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TRANSFER OF TRAINING: EXAMINING THE RELATIONSHIP OF SUPERVISOR, PEER, AND SUBORDINATE SUPPORT ON THE TRANSFER OF LEADERSHIP BEHAVIORS TO THE WORK PLACE

DISSERTATION

Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
in the Graduate School of
The Ohio State University

By
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ABSTRACT

This study was conducted at a large mid-western state university. The sample included 19 managers who completed a leadership training program and 93 supervisors, peers, and subordinates who assessed the degree to which leadership behaviors were performed in the work place. Data were gathered to determine a) if differences existed in the degree to which leadership behaviors were transferred to the job at one month and three months following training, b) if a relationship existed between transfer behaviors and transfer climate at one month and three months following training and c) to what extent the variance in transfer behaviors could be explained by the variables supervisor support, peer support, and subordinate support at one and three months following training.

Data were gathered twice. The first instance was one month following training and the second instance was three months following training. At these two instances, transfer behavior data were collected from the trainee's supervisor, two peers, and two subordinates. Data from the transfer behavior assessment determined the supervisor, peers, and subordinate perception of the trainee's performance. Also at one month and three months following training, the trainees completed a transfer climate assessment. This data determined the trainee's perceived level of supervisor support, peer support, and subordinate support.
The results of the study suggest that transfer behaviors were maintained from one month to three months following training, indicating trainees displayed the same degree of leadership behaviors at three months following training.

Surprisingly, the results of this study suggest that trainees do not distinguish between supervisor support, peer support, and subordinate support. The results of the principal components analyses suggest supervisor support, peer support and subordinate support were more accurately defined as an aggregate construct labeled work group support.

The results of the multiple regression analyses suggest that after controlling for the education level of the trainees, work group support influenced the transfer and maintenance of leadership behaviors following training. These results add to the growing knowledge that a supportive work environment is a significant factor which is associated with the transfer and maintenance of training in the work place.
DEDICATION

This dissertation is dedicated to my loving and supportive partner who stood by me and encouraged me the whole way. Anna, this one belongs to you too.
ACKNOWLEDGMENTS

This study was designed to combine my personal interests in learning with my professional desires to make a difference in the lives of people I work and interact with everyday. Consequently, the project reflects the contribution of many people. First and foremost, I would like to thank my friends and family who have loved, guided, and supported me in my quest to accomplish a dream. Without the love and support of those important to us and their willingness to make personal sacrifices and offer unconditional support, achieving a dream is difficult, if not impossible. Anna, thank you for consistently reminding me why I started this process and supporting me to the very end. Thank you to my family who kept reminding me of the graduation date. And a thank you to all my other friends who talked with me, encouraged me, and kept the faith that I would one day finish this process.

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I am especially grateful to my adviser David Stein who challenged my ideas and assumptions and helped me clarify my thoughts so he could see me succeed. I say thank you to Jan Henderson for guiding me through the painstaking process of writing and rewriting of this massive document. Finally, thank you to Dr. Robert Warmbrod, the research and statistical god. Thanks to everyone for helping me achieve my dream.
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CHAPTER 1

INTRODUCTION

The American corporate culture has undergone extensive changes in the past 20 years. Pressured by global competition, change in customer demands, and technology, organizations have focused on training as "an investment to improve productivity" (Broad & Newstrom, 1992). In fact, U.S. organizations invest billions of dollars each year on training and development for employees. Baldwin and Ford’s (1988) literature review concluded, "While American industries spend up to $100 billion on training and development, not more than 10% of these expenditures actually results in transfer to the job" (p. 63).

Because of the large investment in training and the pressure to perform, U.S. organizations are demanding more concrete payoffs from their training expenditures. Organizations are seeking evidence that training is transferred to the work place through increased productivity and performance. As a result, Human Resource Development (HRD) professionals are challenged with identifying and measuring the relationship between training and performance.
Theoretical Framework

The underlying framework for transfer of training research is multidimensional. The two basic premises are based on learning theory and organizational climate theory. There are two learning theories in particular which have been instrumental in transfer of training literature. The theories are Identical Elements Theory (Thorndike & Woodworth, 1901) and Transfer Through Principles (Judd, 1908; Bass & Vaughn, 1966).

Beyond learning theories, the specific area of transfer climate borrows from the work of organizational climate researchers (Baumgartel & Jeanpierre, 1972; Rouiller & Goldstein, 1993; Schneider, 1975). The work of these researchers focused on identifying the situational characteristics in the work environment which create a positive or negative transfer climate.

Together, learning theory and organizational climate research provide the backdrop for HRD professionals to help managers, supervisors, and employees achieve full performance on the job. The transfer of knowledge and skills learned in training is essential to the support and maintenance of performance on the job (Broad & Newstrom, 1992).

Background

The most commonly recognized HRD strategy to improve performance is training (Broad & Newstrom, 1992; Giley & Eggland, 1989). Training consists of instructional experiences designed to develop new skills and knowledge which are expected to be applied in the work place (Broad & Newstrom, 1992). Transfer of training is defined as the degree to which trainees generalize and apply knowledge, skills, and abilities to their
Is transfer of training a problem? A comprehensive survey of research by Baldwin and Ford (1988) found that not more than 10% of training expenditures actually resulted in transfer to the job. Additionally, Goldstein (1986) suggested that many businesses have been unsuccessful in their attempts to clarify the relationship between training and performance, hence limiting the strategies available to measure training or performance.

Broad and Newstrom (1992) state a wide range of difficulties exist in achieving transfer of training. Generally, trainers put all their efforts into needs analysis, instructional design and delivery and pay less attention to transfer barriers.

In their model depicting the transfer process, Baldwin and Ford (1988) developed categories of trainee and work environment characteristics which support transfer of training. Trainee characteristics include ability, personality, and motivation. As Baldwin and Ford (1988) point out, trainees are more likely to transfer new skills to the job if they have high abilities and motivation to use new skills (Hicks & Klimoski, 1987; Noe & Schmidt, 1986; Ryman & Biersner, 1975). Unfortunately, trainers have very little control over these characteristics.

Work environment characteristics offer more hope. Baldwin and Ford (1988) state work environment characteristics include supportive organizational transfer climate, opportunity to use skills and knowledge on the job, and supervisor support. Although the evidence is limited, current research has found that positive transfer climate (Rouiller & Goldstein, 1993; Tracey et al., 1995), supervisor support (Bates, Holton & Seyler, 1996;
Huczynski & Lewis, 1980), and opportunity to use skills and knowledge in the work place (Ford, Quinones, Sego & Sorra, 1992) were all significant factors in facilitating the transfer of training to the work place. Unfortunately, the empirical evidence supporting Baldwin and Ford's (1988) model rely on self-reports of trainees' "intent" to transfer skills and knowledge to the work place.

Broad and Newstrom (1992) and Huczynski and Lewis (1980) extend Baldwin and Ford's (1988) transfer model by adding a dimension of time (pre-training, during training, post-training). The additional dimensions of time provide opportunities for transfer strategies to be implemented at various points in the process. However, the primary emphasis within the post-training phase is to design the work environment to promote transfer of knowledge and skills learned in training to the work place (Broad & Newstrom, 1992; Huczynski & Lewis, 1980). Although the additional element of time provides a practical framework for viewing the transfer process, the results are based on anecdotal reports and testimony of practitioner's successes and failures at facilitating transfer of training, consequently limiting the generalizability of their evidence.

Researchers (Baldwin and Ford, 1988; Huczynski & Lewis, 1980) have recommended that future research on work environment characteristics focus on the identification of key organizational variables and to operationalize these variables. In an attempt to accomplish this feat, Rouiller and Goldstein (1993) found that a positive transfer climate affects the degree to which learned behavior is transferred to the job.

