kenny, 1986).

CHAPTER 4

Analysis of the Data

The purpose of this study was to determine the relationships among structural empowerment, psychological empowerment and burnout in staff nurses currently working in chronic dialysis centers is the US. Data were collected from a convenience sample of 233 nurses who identified themselves as staff nurses currently working in chronic dialysis centers. The following instruments were used in this study: (a) a demographic questionnaire, developed by the investigator, was used to collect information on age, gender, type of center (hospital owned or independently owned, chronic or acute), length of time in position, educational level and years licensed as a nurse; (b) the MBI-EE was used to measure burnout (Maslach & Jackson, 1986); (c) CWQE-II was used to measure structural empowerment (Laschinger et al., 2001); and (d) the Psychological Empowerment Instrument (Spreitzer, 1995a) was used to measure psychological empowerment. Data analysis findings are presented in this chapter.

Statistical Description of the Variables

A data analysis plan was implemented. Data were entered into the Statistical Package for the Social Sciences (SPSS). As the surveys were returned, each was reviewed for completeness, and data were entered into the SPSS database using the precoded identifying number. A code book containing both the raw data and clean data was maintained and copies of all output and syntax were maintained in computer files. Data were cleaned by examining the data for outliers, wild entries and other keypunch errors (Munro, 2005). The data quality was evaluated by assessing study variable scores for normality, extreme skewness and kurtosis (see Table 2.) using frequency tables, histograms and scatterplots (Munro, 2005).

Scores for the structural empowerment were normally distributed; scores for burnout were mildly skewed and not transformed (Tabachnick & Fidell, 2009). The scores for psychological empowerment were moderately and negatively skewed and transformed to a normal distribution with reflection and square root transformation procedures (Tabachnick & Fidell, 2009). Distribution of the variables is summarized in Table 3.

Table 3.

	Burnout	Structural	Psychological
		Empowerment	Empowerment
Skewness	.449	174	-1.191
SE	.160	.162	.161
Kurtosis	465	229	3.352
SE	.320	.322	.320
Z-score	2.80	1.07	-7.390
Z-score after			1.35
transformation			

Summary of Distribution of Variables

Dependent Variable

Burnout

Scores were summed for the Emotional Exhaustion subscale of the MBI. Of the 233 nurses in the sample, scores ranged from 0 to 51 (M =21.42, SD =11.41). According to Maslach (1986), scores from 0 to 16 are considered low burnout, 17 to 26 are considered moderate for burnout, and scores 27 and higher are considered high. In this

sample (n =230, 3 missing) 38.2% reported low levels of burnout, 27.5% reported moderate levels of burnout, and 33% reported high levels of burnout.

Independent Variables

Structural Empowerment

Scores for the CWEQ-II were computed. Scores ranged from 7.4 to 29.4 (M = 19.31, SD = 4.10). According to Laschinger et al. (2001), structural empowerment scores that range between 6-13 are considered low perceptions of structural empowerment; scores between 14-22 moderate, and scores between 23-30 high. In this sample 10.7% of the participants perceived low levels of structural empowerment, 67.8% perceived moderate levels, and 18.5% perceived high levels.

Psychological Empowerment

Scores for the Psychological Empowerment subscales were totaled and a mean score was computed. The sample mean score for Psychological Empowerment was 13.6 (SD =2.62, range 0 - 18). Descriptive statistics for the study variables are summarized in Table 4.

Table 4.

Descriptive Statistics of the Study Variables [Structural Empowerment (SE), Psychological Empowerment (PE), and Burnout]

Variable	Range	Mean	SD	Median
Burnout	0-51	21.4	1.14	20.0
SE	7-29	19.31	4.10	19.7
PE	0-18	13.61	2.62	14.0

Demographic Variables

To determine if any demographic variable was a covariate that should be controlled for in multivariate analysis, correlational analysis was conducted to examine significant relationships, if any, between demographic variables and burnout. No significant correlations between the demographic variables (age, years in position, years licensed as a nurse, hours worked) and burnout were found and, therefore, no demographic variables were controlled for in multivariate regression analyses.

Hypothesis Testing

Hypothesis 1, 2, and 3 were tested using correlational analysis (see Table 5). Two tailed tests of significance set at the .05 level were used to test the hypothesized relationships (Munro, 2005). The results are summarized in Table 5. Hypothesis 4 was tested using multiple regression analysis as specified by Baron and Kenny (1986) for testing a mediation model. In addition, multiple regression was used to examine the independent relationship of the two independent variables to the dependent variable (Munro, 2005).

Hypothesis I

Hypothesis 1 is derived from the theoretical proposition that structural empowerment is inversely related to burnout in RN's working in chronic hemodialysis centers. Correlational analysis was used to test the hypothesized relationship. Results revealed a significant and inverse relationship between structural empowerment and burnout

(r = -.445, p = .000). Hypothesis 1 was supported.

Hypothesis 2

Hypothesis 2 was derived from the theoretical proposition that psychological empowerment is inversely related to burnout. Correlational analysis was used to test the hypothesized relationship. Findings revealed that psychological empowerment was significantly and inversely related to burnout (r = .349, p=.000). Hypothesis 2 was supported.

Hypothesis 3

Hypothesis 3 was derived from the theoretical proposition that structural empowerment is directly related to psychological empowerment in RN's working in chronic hemodialysis centers. Correlational analysis was used to test the hypothesized relationship. Findings revealed that structural empowerment was significantly and directly related to psychological empowerment (r = -.592, p = .000). Hypothesis 3 was supported.

Table 5.

