To the Graduate Council:

I am submitting herewith a thesis written by Charles Edwin Riddle, Jr. entitled "Training Performance Transfer of Registered Nurses." I have examined the final paper copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Human Resource Development.

Gregory C. Petty, Major Professor, HRD

We have read this thesis
and recommend its acceptance:

Ernest W. Brewer, Professor, HRD

Debbie Mackey, Professor, HRD

Accepted for the Council:

Vice Provost and Dean of
Graduate Studies

TRAINING PERFORMANCE TRANSFER

OF

REGISTERED NURSES

A Thesis

Presented for the

Master of Science Degree

The University of Tennessee, Knoxville

Charles Edwin Riddle, Jr.

May 2002

DEDICATION

This thesis is dedicated to Dr. Clifton P. Campbell, who by his unwavering confidence and belief in me, will always stoke the fires of scholarly inquiry and the pursuit of excellence in all my endeavors.

ACKNOWLEDGEMENTS

I would like to express my gratitude to my committee for the council, advice, and support that they have given me throughout this endeavor. Dr. Petty has worked diligently as my chair and Dr. Brewer has given me the benefit of his special talent in advising graduate students. Dr. Mackey has encouraged me and kept my attitude on the positive side.

I also want to express my appreciation to soon to be Dr. Dan Gilbert who helped me in ways that I will never be able to repay. His constant support and effort on my behalf made this work possible. He never let me down, not once.

I would also like to thank Dave Hite, Frank Laszlo, and Dr. Fritz Randall who have been mentors as well as friends. They refused to let failure become a part of my vocabulary and they were always there when I needed a friend the most.

Support groups seem to be a staple in today's society. In keeping with that tradition, I would like to acknowledge Dr. Connie Hollingsworth who is the advisor to a group known as the Dead Thesis Society. She has imparted confidence and wisdom to many of my peers. She has been an inspiration to me.

I am greatly beholden to Alan Wallace, reference librarian, who has pointed me in the direction of rich veins of literature; Mike O'Neill, stats consultant who was always steady as a rock; Heather Doncaster, extraordinary Thesis Consultant, And, of course, my editor, Ms. Jama McMahan.

And last but most important, family, especially, Sara, Caroline, Jake, Charlie, and Matt.

ABSTRACT

As the amount of money spent by organizations for training increases year after year, the need to demonstrate a return on investment for training becomes more and more important. One way to measure the successful implementation of training is to determine the amount of training that transfers from the classroom to the workplace. Using the Transfer Performance (TPT) Instrument to access the perceptions of a sample of registered nurses (RNs), this study investigated 5 factors thought to influence the transfer of training.

The objectives of this study were to (a) use the TPT to record perceptions of transfer of training among RNs along 8 demographic dimensions, (b) identify variables that enhanced or impeded the transfer of training using descriptive statistics and a Univariate of Analysis (ANOVA), (c) analyze data generated to determine what relationships existed among the data, and (d) draw conclusions and recommendations from this data sample.

The study population consisted of 276 RNs employed at 3 hospitals in a southeastern city of approximately 300,000 people. There were 115 surveys returned and used in this study. The response rate for the sample was 41.6%. Descriptive statistics were generated for the demographic data. Significant differences were found for the variable of gender, age, and unit assignment.

It was concluded that, the intention to transfer training decreased as levels of length of service, level of education, and age increased for RNs. For example, RNs who had attained the minimum educational requirement to practice, an associate degree, had a more positive attitude towards transfer of training than did RNs with more education.

Recommendations included (a) conducting a structured interview with respondents to get feedback on the TPT instrument, (b) using this instrument on a larger sample of RNs, (c) developing more comprehensive evaluation tools to evaluate transfer of training for RNs, and (d) conducting a review of training record keeping to determine if duplication of training is a concern as indicated by some respondents.

TABLE OF CONTENTS

TABLE OF CONTENTS
continued

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

CHAPTER ONE

INTRODUCTION

Multiple changes in organizational structure, size, and technology have necessitated the need for critical changes in the function of human resources (Ford, Quinones, Sego, & Sorra, 1992; Phillips, 1997; Yelon & Sheppard, 1999). Charged with the challenge to manage change, American managers have failed to perform adequately. "Whether the concern is quality, customer focus, productivity or cost, the underlying issue is performance" (Rummler & Brache, 1990, p. 2). Likewise, 98% of companies queried in a 1994 Conference Board study reported a need to gain more productivity and higher performance from their work forces (Csoka, 1994).

According to Carnevale, Gainer, and Villett (1990), employers have realize that to be competitive, they must accelerate learning and integrate it rapidly, designing and implementing training that supports the employer's institutional culture and strategic goals. As competition has increased and organizational structures and functions have become more complex, employers have required a work force competent for today but capable of being effectively trained for tomorrow. This need in many cases has remained an unrealized goal (Goldstein & Gilliam, 1990; Mathieu, Tannenbaum, & Salas, 1992; Mbawo, 1995; Quinones, 1995; Salas & Cannon-Bowers, 2001). To maximize organizational productivity, training programs must function effectively and efficiently (Broad, 1997; Rummler & Brache, 1990).

Gilley and Eggland (1989) defined training as learning provided to improve performance on the present job. Rothwell, Sullivan, and McLean (1995) defined it as "short-term change effort intended to equip individuals with the knowledge and skills

they need to perform their job better" (p. 31). Noe (1986) argued training was a planned learning experience designed to result in permanent change in an individual's knowledge, attitudes, or skills. The emphasis has been on job performance, which Garavaglia (1993) defined as "the effective and continued application to trainees' jobs of the knowledge and skills gained in training" (p. 63).

Training has been viewed as a process in which a facilitator (trainer) imparts knowledge and skills to trainees that can be used on the job to increase performance and impact results. Campbell (1999) stated that "the most important result of performance-based/results-oriented training is a measurable improvement in an individual's contribution to workplace/organizational goals (strategic objectives, business results)" (p. 1).

Examples of the results of training cited by Campbell (1999) of the results of training were increased quantity: (a) rate of production and amount produced, increased productivity, (c) output of machines and workers in terms of products or services, (d) improved quality, (e) absence of defects, and (f) durability of a product. Other goals of workplace training included (a) better use of resources such as money, time, personnel, and facilities, (b) improved health and safety, (c) improved teamwork or morale, and (d) enhanced customer satisfaction.

Effective training could mean less, not more. Examples included (a) fewer errors or mistakes. (b) reduced scrap or waste, (c) decreased labor cost, and (d) fewer customer complaints or lawsuits (Campbell, 1999). If the implementation of training goals resulted in workplace or organizational improvements, transfer of training had occurred. However, if no changes were attributable training, no transfer of training had occurred.

Thorndike (1901) first used the term transfer of training. In an article co-written with R. S. Woodworth that appeared in *The Psychological Review*, Thorndike analyzed adults' ability to recognize misspelled words and add numbers. Dewsbury (1998) summarized the conclusions of these authors: "The degree of positive or negative transfer was a function of the number of elements shared between one situation and another" (p. 1122).

Rationale

The intent of training has been to advance the performance of an organization. Managers would not support training if it did not improve organizational performance. Training that did not improve the performance of an organization would result in negative or no transfer (Wexley & Latham, 1991). Assuming the function of training was to improve performance or organizational goals, there was much evidence to indicate that raining did little in practice to advance the aims of organizations. Recent estimates of U.S. training expenditures have been in the vicinity of $50 billion annually (Lee, 1997; Minter Nolin 1997; Olsen, 1996). Yet, research findings suggested that as much as 80% of training failed to transfer from the classroom to the workplace (Baldwin & Ford, 1988; Minter, 1996). Foxon (1997) estimated that 58.6 million corporate employees received training at a cost of $60 billion annually. A Conference Board study confirmed the need for organizations to take responsibility for training results. Their survey found that more than half of all companies do not even try to measure the value of training, and just 11% of companies attempted to measure the correlation between training and sales (Stewart, 2001).

After an inspection of the current literature on training and the failure of training

to transfer from the classroom to the workplace, additional research into the causes of training to fail to transfer appeared to warrant additional study. Thus, a case could be made that the literature lacked sufficient empirical research focusing on the conditions and situations in which training failed to transfer.

Statement of Problem

Barriers to transfer of training have been a problem for organizations. Yet insufficient research has been done to aid in understanding why training failed transfer (Tannenbaum & Yukl, 1992). According to Gagne (1962) and to Wexley (1984), training literature offered little value to trainers concerned with maximizing positive transfer. Brinkerhoff and Montesino (1995) suggested that human resource development (HRD) practitioners have emphasized delivery devices over the critical connection between the training site and the working environment. Broad (1982, 1997) identified lack of management support for training transfer at the job site as a cause. According to Colquitt, LePine and Noe, (2000), post-training self-efficacy was the only motivational outcome that has been researched with any frequency. The authors concluded that the majority of researchers continued to measure reactions to training instead of other attitudinal outcome.

This picture has improved over the last decade. Things have progressed dramatically in terms of both the science and practice of training, according to the meta-analysis done by Salas and Cannon-Bowers (2001). Ford and Weissbein (1997) noted that progress had been made in addressing the limitations raised by Baldwin and Ford in their 1988 research. Salas and Cannon-Bowers described their review of transfer of training as selective and descriptive, but they added, "There has been nothing less than an

explosion in training-related research in the last 10 years" (p. 471). These authors concluded that research was needed to gain a better understanding of what, how, and when on-the-job training worked stressing that too much emphasis in the past had been placed on the characteristics of the training site rather than on training results.

Recent transfer of training research has identified several factors in the training literature that could facilitate or inhibit the transfer of training from the training site to the job site. Several of the variables mentioned prominently in the literature are reviewed in the next section.

Among the barriers to transfer of training identified in the literature was the lack of motivation to apply on the job what was learned in training. Noe (1986) asserted that maximum transfer was likely to occur when trainees were highly motivated to use newly acquired skills on the job (p. 739). Consistent with this, Baldwin, Magjuka, and Loher (1991) maintained that even if trainees had the prerequisite ability to master course content, performance could be poor if motivation were low or absent. Foxon (1997) stated that "the transfer process begins with the motivation to transfer and move through initial attempts at skill use to a stage of regular or continuous implementation, all the while being subject to facilitating or inhibiting influences in the work environment" (p. 59). Several studies in the 1990s confirmed that trainees' motivation to learn had an effect on their willingness to transfer new skills back to the job (Mathieu et al., 1992; Quinones, 1995; Tannenbaum & Yukl, 1992).

Supervisor support was a second barrier identified in the literature affecting transfer of training. Gregoire, Propp, and Poertner (1998) stated, "The supervisor may very well be the most important player in the training process" (p. 8).

Other researchers have supported this position (Baldwin & Ford, 1988; Gregoire, 1994; Tannenbaum &Yukl, 1992). Clark, Dobbins, and Ladd (1993) argued that if supervisors did not support training, trainees would likely not be motivated during training. Supervisors have been consistently identified as key personnel impacting both pre- and post-training environment (Baldwin & Ford, Ford; et al., 1992; Gregoire et al., 1998; Noe (1986). Moreover, when supervisors used a negative approach to training, desired job behaviors were more likely to be extinguished. Garavaglia (1993) found a strong correlation between training transfer and the quality and amount of managerial support. Finally, Gregoire et al., succinctly stated the problem: "Certain [positive] behaviors on the part of supervisors are in fact associated with workers' ability to transfer training to the workplace. Unfortunately, these findings also suggest that few supervisors are engaging in the behaviors associated with improving training transfer" (p. 14).

A third factor, organizational climate, could positively or negatively influence transfer (Foxon, 1994a). According to Parry (1991), "The vast majority of training programs are conducted without linkage or reference to organizational objectives" (p. 32). Rouiller (1989) defined organizational climate as "the type of support or constraints that trainees will be likely to encounter on the job, concerning their training" (p. 4). Mosel (1957) was one of the first practitioners to view organizational climate as a barrier to transfer of training: "There is mounting evidence from evaluation studies to show that training often makes little or no difference in actual job behavior" (p. 56). Mosel saw one of the seminal problems associated with training – little or no transfer of newly learned skills to the job. "First of all we must realize that the problem is a motivational one. Trainees must not only be motivated to learn. They must also be motivated to use

their learning" (Mosel, p. 57). Mosel concluded that no training would be successful unless the organizational climate supported the training (p. 62). Noe (1986) posited that trainee perceptions of the favorability of the work environment influenced motivation to transfer and the transfer of skills to the work setting. A study of fast food restaurants by Rouiller and Goldstein (1993) found positive support between a positive transfer climate and transfer. In a similar study, Tracey, Tannenbaum, and Kavanagh (1995) found that the work environment was "important for the application of newly acquired behavior and skills to the job" (p. 248).

A fourth barrier to transfer identified in training literature was peer support. Baldwin and Ford's (1988) Model of the Transfer Process pointed to work environment characteristics such as "climatic factors such as supervisor or peer support as constraints and opportunities to perform learned tasks on the job" (p. 64). Baldwin and Ford, as well as Noe (1986) reported that positive interaction between the trainee and the trainee's peer group could positively impact transfer. Michalak (1981) argued that a supportive peer group could influence improvements in skill acquisition and maintenance. Foxon (1994a) asserted that both inhibiting and supporting factors such as organizational climate, supervisory perception, and peer support influenced transfer. Farris (2001) stated that the influence of peers on transfer could be negative or positive. Additional research also linked positive transfer to peer support (Huczynski & Lewis, 1980; Marx, 1986; Phillips, 1991; Wexley & Latham, 1991).

A fifth major barrier to transfer of training consistently mentioned in the literature was self-efficacy. Bandura (1986) defined self-efficacy as "perceived people's judgments of their capabilities to organize and execute courses of action required to attain

designated types of performances" (p. 391). Marx (1982) refined this notion, describing as a gradual process in which mastery of complex behaviors was a trial and error process. Noe (1986) stated that workers with a higher sense of self-efficacy transferred newly learned skills at a higher rate than did workers with lower values of self-efficacy. Phillips (1991) linked self-efficacy and transfer with persistence of the trainee to model new behavior when supported by a supervisor. Machin and Fogarty (1997) reported that higher self-efficacy contributed to better performance on the job. In their study involving 19 police officers, they found that achievement of maximum transfer was likely to occur when trainees had high levels of self-efficacy and that setting high levels of training goals was found to have a direct positive effect on self-efficacy. Mathieu and Martineau (1997) also found that self-efficacy was significantly related to training effectiveness. Gist and Mitchell (1992) agreed "At their core self-efficacy perceptions reflect the extent to which trainees have a "can do" attitude about their training performance" (p. 197).

The last major factor examined was perception. While not a barrier, per se, it was a frame of reference through which a trainee filtered training and organizational data. This frame could create barriers to transfer. For example, consider organizational climate. According to Baldwin and Ford (1988) and Noe (1986), work environment effects took two forms: the actual work climate and the way the individual trainee perceived the climate. Ivancevich and Matteson (1987) defined perception as "the cognitive process by which an individual gives meaning to the environment. Each person gives his or her own meaning to stimuli, different individuals will see the same thing in

different ways" (p. 58). Facteau, Dobbins, Russell, Ladd, and Kudisch (1995) found that overall reputation of training, intrinsic and compliance incentives, and organizational commitment were predictive of pretraining motivation.

Statement of Purpose

The purpose of this study was to examine identified factors impacting trainees' transfer of training to the workplace as determined by a sample of registered nurses (RNs) using the Training Performance Transfer instrument developed by Petty and Farris (2001). A literature review examined workplace and organizational factors that have been identified as affecting transfer of training. The study also determined whether or not there were differences in factors among RNs by such demographic variables as length of service, gender, shift worked, supervisory responsibilities, level of education, age, job specialization, and job status. The results of the study contribute to the body of knowledge concerning barriers that affect transfer of training.

Definition of Terms

The study used a number of terms and definitions that are specific to the field of HRD. The following definitions provide clarification of the terms used in this study.

1. Barriers to transfer: "The set of actual and perceived factors that inhibit the success of training and development efforts and act as impediments to the transfer of training" (Broad & Newstrom, 1992, p. 172).

2. Baseline data: Data used to support an observation of demographic variables until stabilization of such data occurs.

3. Content validity: The degree to which an instrument measures an intended content area (Gay & Airasian, 2000, p. 622).

4. Factor analysis: The creation of new variables (factors) through the clustering of large numbers of variables into smaller number of homogeneous sets.

5. Feedback: Information periodically given to trainees to assess their understanding of a newly learned task in order to ultimately help improve their proficiency of the skills (Broad & Newstrom, 1992).

6. Generalization: The acquisition of new skills, attitudes, and beliefs a trainee brings from the training site to the job site (Baldwin & Ford, 1988).

7. Locus of control: Individual perception that success or failure is based on personal initiative or lack thereof (Noe, 1986).

8. Maintenance of transfer: The length of time skills, attitudes, and beliefs are used in the workplace (Michalak, 1981).

9. On-the-job training (OJT): "Workplace-based training settings in which trainees learn and demonstrate mastery of skill objectives through structured training normally conducted in the job environment" (Blair, 1996, p. 26).

10. Organizational climate: "The support or constraints that trainees will be likely to encounter in their job situations, concerning their use of training" (Rouiller, 1989, p. 4)

11. Motivation: "The process that impels a person to behave in a certain manner in order to satisfy highly individual needs for survival, security, companionship, respect, achievement, power, growth, and a sense of personal worth" (Bittel & Newstrom, 1990, p. 260). More specific to training, Gregoire, Propp, and Poertner (1998) described "motivation as a critical interactive component affecting the attitudes of trainees in all three aspects of the transfer process – pre-training environment, training environment, and post-training

12. Motivation to transfer: "The trainees' desire to use the knowledge and skills mastered in a training program on the job" (Noe, 1986, p. 743).

13. Peer: A person that is equal to another, especially defined as a co-worker environment" (p. 3).

14. Peer support: Both inhibiting and supporting factors exhibited by co-workers regarding training.

15. Reliability: The degree to which a test consistently measures whatever it is measuring (Gay & Airasian, 2000).

16. Self-Efficacy: The belief in one's capability to mobilize the cognitive

resources, motivation, and courses of action needed to meet task demands Bandura (1986).

17. Supervisor: A person in charge of subordinates or employees in work setting.

18. Supervisor support: "A multidimensional construct, which could include encouragement to attend [training], goal-setting activities, reinforcement activities, and modeling behaviors" (Baldwin & Ford, 1988, p. 93).

19. Theoretical model: A conceptual design intended to explain or define a process.

20. Training: A planned learning experience designed to permanently change one's behavior (Noe, 1986).

21. Training motivation: "The direction, intensity, and persistence of learning-directed behavior in a training contexts" (Colquitt et al., 2000, p. 678)

22. Transfer of training: "The effective and continued application to trainees' jobs of the knowledge and skills gained in training" (Garavaglia, 1993, p. 63).

23. Transfer Performance Transfer (TPT): An instrument designed for the purpose of analyzing factors that affect the transfer of training (Petty & Farris, 2001)

24. Validity: The degree to which an instrument measures what it is intended to measure (Gay & Airasian, 2000, p. 630)

Research Questions

Research questions of this study related to transfer intentions of registered nurses responding anonymously to a 42-question survey with an accompanying request for their demographic data.

1. What training factors could result in increased intention to transfer training by RNs?

2. What training factors could result in decreased intention to transfer training by RNs?

3. Do respondents' perceptions of intention to transfer training change significantly when comparing the population's demographic variables of length of service, gender, shift worked, supervisory responsible, level of

education, age, unit assignment, and job status to the dependent variable of barriers to transfer of training?

Hypotheses

The null hypotheses had independent variables and one dependent variable. The eight independent variables were divided into eight demographic sub-categories e. g., sub-categories for job status: (a) full-time, (b) part-time, and (c) PRN or on call.

H_o1: There will be no significant difference among respondents in their perception of barriers to transfer of training by length of service, as measured by the TPT.

H_o2: There will be no significant difference among respondents in their perception of barriers to transfer of training by gender, as measured by the TPT.

H_o3: There will be no significant difference among respondents in their perception of barriers to transfer of training by shift worked, as measured by the TPT.

H_o4: There will be no significant differences among respondents in their perception of barriers to transfer of training by supervisory responsibility, as measured by the TPT.

H_o5: There will be no significant differences among respondents in their perception of barriers to transfer of training by level of education, as measured by the TPT.

H_o6: There will be no significant differences among respondents in their perception of barriers to transfer of training by age, as measured by the TPT.

H_o7: There will be no significant differences among respondents in their perception of barriers to transfer of training by unit assignment, as measured by the TPT.

H_o8: There will be no significant differences among respondents in their perception of barriers to transfer of training by job status, as measured by the TPT.

Assumptions.

The study had assumptions based on conditions and variables – some of which were beyond my control – that could have affected the outcome of the study.

1. Self-report data from a paper and pencil survey instrument were a valid and reliable method of data assessment.

2. Respondents completed the TPT honestly.

3. Data generated by this study were accurately recorded and analyzed in accordance with the procedures set out in Chapter Three.

4. Using the self-report data was a valid and reliable method for generating data for statistical analysis.

Limitations.

Limitations were factors beyond my control. Limitations of this study were especially pertinent as they related to data collection and primarily centered on the population from which the sample was drawn. The respondents were asked to voluntarily complete a survey and the potential for disincentives to participate in the study could be myriad.

1. I had no control over whether or not individuals completed the instrument.

2. Response rates among subgroups of RNs might vary widely.

3. The population was a mostly homogeneous group of RNs as selected by the human resource staff at the population hospitals.