Rouiller and Goldstein (1993) operationalized transfer climate as the situational and consequence cues which can facilitate and/or inhibit transfer of training to the work
place. Bates et al. (1996) attempted to further Rouiller and Goldstein's (1993) study by validating their climate structure. Bates’ et al. (1996) initial findings suggested that transfer climate should be operationalized by the referent group (peer, supervisor, self) providing the cues and not the specific cues. Bates et al. (1996) reports they were unable to validate the structure due to inadequate sample size.

Consequently, several gaps are present in the research on transfer climate. A factor which has received no attention is the role of subordinate support as a facilitating factor in the transfer climate. Another factor which has received only limited attention is the role of peer support as a facilitating factor in the transfer climate.

Additionally, previous research has excluded the measurement of transfer over a period of time. Researchers (Baldwin & Ford, 1988; Yukl & Tannenbaum, 1992) suggested that maintenance of a skill or behavior in the work place is important to the transfer process but no studies of transfer climate have tracked the dimension of time beyond the conclusion of training. Based on prior transfer of training research (Fleishman, Harris & Burtt, 1955; Ford et al., 1992; Huczynski & Lewis, 1980; Rouiller & Goldstein, 1993), the time period for assessing generalization and maintenance of behaviors has ranged from immediately following training to 18 months following training. Based on prior research and organizational priorities, the time period of assessment for this study was one month and three months following training.

Problem Statement

A small body of research has examined organizational transfer climate influences on the transfer of training (Baldwin & Ford, 1988; Bates et al., 1996; Broad & Newstrom,
1992; Rouiller & Goldstein, 1993; Tracey et al., 1995; Yukl & Tannenbaum, 1992). Yet, HRD professionals still do not know why training does not transfer to the work place and whether transferred behaviors are sustained over time.

HRD professionals are still asking and experimenting with organizational interventions to improve the degree to which training behaviors are transferred to the work place. Questions are still being asked about the role the supervisor plays in facilitating the transfer of training. Is there anything peers or subordinates can do to facilitate the transfer of training? Additionally, what sustains transfer behaviors over a period of time? Will the same transfer behaviors be present at one month versus three or more months following training?

To expand the growing knowledge of transfer of training, this study was conducted to examine six research questions.

**Research Question 1**
Is there a statistically significant difference in the transfer behavior scores at one month and three months for managers who complete a leadership training program?

$H_0$: There will be no statistically significant difference in the transfer behavior scores at one month and three months for managers who complete a leadership training program.

**Research Question 2**
Is there a statistically significant difference in the transfer climate scores at one month and three months for managers who complete a leadership training program?

$H_0$: There will be no statistically significant difference in the transfer climate scores at one month and three months for managers who complete a leadership training program.
Research Question 3
Is there a statistically significant relationship between the transfer behavior scores and the transfer climate scores at one month for managers who complete a leadership training program?

H₃: There is no statistically significant relationship between the transfer behavior scores and the transfer climate scores at one month for managers who complete a leadership training program.

Research Question 4
If there is a statistically significant relationship between transfer behavior scores and transfer climate scores at one month, then to what extent can the variance in transfer behavior scores be explained by the linear combination of supervisor support, peer support, and subordinate support for managers who complete a leadership training program?

H₄: The proportion of variance explained in transfer behaviors at one month is zero for managers who complete a leadership training program.

Research Question 5
Is there a statistically significant relationship between the transfer behavior scores and the transfer climate scores at three months for managers who complete a leadership training program?

H₅: There is no statistically significant relationship between the transfer behavior scores and the transfer climate scores at three months for managers who complete a leadership training program.

Research Question 6
If there is a statistically significant relationship between transfer behavior scores and transfer climate scores at three months, then to what extent can the variance in transfer behavior scores be explained by the linear combination of supervisor support, peer support, and subordinate support for managers who complete a leadership training program?

H₆: The proportion of variance explained in transfer behaviors at three months is zero for managers who complete a leadership training program.

With these research questions in mind, the purpose of this study was to examine the relationship between transfer climate factors of supervisor support, peer support, and subordinate support and the generalization and maintenance of transfer of behaviors to the
work place at one month and three months following a leadership training program among managers in a university setting.

Referring to Figure 1, the proposed transfer of training model provides a visual medium for examining the relationship between the transfer climate support and the transfer of behaviors to the work place over a period of time. That is, to what degree does the trainee's perception of supervisor support, peer support, and subordinate support influence the transfer of behaviors to the work place at one month and three months following leadership training.

Scope of the Study

This study was conducted in an auxiliary unit of a large midwestern, public university. The auxiliary unit oversees the housing, food services, and event centers for the university. The participants for this study were selected from an accessible population of forty managers who completed all 12 hours of leadership training and obtained at least 50% on the Knowledge Acquisition assessment following training. The solicitation of participants resulted in nineteen managers who agreed to participate.

Data were gathered to determine: a) the degree to which leadership behaviors (coaching, communication, empowerment, and productivity) were generalized and maintained in the work place one month and three months following training, b) the trainee's perception of supervisor support, peer support, and subordinate support at one month and three months following training, c) whether a statistically significant relationship exists between transfer behaviors and transfer climate at one month and three months following training, and d) the extent to which a change in transfer behaviors can be
explained by the transfer climate factors of supervisor support, peer support, and subordinate support support.

The scope of this study does not include the examination or assessment of the effectiveness of the training intervention. Based on prior research (Baldwin & Ford, 1988; Broad & Newstrom, 1992), the researcher assumed that some degree of the leadership training would be transferred to the work place. Accordingly, this study was designed to assess the effects of the work environment on the generalization and maintenance of transfer behaviors and not to examine the effectiveness of the training intervention.
Figure 1: Proposed Transfer of Training Model

Perceived Level of Support by Trainee (Independent Variables)
Perceived Level of Performance by Supervisor, Peers, Subordinates (Dependent Variable)

- Supervisor support
- Peer support
- Subordinates support

Transfer Climate

Transfer Behaviors
- Coaching
- Communication
- Empowerment
- Expectations

Generalization (one month)
Maintenance (three months)

Over Time

Influences

- one month
- three months
Three procedures were used to analyze the data. For Hypotheses 1 and 2, a t-test for a dependent group was calculated to determine if the group differed significantly on transfer behavior scores and transfer climate scores at one month and three months following training.

For Hypotheses 3 and 5, Pearson Product Moment Correlation Coefficients were calculated to determine if a relationship existed between transfer behavior scores and transfer climate scores at one month and three months following training. Hypotheses 4 and 6 were tested using a multiple regression analysis to determine the amount of variance in transfer behavior scores that could be explained by the combination of transfer climate scores.

Significance of Study

This study was designed to examine factors in the transfer climate that facilitated the generalization and maintenance of transfer behaviors to the work place. A greater understanding of the factors affecting transfer of training can assist organizations in achieving optimal performance on the job. As noted earlier, the most commonly recognized HRD strategy to improve performance is training (Broad & Newstrom, 1992; Giley & Eggland, 1989). By understanding the relationships between transfer climate and performance, organizations can allocate and focus resources on interventions to enhance performance on the job and ultimately improve organizational results (Broad, 1997).

Most transfer of training studies have focused on the pre-course phase or course phase of training. This study was conducted to expand the understanding of transfer training by examining the post-course phase of training. That is, what elements in the
transfer climate facilitate the transfer of training once the participants leave the controlled training environment. Additionally, this study added to the transfer of training literature by including a time element to examine the maintenance of post-training behaviors. Prior transfer of training research had not adequately addressed the issue of whether training is sustained over a period of time. This study addressed this issue by assessing trainees at one month and three months following training.

Finally, this study adds to the knowledge of transfer of training literature by defining supervisor support, peer support, and subordinate support. Other theorists (Baldwin & Ford, 1988; Yukl & Tannenbaum, 1992) suggested that future research identify and define key work environment variables such as supervisor support. This study defines not only supervisor support but also peer support and subordinate support.