1	2
445**	
.349**	592**

Correlational Matrix of Variables for Testing Hypotheses 1, 2, 3

**indicate p \leq .05 (2-tailed)

Hypothesis 4

Hypothesis 4 was derived from the theoretical proposition that states that psychological empowerment mediates the relationship between structural empowerment and burnout. In order to test the mediation model, a series of three regressions were performed as specified by Baron and Kenny (1986). In the first regression, the dependent variable (burnout) was regressed on the independent variable (SE) and indicated that SE was a significant predictor of burnout $(\beta = -.445, p = .000)$. For the second regression, the mediating variable (PE) was entered as the dependent variable and regressed on the independent variable (SE). Findings indicated that structural empowerment was a significant predictor of psychological empowerment ($\beta = -.592, p = .000$). In the third regression the independent variable (SE) and the mediating variable (PE) were entered simultaneously. Collinearity statistics, including the variance inflation factor (VIF) and tolerance indicated no multicollinearity between the predictors. Finding from this analysis revealed that SE remained a significant predictor ($\beta = -.364, p = .000$) with the mediator PE in the model. This analysis indicates that psychological empowerment does not mediate the relationship between structural empowerment and burnout in this population of nurses; therefore hypothesis 4 was not supported.

In summary, Hypothesis 1, 2 and 3 were supported in bivariate correlational analysis. However, only hypotheses 1 and 3 were supported in multivariate regression analysis. Hypothesis 4 was not supported.

Ancillary Findings

Multiple regression was conducted to determine the variance accounted for in burnout by structural empowerment and psychological empowerment. Only structural empowerment uniquely and significantly contributed to burnout as described previously. Structural empowerment accounted for 19% of the variance in burnout, and psychological empowerment contributed only an additional 1% of variance in burnout. Together, these two predictors explained 20% of the variance in job-related burnout among RN's working in chronic dialysis units.

In addition, further tests were conducted to examine the predictive ability of demographic variables for psychological empowerment in the study sample. Correlational analysis was conducted to determine which of the demographic variables were related to psychological empowerment Interestingly, findings revealed that the number of years in the current position was significantly related to psychological empowerment (r = -.196, p = .003), and number of years licensed as a registered nurse was also significantly related to psychological empowerment (r = -.144, p = .029). Regression analysis was further conducted to determine the independent and combined effects of number of years in the position and years as a nurse on psychological empowerment. Collinearity statistics, including the variance inflation factor (VIF) and tolerance indicated no multicollinearity between the two predictors. Findings revealed that the number of years in the position (β = -.162, p= .024) was a significant and independent predictor of psychological empowerment and contributed 3.8% of variance in PE. Number of years as a nurse did not independently predict psychological empowerment ($\beta = -.088$, p = .216), and only contributed 0.7% of variance in PE.

Additional examinations of the relationship between structural empowerment and burnout were conducted to further understand the impact of the dimensions of structural empowerment on burnout. Correlational analysis was conducted between all of the dimensions of SE (i.e. support, resources, information, opportunity, informal power, and formal power) and burnout (see Table 6). Findings revealed that all of the dimensions were significantly related to burnout. In addition, regression analysis was conducted to determine which dimensions significantly predicted burnout. The six dimensions of structural empowerment were entered simultaneously into the regression as independent variables. Collinearity statistics, including the variance inflation factor (VIF) and tolerance indicated no multicollinearity between the predictors. Findings revealed that resources ($\beta = -.241$, p = .002) and formal power ($\beta = -.341$, p = .000) were the dimensions of structural empowerment that significantly predicted burnout.

Table 6.

VARIABLE	1	2	3	4	5	6
1. Burnout						
2. Opportunity	157*					
3. Support	317**	.507**				
4. Information	301**	.387**	.641**			
5. Resources	444**	.291**	.526**	.475**		
6. Formal Power	449**	.422**	.565**	.542**	.598**	
7. Informal	310**	.513**	.566**	.481**	.453**	.607**
Power						

Correlation Matrix of Dimensions of Structural Empowerment and Burnout

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

** Correlation is significant at the $p \le 0.01$ level (1-tailed).

Additional analyses were also conducted to examine differences in mean levels of burnout, structural empowerment, and psychological empowerment by dialysis center type. First, dialysis center type was dichotomized into hospital owned chronic centers and independently owned chronic centers. Using independent t-tests, differences in mean burnout scores by dialysis unit type were examined. There were no significant differences found in the mean scores for burnout, structural empowerment and psychological empowerment by the type of dialysis center.

A second independent t-test was conducted to determine if there was a significant difference in mean burnout scores between full time nurses and part time nurses, and

findings indicated a significant difference in the mean scores between the two groups. Full time nurses reported a significantly higher level of burnout compared to part-time nurses (t=2.24, p=.026).

CHAPTER 5

Discussion of the Findings

The purpose of this research was to explore the relationships among structural empowerment, psychological empowerment and burnout in registered nurses working in chronic hemodialysis centers in the U.S. This chapter includes an interpretation of the findings of the hypothesized relationships in relation to theories on burnout (Cherniss, 1980; Freudenberger, 1975; Maslach, 1986, 2003) structural empowerment (Conger & Kanungo, 1988; Mechanic, 1962; Mills & Ungston, 2003; Salanick & Pfeffer, 1974; Kanter, 1993) and psychological empowerment (Spreitzer, 1995a; Thomas & Velthouse, 1990; Zimmerman, 1995) from which these hypotheses were derived.

Theorists contend human service workers, particularly those who care for the health and welfare of others, such as nurses, are at a high risk for burnout (Cherniss, 1980; Freudenberger, 1976; Maslach, 2003). Empirical evidence has found that burnout has been associated with many negative consequences that affect the health of the organization, the nurse, and the patient (Aiken, Clarke, Sloane, Sochalski & Silber, 2002; Finegan & Laschinger, 2001; Laschinger, Sabiston & Kutszcher, 1997; Maslach, 2003). Furthermore, empirical evidence suggests that organizational factors, among others, is an important contributor to burnout (Clarke, Sloan & Aiken, 2002; Freudenberger, 1980; Glasberg, Erikkson & Norberg, 2007; Laschinger & Finnegan, 2003; Leiter & Laschinger, 2006; Maslach et al. 2001; Maslach, 2003; Wright & Bonnet, 1997; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). Burnout is important because studies, focusing mostly in hospital settings, have linked burnout to numerous adverse consequences such as high attrition rates, high absentee rates, worker health problems and poor patient outcomes (Aiken et al. 2002; Cropanzano, Rupp, & Byrne, 2003; Maslach, 2003; Vahey, Aiken, Sloane, Clarke & Vargus, 2004). There is however, a beginning body of evidence that suggests that burnout is a problem in dialysis work settings as well. Only one study (Flynn, Thomas-Hawkins & Clarke, 2009) was found linking organizational traits to burnout in staff nurses working in dialysis settings. In addition, structural empowerment and burnout have not been explored in the dialysis nurse population, thus, this study adds to the body of knowledge being developed on the dialysis nurse work environment and organizational factors that influence burnout in this population of nurses.