4. There could be other variables that affected transfer of training other than factors examined by me.

5. The data collected in this study were limited to the accuracy of the perceptions and responses of RNs participating in the TPT survey.

6. The data collected were a one-time, non-experimental sample confined to RNs working in three hospitals located in a city in the southeastern U.S.

7. This study was based on self-report surveys.

8. The return rate may have been hampered by unusually high hospital censuses causing many RNs to work overtime during the data collection period.

9. This study was limited to respondents who voluntarily agreed to complete the TPT survey, and no assignment could be made as to individual motives for participating.

Delimitations.

Delimitations were factors controlled by me and primarily centered on the nature of the instrument and population selected for this study.

1. The population identified in this study was delimited to a single population of RNs working at three hospitals in East Tennessee.

2. This study was delimited by the demographic variables of length of service, gender, shift worked, supervisory responsibility, level of education, age, unit worked, and job status (full-time, part-time, or PRN).

3. All transfer of training data analyses and conclusions were based on the notion of transfer of training as defined and measured by the TPT.

4. Using the TPT, perceptions of training of transfer of RNs employed by a large corporate hospital organization were analyzed using statistics and analysis of variance.

Summary

Chapter One of this study introduced the instrument, TPT and its proposed usefulness in investigating intentions to transfer training and intentions to transfer training. This chapter described the rationale and need for this study and briefly covered the problem of the failure of training to result in improved organizational performance. This chapter included definition of terms related to HRD and transfer of training. Also included were research questions and hypotheses regarding increased or decreased intention to transfer training. In addition, assumptions, limitation, and delimitations were delineated.

CHAPTER TWO

REVIEW OF LITERATURE

Chapter Two discussed current literature of transfer of training with particular emphasis on the importance of the role of motivation to transfer training to the workplace and the importance of supervisors as key participants in the decision of workers to transfer training. The role of cognitive theory in understanding motivation and motivation to transfer training were discussed. Two models thought to have relevance for transfer of training were presented. Additional discussion focused on issues relevant to transfer of training in the nursing profession.

Transfer of Training

The current state of training in the U.S. has been inadequate to fully develop the efficiency of human resources. Evaluation of training has often been left to chance. Training and development systems must be improved if organizations are going to reach their potential. Transfer of training must be improved to insure that organizations can compete, thrive, and survive (Haskell, 1995).

Motivation and transfer.

Research pertaining to motivation to transfer has its roots in motivation theory. The early work of Maslow and Herzberg has been well documented and has provided a basis for later work on motivation. Both Maslow and Herzberg believed that humans have needs that they strived to attain. Maslow (1943) developed a model that he described as a hierarchy of needs. Maslow called the higher order needs of his model esteem and self-actualization. Work attributes such as job satisfaction and respect on the job were examples of higher order needs.

Herzberg's two-factor theory of motivation was a construct of needs comprised of maintenance or hygiene factors, such as good pay or vacations, plus a higher level of needs called motivational factors (Bittel & Newstrom, 1990). Challenging work, the realization of capabilities, and involvement in decision-making could be considered examples of motivational factors. Herzberg called motivational factors satisfiers. He cited five factors as strong determiners of job satisfaction: achievement, recognition, work itself, responsibility, and advancement (p. 87). While this early work of Maslow and Herzberg provided perspective into the workings of organizations, later research indicated that a comprehensive understanding of motivation was missing. Luthans and Kreitner (1985) concluded, that, "At best, based upon the available research evidence, the needs theories of motivation turn out to be explanations of job satisfaction and not motivation" (p. 97)

Research has indicated that motivation has played a role in trainees' intention to transfer learning to the workplace. Maier (1973) asserted that prerequisite abilities to learn training content would likely not produce improved job performance if motivation were low or absent. Richey (1992) and Yelon (1992) found that the inclination to apply learning was as influential as post-training capabilities. Gregoire, Propp, and Poertner (1998) extended this thinking about motivation and transfer stating, "If motivation is lost at any level of the training environment, [pre-training, training or post-training] it is unlikely that transfer will occur" (p. 3). However, ability – not motivation – has been the subject of most training research. Noe (1986) maintained that the ability component of trainability has received the vast majority of interest in training literature, and Foxon (1997) concluded that relatively little training research has focused on the relationship

between motivation and transfer. Some understanding of motivation appeared appropriate.

The cognitive models have had greater prominence in theories focusing on transfer motivation. Two of the most prominent of these were attribution theory and expectancy theory. Attribution theory held that the behavior of an individual could be accounted for by the behavior of other people (Heider, 1958, pp. 20-58). That is, another person's behavior could be attributed to environmental factors. Motivation for the behavior could be external, internal, or both. This same principle could also be applied to an individual's perception about his own behavior (Benton, 1991). Organizational climate, peer support, supervisor support as well as other factors have been identified as being attributable to trainees' intention to transfer training (Baldwin & Ford, 1988; Ford, 1994; Noe, 1986). Phillips (1991) argued that when some participants were successful with the application of new skills, this success could encourage others to try those skills.

A second cognitive model was the expectancy theory of Victor Vroom (1964) who wrote, "An expectancy is defined as a momentary belief that concerning the likelihood that a particular act will be followed by a particular outcome" (p. 17). Simply stated, the more an individual expected to succeed in performing a task, other things being equal, the greater the effort he exerted in performing it (Eden, 1990). Put another way, an act (effort at a work task) was followed by a particular outcome (a product-work output). The product might or might not be outstanding. Since the range of particular outcomes was not static, the possible range of outcomes allowed for the existence of variables to play a role in influencing outcomes. By knowing that expectancies contributed to motivation and performance, manipulating expectancies could lead to improved organizational and

workplace outcomes and the transfer of training. Baldwin and Ford (1988) used the case for expectancy theory as a framework for understanding motivational issues of transfer. "We propose that the expectancy model (Lawler, 1973, Vroom, 1964) provides just such a useful heuristic for integrating research on transfer motivation and for leading to new directions for transfer research" (p. 91). In this context expectancy theory has implications for motivating trainees. As explained by Wexley and Latham (1991):

> 'First, for any program to be successful, the trainee must believe that there's something in it for me.' The individual must perceive that his or her participation in training will lead to more desirable rewards than not being in training. Unless trainees can expect the program to lead to valued outcomes (e. g., higher wages, opportunities for advancement, skill acquisition, less fatiguing and safer work), it will be viewed as merely a waste of time. (p. 95)

The trainee must perceive that training had value or the trainee's motivation could be lost, and transfer might not occur (Tziner, Haccoun, & Kadish, 1991). "The literature suggested that the more trainees know about their future training session, such as the intended goals, expected outcomes, and methods of training to be used, the more motivated they become during and after training" (Gregoire et al., p. 4, 1998). Others have also placed emphasis on motivation as a key variable in the transfer process. As Noe (1986) pointed out factors influencing training effectiveness have included the trainee, motivation, attitudes, and expectations. Tannenbaum and Yukl (1992) concluded that self-efficacy, motivation, and expectations were central constructs in understanding training effectiveness. Machin and Fogarty (1997) asserted "Trainee motivation is regarded as one of the key variables in the transfer process" (p. 100).

Transfer of training models.

According to Foxon (1994), the purpose of transfer of training models has been to assist in understanding transfer and developing strategies to facilitate it. According to Huczynski and Lewis (1980), few transfer models have been based on empirical data. "Much impressionistic and *ad hoc* information currently provides the basis for discussion" (p. 229). Other researchers (Leifer & Newstrom, 1980; Michalak, 1981) asserted that past research has failed to address transfer. Although he discussed organizational climate, ability, and retention, Goldstein (1986) reached a similar conclusion that training emphasized principles of classroom training over skill maintenance on the job, citing the main problem [of transfer retention] as the failure of persistence of behavior from the learning setting to the work setting. Laker (1990) used a time continuum concept to explain the failure of training to transfer. Laker developed the concepts of (a) near transfer, the application of new tasks similar to already learned tasks, and (b) far transfer, the application of new tasks different from previous learning. Researchers have begun to isolate individual variables as a part of the transfer process.

Campbell and Cheek (1989), Gregoire et al., (1998) and Brinkerhoff and Montesino (1995) examined supervisor support and peer support. Quinones (1995), Blair, (1996), Furze and Pearcey (1999), and Tannenbaum and Yukl (1992) looked at motivation to transfer. Foxon (1997), Tracey, Tannenbaum, and Kavanagh (1995), and Nolan, M., Owens, and Nolan, J. (1995) focused on the organizational environment and transfer. Since Bandura (1986) several others have developed a closer perspective about self-efficacy (Buchmann, 1997; Gist, & Mitchell, 1992; Mathieu & Martineau, 1997).

Baldwin and Ford (1988) developed the Model of the Transfer Process,

illustrated in Figure 1, as a framework for understanding the transfer process. They argued that maintenance of training over time was one of the keys to transfer. "For transfer to have occurred, learning behavior must be generalized to the job context and maintained over a period of time" (Baldwin & Ford, p. 62). They described the transfer process in terms of training-input factors, training outcomes, and conditions of transfer. Training inputs factors included trainee characteristics, training design, and work environment.

Work environment characteristics included climatic factors like supervisory or peer support as well as constraints and opportunities to perform learned tasks on the job. Trainee characteristics were such personal attributes as ability, personality, and motivation required to facilitate learning. As stated by Baldwin and Ford, (1988) learning and retention, the two factors of training outcomes, "are viewed as directly affected by the three training inputs of training design, trainee characteristics, and the work-environment characteristics" (p. 65). Training inputs impacted the training outputs of learning and retention. The result was transfer of training, as measured by generalization and maintenance, the conditions of transfer. Generalization was the degree to which trainees used skills, attitudes, and beliefs on the job, while maintenance was the length of time skills, attitudes, and beliefs were used in the workplace. However, Baldwin and Ford cautioned that the lack of motivation or supervisory support could lead to poor maintenance of skill transfer. According to Garavaglia (1996), the Baldwin and Ford Model of the Transfer Process set the stage for understanding key training transfer issues well as for providing a basis for additional research.

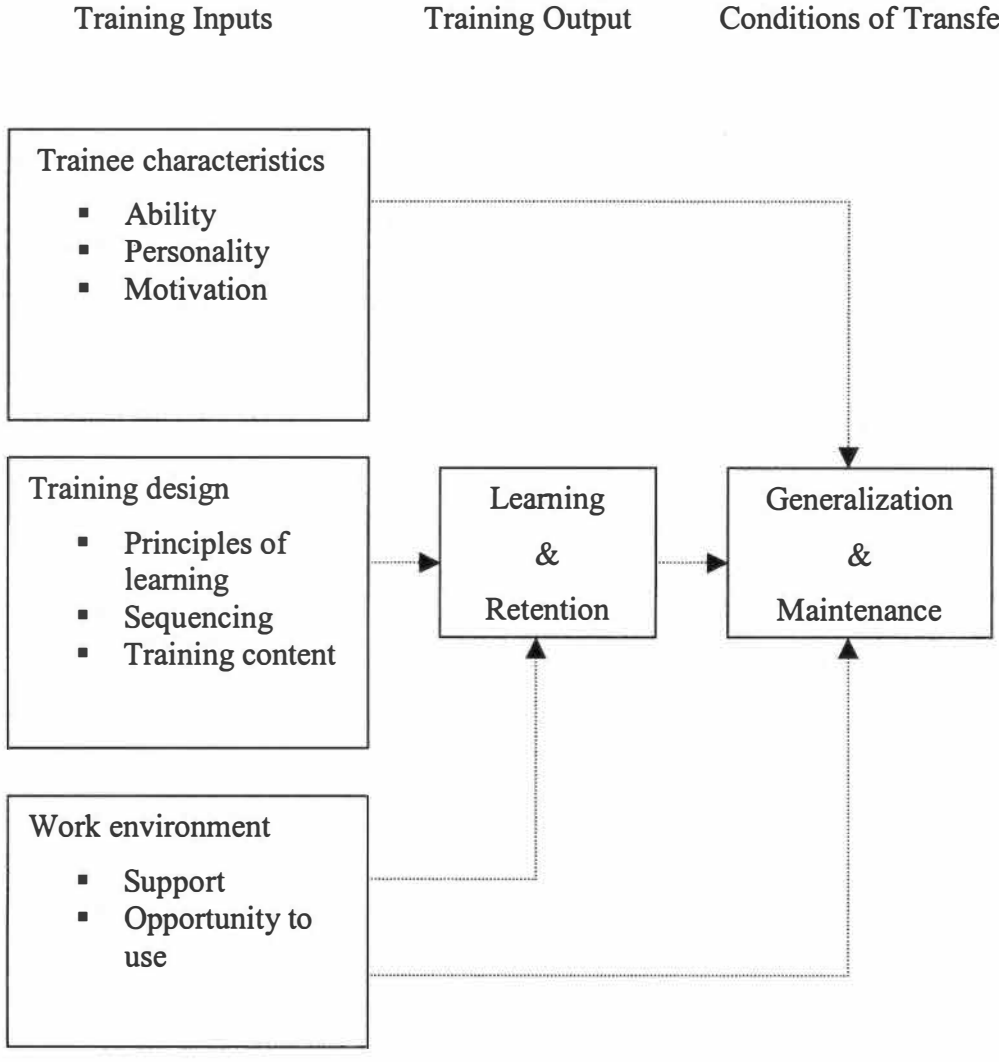


Figure 1. Baldwin and Ford transfer process model.

From "Transfer of Training: A Review and Directions for Future Research," by T. T. Baldwin and J. K. Ford. (1988). *Personnel Psychology, 41*, p. 65. Copyright 1988 by Personnel Psychology, Inc.

A second model predicated on transfer as a process was Foxon's (1994a) Stages of Transfer Model, shown in Figure 2. According to Blair (1996), "Viewing transfer as a process rather than an outcome or product of training is the essence of Foxon's model (p. 10). Foxon (1994b) asserted that both inhibiting and supporting factors influenced transfer and she concluded that the transfer process started with the intention to transfer and ended with unconscious maintenance.

The main categories of Foxon's (1994) model were the transfer environment – comprised of organizational climate, supervisory perception, and peer support – and individual characteristics such as motivation and self-efficacy. Stimulus leading to transfer failure could occur at any time (Garavaglia, 1996). Using the Foxon model as a starting point, Petty and Farris (2001) developed the Training Performance Transfer instrument (TPT) used for this study. According to Farris (2001), five constructs employed in the (TPT) influenced the decision to transfer training to the work place. As noted in Figure 2 these five factors were (a) motivation to transfer training to the workplace, (b) supervisor support, (c) organizational climate, (d) peer support, and (e) self-efficacy.

The role of the supervisor in transfer of training.

Expectancy theory aided in understanding the role of the supervisor as a positive influence on transfer of training. Two important criteria served as a guide for judging the performance of a supervisor: (a) how well supervisors managed the resources made available to them, and (b) the quantity and quality of the results they derived from the use of these resources (Bittel & Newstrom, 1990). Since trainees are part of the

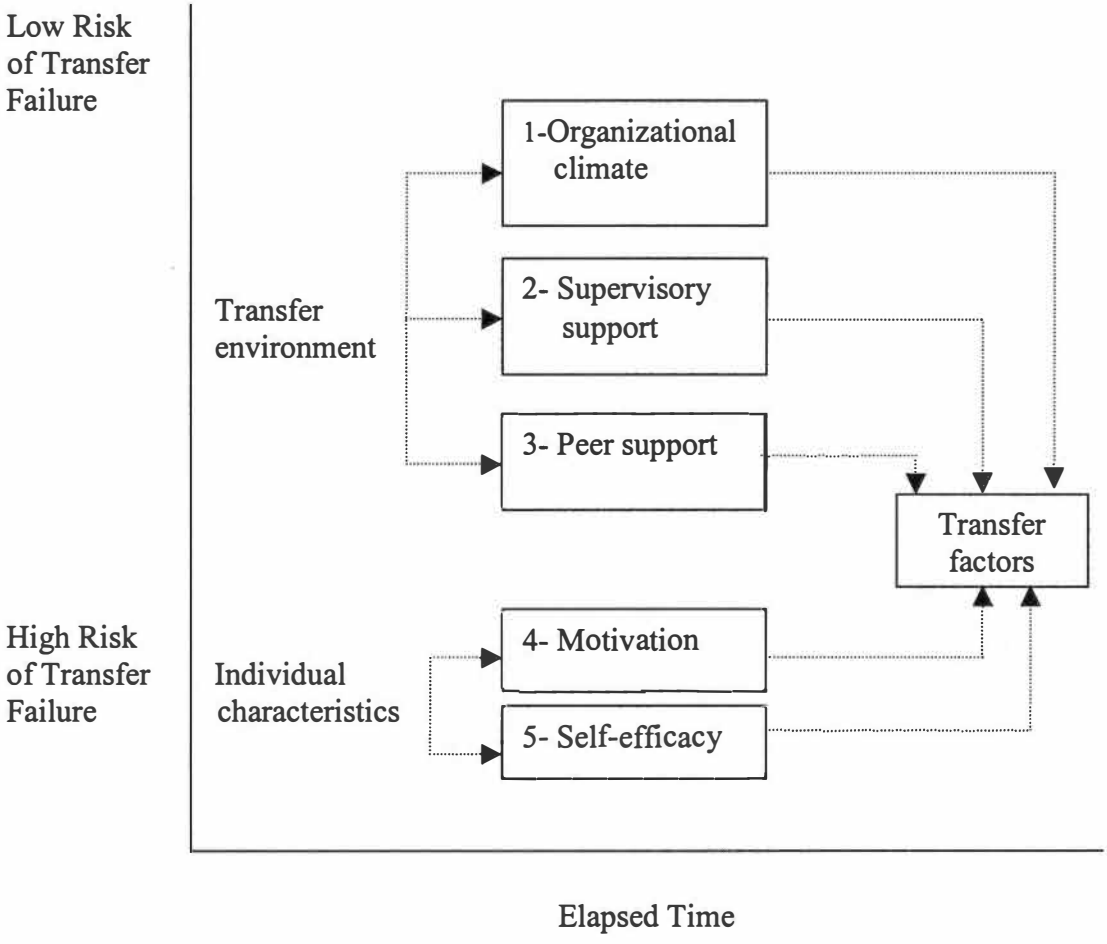


Figure 2. Hypothesized Foxon initiation stages of transfer model

From *Factors Affecting the Transfer of Training Based on the Opportunity to Perform Trained Tasks*, by D. A. Blair, 1996, Unpublished doctoral dissertation, University of Tennessee, Knoxville.

that supervisors must manage, a high level of supervisor support of such training should be expected. Consistent with this expectation, a study by Gregoire et al., (1998) found that low supervisor support of training led to low transfer rates. In their study of public and private child welfare agencies, the authors found that only 18% of supervisors provided much support of training, and only 40% encouraged workers to try new skills on the job. Moreover, over 60% of respondents reported that supervisors often or sometimes discouraged trying new approaches to work problems. Their findings were not suprising given the emphasis on training not transfer. Hastings (1999) found that many supervisors did not know how to support employees' transfer efforts, and he called for a shift from the traditional delivery of training to an organizational role emphasizing the delivery of learning. A number of studies have linked transfer to the vital role played by the supervisor in motivating employees' intention to transfer learning to the workplace (Baldwin & Ford, 1988; Gregoire, 1994; Tannenbaum & Yukl, 1992). Tracey and Tews (1995) even argued that supervisors could be the critical link between employee needs and training outcomes.

Training research has continued to uncover the dynamics between supervisor and trainee. Seipel (1986) argued that since trainers had little control over the work environment, the responsibility for training transfer lied primarily with the supervisor. Curry, Caplan, and Knuppel (1994) concluded that the way in which employees valued training was strongly affected by the supervisor's attitudes towards training. Richey (1992) and Huczynski and Lewis (1980) believed that supervisors were the most important influence on the transfer process and that supervisors exerted more influence than did co-workers on the learner's decision to transfer training.

As Baldwin and Ford (1988) stated, "Employees look toward their supervisor for important information regarding how to work successfully within the social environment of the organization" (p. 92). A study by Facteau, Russell, Ladd and Kudisch (1995) found a positive relationship between pre-training motivation and supervisor support. The authors concluded that managers who perceived a greater degree of training support from immediate superiors reported greater motivation to attend and learn from training. Clark, dobbins, and Ladd (1993) found that employees who thought that supervisors would not support transfer of training perceived training as useless. Finally, supervisor modeling might influence transfer of training. The extent to which the supervisor behaved in ways congruent with training objectives had a major impact on transfer of trained skills by subordinates (Baldwin & Ford 1988).

Noe (1986) predicted that maximum behavior change was likely to result when trainees mastered the program content and were highly motivated to use newly acquired job skills on the job. A study by Foxon (1997) found that 3 months after training it was neither action planning nor post-course motivation that most facilitated transfer. Rather. It was the amount of supervisor support that trainees felt they had received. The work of Baldwin and Ford (1988) supported this contention, citing supervisor support for training as a key work-environment variable affecting the transfer process. The expectancy theory of motivation has proven useful in promoting transfer and supervisors, by establishing expectations, could make transfer to the job a norm of a unit's culture. (Baldwin & Karl, 1987; Gregoire et al., 1998).

Training Outcomes and Measurement

To consider the proposition of increased the transfer of training to the workplace, an understanding of training outcomes was appropriate. Training could be said to be effective if it increases desired training outcomes (Noe, 1986). To cast light on training effectiveness, some level of measurement was necessary. Kirkpatrick (1959, 1994) theorized how training impacted trainees by using a four category evaluation schema, outlined in Table 1. According to Kirkpatrick, at the lowest outcome of training, there could be no knowledge or skill acquisition. For example, a trainee could attend training but make no effort to acquire knowledge or skills. At the highest level, transfer of training would be sufficient to cause organizational improvement.