Definitions

Transfer Climate

Transfer climate consists of those situations and consequences that either inhibit or facilitate the transfer of what has been learned in training to the job situation (Rouiller & Goldstein, 1993). For the purpose of this study, transfer climate was defined by the variables of supervisor support, peer support, and subordinate support.

Supervisor Support. For this study, the variable supervisor support was defined by goal setting, opportunity to use skills, and recognition. Goal setting is the degree to which the supervisor establishes goals which encourage the application of training. The opportunity to use skills is the degree to which the supervisor provides opportunities for
the use and application of training. Recognition is the degree to which the supervisor reinforces and rewards the use of training.

**Peer Support.** For this study, the variable peer support was defined by goal setting, opportunity to use skills, and recognition. Goal setting is the degree to which peers help establish goals which encourage the application of training. The opportunity to use skills is the degree to which peers provide opportunities for the use and application of training. Recognition is the degree to which peers reinforce and reward the use of training.

**Subordinate Support.** For this study, the variable subordinate support was defined by goal setting, opportunity to use skills, and recognition. Goal setting is the degree to which subordinates help establish goals which encourage the application of training. The opportunity to use skills is the degree to which subordinates provide opportunities or encourage the use of training. Recognition is the degree to which subordinates reinforce and provide feedback on the use of training.

Transfer climate support was assessed via a 43 item, five-point Likert scale instrument given to each trainee. The questions asked the trainee to decide the degree to which their supervisor, peers, and subordinates supported the transfer of leadership skills to the workplace. Transfer climate was operationalized by three summated mean scores. These mean scores represented the trainee's perception of supervisor support, trainee's perception of peer support, and trainee's perception of subordinate support. The transfer climate was assessed at one month and three months following training.
Transfer of Training

Transfer of training has been defined as the degree to which trainees generalize and apply knowledge, skills, and abilities to their jobs (Tannenbaum & Yukl, 1992; Tracey et al., 1995) and maintain the knowledge, skills, and abilities over a period of time (Baldwin & Ford, 1988).

For the purpose of this study, transfer of training was defined as the degree to which transfer behaviors were generalized and maintained in the work place. Therefore, transfer behaviors were defined as the degree to which the leadership behaviors of coaching, communication, empowerment and expectations were generalized and maintained over a three month period.

Coaching. For this study, coaching was defined as the degree to which the trainee helped employees develop plans to improve job knowledge and encouraged employees to learn new skills.

Communication. For this study, communication was defined as the degree to which the trainee listened to suggestions and provided helpful feedback to employees.

Empowerment. For this study, empowerment was defined as the degree to which the trainee created guidelines for employees to make decisions in the completion of daily tasks.

Expectations. For this study, expectations was defined as the degree to which the trainee set expectations for employees and provided reinforcement to meet or exceed expectations.
Transfer behaviors were assessed via a 23 item, five-point Lickert scale instrument given to the trainee’s supervisor, two peers, and two subordinates. The questions asked the respondents to decide the degree to which the trainee displayed certain leadership behaviors in the workplace. Transfer behaviors were operationalized by one summated mean score to determine an overall transfer behavior score.

Limitations and Assumptions

This was a correlational study designed to explain and predict the relationship between the transfer of leadership behaviors and supervisor support, peer support, and subordinate support. However, several limitations were brought about by the procedures of this study.

One limitation to this study was the small sample size. There were a total of 112 participants in the study. However, the data were analyzed based on the number of trainees in the study and not on the total number of participants. Therefore, the data analyses was based on a sample size of 18 (the number of trainees) and not a sample size of 112. The data from the remaining 94 participants were used as multiple measures of the trainee performance and summated into a one transfer behavior score for each trainee.

Another limitation is the use of non-random sampling. As outlined by several authors (Campbell & Stanley, 1963; Gay, 1981), the lack of randomization adds sources of invalidity to a study. That is, the generalizability of a study is limited because the sample does not constitute a representative cross section of individuals in the population.

The limited sample size and the non-random sample decreased the statistical power of the results which increased the possibility these results were a product of chance.
Therefore, the results of this study should be generalized with caution. However, Campbell and Stanley (1963) also state that generalizability can be increased by demonstrating the results over a wide variety of conditions.

Additionally, Campbell and Stanley (1963) state that threats to validity remain possible even for the most stringent of experimental designs. The threats to validity for this correlational study were sampling error, non-response error, and measurement error. A more in-depth discussion of validity threats is discussed in Chapter 3.

Finally, another limitation to this study was the lack of a pre-test to determine the participants pre-training level of performance. The lack of a pre-test limited the researchers ability to compare pre-training performance with post-training performance.

With this limitation in mind, the researcher made an assumption regarding the transfer of training in this study. From prior studies (Baldwin & Ford, 1988; Broad & Newstrom, 1992), researchers speculate that 10-20% of what is learned in training is transferred back to the work place. Accordingly for this study, the researcher assumed the trainees would transfer some degree of the training back the work place. Therefore, the scope of this study was to examine the effects of the work environment on the generalization and maintenance of transfer behaviors and not to examine the effectiveness of the training intervention.
CHAPTER 2

REVIEW OF LITERATURE

The purpose of this study was to examine the relationship between transfer climate factors of supervisor support, peer support, and subordinate support and the generalization and maintenance of transfer behaviors to the work place at one month and three months following a leadership training program.

This chapter reviews the relevant literature which defines transfer of training research. Specifically, relevant research defining transfer of training and transfer climate is summarized. The review also includes definitions for the independent variables supervisor support, peer support, and subordinate support.

Transfer of Training

Transfer of training is an issue which is receiving increased attention within the training literature. Particularly, the examination of how elements in the post-training environment can encourage or prohibit the transfer of post-training behaviors (Baldwin & Magjuka 1991; Bates, Holton & Seyler, 1996; Ford, Quinones, Sego, & Sorra, 1992; Mathieu, Tannenbaum & Salas, 1992; Rouiller & Goldstein, 1993; Tracey, Tannenbaum & Kavanagh, 1995). Transfer of training has been defined as the degree to which trainees
generalize and apply knowledge, skills, and abilities gained in training to their jobs (Tannenbaum & Yukl, 1992; Tracey et al., 1995) and maintain the knowledge, skills, or abilities over a period of time (Baldwin & Ford, 1988).

Research on how to encourage the transfer of training has been approached in several ways. Two approaches that have been the center of research are identical elements and general principals.

The theory of identical elements contends that transfer is maximized to the extent identical stimulus and response elements are present in the training and transfer setting. That is, transfer will occur to the extent to which performance during training and performance on the job both depend upon the same stimuli and require the same responses or behaviors (Baldwin & Ford, 1988; Ellis, 1965; Goldstein, 1986). This theory was a result of E. L. Thorndike and R. S. Woodworth's (1901) identical elements theory.

Critics of the identical elements theory proposed another approach to promote transfer. This theory is known as transfer through principals. This theory suggests that training should focus on the general principals necessary to learn a task so the learner may apply them to solve problems in the work environment. Therefore, transfer is facilitated when trainees are taught general rules and theoretical principals, not just applicable skills that underlie the training contents. Hence, identical stimuli and responses are not necessary and transfer is likely to the extent general principals are learned (Baldwin & Ford, 1988; Ellis, 1965; Goldstein, 1986; Rouiller, 1989). This theory was the result of the work of C. H. Judd (1908) and B. M. Bass and J. A. Vaughan (1966).
The approaches discussed previously emphasize the training program itself but do not focus on the situation that trainees may find once they return to the work place. Trainees may be faced with inadequate equipment or resources to utilize trained skills. Trainees may be faced with peers or supervisors who are performing inconsistently with training. Conversely, trainees may be faced with peers or supervisors who encourage the use of trained skills through rewards and feedback. These situational constraints may act to inhibit or facilitate the transfer of training.