Burnout in dialysis settings

In this study, nearly one out of three nurses reported burnout. These findings are consistent with those of Flynn, Thomas-Hawkins and Clarke (2009) who found that 30% of nurses in dialysis units were experiencing burnout as a result of factors in the work environment, and parallels the 43% reported by hospital nurses (Aiken et al, 2002). These finding are important as they underscore burnout as a troublesome problem in dialysis settings and the need to gain a clear understanding of factors that contribute to burnout in nurses who work in dialysis settings. Flynn and colleagues' (2009) measurement of the work environment focused on key domains specific to nursing practice, while this study focused on more generic organizational structures that contribute to dialysis nurse empowerment and burnout.

Structural Empowerment and Burnout

Theorists agree that organizational characteristics affect worker stress and contribute to burnout (Cherniss, 1980; Maslach, 2003; Maslach & Leiter; 1997).

Moreover, theorists contend that key structures in the work environment influence burnout (Cherniss, 1980; Kanter, 1993; Maslach, 2003). Theorists also note that workers who perceive a lack of support, autonomy, and resources in the work environment are at risk for burnout (Cherniss, 1980; Maslach, 2003; Maslach & Leiter, 1997). In addition, these theorists posit that burnout in workers leads to negative consequences for the organization, the client and the worker.

According to several theorists, empowering structures in organization are those which provide workers with access to power, information, resources, opportunity and support i.e. structural empowerment (Kanter, 1993; Laschinger, et al., 2003). Empirical evidence indicates that when workers perceive organizations to have these empowering structures in place, workers have less chronic stress leading to burnout (Hatcher & Laschinger, 1996; Laschinger, Finegan, Shamian & Wilk, 2003; Sarmiento, Laschinger & Iwasiw, 2004; Schaufeli & Bakker, 2004). Therefore, based on the theoretical and empirical literature, an inverse relationship between structural empowerment and burnout was hypothesized.

Hypothesis 1 stated that structural empowerment was inversely related to burnout in registered nurses working in chronic hemodialysis centers. This hypothesis was derived from theory that posits that work environments structured to empower employees decrease worker burnout (Conger & Kanungo, 1988; Kanter, 1993; Mechanic, 1962; Mills & Ungson, 2003; Salanick & Pfeffer, 1974). The hypothesis and the underlying theory proposition from which it was derived were supported by the findings of this study.

Hypothesis testing revealed a moderate negative relationship between structural empowerment and burnout (r = -.445). These findings are consistent with findings reported by Hatcher and Laschinger (1996) linking structural empowerment to job tension in staff nurses. Similarly Sarmiento and colleagues (2004) found that structural empowerment had a large and inverse effect on burnout in a population of hospital-based nurse educators (r = -0.51), and Greco and colleagues (2006) found that staff nurses who perceived an empowering work environment had lower burnout scores. Findings from this study revealed that structural empowerment was an independent predictor of burnout in the dialysis nurse work environment. This suggests that, similar to nurses in hospital settings, empowering work environments are important factors that can lead to burnout in dialysis settings as well. In addition, an ancillary analysis revealed that two dimensions of structural empowerment had the greatest impact on burnout in this population; access to resources and formal power. These findings are consistent with the findings from Sarmeinto and colleagues (2004) study of nurse educators. Their results indicated that access to resources had the greatest influence on burnout. In another study, Davies, Laschinger, and Andrusyszyn (2006) found that access to formal power was moderately related to job tension in a sample of hospital nurses. This suggests that, similar to hospital nurses and nurse educators, access to resources and power are important for nurses working in the dialysis work environment. Kanter (1993) defined resources as the equipment, people, and finances to do the job and power as the ability to mobilize the resources. In the absence of these resources in the dialysis work setting, findings from this study suggest that a substantial proportion of staff nurses in dialysis environments will likely experience stress and frustration which could lead to eventual burnout.

Psychological Empowerment and Burnout

Theorists also contend that, if workers are psychologically empowered, they feel competent in performing the work, feel that the work has meaning, that they make an impact in accomplishing organizational goals, and have control over their work, they will experience less job stress which leads to burnout (Spreitzer, 1995a; Thomas & Velthouse, 1990). Therefore, based on the theoretical and empirical literature, it was hypothesized that psychological empowerment is inversely related to burnout.

Correlational analysis revealed a significant relationship in the theoretically expected direction. Thus, this finding is consistent with theoretical premises and similar to research findings in hospital-based nurses (Hockwalder, 2007).

Findings from this study revealed that nurses in the sample had, on average, a high level of psychological empowerment, suggesting that they felt competent, that their jobs had meaning; that they felt as though they made an impact on the organizational goals, and were able to control how they did their work. However, psychological empowerment was not an independent predictor of burnout in this sample of nurses when the effect of structural empowerment on burnout was controlled for. A plausible explanation for this finding is that the nurse sample was comprised of "well-seasoned" nurses, with many years of experience in their job. In addition, all were members of a professional organization. Thus, sampling bias may account for the insignificant relationship between psychological empowerment and burnout in this study.