Although Kirkpatrick's typology has been the most prevalent framework for categorizing training outcome criteria, Tannenbaum and Yukl (1992) urged caution in relying on Kirkpatrick's conceptual framework. Noe (1986) stated most training evaluation efforts had concentrated on levels one and two: reaction and learning measures, elements mainly confined within the training environment. Baldwin and Ford (1988) concluded that most evaluations of training measurement had been conducted immediately after the completion of training. Moreover, reaction or learning did not necessarily imply transfer of new skills to the job. Alliger and Janak (1989), in a meta-analysis of training studies, found virtually no correlation between trainee reaction and other training outcomes and slightly positive correlations among levels two, three, and four. If training was measured by Kirkpatrick's levels one and two exclusively, perceived benefits might be marginal at best, and additional training could be difficult to justify because company investments could be at risk (Brinkerhoff & Montesino, 1995).

Table 1

Kirkpatrick's Training Outcome Model

Training measurement	Description	Benefits
Level one	Reaction (not a measure of learning)	Positive reaction may aid in continuance of training.
Level two	Changes in knowledge or skills	Learning should be measured quantitatively. Use control group when possible.
Level three	Changes in behavior	Long-term benefits may be captured (at 3 months after training, on the job) using a performance measure.
Level four	Changes in production, costs, profits, quality, or other performance factors	Improved organizational performance.

Note: From *Evaluating Programs: The Four Levels* by Donald Kirkpatrick, 1994, San Francisco: Berrett-Koehl

Even if level four changes were taking place or if trainers were not seeking to measure post-training organizational improvement, the value of training could be difficult to justify. Conversely, training that linked to performance improvements made a strong case.

Transfer of training has been viewed in terms of training outcomes. Trainees' satisfaction with a training program could lead to transfer of training that, in turn, could lead to changes in work behavior. This said, do well-designed training programs routinely yield positive reactions from trainees, transfer of training, and behavioral changes on the job? There has been little research to support that this is the case. One study by Mathieu et al., (1992) reported a significant relationship between learning and performance in a proofreading exercise. However, other research indicated that skills and knowledge acquired during training often failed to translate into performance-related improvements (Cervero & Rottet, 1984; Dyson, 1997; Garavaglia, 1993). That is, transfer training did not occur, or in too many cases, companies failed to collect data that indicated whether or not transfer had taken place. Garavaglia (1993) wrote, "Few firms can show that their training expenditures result in observable behavior changes on the job" (p. 63).

This assertion was supported by an American Society for Training and Development (ASTD; 1996) study that found that, while 92% of all training in the U.S. has been evaluated to determine level one [reaction]; only 30% measured level two [learning] and only 12.8% of all training identified in the ASTD study measured level three outcomes [change in behavior]. In a similar ASTD study, Kimmerling (1993) reported that "Only 60% of respondents evaluated training at any of the four levels

developed by Kirkpatrick. for every type training, and fewer than 50% measured effectiveness at all four levels" (p. 35). One possible conclusion from these figures was that training outcomes were not being accurately measured. A second conclusion was that trainers and training evaluators had not placed a premium on transfer of training, or they did not consider measurement a high priority for other reasons.

Why measure transfer of training at all? The facile reply would be cost versus benefit. In 1989, IBM spent $900 million on training (Parry, 1991). Annual U.S. training expenditures have approached $50 billion (Lee, 1997; Minter, 1996; Nolin, 1997; Olsen, 1996). Baldwin and Ford (1988) and Minter suggested that as much as 80% of training failed to transfer from the classroom to the workplace. Foxon (1997) estimated that 58.6 million corporate employees received training at an estimated cost of $60 billion annually. Garavaglia (1993) argued that training practitioners could measure the degree of transfer to (a) demonstrate that training improves productivity, (b) provide data to justify training costs, (c) verify the effectiveness of training, and (d) aid in updating and resigning training programs. A case has been made for the need for training to transfer but research has indicated that acquired skills and knowledge often failed to transfer (Baldwin & Ford, 1988; Brinkerhoff & Montesino, 1993; Garavaglia).

Barriers to Transfer of Training

Broad and Newstrom (1992) concluded that over 80% of training investment was wasted. Marx (1986) estimated that failure of management training to transfer might be as high as 90%. This waste translated into productive inefficiency. "Vast amounts of money are wasted when management training is not retained: Skill retention is a problem we cannot afford to ignore. Methods that will increase the likelihood of long-

term skill retention must be fully explored and evaluated" (p. 54). Mosel (1957), who first voiced this concern about training transfer, argued that mounting evidence showed that very often training made little or no difference in job behavior.

The research was replete with reasons for the failure of training to transfer: (a) the design and content of training (Noe, 1986); (b) supervisory support and organizational climate (Baldwin & Ford, 1988); and (c) learners' perceptions, training design, peer pressure to resist change, and interference in transfer at the workplace (Broad & Newstrom, 1992). Cheek and Campbell (1994) cited educational intervention, the learner, the transfer setting, as well as other factors. Parry (1990) categorized barriers as personal, instructional, and organizational. Brinkerhoff and Montesino (1995) suggested that lack of supervisor intervention and the lack of strong support at the work unit level were barriers to transfer. Pre-training motivation might also influence training outcomes (Baldwin & Karl, 1987; Baldwin, Magjuka, & Loher, 1991; Mathieu et al. 1992).

Training that did not translate into improved organizational performance was a concern for organizations and trainers (Ford, 1994; Ford & Weissbein, 1997; Garavaglia, 1993; Parry, 1991). Broad (1997) defined full-performance as "the enhanced competence and productivity of individuals, teams, and organizations which results in increased levels of satisfaction for customers, clients, and community members; greater profits and/or cost effectiveness; and higher quality of products and services" (p. 8). A recent Conference Board survey (Csoka, 1994) found that major U.S. companies have had difficulty in achieving current performance goals. Of the companies surveyed, only 2% reported no problems in obtaining high performance from their workforce, while 43% reported a serious problem. Lack of training transfer appeared to be at least a part of the problem.

Broad asserted that "training, the most frequently used method to improve workforce performance has fallen far short of ensuring high performance" (p. 8). Broad concluded that trainees' continued application on the job of the knowledge and skills gained in training had usually been left, at best, to the energy and determination of the trainees and, at worst, to chance.

Understanding why some training was not effective was instructive in addressing transfer barriers. Tannenbaum and Yukl (1992) called for a paradigm shift from researching which training worked to why, when, and for whom a particular type of training was effective. They concluded that it was important to be clear not only about the training methods employed but also about the basic content and purpose of training. Newstrom (1985) identified nine major barriers to transfer as perceived by training professionals. Ranked in order of importance, these barriers were

1. Lack of reinforcement on the job,
2. Interference from the immediate work environment,
3. Nonsupportive organizational culture,
4. Trainees' perception of impractical training programs,
5. Trainees' perception of irrelevant training content,
6. Trainees' discomfort with change and associated effort,
7. Separation from inspiration or support of the trainer,
8. Trainees' perception of poorly designed/delivered training, and
9. Pressure from peers to resist changes (p. 55)

Newstrom's nine barriers suggested that management and supervisors played a role in the transfer of training. Lack of reinforcement of the job, item 1, and a non-

supportive organizational culture, item 3, were examples of areas in which management and supervisors could reduce barriers to transfer of training (Baldwin & Ford, 1988; Brinkerhoff & Montesino, 1995). Few managers have recognized or acted on their responsibilities to remove or diminish these barriers (Broad, 1997).

The importance of reducing barriers to provide effective training was established in the training literature (Broad, 1997; Minter, 1996; Tracey et al., 1995). Tziner et al., (1991) stated the fundamental purpose of training was to assist people in developing skills and abilities that would enhance their average job performance. Parry (1991) stated that courses were effective when they improved performance in the workplace and thereby contribute to the achievement of organizational mission and objectives. Unfortunately, "According to many authors the problem with training is the lack of attention organizations give to the evaluation of training effectiveness" (Gregoire et al., 1998, p. 1). Tracey and Tews (1995) asserted that training effectiveness was dependent on "events that occur ***before***, during, and after the actual training and was influenced greatly by individual characteristics and factors related to the work environment" (p. 39). Yet most research on training effectiveness focused on factors within formal training settings (Baldwin, & Ford, 1988; Clark et al., 1993; Ford et al., 1992; Tracey et al., 1995; Tracey & Tews).

Field practices have also emphasized the learning site over the transfer environment: "To a large extent, HRD practitioners have emphasized and developed sophisticated delivery devices at the expense of the critical connection between the training site and the work environment" (Brinkerhoff & Montesino, 1995, p. 264). However, there have been indications of recognition that training transfer was more

dynamic than static. Ford and Weissbein (1997) called for research focusing on how person and situational factors interacted to affect learning and transfer. Garavaglia (1993) argued that the organizational system was often more important than the training itself. Garavaglia calculated that about 20% of critical job skills were learned from formal training and education, and 80% were learned on the job or within the organizational systems when organizational systems supported new behaviors and skills. Broad (1997) posited that specific training activities were preparation for transfer, and should not be viewed as a separate goal.

Training that started with solid needs assessments and learning objectives and proceeded to training related to organizational objectives was not enough. Including Kirkpatrick's levels three and level four evaluations still did not maximize training effectiveness. Only when trainees' motivation to learn and to apply what they had learned had been addressed could transfer of training be optimized.

Training in the Nursing Profession

The literature contained several examples of professions and companies in which training failed to transfer. The list included the U.S. military, Johnson & Johnson, ABB, Inc., AT&T Corporation, ICI Pharmaceuticals, and the Federal Aviation Administration (Broad, 1997; Csoka, 1994; Mathieu et al., 1992). Worker groups in which training failed to transfer included public child welfare workers (Gregoire, 1994), university employees (Mathieu et al., 1992), fast food workers (Rouiller, 1989), retail employees (Sutton & Woodham, 1989), supermarket managers (Tracy et al., 1995), registered nurses (RN)s in U. S. and British hospitals (Alexander, 1990; Barriball, While, & Norman, 1992;

Buchmann, 1997; Ross, Carswell, Dalziel, & Aminzadeh, 2001; Levine, 1978; Oliver, 1984; Wake 1987; Warmuth, 1987), and safety workers (Minter, 1996).

Training often has been referred to as continuing education (CE) in a variety of medical professions (Chater, 1975; Holzemer, 1988). Definitions of CE supported this contention. Smith (1979) defined CE as "post-registered learning activity designed to increase knowledge or skill or challenge attitudes" (p. 8). Schlotfeldt (1975) defined CE as "programs of short-term study offered by higher education institutions, employing agencies, or professional societies for updating practitioners' knowledge of skills" (p. 770). The American Nurses Association defined CE as "planned educational activities intended to build upon educational and experiential bases of the professional nurse for the enhancement of practice, administration, education, or research to the end of maintaining and improving the health of the public" (p. 1131). O'Kell (1986) and Duberley (1985) argued the importance of distinguishing in-service and orientation from other forms of CE because "the former is largely determined by the needs of the employer while the latter provides a framework in which the needs of individual nurses can be identified and addressed" (p. 22). Houle (1980) described the common aims of training and CE as the acquisition of new knowledge, skills, values and attitudes. Cervero and Rottet (1984) cited studies in various professions – nurses, dentists, pharmacists, physicians, and teachers – that demonstrated behavioral changes resulting from training were attributable to CE.

One reason training and transfer of training research in nursing should be prioritized was the growing shortage of (RNs) on national and state levels. In an article in the *Torchbearer*, (Loveday, 2001), the author quoted Dean of Nursing, Joan Creasia,

at the University of Tennessee, Knoxville: "In 2000, the U.S. Department of Health and Human Services reported that 854,000 nurses with a bachelor's degree were needed in hospitals. Unfortunately, only 596,000 registered nurses were available and not all of those worked in a hospital setting" (p. 20). Creasia argued that the problem was manifest at hospitals because of the demanding nature of the work resulting from the acuity of the hospitalized patient. A major aspect of the problem was turnover. "If the general trend for high turnover amongst nurses appears to be problematic, the shortage of skilled nurses in the intensive care units and emergency wards is alarming" (Dolan, Van Ameringen, Corbin, & Arsenault, 1992, p. 1455).

Other factors that have driven the necessity for training for RNs included social changes such as shifts in age composition, patterns of illness, knowledge explosion, rapid changes and advancement in technology, and the increased need for accountability (Ferrell, 1988). Ferrell also pointed out the failure of training evaluation to measure behavior changes on the job or measure improvements in patient care or in health systems.

Transfer of training in the nursing profession.

Training in nursing is not a new concept. It dates to the mid nineteenth century. The first post-credentialed training for nurses was credited to Florence Nightingale at St. Thomas's Hospital on July 9, 1860 when 15 "Nightingale Probationers" began training under the supervision of Elizabeth Wardroper (Seymer, 1960). Today CE has become mandatory in many cases. Macklin and Matthews (1998) reported that 27 U.S. state boards of nursing had a CE requirement for license renewal, and 43 state boards had such a requirement for re-entry in the nursing profession. Macklin and Matthews continued

> continuing education has long been embraced by the nursing profession as an ideal way to build RNs' skills. Legal, ethical, and professional concerns, and those related to clinical and competency-based skills, are among the most pressing in today's nursing environment. Important legal and ethical CE topics include supervision of personnel and RN delegation of tasks. Continuing education is also addressing professional issues such as adapting nursing care and professional duties to managed care settings, multistate licensure, and the encroachment of other disciplines into nursing practice. (p. 60)

Over time, health care providers generally have accepted that training was important to institutions, nursing practice, and quality of patient care (Brown & Copeland, 1984; Castiglia, Hunter, & McCausland, 1986; Urbano & Jahns, 1988). Popiel (1969) suggested that two important outcomes of training should be learning new roles or techniques and acquiring knowledge, skills, and attitudes to enhance nurses' performance. "Transfer of training has become a serious concern in the nursing profession reflecting a repeated assertion in the literature that training ought to improve patient care" (Barriball et al., 1992 p. 1135; see also Crotty & Bignell 1987; Heick, 1981; Maggs, 1991; Mitsunaga & Shore, 1977).

The need for training has been documented in a variety of nursing cognates. In a survey of 132 hospital nurses in the midwest, Lubbers and Roy (1990) identified a need for training to develop increased communication skills. Thirty-seven percent of the nurses surveyed by Lubbers and Roy reported having received no communication education while in school. Cushing (1982) asserted that breakdown in communication could lead to lawsuits, and Greenlaw (1982) stated problems with communication led to avoidable patient death. Johnson (1994) captured the daunting range of communication responsibilities that RNs face today: "RNs are charged with the responsibility of gathering and disseminating accurate and thorough information while maintaining

cooperative relationships among fellow RNs, patients, management, other corporate employees, and, with increasing frequency, the general public" (p. 213).

Duffy, Leeming, and Bracey (1988) found that although dementia care has evolved into a specialized area within the mental health discipline, nurses have not incorporated these advances into training because of lack of educational opportunities. Shanley, McDowell, and Wynne (1998) found no research exploring methods of adopting new dementia care skills and attitudes into nursing CE. Those authors conducted a brief educational program for charge nurses caring for people with dementia using a pre- and post-test design, and they concluded that institutional factors played a significant role in effecting changes in nursing practices. Charge nurses reported that they often felt powerless because of a management and medical professional structure that affected their ability to exercise what they considered legitimate influence over their work area. In this study all charge nurses had cared for people with dementia for between 6 and 20 years, and yet the work by Shanley et al., was the first training any nurses had undergone specifically aimed at caring for people with dementia.

Slusher et al., (2000), in a 10-year study collected data from 37 CE offerings of 474 respondents. Findings revealed that most respondents thought they had acquired significant knowledge or skills for updating nursing practice, but that fewer than 50% of respondents reported they were able to implement those changes.

Yet there was also evidence that although supported the contention that CE has played a role in improving the quality of nursing care. Ferrell (1988) reported that changes by nurses and by their supervisors were attributed to attending CE classes. Most of the changes related to patient observation. Slusher et al., (2000) supported the usefulness of

CE in nursing practice, the need for additional research evaluating CE, and the correlation between CE and nursing practice. In a study by Gill and Ursie (1994), one group of nurses participated in traditional CE. The nurses on one of four adult surgical orthopedic units participated in an experimental program for patient care protocol for elderly patients with hip fractures. Patients of the experimental unit left the hospital on average 4 days earlier than did patients receiving care from the traditional group.

Both Slusher et al., (2000) and Ferrell (1988) contended that nurses should not engage in CE just to maintain licensure, but they should do so to prepare for change and quality maintenance in a dynamic profession. Ferrell observed that the half-life of nursing knowledge ranged from 2 to 5 years, depending on the clinical area involved, and that nurses must constantly renew their knowledge or become obsolete. Nurses in leadership roles must shoulder even greater responsibilities. Johnson and D'Argenio (1991) argued that nurse leaders must manage human and fiscal resources in ways not required in the past, calling for nursing leaders "who are competent, adaptable, flexible, creative, persistent, patient, and effective" (p. 249). Yet RNs continued to rate themselves as less than adequately prepared for their work. Shand (1987) identified a wide range of topics in which RNs did not feel competent, among them management and teaching skills. Corner (1990) found in a sample of 127 nurses that 82% rated their competence to care for cancer patients as low.

Given the rapid development of scientific and technological change, CE and training has taken on an increasingly vital role in the health care professions and has offered means of ensuring that members of the nursing profession maintain their competence to practice (Kristjanson & Scanlan, 1994). Yet evidence of training transfer

yielding more effective patient care has been problematical at best. In fact, Barriball et al., (1992) argued that the evidence of a positive association between CE and improved care was scarce.

Barriers to transfer of training for nurses.

"Continuing Education programs for nurses often result in improved quality of patient care and personal and professional growth of participants. These outcomes are not achieved when nurses perceive barriers to putting knowledge from CE programs into practice" (Scheller, 1993, p. 114). Early researchers attempted to find links between reasons for involvement in CE and demographic variables such as gender, age, or family factors. Schoen and Morgan (1993) concluded that research failed to find demographics as significant predictors of RNs' participation in CE. Nolan et al., (1995) stated,

> Despite enthusiastic claims there has been relatively little empirical work in the UK focusing on the actual effects on practice. The empirical data on the actual, as opposed to the putative, benefits of CPE [continuing professional education] are still sparse, highlighting the need for further study, particularly concerning nurses' perceptions of the benefits of CPE. (p. 552)

Nolan et al., (1995) concluded, based on his review of recent studies, that there was a need to consider barriers to the successful implementation of nursing CE, categorizing the barriers into groups. The first group of factors that inhibited the uptake of training by RNs were

1. Time,
2. Money,
3. Availability of training opportunities,
4. Poor marketing of training opportunities,

5. Lack of awareness of nursing staff of the importance of continuing education,
6. Workload preventing free time to attend training,
7. Family commitments,
8. Lack of management and supervisor support,
9. Senior staff nurses often get the first pick of continuing education,
10. Time constraints for night shift, weekend shift, and part-timers, and
11. Conflict between needs as perceived (p. 553).

The second group was those factors that inhibited subsequent transfer to practice were

1. Motivation of the individual practitioner,
2. Nature of the environment/organization,
3. Nature, complexity, and acceptability of the change, and
4. Quality of the educational input. (p. 553)

However, providers of CE programs must go beyond recognizing barriers to transfer of training. An understanding of these barriers must be incorporated into decisions that affect training programs. For example, decision-making regarding content, learner needs, location, costs, and other variables related to training and to transfer of training needs be viewed in light of barriers to transfer of training. This lack of understanding of the transfer process has been one impediment to the planning and implementation of training that transfers into improved performance. Without evaluation of training that addresses transfer the functions of training will never be maximized. Perry (1995) posited that lack of objective assessment of CE programs was a severe

limitation of the literature. Furze and Pearcey (1999), in their literature review of CE in nursing, identified no UK studies that used empirical data to assess the impact on patient care. In the field of registered nursing, transfer of training has appeared to be an area in which that, at least for the present, there were more questions than answers.

Summary of Review of Literature

Chapter Two discussed the historical roots and current literature of training and transfer of training. Numerous factors that impacted transfer of training and the failure of training to transfer were discussed. The influence of Expectancy Theory on motivation to transfer training from the classroom to the workplace was discussed. Motivation Theory and its influence on transfer of training were also discussed. The models of Foxon and Baldwin and Ford were examined to aid in understanding the process of transfer of training and how the process has been theorized to actually function in the field. The role of the supervisor as a key player in the motivation of trainees to transfer training from the classroom to the workplace was detailed.

During the 1990s organizations worldwide have undergone major changes in structure, size, technology and human resources (Blair, 1996). Against this backdrop, maintaining a competitive edge in the market place has become a business priority, and the upgrading of worker skills has become mandatory (Meister, 1994; Swyt, 1995). Yet much training designed to upgrade worker skills has failed to transfer to the workplace as improved worker productivity (Ford, 1994; Ford & Weissbein, 1997; Garavaglia, 1993; Parry, 1991). This failure of transfer has had serious implications for business. Haskell (1995) predicted that organizations that developed transfer abilities would be the

ones that would be able to best adapt, compete, and survive.

The failure of training to lead to improved performance has had another serious consequence, the waste of millions of dollars annually spent for training that did not lead to the implementation of training objectives. Current figures of U.S. training expenditures have been estimated to be as a high as 50 to 60 billion dollars annually. Although as many as 58.6 million U.S. employees receive training each year, some researchers have calculated that as much as 80% of this training has failed to translate into improved worker performance. Only recently have training researchers begun to focus on this aspect of the function of training.