Baldwin and Ford (1988) present a model in which to visualize the transfer process. Following Baldwin and Ford's (1988) model, the literature review will focus on the effects of training design, trainee characteristics, and work environment factors on the learning outcomes and the conditions of transfer. However, to support the purpose of this study, additional attention will be paid to the empirical studies examining the effects of the work environment factors on the transfer process.

Training Designs

Baldwin and Ford (1988) state a large portion of the empirical research on transfer of training concentrates on improving the design of training programs by incorporating learning principals. Two approaches that have been the center of research are identical elements and general principals. These approaches have already been discussed.

Baldwin and Ford (1988) point out the research on training design has been limited to college students, to short-term memory tasks, and to simple motor tasks, therefore limiting the generalization of results to complex tasks in most organizational jobs.
Trainee Characteristics

There has been an increase in the empirical research surrounding trainee characteristics. In their review of literature, Baldwin and Ford (1988) and Tannenbaum and Yukl (1992) point out a particular increase in the research regarding influence of trainee motivation on training effectiveness. A common approach for studying trainee motivation is the use of an expectancy framework which is based on expectancy theory. The basic premise of expectancy theory is that the tendency for people to engage in a particular behavior is a function of 1) the strength of their expectation that the behavior will be followed by a given outcome and 2) the anticipated value of that outcome (Saal & Knight, 1995). Related research (Baldwin & Magjuka, 1991; Noe, 1986; Mathieu et al., 1992) report evidence for a positive relationship between trainee motivation and training outcomes.

Work Environment

As Baldwin and Ford (1988) and Tannenbaum and Yukl (1992) state, there has been limited research examining the affects of the post-training environment on the transfer process. In Baldwin and Ford’s (1988) model of the transfer process, they propose that work environment has direct effects on the generalization and maintenance of post-training behaviors. Further, they propose the work environment also has indirect effects on the transfer process through the learning and retention of training material.

One of the first studies which suggested that a supportive climate is a factor in the transfer of training to the job situation was Fleishman, Harris and Burtt (1955). They conducted a study examining the effectiveness of leadership training on supervisor
behaviors. They found that immediately following the leadership training program, the trainees were considerate and less inclined to initiate structure. "Considerate" was operationalized as characteristics between supervisors and subordinates such as friendliness, mutual trust, and respect. Initiating structure involved establishing patterns of organization, channels of communication, and ways of getting things done.

However, when the trainees returned to the work place, the effects of the training did not transfer. That is, the authors reported the trainees showed less consideration and increased structure to a greater extent than before they attended training. Results of the analyses suggested the supervisor was significantly related to the attitudes and behavior of the trainee to a greater extent than whether the participant did nor did not receive the training. If the trainee worked with a supervisor high in consideration, the trainee exhibited similar attitudes and behaviors. Their analysis suggested the effects disappeared because the supervisor was not supportive of the goals of the training program.

Huczynski and Lewis (1980) found the single most important factor influencing the trainee's intent to transfer was the supervisor's management style and attitude. Further, the authors found the organizational factors which inhibit training transfer were overload of work, crisis work, and failure to convince older workers.

Huczynski and Lewis' (1980) training course, Network Analysis, targeted construction and heavy engineering industries. The researchers distributed questionnaires before and after the course and were supplemented by semi-structured interviews with a sample of respondents. The questionnaire sought information on trainee motivation to transfer the training (how applicable is this training to your job), their intent to transfer the
training (how likely are you to use this training), and organizational factors inhibiting or encouraging the transfer of training (perceived work environments).

The results indicated that 35% of the trainees attempted to transfer what they had learned. Of these trainees, a majority reported supervisor support as a significant factor in the implementation of the management technique. In defining supervisor support, Huczynski and Lewis (1980) reported the "boss's attitude and management style" were of crucial importance (p. 235). Further analyses indicated other organizational factors that prevented the trainee from taking action were "overload of work, crisis work, and convincing older people" (p. 236). The analysis of responses emphasized the importance of the trainee's "role-set" (superiors and peers) in the transfer process.

Huczynski and Lewis' (1980) analyses are important in setting the stage for investigating factors beyond trainee characteristics and training design which may inhibit or enhance the transfer of training. However, the analysis fell short by not examining the degree of influence these factors had on the transfer of post-training behaviors and why some participants did not attempt to transfer post-training behaviors to the work place.

Goldstein (1986) suggested that supportive organizational transfer climate should be examined as part of the needs assessment process. His view was that unless trainees transfer into work situations that had a climate which supported the use of the behaviors learned in training, they would not likely use their learned skills.

Baldwin and Magjuka (1991) took a different approach in examining management actions which affect perceptions and influence behavior. This study investigated the effects of three pre-training signals: course information provided to trainee, accountability
to supervisor, and program status (mandatory or voluntary) on subsequent trainee intentions to transfer training to the work place.

Data were collected from trainees in an engineering group of a manufacturing company. The results indicated that certain pre-training actions sent signals that affected trainee perceptions and intentions to transfer training. Specifically, trainees reported greater intentions to transfer training to the work place when they received information prior to the training program, recognized they would be accountable to their supervisors, and perceived a program as mandatory.

Baldwin and Magjuka's (1991) study also supports the importance of the work environment in the transfer of training. However, in this study the analysis was limited to pre-training signals and measured intentions to transfer rather than the degree to which training was transferred. Again, this study adds to the knowledge that signals beyond trainee characteristics and training design affect the transfer of training but falls short of identifying the factors in the work environment which significantly affect the transfer of post-training behaviors.

Ford's et al. (1992) study added an additional dimension to the study of work environment factors affecting the transfer of training. In their study, the opportunity to which graduates from an Air Force technical training program had to perform trained tasks on the job was examined over a period of time (four months following training). The opportunity to perform was operationalized with three dimensions: breadth, activity level and type of tasks performed.
Ford's et al. (1992) results indicated that four months following training, airmen obtained differential opportunities to perform trained tasks. These differences were related to supervisory attitudes and work group support. That is, airmen who were perceived by the supervisor to be competent and likable obtained greater opportunity to perform tasks and airmen assigned to highly supportive work groups were found to perform more complex tasks.

Ford et al. (1992) also adds to the idea that elements in the work environment can facilitate or inhibit the transfer of post-training behaviors. Additionally, this study added work environment as an element of "work group". Unfortunately, the individual elements that comprise work group were not defined in the scope of the study.

The only study that has measured transfer of training over a period of time has been Hand, Richards, and Slocum (1973). In their study, they examined maintenance of trained behaviors over time by measuring self-reports and supervisory reports of behavior at three and 18 months following a human relations training program. The results indicated no change in behavior at three months but changes in behavior at 18 months for those managers who attended training.

Transfer Climate

The above mentioned empirical efforts provide general evidence of work environment characteristics which may affect the intent to transfer behaviors. However, little light is shed on a specific work environment characteristic of transfer climate.

Rouiller and Goldstein (1993) specifically explored the issue of organizational transfer climate. In their study, they developed an instrument to measure the
organizational transfer climate of several fast-food restaurants. Their measure of organizational transfer climate consists of "those situations and consequences that either inhibit or help to facilitate the transfer of what has been learned in training into the job situation" (p. 379).

Based on reviews of literature, subject matter experts and the behavior modification model developed by Luthans and Kreitner (1985), Rouiller and Goldstein (1993) proposed that a positive transfer climate consists of two general types of work place cues: situational and consequence. Situational cues serve to remind or provide opportunity for trainees to use their training in the work place.