An ancillary examination of the relationship between demographic characteristics of the sample and psychological empowerment revealed that the number of years nurses worked in their current position was positively related to psychological empowerment. In fact, the mean number of years nurses worked in their current position was 10 years. The lengthy "nurse tenure" of the sample indicates that that theses nurses were experienced and competent practitioners. The high level of psychological empowerment in this study can be explained by theory. Quinn and Spreitzer (1997) state that psychological empowerment is not "done" to an employee, but rather is a function of the employee's perception or cognition, which may be present even in the absence of empowerment systems. Corsun and Enz (1999) contend that psychological empowerment is socially constructed, and may be fostered by a sense of community and support from peers. It is plausible, then, that membership in the professional organization offered the nurses in the study sample the support that fostered their development of psychological empowerment. In addition, professional organization membership may offer empowerment structures that are absent in the work environment. Thus, psychological empowerment may be a unique characteristic of nurses who are experienced and who are members of professional organizations. Sampling bias is likely a methodological limitation that may explain the homogeneity of psychological empowerment in the study sample.

Structural Empowerment and Psychological Empowerment

In addition, theorists postulate that organizations that are structured to empower workers influence workers' perception of personal empowerment i.e. psychological empowerment (Spreitzer, 1995a; Thomas & Velthouse, 1990). Theorists posit that psychological empowerment has an effect on the worker's attitude towards the work. Workers have a sense of personal control and competence and as a result experience less burnout (Spreitzer, 1995a; Thomas & Velthouse, 1990). Theorists also agree that work environment factors that are structured to empower workers contribute to psychological empowerment (Spreitzer, 1995a; Peterson & Speer (2000); Thomas & Velthouse, 1990; Zimmerman, 1995). These theorists posit that worker access to empowering work environment structures will foster an inner sense of empowerment. Therefore, based on the theoretical and empirical literature, a positive relationship between structural empowerment and psychological empowerment in staff nurses working in chronic hemodialysis centers was hypothesized. This hypothesis and the theoretical proposition from which it was derived were supported and are consistent in studies conducted in hospital-based nurses (Laschinger et al., 2001).

Structural Empowerment, Psychological Empowerment and Burnout

Theorists also posit that psychological empowerment may have a greater impact on burnout than structural empowerment (Hockwalder, 2007; Laschinger et al, 2003). That is, the mechanism by which structural empowerment affects burnout is through its positive effects on workers' perceptions of psychological empowerment. Therefore, based on the theoretical and empirical literature, it was hypothesized that psychological empowerment mediates the relationship between structural empowerment and burnout. This hypothesis was not supported in this study. In contrast to findings in this study, other studies have found that psychological empowerment mediates the relationship between structural empowerment and burnout (Hockwalder, 2007; Laschinger et al, 2003).

In summary, hypothesis 1 was supported in this study and provides evidence that the theory proposition that stipulates a relationship between structural empowerment and burnout is empirically adequate. Hypothesis 2 was supported only in correlational analysis and not multivariate analysis, suggesting that psychological empowerment is not an independent predictor of burnout in experienced nurses who are members of professional organization. Hypothesis 3 was supported in this study and provides evidence that the theory proposition that stipulates a relationship between structural empowerment and psychological empowerment is empirically adequate. Hypothesis 4 was not supported; however, sampling methodology may be a reason for lack of this empirical support for this theoretical proposition in this sample.

CHAPTER 6

Summary, Limitations, Conclusions, Implications, and Recommendations
Summary

The purpose of this study was to examine the relationships among, structural empowerment, psychological empowerment and burnout in a sample of registered nurses working in chronic hemodialysis centers in the U.S. Theoretical propositions derived from the theories of burnout (Cherniss, 1980; Freudenberger, 1975; Maslach, 1986, 2003), structural empowerment (Kanter, 1993), and psychological empowerment (Spreitzer, 1995a; Thomas & Velthouse, 1990) were tested in this study.

Burnout was theoretically defined as a syndrome experienced by an individual characterized by emotional exhaustion, reduced personal accomplishment and depersonalization (Maslach & Jackson, 1981, Maslach, 2003). Emotional exhaustion was defined as an unrelenting experience of physical and emotional fatigue (Maslach & Jackson, 1981; Maslach, 2003). Structural empowerment was theoretically defined as an organization's ability to offer access to information, resources, support, and power in the work environment (Kanter, 1993). Theorists posit a negative relationship between structural empowerment and burnout (Hatcher & Laschinger, 1996; Sarmiento, Laschinger & Iwasiw, 2004).

Psychological empowerment was theoretically defined as one's perception that he or she has control over their environment and feels congruence with the goals and values of the organization, thus influencing the workers' attitudes and behaviors (Conger & Kanungo, 1988; Spreitzer, 1994; Thomas & Velthouse, 1990). Theorists posit that there is an inverse relationship between psychological empowerment and burnout (Aktouf, 1992; Nielson, 1986; Spreitzer, 1995a). This theoretical relationship is supported by empirical literature (Hockwalder, 2007; Laschinger et al., 2003).

Theorists also propose that structural empowerment is related to psychological empowerment (Conger & Kanungo, 1988; Laschinger, 1996; Thomas & Velthouse, 1990; Spreitzer, 1995a). This theoretical relationship is supported by empirical literature (Corsun & Enz, 1999; Ergenli, Ari & Metin, 2007; Peterson & Speer, 2000). In addition, theorists propose that psychological empowerment mediates the relationship between structural empowerment and burnout (Aktouf, 1992; Murrell, 1990, Nielson, 1986; Spreitzer, 1995a). This theoretical relationship is supported by empirical literature (Hockwalder, 2007; Laschinger et al., 2003).

Based on the theoretical and empirical literature, the following hypotheses were derived for this study:

- Structural empowerment is inversely related to burnout in registered nurses working in outpatient hemodialysis centers.
- 2. Psychological empowerment is inversely related to burnout in registered nurses working in outpatient hemodialysis centers.

3. Structural empowerment is positively related to psychological empowerment in registered nurses working outpatient hemodialysis centers.

4. When psychological empowerment is controlled for, the magnitude and significance of the relationship between structural empowerment and burnout will diminish.