Most transfer research has focused on the training experience rather than on the use of learned skills (Huczynski & Lewis, 1980; Noe, 1986). During the 1990s, researchers began to devote more attention to organizational and individual factors thought to influence transfer (Broad, 1997; Foxon, 1997; Tracey & Tews, 1995). Research on the problem of transfer of training has uncovered not one, but a multiplicity of factors that might contribute to the problem.

Several barriers to transfer have been identified in the literature. One was supervisor behavior (Baldwin & Ford, 1988; Clark et al., 1993; Facteau et al., 1995; Newstrom, 1985). Supervisory support for training has also been cited as a key variable affecting the transfer process (Baldwin & Ford; Ford et al., 1992; Quinones et al.; 1993; Gregoire et al., 1998; Noe 1986). According to Baldwin and Ford, supervisory support was a multidimensional construct that included such activities as verbal encouragement, goal setting, reinforcement, and modeling. Other key factors that have been identified as impacting the failure of training to transfer to the workplace were peer-support among

co-workers, the organizational support for training and transfer of training, self-efficacy as it relates to motivation and intent to transfer training, and motivation to transfer training among others.

Expectancy theory has been helpful in understanding trainees' motivation to transfer training (Baldwin & Ford, 1988; Clark et al., 1993; Tannenbaum & Yukl, 1992). Tziner et al., (1991) wrote that the motivation of trainees to transfer training might be linked to trainee perception of the utility of training. Clark et al., argued that expectancy theory linked trainee motivation to anticipation that training would result in either improved job performance or career development. Researchers have identified supervisor behavior toward trainees and training as key factors in trainee intention to transfer and to maintain training (Baldwin & Ford; Curry et al., 1994; Garavaglia, 1993; Gregoire, 1994; Tannenbaum & Yukl 1992). Foxon (1997) reported that few researchers have investigated the relationship between trainee and transfer. Two recent transfer models that considered trainee motivation to transfer training were Baldwin and Ford's Transfer Process Model (1988) and the Foxon's Initiation Stages of Transfer Model (1994).

One field in which training literature has identified training that has failed to transfer was professional nursing, specifically RNs. Among transfer problems cited in the research in this field were lack of motivation of RNs to transfer training, poor self-efficacy, organizational climates that failed to promote or support transfer of training, the failure to utilize research findings identifying transfer barriers, work overload, lack of management and supervisor support of training, lack of peer support for transfer, and lack of time for training or for incorporating training into the RN regimen (Buchmann, 1997;

Dolan, et al., 1992; Dyson, 1997; Kristjanson & Scanlan, 1994; Nolan et al., 1995; Scheller, 1993).

CHAPTER THREE

RESEARCH PROCEDURES

This chapter detailed the research procedures used in this study. These procedures included research design, instrumentation, data collection, and data treatment. This chapter also included the rationale for the particular statistical treatments chosen for this study. The Human Subjects Form A form authorizing me to conduct research for this study was approved by the University of Tennessee, Knoxville. This permission applied to this specific study only.

Description of Data Source

The data source was a large hospital system located in the southeastern United States as well as other parts of the country. The hospital corporation owns and operates over 200 facilities and has been in business for several decades. The data were collected from three hospitals located in a metropolitan area of approximately 350,000 people located in the southeastern U.S.

Research Design

The study was descriptive as the survey investigated relationships between variables and described the respondents' perceptions toward transfer of training. Issac and Michael (1995) described the correlational method of research as the extent to which variations in one factor corresponded with variations with one or more other factors. The choice of which measures to use to derive correlations depends upon which mathematical operations are assumed permissible with the scores (Nunnally & Bernstein, 1994, p. 120). The data may be nominal, ordinal, interval, or ratio. These authors recommended a

sample of at least 100 members to moderate the effect of distribution shape and to minimize the possibility of sampling error. The quantitative method to determine reliability scores used in this study was Cronbach's Alpha, also referred to as the alpha coefficient. Gay and Airasian (2000) recommended Cronbach's Alpha for establishing internal consistency reliability when items have two or more scores, for example, a Likert scale. The alpha coefficient determines how items relate to all other items and to the total test. The acceptable range of scores depends on the situation in which the instrument is being used and the purpose or objective of the research (Rosnow & Rosenthal, 1999).

Data collected for this study were classified as ordinal, that is, data that had known equality of intervals or differences and to which parametric tests may be applied (Nunnally & Bernstein, 1994). One benefit of using parametric tests is that these tests are more powerful than non-parametric tests. One example of the power of parametric testing is that a researcher is less likely to commit a Type II error, that is, he or she is less likely not to reject a null hypothesis that should be rejected (Gay & Airasian 2000).

To determine the possibility of any significant differences among the data, a simple or one-way univariate analysis of variance (ANOVA) was used. An ANOVA may be used in a study with two or more groups to determine if there is a significant difference between two or more means at a selected probability level (Gay & Airasian, 2000). An ANOVA may also be used to analyze various results even if the study tests no formal theory as in the case of this study (Nunnally & Bernstein, 1994). The following description describes the arithmetic construction of the ANOVA.

> The concept underlying ANOVA is that the total variation, or variance, of scores can be divided in two sources – treatment variance (variance groups, the treatment groups) and error

> variance (variance within groups).A ratio is formed, (the *F* ratio) with the treatment variance as the numerator(variance between groups) and error variance in the denominator (variance within groups).If the treatment variance is sufficiently larger than the error variance, a significant *F* ratio results and it is concluded that the treatment had a significant effect upon the dependent variable (Gay & Airasian, 2000, p. 491)

Descriptive methods of research were used in addition to the correlational procedures to address research questions including frequencies, standard deviations, and means. Descriptive statistics describe and summarize data. As stated by Issac and Michael (1995), descriptive research seeks to systematically and factually describe a population but does not necessarily seek or explain relationships, test hypotheses, make predictions or get at implications.

Study purpose.

The purpose of this study was to use a quantitative approach to identify perceptions of transfer of training that registered nurses (RNs) experienced on their respective jobs. This information was collected from RNs at the three hospitals cited at the beginning of this chapter. The population size was 276. The research was conducted utilizing the Training Performance Transfer (TPT; see Appendix A) Petty and Farris (2001) to measure the perceptions of barriers to transfer of training of the sample using five dependent variable sub-scales and eight independent variable demographic items. The authors gave permission to use the TPT in this study. The data from the sample were analyzed statistically to ascertain what relationships existed among the data and assess the significance of these relationships.

Population.

The population of this study consisted of registered nurses from three hospitals located in

the southeastern United States. All RNs were surveyed in accordance with guidelines established with the company executives, the Chief Executive Officer, the human resources vice president (HRVP), and the corporate legal department. The RNs were classified as full-time, part-time and PRN, a category of RNs that worked on an as needed basis. The entire population of 276 RNs received the survey. Hospital A had 149 RNs, Hospital B had 105 RNs, and Hospital C had 22 RNs. I chose this population based on a perceived need by the Department of Human Resources of the subject company that matched my research interest. The Department of Human Resources intends to use this research to assist in the evaluation of current continuing education (training) programs and to assist in the development of future continuing education programs. The data collected for this study was a sample of convenience using a self-report survey and was chosen in part because of it general representation of the RNs from the metropolitan region.

The HRVP for the hospital corporation sent an email January 2, 2002 to all RNs alerting them to the survey and explaining the purpose of the survey and the importance of completing it. He also stated in the email that confidentiality would be respected and that the identity of respondents would not be revealed. On January 4, 2002 hospital staff placed the survey packets in each RN's box with the respective name of each RN on the outside of each packet. The cover letter accompanying the survey packet is located in Appendix C. The directions in the cover letter instructed RNs to return completed surveys by January 23, 2002, and to place them in designated drop boxes in the human resource department of each hospital. The only

identifier on completed surveys was the hospital where the survey was completed. The identifier for each hospital was a small mark made with a colored pen. The name of the individual hospital or name of the respondent did not appear on the survey instruments collected.

To increase the response rate, the HRVP sent two emails to all RNs thanking them for participating. The email also included a reminder to non-respondents to complete the survey. With my permission, the HRVP moved the deadline for accepting completed surveys to February 1, 2002. The HRVP put this information in the second email. Following the emails, the response rate increased from near 37% to over 41%.

Independent variables.

Eight demographic factors were the independent variables in this study. They were (a) length of service, (b) gender, (c) shift worked, (d) supervisory responsibility, (e) level of education, (f) age, (g) unit assignment, and (h) job status.

Dependent variable.

The five sub-scales thought to either promote or hinder the transfer of training as measured by the TPT comprised the dependent variable in this study. The sub-scales were (a) motivation to transfer training, (b) supervisor support, (c) organizational climate (d), peer support, and (e) self-efficacy.

Instrumentation.

I used the TPT instrument (Petty & Farris, 2001) to measure RNs' perceptions of transfer of training. The TPT was a self-reporting instrument that could be completed privately and without assistance from another person. The instrument was subdivided into two parts. Part One consisted of directions for responding to each performance

statement in the survey. The 42 performance statements were modeled after the five sub-scales mentioned in the last paragraph and thought to inhibit or promote transfer of training in the workplace. Respondents were asked to answer each of the performance statements using a 5- point Likert scale designated as follows: 1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Usually, and 5 = Always. Part Two consisted of directions for completing the demographic section, consisted of eight demographic variables: (a) length of service, (b) gender, (c) shift worked, (d) supervisory responsibility, (e) level of education, (f) age, (g) unit assignment, and (h) job status.

I conducted a literature search in order to find the most suitable instrument for the purpose of this study. The search for training instruments did reveal the Trainer's Assessment Proficiency (TAP) and the Wescshler Memory Scale III, however the TPT was a better fit for the purpose of this study.

Data collection.

After initial conversations with the HRVP, the I emailed the TPT with a brief synopsis of the purpose and potential benefits of the study to the HRVP and officially requested permission to conduct the research. The HRVP presented this proposal to company officials empowered to make this type decision. There was an understanding that the results of the study would be made available to the company. Company officials granted permission to conduct the study at the three designated hospitals and the HRVP informed me of this decision by email.

After the deadline for completing the TPT had passed, I collected the surveys in person. I entered the data into an Excel spreadsheet. From a population of 276 RNs, 115 respondents completed the TPT. The return rate was 41.6%.

Data analysis.

The TPT data were entered into a Microsoft Excel spreadsheet. The Statistical Package for the Social Sciences (SPSS) 10.2 for Windows was used to analyze the data. The TPT, and data collection measures of central tendency were the only collection devices utilized for this study. Descriptive statistics including the mean, standard deviation, and frequencies for the demographic data were employed to help interpret employees' perceptions of transfer of training. A univariate analysis of variance (ANOVA) test was used to analyze the perceptual data from the TPT. The test divided the survey into five sub-scales (a) motivation to transfer, (b) supervisor support (c) organizational climate, (d) peer support, and (e) self-efficacy in order to measure the employees' perceptions of transfer of training.

Summary of Research Procedures

The purpose of this study was to identify factors relating to training and transfer of training that impacted RNs' intention to transfer training from the classroom to the workplace. Then, to determine the relationship between the dependent variable, barriers to transfer of training and eight demographic independent variables as they related to survey respondents' intention to transfer training.

The primary statistical instrument used to gather data for this purpose was the TPT instrument. The sampling frame for the study consisted of 276 RNs working for a large hospital corporation located in the southeastern U.S. Chapter Three described the methodological procedures detailing the description of the data source, research design, study purpose, instrumentation, data collection and analysis. I used the results of ANOVA testing to determine if significant differences existed between the dependent and

independent variables at $p = .05$. In addition, I used descriptive statistics including means, frequencies, and standard deviations to determine relationships among the data related to the three research questions posed in Chapter One.

CHAPTER FOUR

FINDINGS

The purpose of this study was to identify factors that inhibited or facilitated workplace transfer of training and to determine the extent to which these factors impacted transfer of training as perceived by a population of registered nurses (RNs) who completed the Training Performance Transfer (TPT). To achieve this purpose I used a univariate analysis of variance (ANOVA) tests for eight demographic variables: (a) length of service, (b) gender, (c) shift worked, (d) supervisory responsibility, (e) level of education, (f) age, (g) unit assignment, and (h) job status of the population with the dependent variable, barriers to transfer of training. Presented in this chapter were statistical findings generated by the use (a) reliability tests, (b) ANOVAs, and (c) descriptive statistics. These analyses were used to address three research questions and eight research hypotheses found in Chapter One.

Results From the TPT

Reliability statistics.

The coefficient alpha statistic was used to measure internal consistency reliability for this study. In this context, sampling size was a factor. Rosnow and Rosenthal (1999) recommended a minimum sample size of 30 to 80 subjects for reliability estimates. Gay and Airasian (2000) suggested that for populations of 100 subjects or fewer, it is best to survey the entire population. These authors stipulated that it is extremely difficult to state appropriate reliability coefficients for different type tests. However, it is essential to keep in mind that the smaller the sample, the greater the chance for sampling error (Nunnally & Bernstein, 1994). These authors also stated that the coefficient alpha statistic provided

good estimate of reliability for new instruments, such as the TPT. For the alpha coefficient test, the 42 items of the TPT were grouped by the five dependent variable sub-scales. These findings are shown in Table 2.

Research questions and hypotheses.

Three research questions guided this study.

1. What training factors could result in increased intention to transfer training by RNs?

2. What training factors could result in decreased intention to transfer training by RNs?

3. Did respondents' perceptions of intention to transfer training change significantly when comparing the population's demographic variables of length of service, gender, shift worked, supervisory responsible, level of education, age, unit assignment, and job status to the five transfer of training sub-scales used in the TPT?

Table 2

Internal Consistency Reliability Coefficients for Dependent Variables

Item grouping	Survey items included	Cronbach's Alpha
Organizational climate	12 total items (Q1, 5, 6, 8, 11, 12, 16, 22, 29, 31, 35, 37)	.8537
Supervisor support	10 total items (Q4, 9, 15, 20, 24, 27, 32, 33, 40, 41)	.9391
Motivation	9 total items (Q2, 13, 19, 26, 28, 30, 36, 38, 39)	.6429
Self-efficacy	7 total items (Q3, 7, 14, 17, 18, 23, 25)	.7959
Peer support	4 total items (Q10, 21, 34, 42)	.8859
	Overall reliability for 42-item test:	.9478

To test the research questions, I formulated eight null hypotheses to determine if significant differences existed between variables used in this study. Each of the 42 performance statements in the TPT were classified as belonging to one of the five sub-scales of the TPT. Univariate ANOVAs were used to test each of the five sub-scales: (a) motivation to transfer, (b) supervisor support, (c) organizational support, (d) peer support, and (e) self-efficacy. Then, ANOVAs were used to determine main effects only. A main effect, also called the overall effect, is the effect of an independent variable on a dependent variable, apart from its interaction with other independent variables (Rosnow & Rosenthal, 1999). Tests of Between-Subject Effects were used for the dependent variable and the eight independent variables to determine significant differences at the .05 level. Significant differences were found for three independent variables as shown in Table 3.

Table 3

Significant Differences for Dependent Variable, Barriers to Transfer of Training

Dependent variable sub-categories	Gender	Age	Unit assignment
Motivation to transfer training	.021	.040	
Peer Support		.014	
Self-efficacy			.002

$p = .05$

Descriptive Statistics.

The TPT consisted of 42 performance statements and eight demographic variables. Table 4 shows the descriptive statistics for the final data, including individual means and standard deviations for each of the 42 items on the TPT.

Means for these sub-scales ranged from a low of 2.00 to a high of 4.32. The highest mean score reported, 4.32, was for item 2, "I am motivated to use the information I have learned." The lowest mean score reported, 2.00, was for item 38, "I am distracted by my personal problems."

The descriptive statistical analysis of the eight demographic variable used in this study were as follows: Length of service leaned toward stability rather than turnover. Of the 115 (RNs), only 21, or 18.3%, of the sample reported a service time of less than 2 years while, 43 RNs, or 38.1%, reported being on the job more than 8 years, and 49 RNs, or 43.4%, had worked between 2 and 8 years.

Gender broke down as expected. Females RNs comprised 87.6%, (n = 99) of the sample. Males accounted for 12.4% (n =14) of the respondents.

Most RNs worked days or first shift, with 73 respondents or 63.5% of the sample. The second highest total was the third shift with 25 RNs, or 22.9%. Only 11 respondents worked second shift. As for supervisory responsibilities, 65 RNs, or 59.6%, reported supervising employees. A total of 44 RNs or 40.4% of the sample, reported that they did not supervise employees.

The TPT contained seven categories for level of education. The majority of RNs, (n = 57; or 59.6%) of the sample reported having an associate degree, and 29 RNs, or 25.7% reported having a Bachelor of Science in Nursing. In addition, 10 respondents, or 8.8% of the sample reported having a Bachelor of Science in a non-nursing area. In the four remaining categories, the total number of RNs was 17 or 14.8%.

In the age demographic, a majority of respondents, (n =65; 57.5%) reported being between 36 and 55 years of age. A total of 22 RNs or 24.8%, reported being between the

ages of 27 and 35. Twenty RNs, or 17.7%, reported being over the age of 55.

There were 11 categories in the unit assignment demographic. The largest number of RNs responding, 31 or 28.4%, worked in the medical/surgical unit, and mental health ranked second with 22 RNs, or 20.2%. There were 16, or 13.9%, responses in the other category. Most of these responses were some variant of existing categories such as day surgery and oncology surgery. A total of 9, or 7.8%, of respondents worked in the emergency room. The remaining 31 responses were scattered among seven categories.

The final demographic variable assessed was job status. Of 112 respondents, 68, or 60.7%, reported being employed full-time, and 9, or 7.8%, respondents reported being employed part-time. Almost a third of the respondents, 35, or 31.3%, of the sample described themselves as PRN or on-call. The low number of second shift RNs was explainable for several reasons, such as that sleeping patients need less care and that routine medical procedures are typically performed during the normal work day.

The results of the testing for significant differences among the eight hypotheses using the ANOVAs are presented here. Where a significant difference was found, the means and standard deviations for those sub-categories were included in a companion table to aid in interpreting the data.

H_o1: There will be no significant differences among respondents in their perception of barriers to transfer of training by length of service, as measured by the TPT.

As shown in Table 5, the results of the ANOVAs did not support a significant difference at the .05 level for the independent variable, length of service and the dependent variable, barriers to transfer training. Therefore, H_o1 failed to be rejected at $p = .05$. The lowest mean for length of service was motivation to transfer training with a

Table 4
Descriptive Statistics for TPT Data

Item	*n*	Mean	SD
1. My organization considers the application of skills I have learned high priority.	114	4.08	.829
2. I am motivated to use the information I have learned.	114	4.32	.718
3. I have knowledge about methods for using what I have learned.	115	4.18	.741
4. I get on the job reinforcement from my supervisor	113	3.76	1.066
5. Existing work demands are consistent with training I have received.	114	3.78	.848
6. I am quickly able to apply new training on the job.	114	3.86	.864
7. I have confidence when attempting to apply related theory to my job.	114	4.04	.706
8. What I have learned in training is relevant to the tasks I perform.	114	4.07	.746
9. What I learned in the classroom is supported by my supervisor.	115	4.00	.896
10. My co-workers consistently support my use of training on the job.	115	3.88	.867
11. I experience pressure to do more on the job.	113	2.61	1.104

Table 4
continued

Item	*n*	Mean	SD
12. I am encouraged to use new ways of doing my job.	114	3.48	.865
13. I previously learned the information taught in my training.	113	3.57	.792
14. I can easily concentrate when learning related theory.	115	3.69	.724
15. My supervisor assists me in using what I have learned.	115	3.56	1.070
16. I understand what is expected of me.	115	4.04	.738
17. I deal well with unplanned work crises.	115	4.04	.777
18. I am aware of my strengths and weaknesses on the job.	114	4.22	.699
19. A challenging job assignment is important to me.	115	4.05	.818
20. I have the opportunity to use what I learned in the classroom.	115	3.88	.817
21. I am supported by co-workers when using newly learned skills.	114	3.98	.824
22. I am given the time to apply the instruction.	112	3.59	.729

Table 4
continued

Item	*n*	Mean	SD
23. I have confidence to use what I learned.	115	4.03	.667
24. My supervisor and I agree on how to use what I have learned.	115	3.86	.952
25. I have the ability to learn or master the related training. related training.	113	4.04	.791
26. I see obvious applications of my classroom instruction.	115	3.87	.731
27. My supervisor supports company changes.	114	4.23	.767
28. I prefer habits or old ways of doing things.	114	2.70	.785
29. There is a conflict between the class-room theory and practice on my job.	115	3.26	1.006
30. I accept change in my job.	115	3.99	.628
31. I am furnished equipment to apply the training on the job. 31.	114	3.53	.930
32. I have the authority to apply related instruction.	112	3.74	.778
33. I have supervisory support to use what I learned in the classroom.	114	3.89	.970

Table 4
continued

Item	*n*	Mean	SD
34. My co-workers support company changes.	113	3.51	.849
35. My company has supportive policies and procedures.	113	3.53	.820
36. I have motivation to use the information I have used in class.	115	3.85	.799
37. Little feedback is given to me on the results of my instruction.	114	3.22	.964
38. I am distracted by my personal problems.	115	2.00	.958
39. I think the classroom instruction is relevant to my job.	114	3.94	.700
40. My supervisor supports training so we can do new types of work.	115	3.89	.941
41. There is consistency with my supervisor's view of my work.	115	3.82	1.003
42. I receive support from co-workers when using new information.	114	3.85	.808

mean of 3.533, and the highest mean for length of service was self-efficacy with a mean of 4.185. Frequencies for independent variable sub-categories are shown in Figures 3 through 10.