Situational cues were proposed to have four dimensions:

1) goal cues: these goals can be imposed or participatively set and serve to remind trainees to use their training in the work place
2) social cues: these cues come from group membership and include the behavior and influence processes of the group and serve to remind or provide opportunity for trainees to use their training in the work place
3) task and structural cues: these cues concern the design and nature of the job and serve to remind or provide opportunity for trainees to use their training in the work place
4) self-control cues: these cues concern the various self-control processes that permit trainees to use what has been learned

Consequence cues refer to on-the-job outcomes which affect the extent to which training is transferred.

Consequence cues were proposed to have four dimensions:

1) positive feedback: these cues refer to trainees being given positive information about the use of their training in the work place
2) negative feedback: these cues refer to trainees being given negative consequences for not using their training in
the work place
3) punishment: these cues refer to trainees being punished for not using their training in the work place
4) no feedback: these cues refer to trainees receiving no information about the uses or importance of training in the work place

Rouiller and Goldstein’s (1993) results showed that attributes of the organizational transfer climate, over and above learning, influenced the transfer of training behaviors to the job. Additionally, situational cues and consequences were each found to significantly contribute to the transfer of post-training behaviors.

This study is one of the few empirical studies to establish and measure the importance of an organizational transfer climate and the effects on subsequent performance. Rouiller and Goldstein (1993) were the pioneers in establishing a measure for transfer climate.

Tracey et al. (1995) sought to extend Rouiller and Goldstein’s (1993) work by using items drawn from their instrument with an additional dimension of the work context termed “continuous learning culture” for supermarket managers. Tracey et al. (1995) did not use Rouiller and Goldstein’s (1993) self-control scale in their instrument, reasoning it was not a measure of transfer climate because the scale referred to “personal experiences relating to the use of training on the job, rather than perceptions about the transfer of training climate” (p. 69). Additionally, they added 24 items designed to measure continuous learning culture.

A principal components analysis yielded a two-factor model, transfer of training climate and continuous learning culture. The transfer of training climate consisted of six
scales (social and goal cues, task cues, no-feedback consequences, negative reinforcement consequences, extrinsic reinforcement consequences, and intrinsic reinforcement consequences). The continuous learning culture consisted of three scales (social support, continuous improvement, and continuous competitiveness). The transfer of training climate scale was similar, but not identical, to Rouiller and Goldstein (1993). However, the authors expected this result based on the differences in the methods used to derive the scales. Rouiller and Goldstein (1993) derived their scales from expert judgments and Tracey et al. (1995) used principal components analysis.

Tracey et al. (1995) supports and adds to the growing knowledge regarding how elements in the work environment affect the transfer of post-training behaviors. These authors provided additional evidence for an instrument which measures transfer of training climate based on certain situational and consequence cues.

Bates et al. (1996) attempted to validate Rouiller and Goldstein’s transfer climate instrument in yet another study. Bates et al. (1996) assessed the transfer climate of operating technicians from four production units at a petrochemical manufacturing facility. The authors used Rouiller and Goldstein’s (1993) climate instrument but eliminated fifteen items because they were not appropriate for the organization. Therefore, the final instrument contained 48 of the original items.

Bates et al. (1996) conducted an exploratory common factor analysis to identify the underlying latent structure of the data. The analysis resulted in a substantially different factor structure than proposed by Rouiller and Goldstein (1993) and supported by Tracey et al. (1995). This structure suggested that people perceived transfer climate according to
the referent of the climate and not by psychological factors suggested by Rouiller and
Goldstein (1993). That is, climate perceptions were structured by whether the cues were
received from their supervisor, their peer/task, or themselves.

Bates et al. (1996) offers the following transfer climate structure:

- **Supervisor support**: The extent to which supervisors reinforce and support use of learning on the job
- **Peer/Task support**: The extent to which peers and the task itself reinforce and support use of learning on the job
- **Supervisor sanctions**: Negative responses of the supervisor if training is not used on the job
- **Personal outcomes - positive**: The degree to which applying training on the job leads to outcomes that are positive payoffs for the individual
- **Personal outcomes - negative**: The degree to which applying training on the job leads to outcomes that are negative for the individual

Bates' et al. (1996) analyses suggest that people do not perceive transfer climate
by whether they receive cues or reminders to perform tasks or whether they receive
feedback for their performance. But rather, people perceive transfer climate by the group
giving the cues. It is the group or referent of the climate that people perceive and not the
psychological factor of the cue. However, Bates et al. (1996) reported they were unable
to validate the transfer climate structure due to inadequate sample size.

**Supervisor Support**

Supervisor support for training initiatives has been identified as the most significant
variable that impacts the transfer of training (Baldwin & Ford, 1988; Fleishman et al.,
1955).
In her dissertation with a large state agency in Connecticut, Hastings (1994) defined supervisor support as articulating organizational goals, aligning the work place to training goals, providing time to practice new skills, and modeling the new behaviors. She also defined situational constraints as barriers in the work place that reduce the transfer of behaviors. For example, how accessible resources are in the work place, whether materials provided are easily understood, and the similarity of training and work environment.

The results of Hastings (1994) analyses found that supervisory behavior did not significantly impact transfer of training. However, Hastings (1994) states the correlation between supervisor support and her other independent variable, situational constraints, was very high. Hastings (1994) states the relationship between these two variables suggests that supervisory support and situational constraints explained much of the same variance. Therefore, together the two variables had a significant effect on transfer of training. Hastings (1994) recommends that future research may explain more of the variance in transfer behaviors by combining supervisor support and situational constraints into one variable.

Bates et al. (1996), in their study of operating technicians for a petrochemical manufacturing facility, found that participants perceived their transfer climate according to the person who provides situational and consequence cues. Bates et al. (1996) defined supervisor support as the extent to which supervisors reinforce and support use of learning on the job. Bates et al. (1996) results reinforce Hastings (1994) recommendation that supervisor support and situational cues may describe the same construct.
Supervisor support has been identified as a critical factor in the transfer of behaviors. Based on prior research (Bates et al., 1996; Hastings, 1994; Rouiller & Goldstein, 1993), the variable supervisor support, for this study, was defined as the degree to which the trainee's supervisor helped set performance goals, provided opportunities to use skills, and recognized and rewarded the use of skills on the job. Although this list of behaviors is not exhaustive, the characteristics to be examined in this study are variables researchers have identified as increasingly important (Bates et al., 1996; Hastings, 1994; Rouiller & Goldstein, 1993). Because empirical research is limited, this study attempted to validate the significance of these variables for generalization and maintenance of transfer behaviors.

Peer Support

Whereas limited research is available indicating that supervisor support promotes the transfer of training, even less research is available regarding the construct of peer support promoting the transfer of training.

Huczynski and Lewis (1980) presented one of the first studies which suggested that the support of a trainee's "role set" was influential in the transfer process. Huczynski and Lewis (1980) included supervisor, peers, and subordinates in the trainee's role set. Unfortunately, Huczynski and Lewis (1980) provide no analytical data regarding the impact of peer and/or subordinate support on the transfer process, therefore limiting their suggestions to anecdotal conclusions.

Since Huczynski and Lewis (1980), Ford et al. (1992) designed a study to investigating work place factors which affect the opportunity to perform trained tasks.
Ford et al. (1992) studied graduates from an Air Force technical training program. The results indicated that airmen assigned to work groups that were highly supportive were also found to perform more complex and difficult tasks. Ford et al. (1992) defined group support as the degree to which coworkers cooperated with each other. Ford’s et al. (1992) findings support the proposition that peer support influences the transfer of technical skills. However, very little is known about the role of peer support in the transfer of human relations skills such as leadership.

Finally, Bates et al. (1996), in their study with technicians at a petrochemical facility, found that transfer climate perceptions are structured by the group (supervisor, peer, self) who gives support or feedback. Bates’ et al. (1996) structure provides some initial evidence that trainees perceive transfer climate by referent group and not by psychological cues as suggested in prior studies (Rouiller & Goldstein, 1993; Tracey et al. 1995). Unfortunately, Bates et al. (1996) were not able to validate their structure due to an inadequate sample size.