Participants were recruited through the use of a mailing list purchased from a national nephrology nurse organization. The list consisted of registered staff nurses who

were currently employed in chronic hemodialysis facilities in the U.S. The convenience sample consisting of 233 nurses identifying themselves as staff nurses working in hospital owned and independently owned centers participated in the study. The majority of the study participants was white females between the ages of 24 and 67 years of age and worked in their current positions on average for 10 years.

Data were collected using (a) The Demographic Questionnaire developed by the investigator; (b) the Maslach Burnout Inventory- Human Services Survey, Emotional Exhaustion Subscale (Maslach & Jackson, 1981); (c) the Conditions of Work Effectiveness Questionanniare-11 (Laschinger, 2001); (d) the Psychological Empowerment Scale (Spreitzer, 1995b).

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) Graduate Pack for Windows, version 16. Alpha coefficients were calculated for the study instruments: The Maslach Burnout Inventory-Human Services Survey, Emotional Exhaustion Subscale (Maslach & Jackson, 1981); the Conditions of Work Effectiveness Questionanniare-11 (Laschinger, 2001); the Psychological Empowerment Scale (Spreitzer, 1995b) all were found to be above an alpha coefficient of .90. Characteristics of the sample data were analyzed using descriptive statistics. Pearson's Product Moment correlation analysis was used to examine the interrelationships between the study variables, and multiple regression was used to test hypothesis one through four. The level of significance used in the hypothesis testing was .05.

The first hypothesis, which stated that structural empowerment was negatively related to burnout in registered staff nurses working in chronic hemodialysis centers, was supported. The second hypothesis, which stated that psychological empowerment was related to burnout in registered staff nurses working in chronic hemodialysis centers, was supported in correlational analysis but was not supported in multivariate analysis. The third hypothesis, which stated that structural empowerment was related to psychological empowerment in registered staff nurses working in chronic hemodialysis centers, was supported. The fourth hypothesis, which stated that when controlling for psychological empowerment, the magnitude and significance of the relationship between structural empowerment and burnout will diminish (mediate) in registered staff nurses working in chronic hemodialysis centers, was not supported.

In summary, theoretical propositions were tested to explain burnout in a sample of registered nurses working in chronic hemodialysis centers in the U.S. The theoretical propositions tested explained the relationships among, burnout, structural empowerment and psychological empowerment in this sample of nurses working in chronic hemodialysis settings.

Limitations

The major limitation of this study was the sampling frame. All of the study participants were members of a professional organization. Therefore, it is difficult to generalize the findings of this study to nurses who work in dialysis settings who are not members of a professional organization.

Conclusions

The findings of this study support, as hypothesized, that relationships exist between structural empowerment and burnout; psychological empowerment and burnout; and structural empowerment and psychological empowerment. Structural empowerment was found to be an independent predictor of burnout in registered nurses working in chronic hemodialysis settings, however, psychological empowerment was not found to be and independent predictor of burnout in this sample. Contrary to the hypothesis, findings did not support the theoretical proposition that psychological empowerment mediated the relationship between structural empowerment and burnout in this sample of nurses.

Most importantly, this study suggests that burnout is a problem in dialysis settings and lack of organizational empowerment structures is an important factor that contributes to burnout. Furthermore, ancillary analysis suggests years in the position may contribute to psychological empowerment. In addition, membership in a professional organization may contribute to the empowerment process, even in the absence of structural empowerment in the work environment.

Implications for Nursing

Research indicates that human service workers are at high risk for burnout (Freudenberger, 1980; Maslach, 2003; Maslach & Leiter, 1997). Moreover, theorists contend that the organizational factors associated with bureaucratic organizations, such as hospitals, contribute to burnout (Cherniss, 1980; Maslach, 2003). Findings from this study indicate that, similar to hospital nurses, nurses working in chronic hemodialysis settings are at risk and are experiencing unacceptable levels of burnout (Argentero, Dell'Olivio & Ferretti, 2008; Dermody & Bennet, 2008; Flynn, Thomas- Hawkins & Clarke, 2009; Klersy, Callegari, Martinelli, Vizzardi, Mavino, Montagna, Guastoni, Bellazzi, Rampino, Barbieri, Dal Canton & Polit, 2007; Urlich, 2005). In fact, one out of three nurses participating in this study reported being "burned out". This is consistent previous examination of nurse burnout in dialysis settings (Flynn et al., 2009).

Burnout has been associated with many negative health effects for the organization, the nurse and the patient (Aiken, Clarke, Sloane, Sochalski & Silber, 2002; Finegan & Laschinger, 2001; Laschinger, Sabiston & Kutszcher, 1997; Maslach, 2003). Organizationally, burnout has been linked to high turnover rates, decreased job satisfaction and poor work performance (Clarke, Sloan & Aiken, 2002; Freudenberger, 1980; Glasberg, Erikkson & Norberg, 2007; Laschinger & Finnegan, 2003; Leiter & Laschinger, 2006; Maslach et al. 2001; Maslach, 2003; Wright & Bonnet, 1997; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). These factors contribute to loss of revenue for the organization and may in fact contribute to rising health care costs (JCAHO, 2008; O'Brien- Pallas, Griffin, Shamain, Buchan, Duffield, Hughes, Laschinger, North & Stone, 2006; Rivers et al. 2005). Burnout has also been linked to poor patient outcomes, decreases in quality of care, and a decrease in patient satisfaction (Aiken, Clarke, Sloane, Sochalski & Silber, 2002). At the individual level, workers experiencing burnout are risk for numerous health related effects (Bruhn, Chesney & Slacido, 1995; Maslach, 2003, Maslach, Schaufeli & Leiter, 2001; O'Driscoll & Beehr, 2000; Pines, Aronson & Kafry, 1981). Studies indicate that burnout places workers at risk for health problems such as myocardial infarction (Appels & Mulder, 1989), hypertension, depression, substance abuse, psychological distress, gastrointestinal disturbances and suicide ideation (Maslach, 2003; Maslach & Leiter, 1997; Maslach, Schaufeli & Letiter, 2001). Burnout may also contribute to a high incidence of colds, flu, and work related injuries. These health problems may in fact lead to absenteeism and create staffing shortages.