$H_0$2: There will be no significant differences among respondents in their perception of barriers to transfer of training by gender, as measured by the TPT.

As shown in Table 6, the Univariate ANOVAS revealed that there was a significant difference at the .05 level between the independent variable, gender, and the dependent variable, barriers to transfer of training measured by the sub-scale, for motivation to transfer training and the sub-scale for peer support. Therefore, H_o2 was

Table 5

Univariate ANOVAS Test for Length of Service

Dependent variable sub-categories	sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.172	2	.085	.556	.576
Supervisor support	1.320	2	.660	1.257	.290
Organizational climate	.179	2	.089	.339	.714
Peer support	.171	2	.085	.214	.808
Self-efficacy	.305	2	.153	.703	.490

$p = .05$

Table 6

Univariate ANOVAS Test for Gender

Dependent variable, sub-categories	Type III sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.858	1	.858	5.560	.021
Supervisor support	.631	2	.631	1.202	.276
Organizational climate	.129	1	.129	.487	.487
Peer support	2.525	1	2.525	6.300	.014
Self-efficacy	.331	2	.331	1.522	.221

$p = .05$

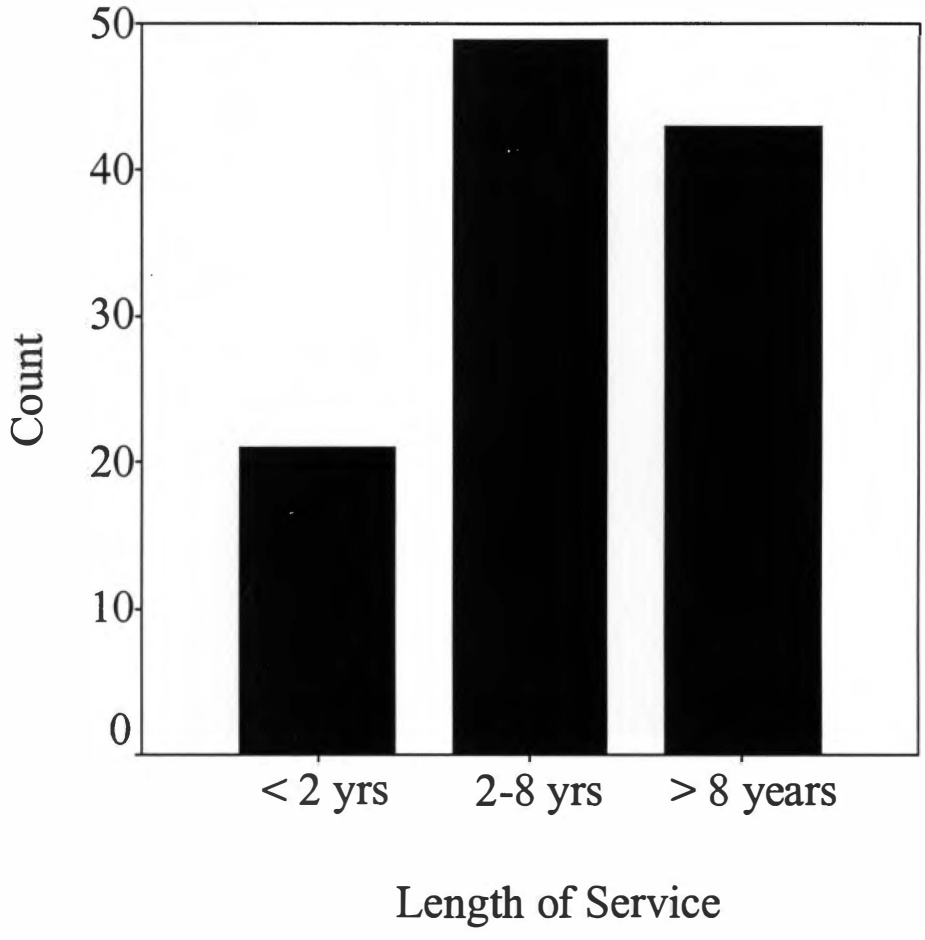


Figure 3.
Histogram depicting respondents' length of service.

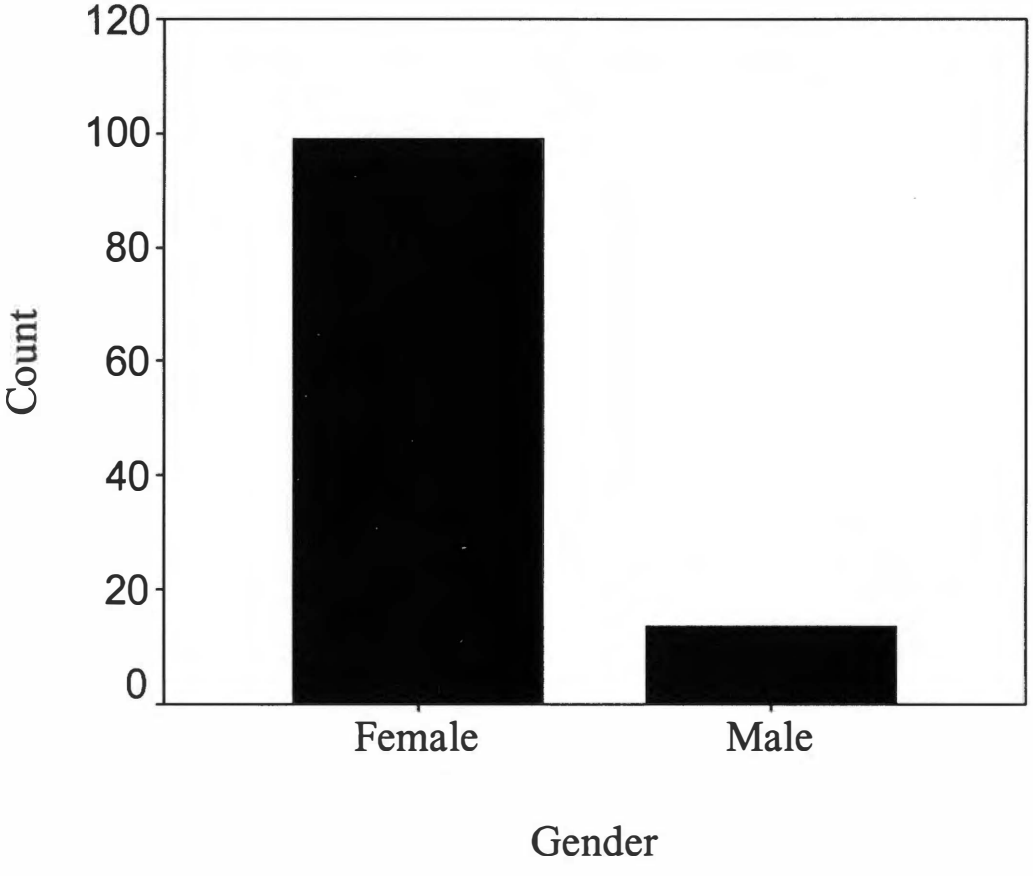


Figure 4.
Histogram depicting respondents' gender.

was rejected for the dependent variable, barriers to transfer of training, at $p = .05$. The p value for motivation to transfer training was .021 and the p value for peer support was .014.

The means and standard deviations for the two sub-scales, peer support and motivation to transfer training are shown in Table 7. The mean for the female gender by the sub-scale for motivation to transfer training was 3.635, and the mean for the male gender by motivation to transfer training was 3.389. The mean for gender by the sub-scale for peer support was 3.846 for female RNs and only 3.482 for male RNs. The large proportion of females to males, while not surprising in a traditionally female profession, might have made the data less reliable. The mean scores for males for motivation to transfer training and peer support were the lowest of the five sub-scales, and female means were considerable higher than male means for these two sub-scales. Motivation to transfer means were 3.389 for males and 3.635 for females. and means for peer support were 3.482 for males and 3.635 for females.

H_o3: There will be no significant differences among respondents in their perception of barriers to transfer of training by shift worked, as measured by the TPT.

As shown in Table 8, the ANOVAs revealed that there was no significant difference at the .05 level between the independent variable, shift worked, and the dependent variable, barriers to transfer of training. Therefore, H_o3 failed to be rejected at $p = .05$. The lowest mean for shift work was the sub-category second shift by organizational climate with a mean of 3.507, and the highest mean was the sub-category, of third shift by self-efficacy with a mean of 4.091.

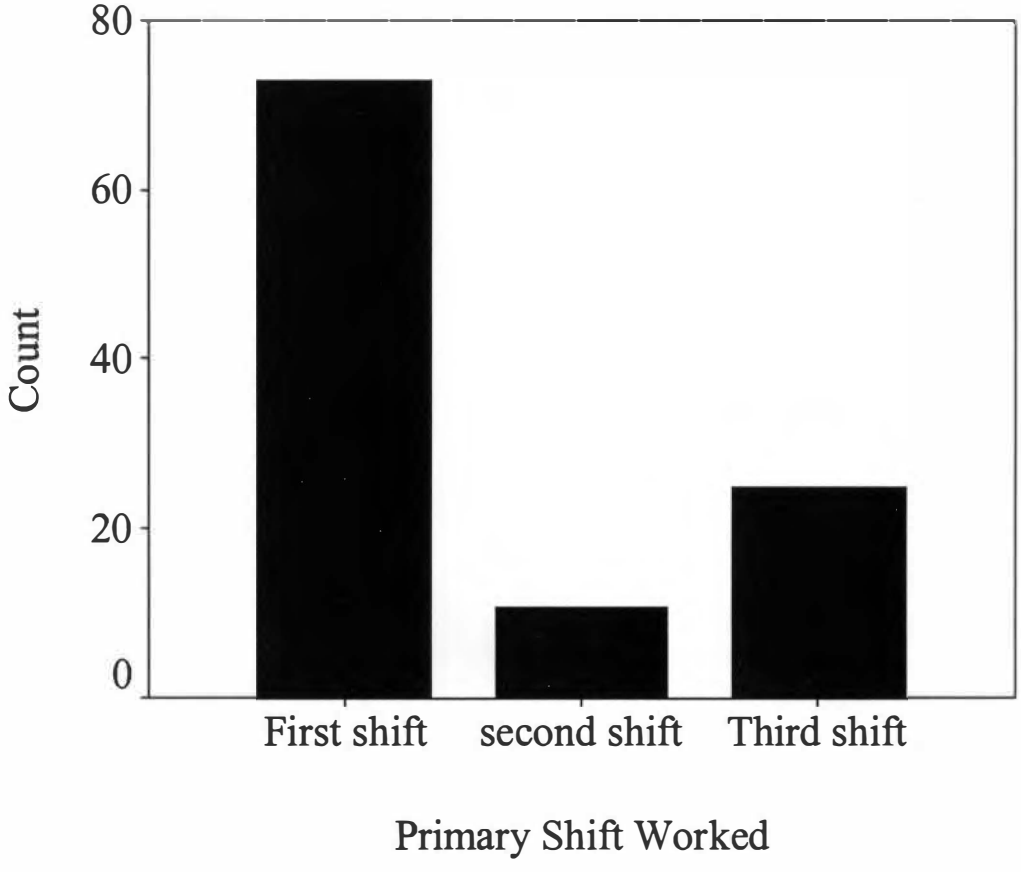


Figure 5.
Histogram depicting respondents' primary shift worked.

Figure 6.
Histogram depicting respondents' supervision of other workers.

H_o4: There will be no significant differences among respondents in their perception of barriers to transfer of training by supervisory responsibility, as measured by the TPT.

As shown in Table 9, the results of the Univariate ANOVAS indicated no significant difference at the .05 level between the independent variable, supervisory responsibility, and the dependent variable, barriers to transfer of training. Therefore, H_o4 failed to be rejected at $p = .05$. Sixty-five respondents reported supervising others, and 44 respondents reported having no supervisory responsibility. The lowest mean reported for this independent variable was RN supervisors by organizational climate with a mean of

Table 7

Means and Standard Deviations for the Independent Variable, Gender and Dependent Variable, Barriers to Transfer Training, Sub-Scale, Motivation to Transfer Training, and Sub-Scale, Peer Support

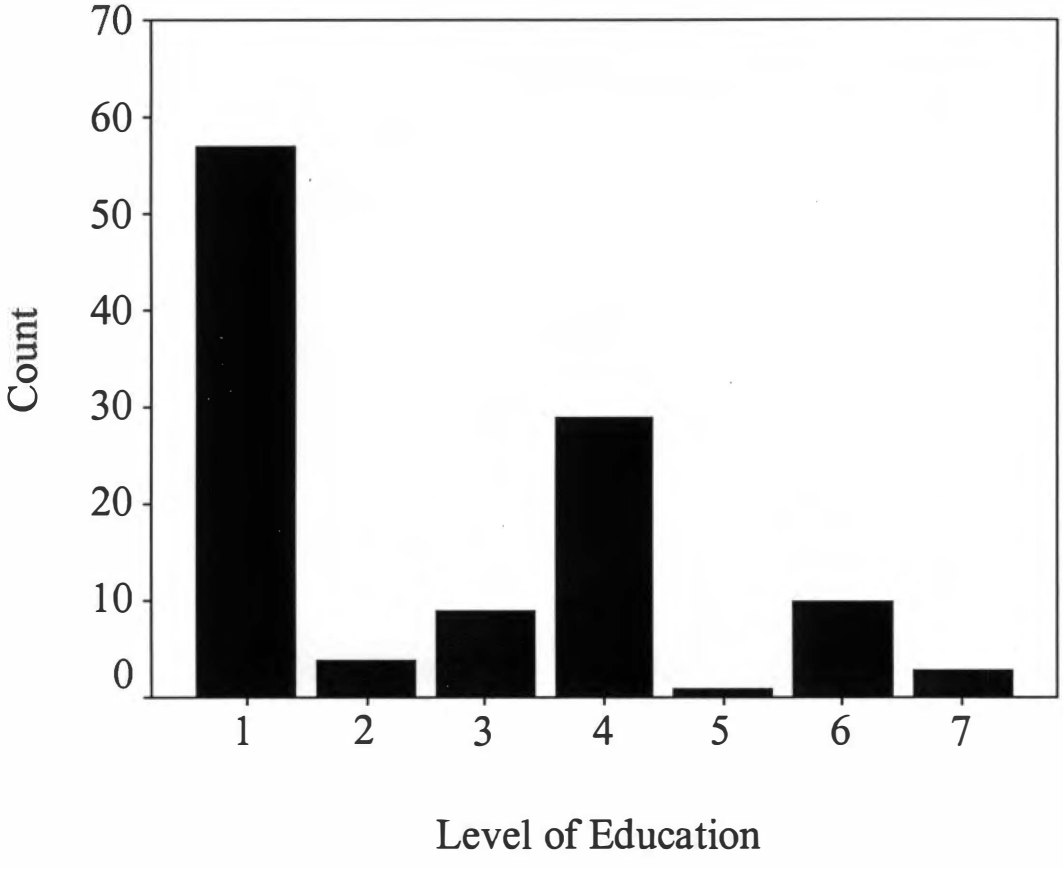
Dependent sub-categories	Gender	*n*	Mean	SD
Motivation to transfer	Female	99	3.635	.377
Training	Male	14	3.389	.431
Peer support	Female	99	3.846	.674
	Male	14	3.482	1.035

Table 8

Univariate ANOVAS Test for Shift Worked

Dependent variable, sub-categories	Type II sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.112	2	.056	.364	.696
Supervisor support	.963	2	.481	.916	.404
Organizational climate	1.032	2	.516	1.948	.149
Peer support	1.795	2	.897	2.239	.113
Self-efficacy	.775	2	.388	1.785	.175

$p = .05$



Legend

1-Associate Degree,
2-three year Nursing Degree,
3-Nursing Diploma,
4-Bachelor of Science, Nursing,
5-Master of Science, Nursing,
6-Bachelor's Degree, non-nursing,
7-Master of Science, non-nursing

Figure 7.
Histogram depicting respondents' level of education

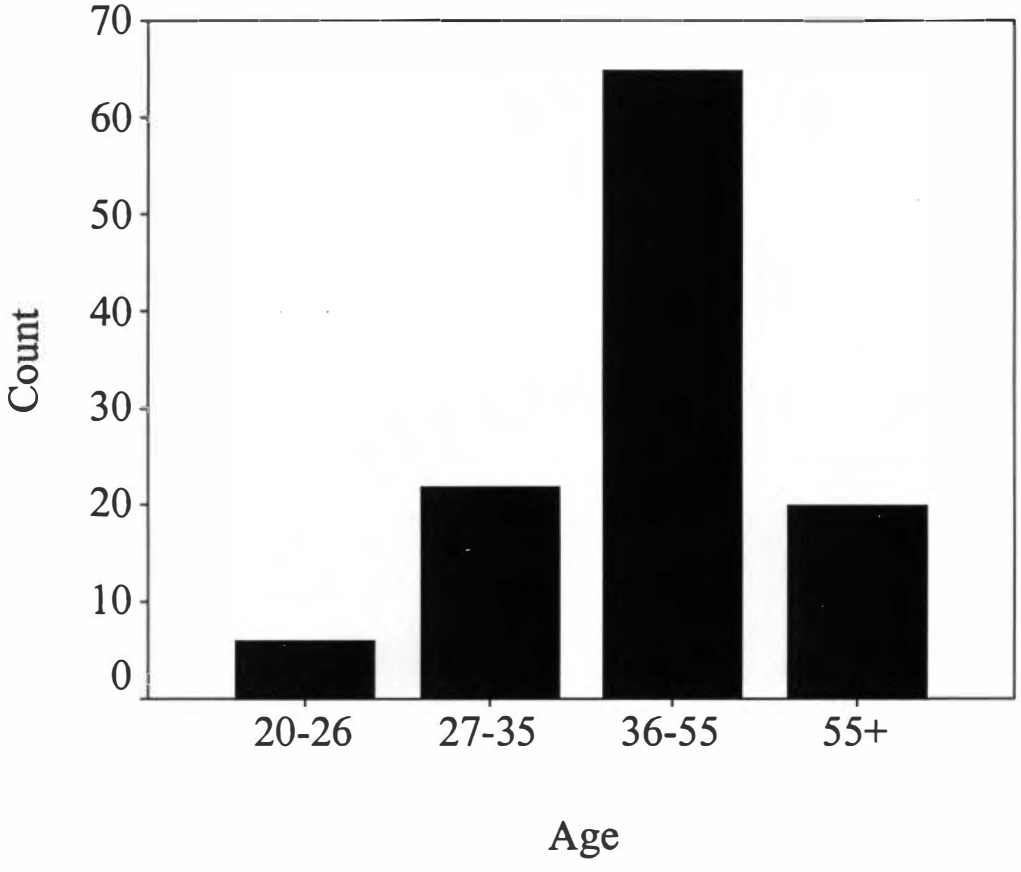


Figure 8.
Histogram depicting respondents' age

3.500 and the highest mean was RN supervisors by the sub-category self-efficacy with a mean of 4.042.

H_o5: There will be no significant differences among respondents in their perception of barriers to transfer of training by level of education, as measured by the TPT.

As shown in Table 10, the results of the ANOVAs did not support any significant difference at the .05 level between the independent variable, level of education and the dependent variable, barriers to transfer of training. Therefore, H_o5 failed to be rejected at $p = .05$.