For this study, the variable peer support was defined as the degree to which the trainee’s peers helped set goals, provided opportunities to use skills, and recognized the use of skills on the job.

Subordinate Support

The concept of subordinate influence on the transfer of training was first initiated by Huczynski and Lewis (1980). In their study, Huczynski and Lewis (1980) suggested that the support of a trainee’s “role set” was influential in the transfer process. Included in
the trainee's role set was the variable subordinate support. However, no analytical data was presented to support their conclusion.

Intuitively, the idea of subordinate support influencing the transfer of training remains a very plausible idea. Beyond Huczynski and Lewis (1980), organizational climate research suggests that a dimension of organizational climate is the individual's perception of consideration, warmth and support of managers and peers, and nurturance of subordinates (James & Jones, 1974). Therefore, an intuitive leap was made for this study. That is, in the transfer climate, trainee perception of subordinate support will affect the generalization and maintenance of transfer behaviors. For this study, the variable subordinate support was defined as the degree to which the trainee's subordinates helped set goals, provided opportunities to use skills, and recognized and rewarded the use of skills on the job.
CHAPTER 3

METHODOLOGY

A gap exists in the transfer of training research. HRD professionals know very little about why training does not transfer to the work place and why transfer behaviors are not sustained over time. The purpose of this study was to examine the relationship of supervisor, peer, and subordinate support and the generalization and maintenance of transfer of behaviors to the work place at one month and three months following a leadership training program among managers in a university setting.

To expand the understanding of transfer of training, this study examined the association between the independent variables of supervisor support (goal setting, opportunity to use skills, and recognition), peer, support (goal setting, opportunity to use skills and recognition), and subordinate support (goal setting, opportunity to use skills and recognition) and the dependent variable transfer behaviors (coaching, communication, empowerment and expectations). The specific null hypotheses tested were:

H₀₁: There is no statistically significant difference in the transfer behavior scores at one month and three months for managers who complete a leadership training program.

H₀₂: There is no statistically significant difference in the transfer climate scores at one month and three months for managers who complete a leadership training program.
H₀₃: There is no statistically significant relationship between the transfer behavior scores and the transfer climate scores at one month for managers who complete a leadership training program.

H₀₄: The proportion of variance explained in transfer behaviors at one month is zero for managers who complete a leadership training program.

H₀₅: There is no statistically significant relationship between the transfer behavior scores and the transfer climate scores at three months for managers who complete a leadership training program.

H₀₆: The proportion of variance explained in transfer behaviors at three months is zero for managers who complete a leadership training program.

With these hypotheses in mind, this chapter discusses: (a) the leadership training, (b) the sampling procedures and description of participants, (c) the design of the study, including validity threats to the study, (d) data collection procedures, (e) the instruments used for gathering data, and (f) data analyses.

Training

One of the training programs offered by the university department is a program on leadership. The training program consisted of 12 hours and took place in a conference facility located on the university campus. The training was divided into four modules consisting of three hours for each module. Module one focused on an “Introduction to Leadership and Coaching”. Module two focused on “Human Relations Skills.” Module three focused on “Empowerment and The Changing Role of the Manager”, and module four focused on “Productivity and the Power of Expectations”.

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Sample Procedures and Participants

This study was conducted in an auxiliary unit of a large midwestern, public university. The auxiliary unit oversees the housing, food services, and event centers for the university. The participants for this study were selected from an accessible population of 40 managers who completed all 12 hours of leadership training and obtained at least 50% on the Knowledge Assessment. The solicitation of participants resulted in 19 managers agreeing to participate in the study. The remaining managers in the accessible population did not participate because of a low knowledge assessment score, they did not supervise other staff members, or they declined to participate in the study for personal reasons.

The Knowledge Assessment was used as a sample selection criteria and was administered upon completion of the training. The score of at least 50% established a performance standard for participation in the study. Since the researcher was not examining the effectiveness of the training intervention, the knowledge standard was set at a level to ensure participation in the study but set high enough to establish a selection criteria. Therefore, the sample selection criteria for this study included completion of all 12 hours of training and at least a 50% score on the Knowledge Assessment.

Once the trainee agreed to participate in the study, the researcher sought involvement from the trainee's work group. The researcher sought involvement from the trainee's supervisor, two peers, and two subordinates. Based on a personnel listing provided by the Human Resources Office, the researcher randomly chose two subordinates and two peers from the personnel listing. With the exception of two cases
(both peers) for different managers, the peers, and subordinates agreed to participate in
the study. For the two exceptions, the researcher randomly selected two additional peer,
names who agreed to participate in the study. The name of the manager's supervisor was
also provided to the researcher by the Human Resources Office. In each case, the
supervisor agreed to participate in the study.

The sample consisted of 19 trainees who completed the leadership training and
scored at least a 50% on the Knowledge Assessment. Ten (53%) of these managers were
male and nine (47%) were female. The work group for each trainee consisted of one
supervisor, two peers, and two subordinates for a total of 93 participants. Eighteen
supervisors participated in the study. One supervisor agreed to participate but did not
complete the surveys. Ten (56%) of the supervisors were male and eight (44%) were
female. Thirty-eight peers participated in the study which equals two peers per trainee.
Twenty-two (58%) of the peers were male and sixteen (42%) were female. Thirty-seven
subordinates participated in the study. One trainee supervised only one person. Twenty-
two (60%) of the subordinates were male and fifteen (40%) were female. Figure 2 lists
the summary of the 112 who participated in the study; sixty-four (57%) were male and
forty-eight (43%) were female.
The sample consisted of four ethnic groups. Sixty-one (54%) of the participants self-identified as White, forty-eight (43%) identified as African American, two (2%) identified as Asian American, and one (1%) identified as Hispanic. Figure 3 lists the summary of the ethnic groups.

The sample had a wide range of educational backgrounds. Four (4%) of the participants had "some high school", thirty-four (30%) had a "high school diploma or
general education diploma” (GED), twenty-four (21%) had “some college”, seventeen (15%) had a “college degree”, three (3%) had “some graduate school”, and 30 (27%) had a “graduate degree.” Figure 4 lists the summary of educational level.

The sample consisted of three job classifications. Fifty (45%) of the participants were Classified Civil Service. Classified Civil Service staff are bargaining and non-bargaining members who are paid hourly. Fifty-two (46%) of the participants were Administrative and Professional staff. Administrative and Professional Staff are in management and salaried positions. Ten (9%) of the participants were students attending the university. All students were in the subordinate work group. Figure 5 lists the summary of job classifications.
Figure 5. Summary of Job Classification.

Design

This correlational study was designed to explain and predict the relationships between the transfer of leadership behaviors and supervisor, peer, and subordinate support. As Ary, Jacobs and Razavieh (1990) explain "the purposes of correlational research are to (1) to describe relationships that exist among variables and/or (2) to use the known correlation to predict from one variable to another" (p. 387).

Validity

As outlined by several authors (Campbell & Stanley, 1963; Gay, 1981), the lack of random assignment and selection adds sources of invalidity to a study. That is, the generalizability of a study is limited because the sample does not constitute a representative cross section of individuals in the population. However, Campbell and Stanley (1963) state that threats to external validity remain possible even for the most stringent of experimental designs. Campbell and Stanley (1963) go on to say that generalizability can be increased by demonstrating the results over a wide variety of
conditions. The threats to validity for this correlational study were sampling error, frame error, non-response error, and measurement error.

Sampling Error. Sampling error results from using a non-random sample procedure for selecting participants. Consequently, each subject does not receive an equal chance of being selected. In choosing this sample, the researcher was limited to the 40 participants who were scheduled to attend leadership training.