It is therefore imperative that administrators and nurse managers in dialysis settings recognize that preventing burnout is critical to retain staff, improve outcomes and

maintain financial stability for the organization. Nurse administrators and managers can prevent burnout by periodically assessing the work environment for empowering structures and assessing nurses for burnout. Proactive intervention would serve as an "early warning system" that identifies problems in order to decrease the work environment stress that leads to burnout. In order to create an empowering work environment, nurse administrators and managers need to provide nurses with opportunities that allow nurses professional and personal growth; provide them with the appropriate resources to accomplish the work; provide access to information necessary for their day to day tasks, and access to support systems. This could be accomplished by holding meetings between management and staff that encourage nurses to express their needs and problems (Baker, Beglinger, King, & Salyards & Thompson, 2000), offer educational programs that contribute to professional growth and knowledge, develop a support system in the organization that encourages administrative and peer support, foster good communication systems (Ray, Turkel & Marino, 2002), and assure that appropriate resources are available for the nurses to provide good care. In addition nurse administrators and managers should reflect on their leadership skills and seek ways to improve them, so that they are better prepared to create empowering environments for staff (Greco, Laschinger & Wong, 2006).

Findings from this study can be utilized by federal agencies that fund dialysis care, dialysis providers, administrators and managers to create empowering work environments in dialysis settings that prevent burnout, increase worker retention and improve patient outcomes. Furthermore, this study adds to the emerging body of knowledge on burnout and its antecedents in nurses who work in this setting.

Recommendations

Based on the findings of this study and the study limitations it would be prudent to replicate this study in multiple dialysis sites in order to obtain a sample of dialysis nurses that are members and non-members of a professional organization.

Specific areas for future research may address the following research questions:

- What is the effect of burnout in registered staff nurses working in chronic hemodialysis centers on patient satisfaction and other patient outcomes, such as post dialysis hypotension, complications requiring hospital admission post treatment and access problems?
- 2. What is the effect of structural empowerment on job satisfaction in registered staff nurses working in chronic hemodialysis centers?
- 3. What other factors in the work environment of registered staff nurses working in chronic hemodialysis centers might contribute to burnout?
- 4. Is structural empowerment related to burnout in nurse managers working in chronic hemodialysis centers?
- 5. Does the implementation of empowerment strategies, such as shared governance, clinical ladders and participatory leadership decrease burnout in nurses working in chronic hemodialysis centers?
- 6. Do peer to peer support groups foster psychological empowerment in nurses working in chronic hemodialysis settings?

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Appendix A

Survey of Psychological Empowerment

Listed below are a number of self-orientations that people may have with regard to their work roll. Using the following scale, please indicate the extent to which you agree or disagree that each one describes your self-orientation.

	Very	Strongly	Disagree	Neutral	Agree	Strongly	Very
	strongly disagree	disagree				agree	strongly agree
1. I am confident about my ability to do my job.	0	1	2	3	4	5	6
2. The work that I do is important to me.							
3. I have significant autonomy in determining how I do my job.							
4. My impact on what happens in my department is large.							
5. My job activities are personally meaningful to me.							
6. I have a great deal of control over what happens in my department.							
7. I can decide on my own how to go about doing my own work. 8. I have							
considerable							

opportunity for independenc e and freedom in how I do my job.				
9. I have mastered the skills necessary for my job.		 		
10. The work I do is meaningful to me.				
11. I have significant influence over what happens in my department.				
12. I am self- assured about my capabilities to perform my work activities.				

Appendix B

Conditions for Work Effectiveness Questionnaire-II

Please circle the number that indicates how much you experience in *your job for each question.* HOW MUCH OF EACH KIND OF OPPORTUNITY DO YOU HAVE IN YOUR PRESENT JOB?

		None		Some		A Lot
1.	Challenging work.	1	2	3	4	5
2.	The chance to gain new skills and knowledge on the job.	1	2	3	4	5
3	Tasks that use all of your own skills and	1	2	3	4	5
	knowledge.					

HOW MUCH ACCESS TO SUPPORT DO YOU HAVE IN YOUR PRESENT JOB?

			None		Some		А
							Lot
Γ	1.	Specific information about things you do well.	1	2	3	4	5
	2.	Specific comments about things you could	1	2	3	4	5
		improve.					
	3.	Helpful hints or problem solving advice.	1	2	3	4	5

HOW MUCH ACCESS TO INFORMATION DO YOU HAVE IN YOUR PRESENT JOB?

		No Knowledge		Some Knowledge		Kno w A Lot
1.	The current state of the center	1	2	3	4	5
2.	The values of top management	1	2	3	4	5
3.	The goals of top management	1	2	3	4	5

HOW MUCH ACCESS TO RESOURCES DO YOU HAVE IN YOUR PRESENT JOB?

		None		Some		A Lot
1.	Time available to do the necessary paperwork.	1	2	3	4	5
2.	Time available to accomplish job requirements.	1	2	3	4	5
3.	Acquiring temporary help when needed.	1	2	3	4	5

HOW MUCH OPPORTUNITY DO YOU HAVE FOR THESE ACTIVITIES IN YOUR PRESENT JOB?

		None		Some		A Lot
1	Collaborating on patient care with physicians.	1	2	3	4	5
2	Being sought out by peers for help with problems.	1	2	3	4	5
3	Being sought out by managers for help with problems.	1	2	3	4	5
4	Seeking out ideas from professionals other than physicians, e.g., Physiotherapists, Occupational Therapists, and Dieticians.	1	2	3	4	5

IN MY WORK SETTING/JOB:

		None		Some		A Lot
1	The rewards for innovation on the job are	1	2	3	4	5
2	The amount of flexibility in my job is	1	2	3	4	5
3	The amount of visibility of my work-related activities	1	2	3	4	5
	with-in					
	the institution is					

		Strongly				Stron
		disagree				gly
						agree
1	Overall, my current work environment empowers me to	1	2	3	4	5
	accomplish my work in an effective manner.					
2	Overall, I consider my workplace to be an empowering	1	2	3	4	5
	environment.					