As shown in Table 11, this independent variable had seven sub-categories of educational attainment. Three categories, 3-year nursing degree, Master of Science in Nursing (MSN), and master's degree non-nursing totaled eight responses, casting doubt

Table 9

Univariate ANOVAS Test for Supervisory Responsibility

Dependent variable, sub-categories	Type III sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.212	1	.212	1.371	.245
Supervisor support	.305	1	.305	.580	.894
Organizational climate	.508	1	.508	1.917	.170
Peer support	.152	1	.152	.379	.540
Self-efficacy	.084	1	.084	.388	.535

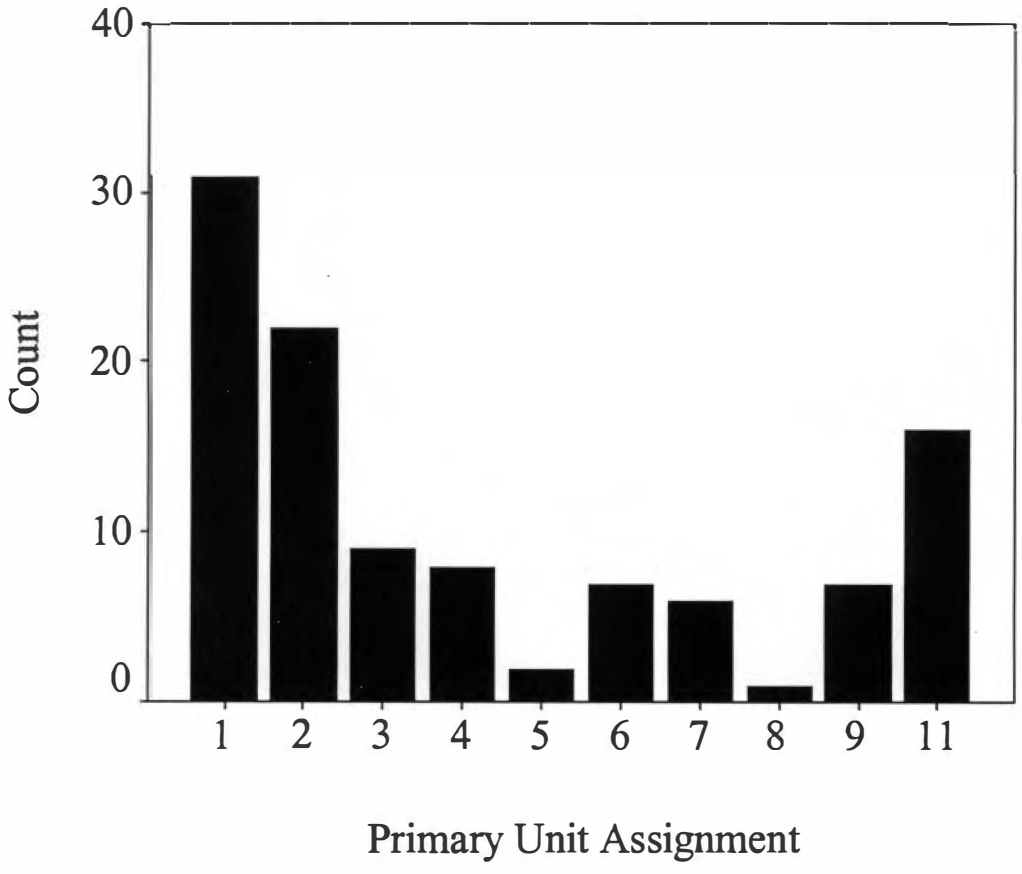
$p = .05$

Table 10

Univariate ANOVAS Test for Level of Education

Dependent variable Sub-categories	Type III sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.562	5	.112	.729	.604
Supervisor support	.864	5	.173	.329	.894
Organizational climate	.619	5	.124	.468	.799
Peer support	2.493	5	.499	1.244	.297
Self-efficacy	.901	5	.180	.829	.500

$p = .05$



Legend

1-Medical/Surgical,	7-Critical Care,
2-Mental Health,	8-Rehabilitation,
3-Emergency,	9-Cardiology,
4-ICU,	10-Administrative,
5-Neonatal,	11-Other
6-OB/GYN,	

Figure 9.
Histogram depicting respondents' unit assignment.

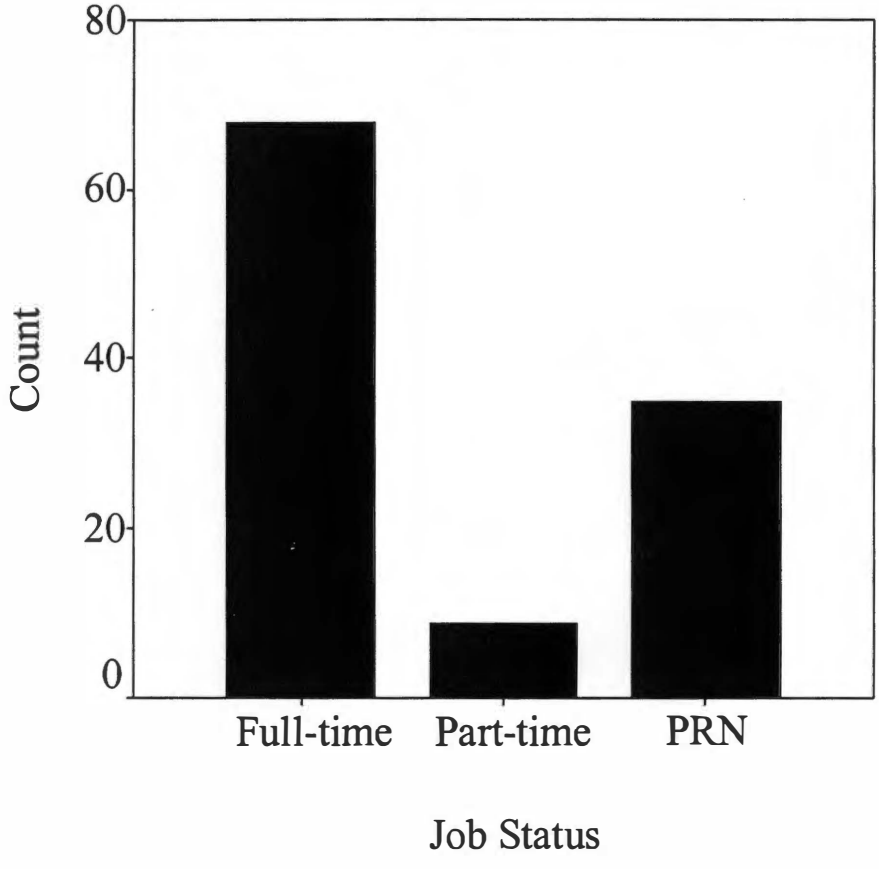


Figure 10.
Histogram depicting respondents' job status

on the reliability of the data. The majority of nurses had either an associate degree or Bachelor of Science in Nursing with 57 RNs and 29 RNs respectively, for a total of 85 RNs or 76.1% of respondents. The lowest mean for the independent variable, level of education, was the sub-category 3-year nursing degree by the sub-scale for motivation to transfer training with a mean of 3.333 and the highest mean for this independent variable was the sub-category, Master of Science in Nursing (MSN) by the sub-scale, supervisor support with a mean of 4.900. Because there was only one response reported for the sub-category MSN, that finding merits little consideration.

H_o6: There will be no significant differences among respondents in their perception of barriers to transfer of training by age, as measured by the TPT.

As shown in Table 11, the results of the ANOVAs supported a significant difference at the .05 level for the independent variable, age and the dependent variable, barriers to transfer training, sub-scale self-efficacy at $p = .040$. Therefore, H_o6 was rejected for the dependent variable, barriers to transfer of training.

Shown in Table 12 are the means and standard deviations for the independent variable, age, and the dependent variable, barriers to transfer of training for the sub-scale for peer support. The majority of the RNs in the 36-55 age range. Only six RNs who

Table 11

Univariate ANOVAS Test for Age

Dependent variable, sub-categories	Type III sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.225	3	.075	.486	.693
Supervisor support	3.646	3	1.215	2.314	.082
Organizational climate	1.713	3	.571	2.156	.100
Peer support	1.664	3	.555	1.384	.254
Self-efficacy	1.891	3	.630	2.903	.040

$p = .05$

who completed the survey were less than 27 years old and comprised 5.3% of respondents. A total of 20, or 17.4%, of respondents were over 55 years of age. The lowest mean for the independent variable, age, was for the sub-category 36-55 years old by organizational climate with a mean of 3.376, and the highest mean for this independent variable was for the sub-category 36-55 years old by self-efficacy with a mean of 4.123.

H_o7: There will be no significant differences among respondents in their perception of barriers to transfer of training by unit assignment, as measured by the TPT.

As shown in Table 13, the results of the ANOVAs supported a significant difference at the .05 level for the independent variable, unit assignment and the dependent variable, barriers to transfer of training for the sub-scale for peer support at $p = .002$. Therefore, H_o7 was rejected for the dependent variable, barriers to transfer of training at $p = .05$. Shown in Table 14 are the means and standard deviations for the independent variable, unit assignment, and the dependent variable, barriers to transfer of training for the sub-scale, peer support. The lowest mean for this independent variable was the sub-category, neonatal unit by supervisor support with a mean of 2.850, and the

Table 12

Means and Standard Deviations for the Independent Variable, Age and Dependent Variable, Barriers to Transfer of Training, Sub-scale, Peer Support

Dependent variable, sub-categories	Age range	*n*	Mean	SD
Peer Support	20-26 yrs	6	3.833	.466
	27-35 yrs	22	3.636	.747
	36-55 yrs	65	3.781	.712
	over 55 yrs	20	4.037	.620

highest mean for this independent variable was the sub-category, rehabilitation unit by peer support, with a mean of 4.250. There were 11 hospital units in the unit assignment demographic. No responses were received from the administrate unit. The largest number of RNs responding, 31 or 28.4% of respondents, worked in the medical/surgical unit. Mental health RNs ranked second, with 22 or 20.2% of respondents. There were 16, or 13.9% of respondents in the other category. Most of these responses were some variant of existing categories such as day surgery and oncology surgery. There were 9, or 7.8% of respondents, who worked in the emergency room. For the remaining seven categories there were only 31 respondents, or 30.6% of total responses.

Table 13

Univariate ANOVAS Test for Unit Assignment

Dependent variable sub-categories	Type III sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	1.006	8	.126	.815	.591
Supervisor support	6.599	9	.733	1.396	.205
Organizational climate	3.215	9	.357	1.349	.226
Peer support	10.995	8	1.374	3.430	.002
Self-efficacy	1.666	8	.208	.959	.474

$p = .05$

Table 14

Means and Standard Deviations for the Independent Variable, Unit Assignment, and Dependent Variable, Barriers to Transfer of Training, Sub-Scale, Peer Support

Dependent variable	Unit assignment	*n*	Mean	SD
Peer Support	Medical/surgical	31	3.903	.561
	Mental Health	22	3.921	.679
	Emergency	9	4.000	.800
	ICU	8	3.652	.668
	Neonatal	2	3.875	.884
	OB/GYN	7	2.929	.703
	Critical care	6	2.917	.847
	Rehabilitation	1	4 .250	
	Cardiology	7	3.821	.875
	Other	16	4.031	.741

H_o8: There will be no significant differences among respondents in their perception of barriers to transfer of training by job status, as measured by the TPT.

As shown in Table 15, the results of the ANOVAs did not support any significant difference at the .05 level for the independent variable, job status and the dependent variable, barriers to transfer of training. Therefore, H_o8 failed to be rejected for the dependent variable, barriers to transfer of training at $p = .05$. The lowest mean for this independent variable was motivation to transfer training by part-time job status with a mean of 3.506, and the highest mean was self-efficacy by PRN or on-call job status with a mean of 4.116.

Summary of Findings

The purpose of this study was to identify workplace and organizational factors that tended to inhibit or facilitate transfer of training from the classroom to the workplace for RNs working in a hospital setting. A related purpose was to determine the extent to which these factors impacted transfer of training as perceived by a sample of registered nurses (RNs) who completed the Training Performance Transfer (TPT). These RNs worked at three hospitals located in a medium size city in the southeastern U.S. To

Table 15

Univariate ANOVAS Test for Job Status

Dependent variable, sub-categories	Type III sum of squares	*df*	Mean	*F*	Significance
Motivation to transfer training	.514	2	.257	1.667	.196
Supervisor support	.319	2	.160	.304	.739
Organizational climate	.163	2	.081	.308	.736
Peer support	1.762	2	.881	2.199	.118
Self-efficacy	.938	2	.469	2.160	.122

$p = .05$

achieve this purpose I analyzed the data using ANOVAs to compare eight demographic variables: (a) length of service, (b) gender, (c) shift worked, (d) supervisory responsibility, (e) level of education, (f) age, (g) unit assignment, and (h) job status of the population with a dependent variable, barriers to transfer of training. Presented in this chapter were statistical findings generated by the use (a) reliability tests, (b) univariate analysis of variance (ANOVAS), and (c) descriptive statistics. These analyses were used to address three research questions and eight research hypotheses found in Chapter One. In addition, measures of central tendencies were calculated and analyzed.

Findings for this study included three sections developed from the final sample data analysis: (a) analysis of descriptive statistics including category totals, means, frequencies, and standard deviations, (b) reliability estimates computed using Cronbach's Alpha, and (c) significant differences for eight Null Hypotheses using ANOVAs. The findings for the final data sample, consisting of 115 survey responses, included descriptive statistics for 42 survey items and eight demographic variables comprising the TPT instrument. Findings were also reported for each hypotheses established for this study using ANOVAs.

Demographic statistics were reported for 42 performance statements and eight demographic variables using the TPT. The number of respondents was 115. The data analysis revealed that over 80% of respondents had worked at their current employment location for more than 2 years, and over 60% of those surveyed worked first shift. Over 50% supervised other workers, while exactly 50% of RNs surveyed had the minimal educational requirement to practice nursing, an associate degree. About 25% of RNs responding had a Bachelor Science in Nursing. Most respondents were between 36 and

55 years of age, and only 5% of respondents were age 26 or younger. Full-time workers accounted for 59% of the respondents. Nearly 88% of those responding were female. With regard to unit assignment, nearly 49% of respondents reported working in medical/surgical or mental health.

Using Cronbach's Alpha, reliability coefficients for the dependent variable barriers to transfer of training were computed. The highest alpha reported was for the sub-scale, supervisor support, Alpha = .9391 and lowest Alpha reported was for the sub-scale, motivation to transfer training, Alpha = .6429. The overall alpha for all 42 dependent variable item statements was Alpha = .9473.

I tested for significant differences at the .05 level using ANOVAs for each null hypothesis. The analysis identified significant differences for the independent variables gender, age, and unit assignment. No significant differences were found for the remaining other independent variables. The finding for each null hypothesis follows:

1. Length of service of RNs surveyed was not significantly different for the dependent variable, barriers to transfer of training, as measured by the TPT.

2. Gender of RNs surveyed was significantly different for the dependent variable, barriers to transfer of training, as measured by the TPT.

3. Primary shift worked of RNs surveyed was not significantly different for the dependent variable, barriers to transfer of training, as measured by the TPT.

4. Supervisory responsibility of RNs surveyed was not significantly different for the dependent variable, barriers to transfer training, as measured by the TPT.

5. Level of education of RNs surveyed was not significantly different for the dependent variable, barriers to transfer training, as measured by the TPT.

6. Age of RNs surveyed was significantly different for the dependent variable, barriers to transfer of training, as measured by the TPT.

7. Unit assignment of RNs surveyed was significantly different for the dependent variable, barriers to transfer of training, as measured by the TPT.

8. Job Status of RNs surveyed was not significantly different for the dependent variable, barriers to transfer training, as measured by the TPT.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The primary objectives for this study were to examine factors thought to impact transfer of training using the Training Performance Transfer (TPT) and to determine quantitatively which variables were significant with regard to transfer. The five sub-scales of the dependent variable, barriers to transfer of training were (a) organizational climate, (b) supervisor support, (c) motivation to transfer training, (d) peer support, and (e) self-efficacy.

Conclusions

This chapter presented conclusions for this study including (a) conclusions based on study findings, (b) possible alternative explanations for the findings, and (c) strengths, weaknesses and limitations of the findings.

Conclusions Based on the Findings of the Study.

Analysis from the TPT included descriptive statistics such as means, frequencies, standard deviations, and internal consistency reliability alphas using SPSS 10.2. I used univariate analysis of variance (ANOVA) statistical tests to compute significant differences between the dependent variable, barriers to transfer of training, and eight independent variables. The three research questions provided a starting point for a descriptive analysis of the data and for developing conclusions related to the research questions.

Research question one: What training factors could result in increased intention to transfer training by registered nurses?

The approach used to address research question one focused on determining trends in the data analysis that tended to support the premise that variables related to the

workplace and workforce might positively influence registered nurses' (RNs) intention to transfer training to the workplace. The descriptive analysis revealed a number of salient conclusions. The sub-scale self-efficacy had the highest average mean, 4.04, on the 5-point Likert scale, slightly higher than the item response choice, 4 *(usually)*, but lower than the item response choice, 5 *(always)*. The range of self-efficacy means were from 3.76 to 4.24, with five means greater than 4.0. These findings provided support that, for this study sample, self-efficacy was strongly linked to transfer of training as computed by the TPT. Average means for the five dependent variables are shown in Table 16.

The literature also corroborated high levels self-efficacy with high transfer of training. Self-efficacy has also been linked to learning new skills at a high rate and improved training effectiveness (Gist & Mitchell, 1992; Machin & Fogarty, 1997; Noe, 1986; Phillips, 1991).

The four other dependent variable sub-scales had somewhat lower means, although supervisor support showed a strong link to transfer of training as computed by the TPT, with an average mean of 3.93. Peer support had an average mean of 3.82. Motivation to transfer training had an average mean of 3.60 and organizational climate had an average mean of 3.57. The means for motivation to transfer training and means for organizational climate suggested support for transfer of training but to a lesser degree. Transfer of training literature has consistently supported these constructs as key factors in the transfer process (Baldwin & Ford, 1988; Baldwin, Magjuka, & Loher, 1991; Foxon, 1997; Gregoire, 1994; Huczynski & Lewis, 1980; Machin & Fogarty, 1997;

Table 16

Average Means for Sub-Scales of Dependent Variable, Barriers to Transfer of Training

Organizational climate	Supervisor support	Motivation to transfer training	Peer support	Self-efficacy
3.575	3.931	3.597	3.818	4.043

Marx, 1986; Mathieu & Martineau, 1997; Phillips, 1991; Rouiller & Goldstein, 1993; Tannenbaum & Yukl, 1992; Tracey, Tannenbaum & Kavanagh, 1995; Wexley & Latham, 1991).

Transfer of training literature also has found supervisor support as a key factor in trainees' intention to transfer training (Baldwin & ford, 1988; Gregoire, Propp & Poertner 1998; Nolan, Owens, & Nolan, 1995; Tannenbaum & Yukl, 1993). Results from this study seemed to support the literature.

With regard to supervisor support of transfer of training, length of service revealed an interesting data set. The means for length of service were inversely proportional to the degree of perceived supervisor support. Those (RNs) with less than 2 years of service had 7 of 10 means of 4.0 or higher for supervisor support items, while those RNs with more than 8 years of service ranked only one mean above 4.0 on the 5-point Likert scale. Yet, the difference between average means of RNs with less than 2 years of service compared to RNs with more than 8 years of service was only 0.32, 4.06 compared to 3.74. It appeared reasonable to conclude that in spite of a small decline in persistence over time for length of service at the current RNs' work location, there was a high degree of support for transfer of training along the dimensions of length of service.

Non-supervisory RNs perceived a higher degree of support for transfer of training for all five sub-scales than did supervisory RNs. Non-supervisory RNs had a higher average means for 36 of 42 items when compared with supervisory RNs. An explanation of this finding was beyond the scope of the statistical analysis of this study. Transfer of training literature has suggested that management support of supervisors has played a key

role in supervisor transfer of training as well as supervisee transfer of training (Brinkerhoff & Montesino, 1995; Broad, 1982).

Third shift RNs had slightly higher support levels than did first shift RNs for organizational climate, self-efficacy, and peer support, but third shift RNs had slightly lower support levels for supervisor support and motivation to transfer training. Perhaps this was suggestive of third shift RNs being more confident and more willing to work than RNs on other shifts. Because more senior RNs usually have the first choice of work shifts, third shift workers could be left with a less desirable shift to work. The stress of working late hours could lead to less motivation to transfer training. With only 11 RNs reporting that they worked second shift, they could not be included in any findings. However, the survey findings for the RNs who worked first or third shift indicated support for transfer of training with average means of 3.77 for first shift and average means of 3.86 for third shift for all 42 TPT survey items.

Those RNs with an associate degree had higher support for transfer of training on all sub-scales than did RNs with other degrees and with the means of 37 of 42 items ranked higher for RNs with an associate degree than for RNs with other degrees. Respondents with an associate degree comprised 50.4% of the sample. Five sub-categories of the demographic variable level of education contained 10 or fewer responses thus casting doubt on the validity of the data for the level of education independent variable.

The results of this study tended to support the independent variables as factors that could increase the intention to transfer training to the workplace based on the data generated by the TPT. The study results were supported in many instances by transfer of

conclusion for the decline of transfer of training was that the rigors of the nursing profession engendered negative attitudes about work.

Age could be another factor negatively impacting intention to transfer training as length of service increased. The demographic variable, age, consisted mainly of RNs 36 To 55 years of age with 65 respondents and of RNs over the age of 55 with 20 respondents, a total of 113 or 75.2% of the sample. Because nursing is physically demanding work, age may also might contributed to a flagging attitude toward transfer of training because of decreasing physical endurance coupled with life demands outside of work.

Even though RNs with the most experience ranked items 2 and 27 lower than their peers with less experience, means were extremely high for both items. Item 2, "I am motivated to use the information I have learned," had means of 4.33, 4.51, and 4.21 by increasing work experience. Item 27, "My supervisor supports company changes," had means of 4.38, 4.29, and 4.14 by increasing work experience. Because the third sub-category for level of service consisted of RNs with more than 8 years of experience, more specific decreases in intentions to transfer training might have been masked. For example, how would data analysis for this variable appear if age groupings were stratified by years of service of 15 years, of 20 years, or of 25 years?

Female nurses had higher means on 36 of 42 dependent variable items. Female RNs had an average mean for supervisor support of 4.06, a very strong indication of support of transfer of training, compared to an average mean of 3.64 for male RNs. The findings related to male RNs should be viewed skeptically because the number of female respondents was 99, and the number of male respondents was 14. Female RNs comprised

training literature. The conclusions for research question one supported the contention that organizational climate, supervisor support, motivation to transfer training, peer support, and self-efficacy were factors that could increase transfer of training in the workplace, but there was weaker support for organizational climate and motivation to transfer training. This conclusion was supportable only to the extent to which the study data and findings were valid and reliable, and this conclusion was subject to the limitations of this study, both articulated and undefined. The generalizability of this conclusion was limited at best, if generalizable at all, because of the population and sample size and lack of statistical rigor.

Research question two: What training factors could result in decreased intention to transfer training by registered nurses?

The approach used to address research question two focused on determining trends in the data analysis that tended to support the premise that variables related to the workplace and workforce may negatively influence RNs' intention to transfer training to the workplace. Although the statistical analysis of the independent variables using the TPT suggested support for transfer of training, the data for these same variables also displayed associations with dependent variable data that could reflect decreased intentions to transfer training to the workplace. What could be described as disincentives to transfer training were found among independent variable demographic sub-categories relating to all five sub-scales.