To select the final sample, the researcher used two selection criteria. One selection criteria included only trainees who completed all 12 hours of training. The other selection criteria included only trainees who achieved at least a 50% on the Knowledge Assessment.

The peers and subordinates were randomly selected from a personnel listing provided to the researcher the Human Resources Office. The researcher randomly chose two peers and two subordinates from the personnel listing. With the exception of two cases (both peers), the peers and subordinates agreed to participate in the study. The supervisors' name was also provided to the researcher from the Human Resources Office. In all cases, the supervisor agreed to participate in the study.

Sampling error existed because the managers who completed the leadership training, scored at least 50% on the Knowledge Assessment, and participated in the study may not be representative of all the managers in the department, therefore limiting the generalizability of the results. Sampling error also exists because the supervisors were not randomly selected to participate in the study. The supervisors were selected based on the trainee who volunteered to participate. Therefore, sampling error remains a tenable threat to external validity for this study.
For this study, there was a discrepancy between the target population (150 managers in the department) and the sampling frame (those managers who successfully completed leadership training). Not all of the managers were eligible to attend the training or participate in the study. This discrepancy existed because some managers had already attended and completed the training or some managers will attend the training at a later time (outside the time frame of the study). Due to departmental constraints, the researcher had no control over the number of managers who were eligible to attend or when they would attend leadership training.

**Non-response Error.** Salant and Dillman (1994) state “non-response error occurs when a significant number of people in the sample do not respond to the assessment” (p.20). Salant and Dillman (1994) go on to suggest the best way to control for non-response error is to design and implement the survey so as to get the highest possible response rate.

In order to maximize response rate, the researcher instructed the participants to return the assessments directly to her, attempting to maximize confidentiality and rate of responses. The return rate for assessments at one month following training was 99% and the return rate at three months following training was 96%. The difference in return rates between one month and three months does not appear to be significant.

The researcher examined the make up (i.e. gender, race, educational level) of the non-respondents and determined no patterns existed. The non-respondents were not clustered around one manager or one work group or even one demographic variable. The non-respondents were one supervisor, one subordinate, and two peers all from different
managers. Therefore, non-response error does not appear to be a tenable threat to the 
external validity of this study.

**Measurement Error.** Salant and Dillman (1994) suggest that “measurement error 
occurs when a respondent’s answer is inaccurate, imprecise or cannot be compared in any 
useful way to other respondents’ answers” (p. 17). They go on to suggest that 
measurement errors are made when data are collected. Therefore, the researcher 
controlled measurement error by constructing questions, answers, and directions that were 
clear and precise. The researcher also controlled for measurement error and increased the 
reliability of the instruments through content validity, field test, and a pilot test (refer to 
the section on Content Validity for more information). However, even with these 
measures, measurement error remains a tenable threat to validity for this study.

**Content Validity.** To ensure content validity three subject matter experts in the 
training department reviewed the Transfer Behavior Assessments. The assessments were 
revised based on their analyses and reviewed by the same individuals after the revisions 
were made. The Transfer Climate Assessment was modified from Rouiller and 
Goldstein’s (1993) climate survey. The researcher used identical questions when possible 
but made several changes to fit the context of this study. The climate assessment was 
reviewed by subject matter experts within and outside the organization.

To ensure face validity, the assessments were read by a variety of departmental 
employees. The employees, including managers and non-managers, were asked to read 
the assessments and respond to a variety of questions. The questions included ease of 
wording and directions, length of questionnaire, appearance and attractiveness, and asked
for additional comments. Appropriate revisions were made based on the comments received.

To ensure readability of the instruments, a readability assessment was made using the Gunning Fog Index. The Gunning Fog Index is one way to measure reading ease. To use the Gunning formula, a sample passage of 100 words from each assessment was chosen. For the passage chosen, the percentage of hard words was added to the average number of words per sentence. The sum of this calculation was multiplied by the constant (.4). The result is the Fog Index which is the equivalent of a grade level for the document.

The Fog Index for the Transfer Behavior Assessment was sixth grade. The Fog Index for the Transfer Climate Assessment was eighth grade. Based on expert judgment from the training department and from other human resource personnel from the university department, the readability of each assessment was appropriate for the targeted audience.

Reliability

To ensure internal reliability of the surveys, Cronbach’s alphas were computed. Cronbach’s alphas were computed for the Transfer Climate Assessment on each variable supervisor support, peer support, and subordinate support. A .89 alpha was recorded for supervisor support, a .78 alpha was recorded for peer support, and a .83 alpha was recorded for subordinate support. A Cronbach’s alpha of .93 was recorded for the overall transfer behavior score.

Data Collection Procedures

Data were systematically collected twice. The first instance was one month following training and the second instance was three months following training.
At one month following training, data were collected from the trainee's supervisor, two peers, and two subordinates assessing the transfer of training. Data from the Transfer Behavior Assessment determined the supervisor's, peers', and subordinates' perception of the trainee's performance. In other words, the assessment asked the trainee's supervisor, peers, and subordinates to determine the degree to which the trainee was performing specific leadership behaviors in the workplace. The data gathered from this assessment addressed the generalization of post-training behaviors discussed by Baldwin and Ford (1988).

Also at one month following training, the trainees completed a Transfer Climate Assessment. This data determined the trainee's perceived level of transfer climate support. In other words, what was the trainee's perceived level of support from his/her supervisor, peers, and subordinates for transferring leadership behaviors to the workplace.

At three months following training, the same supervisor, the same two peers, and the same two subordinates completed another Transfer Behavior Assessment. This assessment was identical to the behavior assessment completed at one month. These data determined the maintenance of behaviors over a period of time as discussed by Baldwin and Ford (1988). That is, to what degree were the leadership behaviors maintained over a period of time.

Also at three months following training, the trainee completed another Transfer Climate Assessment. This assessment was identical to the climate assessment taken at one month following training. These data determined the trainee's perceived level of support from his/her supervisor, peers, and subordinates at three months following training.
Instruments

Dependent Variable

Transfer Behaviors. The key leadership behaviors emphasized in the training program were identified by examining the training content and by attending the training sessions. All survey items were reviewed by the training personnel who developed and facilitated the training. Based on their responses, appropriate changes were made to the transfer behavior assessment. Twenty-three items comprised the transfer of behavior measure.

For the purpose of this study, transfer behaviors were defined as the degree to which transfer behaviors of coaching, communication, empowerment and expectations were generalized and maintained in the work place.

For this study, coaching is defined as the degree to which the trainee helps employees develop plans to improve job knowledge and encourages employees to learn new skills. The assessment of coaching contained items such as: seeks feedback when setting work goals, encourages employees to learn new skills and helps employees develop plans to improve job knowledge.

For this study, communication is defined as the degree to which the trainee listens to suggestions and provides helpful feedback to employees. The assessment of communication contained items such as: listens carefully to suggestions and ideas from others, discusses alternative ways for solving problems, and provides helpful feedback to employees.
For this study, empowerment is defined as the degree to which the trainee creates guidelines for employees to make decisions in the completion of daily tasks. The assessment of empowerment contained items such as: encourages others to make decisions, explains organizational values, and removes obstacles for employees to get their jobs done.

For this study, expectation is defined as the degree to which the trainee sets expectations for employees and provides reinforcement to meet or exceed expectations. The assessment of expectations contained items such as: establishes expectations for employees, meets regularly to communicate expectations with employees, and provides reinforcement and praise to individuals who meet or exceed expectations.

**Measures.** Transfer behaviors were assessed via a 23 item, five-point Lickert scale instrument given to the trainee's supervisor, two peers, and two subordinates. The questions asked the respondents to decide the degree to which the trainee displayed certain leadership behaviors in the work place. The responses ranged from 1 (never displays behavior) to 5 (always displays behavior).