APPENDIX C

Demographic Information

This section asks general questions about your background. Please circle the correct response or fill in the blank.

- **1. Which of the following best describes your current position**? Please circle one
 - a. Not working at the present or retired
 - b. Staff nurse
 - c. Nurse manager
 - d. Facility manager
 - e. Other_____
- 2. How long have you worked in your current position?
- **3.** Please indicate what type of outpatient center you work in. Please circle one:
 - a. Hospital owned freestanding outpatient dialysis center
 - b. Hospital owned dialysis center (within the hospital)
 - c. Independently owned freestanding outpatient dialysis center
 - d. Independently owned chronic dialysis center (within the hospital)
 - e. Hospital owned acute dialysis center.
 - f. Independently owned acute dialysis center
 - g. Other (specify)

4. What is your gender? Circle

- a. Female
- b. Male

5. How many hours on average do you work during the week?_____

6. What is you work status?

- a. Full time
- b. Part time

c. Per diem

7. What is the highest nursing degree that you have earned?

- a. Diploma
- b. Associate degree
- c. Baccalaureate degree
- d. Masters degree
- e. Doctorate

8. Please indicate the highest degree that you have earned in a field other

than nursing:

- a. Associate degree
- b. Baccalaureate degree
- c. Masters degree
- d. Doctorate
- e. No other degree

9. Please indicate you background:

- a. African-American
- b. Alaskan or Native American
- c. Asian
- d. Hispanic
- e. Filipino
- f. Pacific Islander
- g. White
- h. Mixed Race

10. What is your current age_____

11. How long have you been licensed as a nurse_____

APPENDIX D

Maslach Burnout Inventory- Human Services- Emotional Exhaustion Subscale

This instrument is not included as it is copyrighted by CPP, Inc. Permission has been obtained from CPP, Inc. to use the instrument in this dissertation research, but other than when collecting data, the instrument cannot be duplicated. Appendix E

RUTGERS

College of Nursing Ackerson Hall Rutgers, The State University of New Jersey 180 University Avenue Newark, NJ 07102 Ph. 973-353-5293

Dear Nephrology Nurse,

You are being asked to participate in an important survey, which explores the nephrology nurses' work environments and burnout.

<u>Your participation is crucial</u> in helping create work environments in nephrology settings that support nursing practice, job satisfaction, and the delivery of quality care!

Enclosed you will find the short, <u>confidential</u> survey - **it should take no more than 15 minutes to complete.** Your rights as a survey participant are summarized on the reverse side of this letter.

Please mail the completed survey using the **self-addressed**, **postagepaid**, **envelope** included in this packet.

Thank you so much for your time. Your participation in this important project is crucial to designing work environments that best support nephrology nurses in their important work.

Sincerely,

Janice O'Brien, RN, MSN Doctoral Candidate 431 Cumberland Ave Teaneck, New Jersey 201 692-8181 jaydeeob@pegasus.rutgers.edu



EXPIRES

JUL 0 8 2010

Approved by the Rutgers IRB

Charlotte Thomas-Hawkins, PhD, RN Associate Professor College of Nursing, Rutgers, The State University of New Jersey 180 University Avenue Newark, NJ 07102 973-353-3864 (ph) <u>charlot@rutgers.edu</u> (email)

NURSES, PLEASE NOTE: YOUR RIGHTS AS A SURVEY PARTICIPANT

<u>To ensure your confidentiality</u>¹, your name does not appear anywhere on the survey. Instead of your name, the number in the upper right hand corner of the survey is used as a code and is available only to the researchers. <u>Findings will only be reported in the aggregate</u> - you will not be able to be identified by ANY reports, publications, or presentations that may result from this survey.

Although your responses are very important to us, your participation is of course voluntary.

If you decide not to participate, simply place your uncompleted questionnaire in the stamped envelope provided and the investigator will remove your name from the mailing list. If neither a completed nor uncompleted survey is returned, you will receive a reminder postcard and a second survey over the next few weeks.

There are no anticipated risks to you in participating in this survey, which takes about 15 minutes to complete.

Although results may not benefit you directly, findings will guide efforts to enhance nurses' work environment as well as the guality of patient care in dialysis centers across the nation.

By completing and returning this enclosed survey, you have agreed to participate in this research study.

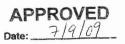
If you have any questions or concerns about this survey, please contact the <u>Principal Investigator</u>, <u>Janice O'Brien, RN, MSN</u>, <u>201-692-8181</u> or jaydeeob@pegasus.rutgers.edu or the <u>Co-investigator Charlotte Thomas-Hawkins</u>, <u>PhD, RN, College of</u> <u>Nursing</u>, <u>Rutgers</u>, <u>The State University of New Jersey 180 University Avenue Newark</u>, NJ 07102 973-353-3864, <u>charlot@rutgers.edu</u>

If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at:

Rutgers University, the State University of New Jersey, Institutional Review Board for the Protection of Human Subjects Office of Research and Sponsored Programs, Rutgers Plaza New Brunswick, NJ 08901-8559, Tel: 732-932-0150 ext. 2104 Email: <u>humansubjects@orsp.rutgers.edu</u>

Janice O'Brien, RN, MSN, Doctoral Candidate College of Nursing, Rutgers, the State University of NJ jaydeeob@pegasus.rutgers.edu 201-692-8181 Charlotte Thomas-Hawkins, PhD, RN College of Nursing Rutgers, the State University of NJ 180 University Avenue Newark, NJ 07102 <u>charlot@rutgers.edu</u> 973-353-3864

¹ Definition of Confidential: There exists a documented linkage between a subject's identity and his/her response in the research, and the investigator provides assurance in the protocol and in the informed consent form that the identity of any individual subject will not be revealed in any report of the study. Example: a subject's data record is assigned a code, and a "master list" that links the code to the subject's identity is maintained in a secure location EXPIRES