As length of service increased for RNs in the study sample, intention to transfer training decreased, as measured by the TPT. This was the case for RNs with 2 to 8 years of service and for RNs with more than 8 years of service for all five dependent variable sub-scales when compared to RNs with less than 2 years of experience. A possible

87.6% of the sample.

As the actual population of RNs was 89.6% female, the sample for this study was highly representative of the population. The data set indicated that male RNs perceived that they received less support from supervisors than did female RNs. The greatest variance for any supervisor support item was item 9, "What I learned in the classroom is supported by my supervisor." The mean for females' responses to this item was 4.10, and the mean for male responses to this item was 3.64, a variance of 0.46. Because of the distribution, caution should be used in attaching any significance to this finding. However, consideration of the incongruity between male and female RN data means could be instructive for developing concepts for additional research. Being a male in a predominantly female environment could have had unintended consequences for male RNs' intention to transfer training. Dimensions of factors such as discrimination, alienation, lack of support, and lack of common interests could have decreased interest in transfer of male RNs. Male RNs might not deal well with female supervisors. Some female RNs could resent males working in a traditionally female profession. However, to treat these surmises as anything but speculation would constitute poor judgment and a disregard for principled scientific inquiry. According to this study data, male RNs supported transfer of training to a lesser degree than female RNs. The basis of the differences for this sub-category were beyond the scope of this study, but they were suggestive of a possible disincentive for male RNs to transfer training from the classroom to the workplace when compared with female RNs.

Supervisor support and peer support data stood out because of item means for RNs who supervised others and for those RNs who did not supervise others. All 14

item means for supervisor support and peer support were lower for RN supervisors. One explanation was that supervisors were less likely to develop relationships with those they supervised or that the nature of supervisory work afforded less time for supervisors to develop peer ties. Another possibility was that if non-supervisory work were less stressful or less demanding, positive attitudes toward transfer of training could be more persistent, and peer relationships could be easier to develop.

Expectations of management might also have played a role in lower perceptions of transfer of training for supervisory RNs. The perceptions of supervisor support from upper management might have negatively impacted RN supervisors' attitudes regarding transfer of training. The literature affirmed the contention that upper management often has lacked support for transfer of training (Broad, 1982; Furze & Pearcey, 1999; Newstrom, 1985). Ferguson (1994) called for more communication between managers and nurses prior to training to aid in transfer. Scheller (1993) argued that the norms, roles, power, and authority hierarchies in hospitals interfered with transfer of knowledge to the workplace. This charge appeared applicable to both management perspectives and organizational climate for transfer of training. The conclusion that RNs who supervised others had less incentive to transfer training than did non-supervisory RNs appeared supported by this study.

Concern about motivation to transfer training might be warranted for the items shown in Table 17. For this table, items 11, 20, and 37 were not considered for inclusion because they were reverse statements. On the 5-point Likert scale, these means corresponded to responses between *sometimes* and *usually*. Of interest was that each of these items related specifically to the treatment of respondents. Item 12 could easily fit

into the supervisor support sub-scale, and supervisors also could influence RNs with reference to item 34. These items had low means across all sub-scales, varying no more than .03 per any item mean. These factors indicated weak support for transfer of training for the items described here. The literature also supported the notion that these factors could negatively impact support for transfer of training in the workplace (Dolan, Van Ameringen, Corbin, & Arsenault,1992; Facteau, Dobbins, Russell, Ladd, & Kudisch, 1995; Furze & Pearcey, 1999; Minter, 1996; Mosel, 1957; Noe, 1986; Rouiller, 1989). These means were suggestive of disincentives to transfer training for these specific items for this particular study.

In specific instances the results of this study tended to support the independent variables of this study as factors that could decrease the intention to transfer training to the workplace as shown in Table 17 and as shown from the discussion in this section for particular variables. These conclusions were derived from the data generated using the TPT as the primary data collection instrument. This study's results were supported in many instances by transfer of training literature. The conclusions for research question two supported the contention that dimensions of organizational climate, supervisor support, motivation to transfer training, peer support, and self-efficacy could decrease transfer of

Table 17

Lowest Average Item Means for TPT Sub-scales

Item	Sub-scale	Mean
12. I am encouraged to use new ways of doing my job.	Organizational climate	3.48
34. My co-workers support company changes.	Peer support	3.51
35. My company has supportive policies and procedures.	Organizational climate	3.53
15. My supervisor assists me in using what I have learned.	Supervisor support	3.56

training in the workplace. This conclusion was supportable only to the extent to which the study data and findings were valid and reliable, and this conclusion was subject to the limitations of this study, both articulated and undefined. The generalizability of this conclusion was limited at best, if generalizable at all, because of the population and sample size and the lack of statistical rigor.

> *Research question three: Do respondents' perceptions of intention to transfer training change significantly when comparing the population's independent variables of length of service, gender, shift worked, supervisory responsible, level of education, age, unit assignment, and job status to the dependent variable, barriers to transfer of training sub-scales using in the TPT?*

After analyzing the data using ANOVAs to detect significant differences between independent variables and the dependent variable, barriers to transfer training, at $p = .05$, a significant difference was found for three independent variables: gender, age, and unit assignment as indicated in Table 18.

These findings supported the contention that motivation to transfer training, peer support, and self-efficacy were variables that had a positive relationship with transfer of training in the workplace for this particular sample and study. Many studies have also found support for organizational climate and supervisor support as positive determinates of transfer of training. However, no support was found for these two sub-scales in the examination of the ANOVAs for this study. Therefore significant differences reported for

Table 18

Significant Differences Between Independent Variables and Dependent Variable, Barriers to Transfer Training

Sub-scale	Gender	Age	Unit assignment
Motivation to transfer training	.021	.040	
Peer support	.014		
Self-efficacy			.002

$p = .05$

the aforementioned variables should be viewed with caution. These findings were subject to the limitations of this study, both articulated and undefined. The generalizability of these findings was limited at best, if generalizable at all, because of the population and sample size and lack of statistical rigor.

Alternative explanations for the findings.

Many factors impact the validity of statistical results. One is sample size. In the case of this study the sample size failed to reach an ideal number, and, with a 41.6% return rate, the results must be viewed with a cautionary eye. Another reason that results might be spurious was the application of invalid statistical tests to the data. Additional review of this study could reveal that to be the case. In addition, confounding variables could have impacted the validity of the results, especially in a non-experimental study. Last, the method of data collection, a self-report survey, contains inherent limitations and lacked a control mechanism.

Strengths of the study.

Strengths of this study included the continued use of the TPT instrument that might have validity for developing a quantitative measurement of transfer of training. Data analyses identified significant differences for three independent variables, and demographic factors were identified that might negatively impact the transfer or training. The study findings also documented factors previously identified in the literature believed to positively influence the transfer of training in the workplace. The study identified possible avenues for additional research.

Weaknesses of the study.

Weaknesses of this study included sample size, which limited the usefulness of the data analysis. This was especially true for some demographic sub-categories. The TPT survey instrument contained three negatively worded items, 11, 29, and 37. A negatively worded question might lead to confusion by the respondent and make interpreting the data more difficult. The study lacked generalizability. Because of the newness of the TPT, realistic estimates of validity are difficult to determine and the data were self-report.

Limitations.

No control existed for confounding variables and the sample lacked randomness. The data consisted of a one-time non-experimental sample. Therefore validity of the data, if any, may have been affected because the responses were based on perceptions of RNs.

Recommendations.

1. Additional research needs to be conducted with the TPT to help to establish the validity of this instrument and to begin to develop a gauge of the accuracy of this instrument as a measurement tool of transfer of training. This research should include other populations of RNs or even other work groups in the medical field as well as work groups in other professions.

2. Additional research with larger groups of RNs should be considered. A population of 276 RNs and a response of 41.6% proved to be inadequate to obtain a representative n for all sub-categories of independent variables. A second approach to the problem could be to use a stratified sample for troublesome subcategories such as gender in which the number of male respondents was low. This solution would also require a higher population and response rate. The problem of an inadequate n was also evident with second shift RNs with $n = 11$, and part-time RNs, with, $n = 9$.

3. All negatively worded dependent variable items should be eliminated to avoid respondent confusion or misinterpretation of item statements. Eliminating negatively worded items would also make data analysis less cumbersome.

4. Recommendations for the company participating in this study could include the following:

    a. Training designed for RNs should use record keeping data to help to avoid unnecessary repetitive training, where appropriate.

    b. Training designed for RNs should incorporate strategies to deal with aspects of aging that make changes in the workplace more difficult to accept. It appears from the study data that more experienced RNs were being trained on the same materials more than once and that change was harder to accept for RNs as they aged.

    c. Why RNs with less experience supported transfer of training to a higher degree than RNs with more experience should receive additional attention.

    d. Why RNs with less education tended to support transfer of training to a greater degree than RNs with more education should receive additional attention.

    e. Why older RNs tended to support transfer of training less than younger RNs should receive additional attention.

5. If the company should consider collecting additional data to aid in Evaluation of transfer of training of RNs these suggestions might be considered .A follow-up survey of study respondents could be conducted that could provide valuable insight into the TPT based on perspectives of RNs who participated in the study. A part the follow-up should include a structured interview with a random sample of RNs who completed the TPT to seek improvement in this instrument. At this point the company could consider the value of administering the TPT to a larger sample of company RNs as a part of its continuing education process.

6. Appropriate hospital personnel should continue to develop their understanding of the perceptions of transfer of training of RNs that the company employees. This information should aid in planning and implementing training for RNs at the population hospitals and perhaps at other company hospitals as well. The hospital company sponsoring this study should continue developing additional ways to evaluate and improve training and transfer of training in the future for RNs and other employees.

Summary of Conclusions and Recommendations

The findings of this study supported the three research questions posed in Chapter One. Analysis of the data supported the premise of research question one. Elements of the eight demographic variables positively impacted intention to transfer training in the workplace based on the results of the TPT. Other elements of the eight demographic variables negatively impacted intention to transfer training in the workplace based on the results of the TPT. The third research question included eight null hypotheses and one dependent variable thought to impact transfer of training. The results of the ANOVAs indicated support for hypotheses two, six, and seven for the independent variables gender, age, and unit assignment at $p = .05$.

Recommendations focused on strategies for improving the TPT such as the re-wording of negative questions. Questions about the validity of the TPT remain because of limited use of the instrument. Recommendations also centered around the benefit of repeating this research with larger groups of RNs and with other work groups. This study has possible implications for people working in the education and training fields. In addition, implications for improving the evaluation of training and for improving training design and implementation of training appeared manifest in the results of this study.

REFERENCES

References

Alliger, G. M., & Janak, E. A. (1989). Kirkpatrick's levels of training criteria: Thirty years later. *Personnel Psychology, 42*(2), 331-342.

Alexander, M. A. (1990). Evaluation of a training program in breast cancer research. *The Journal of Continuing Education in Nursing, 2*(6), 260-266. American Nurses Association. (1983). *Standards for continuing education in nursing.* (2nd ed.). Kansas City: American Nurses Association.

American Society for Training and Development. (1996). 1995 *Training Statistics ASTD benchmarking forum.* Retrieved August 12, 2001, from http://www.astd.org/who/research/benchmark/images.htm#96web1

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and direction for future research. *Personnel Psychology, 41,* 63-105.

Baldwin, T. T., & Karl, K.A. (1987). The development and empirical test of a measure for assessing motivation to learn in management education. *Proceedings of the 47th annual meeting of the Academy of Management.* New Orleans, LA.

Baldwin, T. T., Magjuka, R. J., & Loher, B. T. (1991). The perils of perception: Effects of choice of training on trainee motivation and learning. *Personnel Psychology, 44,* 51-65.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliff, NJ: Prentice Hall.

Barriball, L., While, A. E., & Norman, I. J. (1992). Continuing professional education for qualified nurses: A review of literature. *Journal of Advanced nursing, 17,* 1129-1140.

Benton, J. M. (1991). *Pygmalion goes to school: The effects of goal setting, the self-fulfilling prophecy and self-efficacy on trainee performance.* Unpublished doctoral dissertation, The City University of New York.

Bittel, L. R., & Newstrom, J. W. (1990). *What every supervisor should know* (6th ed.). New York: McGraw-Hill.

Blair, D. A. (1996). *Factors affecting the transfer of training based on the opportunity to perform trained tasks.* Unpublished doctoral dissertation, University of Tennessee, Knoxville.

Brinkerhoff, R. O., & Montesino, M. U. (1995). Partnerships for training transfer: Lessons from a corporate study. *Human Resource Development Quarterly, 6*(3), 263-274.

Broad, M. L. (1982). Management actions to support transfer of training. *Training and Development Journal, 36,*(2), 124-130.

Broad, M. L. (1997). Overview of transfer: From learning to performance. *Performance Improvement Quarterly, 10*(2), 7-21.

Broad, M. L., & Newstrom, J. W. (1992). *Transfer of training: Action-packed strategies to ensure high pay-off from training investments.* Reading, MA: Addison-Wesley.

Brown, A., & Copeland, H. (Eds.). (1984). *New directions for continuing education:*

Attracting able instructors of adults, No. 4. San Francisco: Jossey-Bass.

Buchmann, W. F. (1997). Adherence: A matter of self-efficacy and power. *Journal of Advanced Nursing, 28,* 132-137.

Campbell, C. P. (1999). *Workplace goals that justify investing private resources in training*. Program Evaluation course, Human Resource Development Department. University of Tennessee, Knoxville.

Campbell, C. P., & Cheek, G. D. (1989). Putting training to work. *Journal of European Industrial Training, 13,* 32-36.

Carnevale, A., Gainer, L., & Villet, J. (1990). Training in America: The organizational and strategic role of training. *ASTD best practices series: Training for a changing work force.* San Francisco: Jossey-Bass.

Castigilia, P., Hunter, J., & McCausland, L. (1986). A study of the relationship between job satisfaction and continuing education. *Journal of the New York State Nurses' Association, 17*(2), 15-19.

Cervero, R. M, & Rottet, S. (1984). Analyzing the effectiveness of continuing education: An exploratory study. (1984). *Adult Education Quarterly, 34*(5), 135-145.

Chater, S. S. (1975). A conceptual framework for curriculum development, *Nursing Outlook, 2*(7), 428-433.

Cheek, G. D., & Campbell, C. P. (1994). Help them use what they learn. *Adult Learning, 6* (2), 27-28.

Clark, C., Dobbins, G., & Ladd, R. (1993). Exploratory field study of training motivation. *Group & Organization Management, 18,*(3), 292-307.

Colquitt, J. A., LePine, J. A., & Noe, R. A. (2000). Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research. *Journal of Applied Psychology, 85,* 678-707.

Corner, J. (1990). *The newly registered nurse and the cancer patient.* Unpublished doctoral. Thesis. King's College, University of London.

Cox, C. L., & Baker, M. G. (1981). Evaluation: The key to accountability in continuing education. *The Journal of Continuing Education in Nursing, 12*(1), 11-19.

Crotty, M., & Bignell, A. (1987). Educating the educators. *Senior Nurse, 7*(4), 40-42.

Csoka, L (1994). *Closing the human performance gap: A research report. (report number 1065-94-RR).* New York: The Conference Board.

Curry, D., Caplan, P., & Knuppel, J. (1994). Transfer of training and adult learning. *Journal of Continuing Social Work Education, 6*(1), 8-14.

Cushing, M. (1982). Failure to communicate. *American Journal of Nursing, 82,* 1591-1598.

Dewsbury, D. A. (1998). Celebrating E. L Thorndike a century after *Animal Intelligence. American Psychologist, 53*(10), 1121-1144.

Dolan, S. L., Van Ameringen, M. R., Corbin, S., & Arsenault, A. (1992). Lack of professional latitude and role problems as correlates of propensity to quit amongst nursing staff. *Journal of Advanced Nursing, 17,* 1455-1459.

Duberley. J. (1985,*October*). Continuing Education – whose responsibility? *The Professional Nurse,* 4-6.

Duffy, H., Leeming, D., & Bracey, R. (1988). Checking skills. *Nursing Times, 84*(19), 38-40.

Duckett, R. (1993). Thirst for knowledge. *Nursing Times, 89*(35), 29-31.

Dyson, J. (1997). Research: Promoting positive attitudes through education. *Journal of Advanced Nursing, 26,* 608-612.

Eden, D. (1990). *Pygmalion in management: Productivity as a self-fulfilling prophecy.* Lexington, MA: D. C. Heath.

Facteau, J. D., Dobbins, G. H., Russell, J. E. A., Ladd, R. T., & Kudisch, J. D. (1995). The influences of general perceptions of the training environment on pre-training motivation and perceived training transfer. *Journal of Management, 21*(1), 1-25.

Farris, M. (2001). *An analysis of factors affecting the transfer of related training in a trade union apprenticeship program.* Unpublished doctoral dissertation, University of Tennessee, Knoxville.

Ferguson, A. (1994). Evaluating the purpose and benefits of continuing education in nursing and the implications for the provisions of continuing education for cancer nurses. *Journal of Advanced Nursing, 19,* 640-646.

Ferrell, M. (1988). The relationship of continuing education offering to self-reported change in behavior. *The Journal of Continuing Education in Nursing, 19*(1), 21-24.

Ford, J. K. (1994). Defining transfer of learning – The meaning is in the answers. *Adult Learning,* 5(4), 22-23.

Ford, J. K., & Weissbein, D. (1997). Transfer of training: An updated review and

analysis. *Performance Improvement Quarterly, 10*(2), 22-41.

Ford, J. K., Quinones, M. A., Sego, J. D., & Sorra, J. S. (1992). Factors affecting the opportunity to perform trained tasks on the job. *Personnel Psychology, 45,* 511-527.

Foxon, M. J. (1994a). A process approach to transfer of training: Using action planning to facilitate the transfer of training. *Australian Journal of Educational Technology, 10*(1), 1-18.

Foxon, M. J. (1994b). *Using action planning to facilitate transfer of training.* Unpublished doctoral dissertation. Florida State University, Tallahassee.

Foxon, M. J. (1997). The influence of motivation to transfer, action planning, and manager support on the transfer process. *Performance Improvement Quarterly, 10*(2), 42-63.

Furze, G., & Pearcey, P. (1999). Continuing education in nursing: A review of the literature. *Journal of Advanced Nursing, 29,* 355-363.

Gagne, R. M. (1962). Military training and principles of learning. *Psychological Review, 57,* 67- 79.

Garavaglia, P. L. (1993). How to ensure transfer of training. *Training and Development, 47*(10), 63-68.

Garavaglia, P. L. (1996). Applying a transfer model to training. *Performance & Instruction, 35*(4), 4-8.

Gay, L. R., & Airasian, P. (2000). *Educational research: Competencies for analysis and application* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Gill, K., & Ursie, P. (1994). The impact of continuing education patient outcomes in

the elderly hip fracture population. *The Journal of Continuing Education in Nursing, 25*(3), 181-185.

Gilley, J., & Eggland, S. (1989). *Principles of human resource development.* Reading, MA: Addison-Wesley.

Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review, 17*(2), 183-211.

Goldstein, I. L. (1986). *Training in organizations: Needs assessment, development, and evaluation.* Monterey, CA: Brooks/Cole.

Goldstein, I. L., & Gilliam, P. (1990). Training system issues in the year 2000. *American Psychologist, 45*(2), 134-143.

Gregoire, T. K. (1994). Assessing the benefits and increasing the utility of addiction training for public child welfare workers: A pilot study. *Child Welfare, 73*(1), 69-81.

Gregoire, T.K., Propp, J., & Poertner, J. (1998). The supervisor's role in transfer of training. *Administration in Social Work, 22*(1), 1-18.

Greenlaw, J. (1982). The deadly toll of communication failure. *RN, 45*(11), 81-84.

Haskell, R. (1995). *Human resource development and transfer of training* [online]. Available: Gopher word search "Training Transfer."

Hastings. S. (1999). A six-step training process prepared as a companion to the workforce development staff skills and training challenge report. In *The Workforce Development Staff and Training Project.* Retrieved November 7, 1999 from http://www.icesa.org/national/update/sixsteps.htm

Heick, M. A. (1981). Continuing education impact evaluation: A competency based approach. *Journal of Continuing Education in Nursing, 12*(4), 15-23.

Heider, F. (1958). *The psychology of interpersonal relations.* New York: John Wiley & Sons.

Herzberg, F. (1970) The motivation-hygiene theory. In V. H. Vroom & E. Deci (Eds.) *Management and motivation* (pp. 86-90). Middlesex, UK: Penguin Books.

Hicks, C., & Hennessy, D. (1997). The use of a customized needs analysis tool for nurse practitioner development. *Journal of Advanced Nursing, 26,* 389-398.

Holzemer, W. L. (1988). Evaluating methods in continuing education. *The Journal of Continuing Education in Nursing, 19*(4), 148-157.

Houle, C. (1980). *Continued learning in the professions.* San Francisco: Jossey-Bass.

Hucznski, A. A., & Lewis, J. W. (1980). An empirical study into the learning transfer process in management training. *The Journal of Management Studies, 17*(2) 227-240.

Issac, S., & Michael, W. B., (1995). *Handbook in research and evaluation* (3rd ed.). San Diego, CA: Educational and Industrial Testing Services.

Ivancevich, J. M., & Matteson, M. T. (1987). *Organizational behavior and management.* Plano, TX: Business Publications.

Johnson, J. R. (1994). The communication training needs of registered nurses. *The Journal of Continuing Education in Nursing, 25*(5), 213-218.

Johnson, R., & D'Argenio, C. (1991). Management training effects on nurse manager leadership behavior. *Nursing Economic$, 9*(4), 249-254.

Kimmerling, G. (1993). How training is regarded and practiced in top-ranked U. S. companies. *Training and Development Journal, 47*(9), 29-36.

Kirkpatrick, D. (1959). *Evaluating training programs.* Madison, WI: American Society for Training and Development.

Kirkpatrick, D. (1994). *Evaluating training programs: The four levels.* San Francisco: Berrett-Koehler.

Kristjanson, L. J., & Scanlan, J. M. (1994). Assessment of continuing nursing education needs: A literature review. *The Journal of Continuing Education in Nursing, 20*(3), 118-123.

Lacey, A. (1994). Research utilization in nursing – A pilot study. *Journal of Advanced Nursing, 19,* 987-995.

Laker, D. R. (1990). Dual dimensionality of transfer of training. *Human Resource Development Quarterly, 1*(3), 209-224.

Latham, G. P., Wexley, K. N., & Purcell, E. D. (1975). Training managers to minimize rating errors in the observation of behavior. *Journal of Applied Psychology, 6*(5), 550-555.

Lee, K. (1997). The impact of superior reinforcement on training outcomes (transfer of training, human resource development). *Dissertations Abstracts International, 58 (05A),* 1622.

Leifer, M. S., & Newstrom, J. W. (1980). Solving the transfer of training problems. *Training and Development Journal, 44*(7), 42-46.

Levine, M. (1978). Does *continuing* education improve nursing practice? *Hospitals, 52*(21), 138-140.

Loveday, S. Y. (2000). Nursing shortage will worsen. *Torchbearer, 40*(2), 20.

Lubbers, C. A., & Roy, S. J. (1990). Communication skills for continuing education for nurses. *The Journal of Continuing Education in Nursing, 21*(3), 109-112.

Luthans, F., & Kreitner, R. (1985). *Organizational behavior and beyond.* Glenview, IL: Scott, Foresman.

Machin, A. M., & Fogarty, G. J. (1997). The effects of self-efficacy, motivation to transfer, and situational constraints on transfer intentions and transfer of training. *Performance Improvement Quarterly, 10*(2), 98-115.

Macklin, N. R., & Matthews, J. H. (1998). Ensuring quality in continuing education *Administrative Journal of Nursing, 98*(4), 60-62.

Maggs, C. (1991). Framework for future needs. *Nursing Times, 87*(14), 55-56.

Maier, N. R. F. (1973). *Psychology in industrial organizations.* Boston: Houghton-Mifflin.

Marx, R. D. (1982). Relapse prevention for managerial training: A model for maintenance of behavior change. *Academy of Management Review, 7*(3), 433-441.

Marx, R. D. (1986). The learning enterprise: A report on the size and scope of Training. *Training and Development Journal, 40*(1), 54-57.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50,* 370-396.

Mathieu, J. E., & Martineau, J. E. (1997). Individual and situational influences on training motivation. In J. K. Ford (Ed.), *Improving training effectiveness in*

work organizations (pp. 193-221). Mahwah, NJ: Lawrence Erlbaum.

Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individuals and situational characteristics on measures of training effectiveness. *Academy of Management Journal, 35*(4), 828-847.

Mbawo, E. (1995). Strategies for enhancing transfer of training in the workplace. *Training & Management Methods, 9,* 729-744.

Meister, J. (1994). *Corporate quality universities: Lessons in building a world class workforce.* New York: Irwin.

Michalak, D. F. (1981). The neglected half of training. *Training and Development Journal, 35*(5), 22-28.

Minter, S. (1996). Safety training that sticks. *Occupational Hazards, 58*(7), 33-37.

Mitsunaga, B., & Shores, L. (1977). Evaluation in continuing education: Is it practical? *Journal of Continuing Education in Nursing, 8*(6), 7-14.

Mosel, J. M. (1957). Why training programs fail to carry over. *Personnel, 34*(3), 56-64.

Newstrom, J. W. (1985). Leveraging management development through the management of transfer. *Journal of Management of Development, 5(5),* 33-45.

Noe, R. A. (1986). Trainees' attributes and attitudes: Neglected influences on training effectiveness. *Academy of Management Review, 11*(4), 736-749.

Nolan, M., Owens, R. G., & Nolan, J. (1995). Continuing professional education: Identifying the characteristics of an effective system. *Journal of Advanced Nursing, 21,* 551-560.

Nolin, C. (1997). Differences between managers and line staff and time since

training, with respect to perceptions of task and social supports for the transfer of training. *Dissertations Abstracts International, 58(06A),* 2027.

Nunnally, G. S., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

O'Kell, P. (1986). A literature search into the continuing education undertaken in nursing. *New Education Today, 6,* 354-359.

Olsen, J. H. (1996). Training transfer in organizations: Current practice and influences (employee development, management development). *Dissertations Abstracts International, 57(10A),* 4337.

Oliver, S. K. (1984). The effects of continuing education on the clinical behavior of nurses. *The Journal of Continuing Education in Nursing, 15*(4), 130-136.

Parry, S. B. (1990). Bringing it back to work. *Training and Development Journal, 44*(12), 15-17.

Parry, S. B. (1991). Linking training to the business plan. *Training and Development, 45*(5), 32-34.

Perry, L. (1995). Continuing professional education: Luxury or necessity? *Journal of Advanced Nursing, 21,* 766-771.

Petty, G. C., & Farris M. S. (2001). *Training performance transfer.* University of Tennessee, Knoxville, Department of Human Resource Development.

Phillips, J. J. (1991). *Accountability in human resource management.* Houston, TX: Gulf.

Phillips, J. J. (1997). *Handbook of training evaluation and measurement methods.* Houston, TX: Gulf.

Popiel, E. (1969). The many facets of continuing education in nursing. *Journal of Nursing Education, 8*(1), 3-13.

Porter, L., & Lawler, E. E., III. (1968). Antecedent attitudes of effective managerial performance. *Organizational Behavior and Human Performance, 2*, 122-143.

Quinones, M. A. (1995). Pretraining context effects: Training assignment as feedback. *Journal of Applied Psychology, 80*(2), 226-238.

Quinones, M. A., Ford, J. K., Sego, D. J., & Smith, E. M. (1993). The effects of individual and transfer environment characteristics on the opportunity to perform trained tasks. *Training Resources Journal, 1,* 29-48.

Richey, R. C. (1992). *Designing instruction for the adult learner: Systemic training theory and practice.* London/Bristol, PA: Kogan Page Ltd/Taylor and Francis.

Rosnow, R. L., & Rosenthal, R. (1999). *Beginning behavioral research* (3rd ed.). Upper Saddle, NJ: Prentice Hall.

Ross, M. M., Carswell, A., Dalziel, W. B., & Aminzadeh, F. (2001). *The Journal of Continuing Education, 32*(2), 68-76.

Rothwell, W., Sullivan, R., & McLean, G. (1995). *Practicing organization development: A guide for consultants.* San Francisco: Jossey-Bass Pfeiffer.

Rouiller, J. Z. (1989). *Determinants of the climate for transfer of training.* Unpublished doctoral dissertation, University of Maryland, College Park, MD

Rouiller, J. Z., & Goldstein, I. L. (1993). The relationship between organizational transfer climate and positive transfer of training. *Human Resource Development Quarterly, 4*(4), 377-390.

Rummler, G. A., & J. A., Brache, A. P. (1990*). Improving performance: How to*

manage the white space on the organization chart. San Francisco: Jossey-Bass.

Salas, E., & J. A. Cannon-Bowers, (2001). The science of training: A decade of progress. *Annual Review of Psychology, 52,* 481-487.

Scheller, M. K. S. (1993). A qualitative analysis of factors in the work environment that influence nurses' use of knowledge gained from CE programs. *The Journal of Continuing Education in Nursing, 24*(3), 114-122.

Schlotfeldt, R. (1975). Continuing education: No proof of competency. *Association of Registered Nurses Journal, 22*(5), 770-772.

Schoen, D. C., & Morgan, A. P. (1993a). *The Journal of Continuing Education o Nurses, 31,* 13-16.

Schoen, D. C., & Morgan, A. P. (1993) *The Journal of Continuing Education in Nursing, 24*(1), 13-19.

Seipel, M. Y. O. (1986). Staff training policies in public welfare agencies: A quest for rationality. *Journal of Continuing Social Work Education, 4*(1), 25-29.

Seymer, L. (1960). One hundred years ago... *The American Journal of Nursing, 60,* 651-658.

Shand, M. J. (1987). Unreasonable expectations? *Nursing Times, 83*(36), 28-30.

Shanley, E., McDowell, J., & Wynne, T. (1998). Evaluation of course for charge nurses on caring for people with dementia. *Journal of Advanced Nursing, 28*(3), 532-539.

Slusher, I., Logsdon, M., Johnson, E., Parker, B., Rice, J., & Hawkins, B. (2000). Continuing education in nursing: A 10-year retrospective study by the

Kentucky Nurses Association. *The Journal of Continuing Education in Nursing, 31*(5), 219-223.

Smith, E. (1979). Non clinical practice: C. E. meeting the needs of the demanding nurse profession. *CE Focus, 2*(3), 8-10.

Stewart, T. A. (2001, April 1). Mystified by training? Here are some clues. *Fortune, 43,* 184.

Sutton, C. D., & Woodman, R. W. (1989). Pygmalion goes to work: The effects of supervisor expectations in a retail setting. *Journal of AppliePsychology, 74*(6), 943- 950.

Swyt, D. A. (1995). *The technology and workforce of manufacturing and the metals industry in post-industrial America* [online], 101. Available: Gopher words search "U.S. Industry", word search "Swyt."

Tannenbaum, S., & Yukl, G. (1992). Training and development in work organizations. *Annual Review of Psychology, 43,* 759-769.

Thorndike, E. L., & R. S. Woodworth, (1901). *Psychological Review, 8*(4), 384-395.

Tracey, J. B., Tannenbaum, S. I., & Kavanagh, M. J. (1995). Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology, 80*(2), 239- 252.

Tracey, J. B., & Tews, J. (1995). Training effectiveness: Accounting for individual characteristics. *Hotel and Restaurant Quarterly, 36*(6), 36-42.

Tziner, A., Haccoun, R. R., & Kadish, A. (1991). Personal and situational characteristics influencing the effectiveness of transfer of training improvement strategies. *The Journal of Occupational Psychology, 64,* 167-177.

Urbano, M. & Jahns, I. (1988). A conceptual framework for nurses participation in continuing education. *The Journal of Continuing Education in Nursing, 19*, 182-186.

Vroom. V. H. (1964). *Work and motivation.* New York: John Wiley & Sons.

Vroom, V H., & Deci, E. (1970). *Management and motivation.* Middlesex, UK: Penguin Books.

Wake, M. (1987). Effective instruction in continuing education. *The Journal of Continuing Education in Nursing, 18*(6), 188-192.

Warmuth, J. F. (1987). In search of the impact of continuing education. *The Journal of Continuing in Nursing, 18*(1), 4-7.

Wexley, K. N. (1984). Personnel training. *Annual Review of Psychology, 76,* 559-573.

Wexley, K. N., & Latham, G. (1991). *Developing and training human resources in organizations.* New York: Harper Collins.

Yelon, S. (1992). M.A.S.S.: A model for producing transfer. *Performance Improvement Quarterly, 5*(2), 13-23.

Yelon, S. L., & Sheppard, L. M. (1999). The cost-benefit transfer model: an adaptation from Medicine. *Performance Improvement Quarterly, 12*(2), 79-94.

APPENDICES

APPENDIX A

TRAINING PERFORMANCE TRANSFER

Background Information

Directions: *Please check the appropriate response for each item. Completion of this inventory acknowledges your understanding that these data will be used for research purposes only and will be kept completely confidential.*

Job Title: Registered Nurse

(1) Length of service:

____ less than 2 years
____ 2 - 8 years
____ more than 8 years

(2) Sex

____ female
____ male

(3) Primary shift you work:

____ first shift
____ second shift
____ third shift

(4) Do you supervise other workers?

____ yes
____ no

(5)Level of education:

____ Associate Degree
____ 3-year nursing degree
____ Nursing diploma
____ BSN
____ MSN
____ Bachelor's degree, non-nursing
____ Master's degree, non-nursing

(6) Age:

____ 19 or under
____ 20 - 26
____ 27-35
____ 36-55
____ over 55

(7) Type of unit to which you are primarily assigned:

____ Medical/surgical
____ Mental health
____ Emergency
____ ICU
____ Neonatal

____ OB/GYN
____ Critical care
____ Rehabilitation
____ Oncology
____ Cardiology
____ Administrative

____ Other: _____

(8) Job Status:

____ Full time
____ Part time
____ PRN

Training Performance Transfer

The purpose of this inventory is to obtain information about your perceptions of the transfer of training process. Your responses will be kept strictly confidential and your name is not required on this form. It is important for you to answer each item as truthfully as possible.

For each training performance statement listed on the following pages, **circle the number** that most closely reflects your opinion. There are five possible choices for each item:

Never	Seldom	Sometimes	Usually	Always
1	2	3	4	5

There is no right or wrong answer or time limit. However, please work as quickly as possible and respond to every item on the list.

After I receive training:	Never				Always
Performance Statement	1	2	3	4	5
1. My organization considers the application of skills I have learned high priority	1	2	3	4	5
2. I am motivated to use the information I have learned	1	2	3	4	5
3. I have knowledge about methods for using what I have learned	1	2	3	4	5
4. I get on the job reinforcement from my supervisor	1	2	3	4	5
5. Existing work demands are consistent with training I have received	1	2	3	4	5
6. I am quickly able to apply new training on the job	1	2	3	4	5
7. I have confidence when attempting to apply related theory to my job	1	2	3	4	5
8. What I have learned in training is relevant to the tasks I perform	1	2	3	4	5
9. What I learned in the classroom is supported by my supervisor	1	2	3	4	5
10. My co-worker's consistently support my use of training on the job	1	2	3	4	5
11. I experience pressure to do more on my job	1	2	3	4	5
12. I am encouraged to use new ways of doing my job	1	2	3	4	5
13. I previously learned the information taught in my training	1	2	3	4	5
13. I can easily concentrate when learning related theory	1	2	3	4	5
15. My supervisor assists me in using what I have learned	1	2	3	4	5
16. I understand what is expected of me	1	2	3	4	5
17. I deal well with unplanned work crises	1	2	3	4	5
18. I am aware of my strengths and weaknesses on the job	1	2	3	4	5
18. A challenging job assignment is important to me	1	2	3	4	5
20. I have the opportunity to use what I learned in the classroom	1	2	3	4	5
21. I am supported by coworkers when using newly learned skills	1	2	3	4	5

After I receive training:	Never				Always
Performance Statement					
22. I am given the time to apply the instruction	1	2	3	4	5
23. I have confidence to use what I learned	1	2	3	4	5
24. My supervisor and I agree on how I should use what I have learned	1	2	3	4	5
25. I have the ability to learn or master the related training	1	2	3	4	5
26. I see obvious applications of my classroom instruction	1	2	3	4	5
27. My supervisor supports company changes	1	2	3	4	5
28. I prefer habits or old ways of doing things	1	2	3	4	5
29. There is a conflict between the classroom theory and practice on my job	1	2	3	4	5
30. I accept change in my job	1	2	3	4	5
31. I am furnished equipment to apply the training to my job	1	2	3	4	5
32. I have the authority to apply related instruction	1	2	3	4	5
33. I have supervisory support to use what I learned in class	1	2	3	4	5
34. My co-workers support company changes	1	2	3	4	5
35. My company has supportive policies and procedures	1	2	3	4	5
36. I have motivation to use the information I have learned in the Classroom	1	2	3	4	5
37. Little feedback is given to me on the results of my instruction	1	2	3	4	5
38. I am distracted by my personal problems	1	2	3	4	5
39. I think the classroom instruction is relevant to my job	1	2	3	4	5
40. My supervisor supports training so we can do new types of work	1	2	3	4	5
41. There is consistency with my supervisor's view of my work	1	2	3	4	5
42. I receive support from coworkers when using new information	1	2	3	4	5

(Please continue to the next page)

APPENDIX B

PROPOSAL

FOR

RESEARCH COLLABORATION

A Proposal For Research Collaboration

By and Between

A Large Hospital Corporation with facilities Located in East Tennessee

And

The University of Tennessee, Knoxville

The College of Human Ecology

The Department of Human Resource Development

A Human Subjects Research Project

By

Charles Edwin Riddle, Jr.

A STUDY OF TRANSFER OF TRAINING OF REGISTERED NURSES INVESTIGATING FIVE VARIABLES: MOTIVATION, SELF-EFFICACY, PEER SUPPORT, SUPERVISOR SUPPORT, AND ORGANIZATIONAL SUPPORT

This research project is the proposed thesis of Charles Edwin Riddle, Master of Science candidate, in the Department of Human Resource Development, Dr. Greg C. Petty, Chairperson. The *working* title of the thesis proposal is **Training Performance in the Health Care Industry: The Impact of Continuing Education of Registered Nurses on Improved Patient Care.**

Among professions identified in the literature where training has failed to transfer is the profession of registered nurses in U. S. hospitals as well as in U. K. hospitals (Levine, 1978; Oliver, 1984; Wake 1987; Warmouth, 1987). In medical parlance training is often referred to as continuing education both in the U. S. and the U. K. (Chater, 1975; Holzemer, 1988). Smith defined continuing education as "post-registered learning activity designed to increase knowledge or skill or challenge attitudes" (1979, p. 8). "The purpose of continuing education is to build upon nurses' educational and experiential bases for the enhancement of their practice, administration, education, or research to the end of maintaining and improving the health of the public" (American Nurses Association, 1983). Ferrell (1988) pointed out the failure of training evaluation to measure behavior changes on the job or measure improvements in patient care or health systems. Ferrell stated "attendance at continuing education offerings does not ensure that nurses will change their practice when they return to their clinical settings (1988, p. 21).

The primary focus of this study will be to investigate how registered nurses in three East Tennessee hospitals perceive factors that have been reported in the literature to inhibit or facilitate transfer of training i. e., in the case of nurses, improve patient Among factors that have been consistently identified in the literature as impacting continuing education in the health care industry in both a positive and negative way are

Among factors that have been consistently identified in the literature as impacting continuing education in the health care industry in both a positive and negative way are organizational climate, supervisory support, motivation, peer-support, and self-efficacy. Continuing education literature has demonstrated that numerous barriers impede registered nurses from participating in continuous education to the extent that might be most efficacious. Such factors as cost, appropriate subject matter, marketing of training and scheduling (most training scheduled is most convenient to day shift workers) are but a few.

II. Statement of Purpose

The purpose of this study is to identify workplace and organizational factors that play a role in impacting the motivation of employees' intention to transfer training as determined by a sample of registered nurses using the Training Performance Transfer Instrument. This study will proceed from the dissertational work done by Mark Farris using the Transfer Performance Transfer Instrument developed Mr. Farris and Dr. Gregory C. Petty, faculty, the Department of Human Resource Development, the University of Tennessee, Knoxville. A literature review has determined factors that affect the transfer of training. The study will also determine if there differences in factors as determined by registered nurses from the demographic variables age, full-time work experience, job specialization, and sex. The results of the study will contribute to the body of knowledge concerning barriers that affect transfer of training for registered nurses.

The proposed study will be conducted under the auspices of all applicable standards of ethics and good faith of the Department of Human Resource Development, The College of Human Ecology, and The University of Tennessee, Knoxville. Representatives of the University agree in principle to adhere to the guidelines of ethics and policies of the health care corporation, including protecting the anonymity of the survey respondents. The health care corporation would have complete access to the data of the research based on agreed upon mutual understandings.

IV. Methodology

The sample will be drawn from a population of over 200 working health care providers in three East Tennessee regional hospitals. Their participation will be completely voluntary and their names and information will be guarded in the strictest confidence in accordance with all applicable Human Subject Rules governing accredited U. S. colleges and universities. The sample of health care providers drawn from the populations of the selected hospitals will complete the survey instrument, the Training Performance Transfer Instrument, a self-reporting instrument. The instrument is a questionnaire of a type which respondents will be familiar through experience. That is it is an instrument that can be completed privately and without assistance of another person. The questionnaire will have two parts. The first part will be the research items and the second part will be demographic items. When all the instruments have been completed they will be collected from the appropriate hospital staff and maintained and kept under secure provision by the researcher, Charles Edwin Riddle

The data will be analyzed using the Statistical Package for the Social Sciences

10.1. Descriptive and inferential statistics will be used to assess the data. Anticipated inferential statistics that will be used is the Univariate ANOVA to account for initial group differences.

APPENDIX C

TPT SURVEY FORM LETTER

January 4, 2001

Dear Colleague:

We are seeking your assistance with a survey regarding Training Performance Transfer. The results will be used to enhance future workforce development programs.

Participation is voluntary and confidential. There is no need to identify yourself or your department on the instrument. Administrative approval to distribute the questionnaire has been granted.

Thank you for your willingness to participate and feel free to contact me if you have questions.

Instructions:

1. Complete both sides of the attached questionnaire during your free time.

2. Return the completed form in the envelope provided to the drop-off box in Human Resources.

3. Please complete and return the survey by January 23.

Dan Gilbert
Human Resources Department
493-1599

VITA

Charles Edwin Riddle, Jr. is a native of Tennessee and is completing his third degree at the University of Tennessee, Knoxville. Edwin is the oldest of four children. And a first generation college graduate. His father is a veteran of World War II and his mother keeps busy providing the glue that keeps our family vital and alive. I leave this program a much richer man.