JUL 0 8 2010

Approved by the Rutgers ISR Appendix F

RUTGERS UNIVERSITY Office of Research and Sponsored Programs ASB III, 3 Rutgers Plaza, Cook Campus New Brunswick, NJ 08901 July 14, 2009 P.I. Name: O'Brien Protocol #: 09-577M Janice O'Brien 431 Cumberland Avenue Teaneck NJ 07666 Dear Janice O'Brien: (Initial / Amendment / Continuation / Continuation w/ Amendment) Protocol Title: "Structural Empowerment, Psychological Empowerment, Burnout & Nurses Working in Chronic Hemodialysis Facilities" This is to advise you that the above-referenced study has been presented to the Institutional Review Board for the Protection of Human Subjects in Research, and the following action was taken subject to the conditions and explanations provided below: Approval Date: Expedited Category: 7/9/2009 Expiration Date: 7/8/2010 Approved # of Subject(s): 290 This approval is based on the assumption that the materials you submitted to the Office of Research and Sponsored Programs (ORSP) contain a complete and accurate description of the ways in which human subjects are involved in your research. The following conditions apply: This Approval-The research will be conducted according to the most recent version of the protocol that was submitted. This approval is valid ONLY for the dates listed above; Reporting-ORSP must be immediately informed of any injuries to subjects that occur and/or problems that arise, in the course of your research; Modifications-Any proposed changes MUST be submitted to the IRB as an amendment for review and approval prior to implementation; Consent Form(s)-Each person who signs a consent document will be given a copy of that document, if you are using such documents in your research. The Principal Investigator must retain all signed documents for at least three years after the conclusion of the research; Continuing Review-You should receive a courtesy e-mail renewal notice for a Request for Continuing Review before the expiration of this project's approval. However, it is <u>your responsibility</u> to ensure that an application for continuing review has been submitted to the IRB for review and approval prior to the expiration date to extend the approval period;

Additional Notes:

- Expedited Approval per 45 CFR 46.110 - Approval of Wavier of Documentation of Informed Consent per 45 CFR 46.117(c)

Failure to comply with these conditions will result in withdrawal of this approval.

Please note that the IRB has the authority to observe, or have a third party observe, the consent process or the research itself. The Federal-wide Assurance (FWA) number for the Rutgers University IRB is FWA00003913; this number may be requested on funding applications or by collaborators.

Respectfully yours,

Sheryl Goldberg Director of Office of Research and Sponsored Programs graser@orsp.rutgers.edu

cc: Charlotte Thomas-Hawkins

Appendix G	
CPP Permission Number	17863
X	
срр	
Maslach Burnout Inventory ("MBI") Research Proposal Form	
CARENIPCES WORKER CA DUST PLECELISTS CINENS	Form including long with this
Begin and End dates of research <u>JULE 1, 2009 To <u>HAY</u> 2010 Please describe in detail your expected use and adaptation of the MBI including quantity of wish to administer</u>	MBI surveys you
The adaptation - only using EE subscale -	with other tool
In population of staff nueses working in a	Kalepsis
	1/0125

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Appendix H



NURSING WORK EMPOWERMENT SCALE Request Form

I request permission to copy the Nursing Work Empowerment Scale as developed by Dr. G. Chandler and Dr. Heather K. Spence Laschinger. Upon completion of the research, I will provide Dr. Laschinger with a brief summary of the results, including information related to the use of the Nursing Work Empowerment Scale used in my study.

Questionnaires Requested: Conditions of Work Effectiveness-I (includes JAS and ORS): Conditions of Work Effectiveness-II: yes Job Activity Scale only: Organizational Relationship Scale only: Organizational Development Opinionnaire or Manager Activity Scale: Other Instruments:

Please complete the following information: Date: April 10, 2009 Name: Janice O'brien Title: MSM, PN, PhD (candidate) University/Organization: Rutgers University, New Jersey Address: 431 Cumberland Ave. Teaneck, New Jersey 07666 Phone: 201-692-8181 E-mail: Jan.obrien@verizon.net or Jaydeeob@pegasus.rutgers.edu Description of Study: testing a mediation model of structural empowerment, psychological empowerment and burnout in a population of staff hemodialysis nurses working in outpatient dialysis centers Permission is hereby granted to copy and use the Conditions of Work Effectiveness Questionnaire Date: April 13, 2009 Signature:

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VITA

Janice L. O'Brien

1948	Born September 5 in Syracuse, New York.
1966	Graduated from Nottingham High School, Syracuse, New York.
1969	Graduated from Crouse-Irving School of Nursing, Syracuse, New York.
1969-1970	Staff Nurse Pediatrics; Recovery Room Crouse-Irving Memorial Hospital, Syracuse, New York.
1970-1975	Staff Nurse, Assistant Head Nurse and Head Nurse, Intensive Care Unit Albert- Einstein College Hospital, Bronx, New York.
1975-1977	Staff Nurse, Pediatric Hemodialysis Albert- Einstein College Hospital, Bronx, New York.
1979-1986	Staff Nurse, Pediatric Hemodialysis Holy Name Hospital, Teaneck, New Jersey.
1995	Certification in Nephrology Nursing
1990-1996	Staff Nurse in Peritoneal Dialysis Englewood Hospital and Medical Center, Englewood, New Jersey.
1998-2000	Attended Holistic Nurse Certification Program, Seeds and Bridges.
2000	Bachelors of Science in Nursing, Saint Peter's College
2000	Certification in Holistic Nursing.
2001-2005	Coordinator of Complimentary Therapies and Research Englewood Hospital and Medical Center, Englewood, New Jersey
2002	Masters of Science in Nursing, Saint Peter's College
2003-2007	Adjunct Faculty, Saint Peter's College
2007-Present	Full time Assistant Clinical Professor, Director RN to BSN Program, Saint Peter's College
2010	Doctor of Philosophy in Nursing Research, Rutgers, The State University of New Jersey