The responses on the behavior assessment were summated to determine a composite score for each subscale of work group, supervisor, peer, and subordinate, as well as, summated to determine an overall transfer behavior score.

**Independent Variables**

**Transfer Climate.** Transfer climate consists of those situations and consequences that either inhibit or facilitate the transfer of what has been learned in training to the job
(Rouiller & Goldstein, 1993). For the purpose of this study, transfer climate was defined by the variables supervisor support, peer support, and subordinate support.

The Climate Assessment used in this study was modeled after the work of Rouiller and Goldstein (1993). Rouiller and Goldstein (1993) structured the climate questions around individual’s shared patterns of meanings regarding a particular organization. For example, the questions were grouped by “social cues, goal cues, and consequences cues”. For this study, the researcher used questions verbatim, where possible, but organized the questions based on the group (supervisor, peer, subordinate) who provide the cues and not on the shared meaning of the cues.

The grouping of questions clustered around work group is based on the research of Bates et al. (1996) which suggested that transfer climate should be operationalized by the referent group (peer, supervisor, self) providing the cues and not the actual cues.

**Supervisor Support.** For this study, the variable supervisor support was defined by goal setting, opportunity to use skills, and recognition. Goal setting is the degree to which the supervisor established goals which encouraged the application of training. An example would be a supervisor who sets goals and performance expectations based on the training.

The opportunity to use skills is the degree to which the supervisor provided opportunities for the use and application of training. An example would be a supervisor who met with a trainee to discuss ways to apply the training in the work place.

Recognition is the degree to which the supervisor reinforces and rewards the use of training. An example would be a supervisor who provided praise when a trainee used
leadership skills on the job. Together, goal setting, opportunity to use skills, and recognition constitute the variable supervisor support.

Peer Support. For this study, the variable peer support was defined by goal setting, opportunity to use skills, and recognition. Goal setting is the degree to which peers helped establish goals which encouraged the application of training. An example would be peers who helped the trainee set realistic performance goals based on leadership training.

The opportunity to use skills is the degree to which peers provided opportunities for the use and application of training. An example would be peers who met regularly to discuss problems in applying leadership skills in the work place.

Recognition is the degree to which peers reinforced and rewarded the use of training. An example would be peers who praised trainees when leadership skills were used in the work place. Together, goal setting, opportunity to use skills, and recognition constitute the variable peer support.

Subordinate Support. For this study, the variable subordinate support was defined by goal setting, opportunity to use skills, and recognition. Goal setting is the degree to which subordinates helped establish goals which encouraged the application of training. An example would be subordinates who helped managers set realistic performance goals based on training.

The opportunity to use skills is the degree to which subordinates provided opportunities or encouraged the use of training. An example would be a manager who
discussed, with subordinates, problems regarding the application of leadership skills in the work place.

Recognition is the degree to which subordinates reinforced and provided feedback for the use of training. An example would be subordinates who provided feedback to their manager when leadership skills were used in the work place. Together, goal setting, opportunity to use skills, and recognition constitute the variable subordinate support.

**Measures.** Transfer Climate was assessed via a 43 item, five-point Lickert scale instrument given to each trainee. The questions asked the trainees to decide the degree to which their supervisor, peers, and subordinates facilitated the transfer of leadership skills to the work place. The responses ranged from 1 (never, not at all) to 5 (always, to a very great extent). The responses on the transfer climate assessment were summated to determine a composite score on each variable (supervisor support, peer, support, subordinate support) resulting in three summated scores.

**Data Analyses**

The purpose of the study was to determine if statistically significant differences existed in transfer behavior scores and transfer climate scores at one month and three months following training and to what degree did the trainee's transfer climate facilitate or hinder the transfer of leadership behaviors to the work place.

To accomplish these objectives, three data analyses were conducted. For Hypotheses 1 and 2, a t-test for a dependent sample was calculated to determine if the sample differed on transfer behavior scores and transfer climate scores at one month and three months following training.
For Hypotheses 3 and 5, Pearson Product Moment Correlation Coefficients were calculated to determine if a relationship existed between transfer behavior scores and transfer climate scores at one month and three months following training.

Hypotheses 4 and 6 were tested using a multiple regression analysis to determine the amount of variance in transfer behavior scores that could be explained by the combination of supervisor support, peer support, and subordinate support at one month and three months following training.
CHAPTER 4

RESULTS

This study was conducted to determine if statistically significant differences existed in transfer behavior scores and transfer climate scores at one month and three months following training and to examine the relationship between the trainee's transfer climate the transfer of leadership behaviors to the work place. The independent variables examined in this study were supervisor support, peer support, and subordinate support. The dependent variable was transfer behaviors (coaching, communication, empowerment, expectations). This chapter will discuss the research findings for each of the six hypotheses.

General Characteristics

The data for this study were collected from 112 participants. For the 19 trainees who completed leadership training, data were collected from the trainee's supervisor, two peers, and two subordinates. The data were collected and analyzed according to two time frames, one month and three months following training. Data in Table 1 list transfer behavior scores and standard deviation scores at one month following training.
A closer look at the perceived performance of trainees on each leadership behavior (coaching, communication, empowerment, and expectations) shows peer ratings higher than the supervisor and subordinate ratings. Returning the peer ratings to the scale used on the survey, peer ratings for coaching were 3.63 out of 5, communication 4.04 out of 5, empowerment 3.67 out of 5, and expectations 3.6 out of 5. The rating scale of, 1 = Never, not at all, 2 = Seldom, to a small extent, 3 = Sometimes, to a moderate extent, 4 = Usually, to a large extent, and 5 = To a very great extent, was used to assess trainee’s perceived performance.

Data in Table 2 list transfer climate mean scores and standard deviation scores at one month following training.

<table>
<thead>
<tr>
<th>Transfer Behaviors</th>
<th>Supervisor (n = 18)</th>
<th>Peers (n = 38)</th>
<th>Subordinates (n = 37)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean SD</td>
<td>Mean SD</td>
<td>Mean SD</td>
</tr>
<tr>
<td>Coaching</td>
<td>26.5* 5.3</td>
<td>28.2* 4.6</td>
<td>26.2* 7.8</td>
</tr>
<tr>
<td>Communication</td>
<td>14.5b 2.3</td>
<td>15.6b 4.0</td>
<td>14.8b 3.2</td>
</tr>
<tr>
<td>Empowerment</td>
<td>20.7c 4.0</td>
<td>21.3c 3.2</td>
<td>20.1c 3.8</td>
</tr>
<tr>
<td>Expectations</td>
<td>17.7d 4.5</td>
<td>17.4d 3.4</td>
<td>17.1d 4.2</td>
</tr>
</tbody>
</table>

Table 1

Transfer Behavior Scores at One Month

Maximum score: * = 40, b = 20, c = 30, d = 25
The trainees rated supervisor support higher than peer support or subordinate support at one month following training. Returning the scores to the original rating scale used on the survey, trainees rated supervisor support as 3.73 out of 5, peer support 2.5 out of 5, and subordinate support 2.69 out of 5. The rating scale of, 1 = Never, not at all, 2 = Seldom, to a small extent, 3 = Sometimes, to a moderate extent, 4 = Usually, to a large extent, and 5 = To a very great extent, was used to assess trainee perception of transfer climate support.

Data in Table 3 list transfer behavior mean scores and standard deviation scores at three months following training.
Supervisor fn = 17) Peers fn = 36) Subordinates fn = 361

<table>
<thead>
<tr>
<th>Transfer Behaviors</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supervisor (n = 17)</td>
<td>Peers (n = 36)</td>
<td>Subordinates (n = 36)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaching</td>
<td>26.4*</td>
<td>5.5</td>
<td>29.1*</td>
<td>5.8</td>
<td>26.8*</td>
<td>9.0</td>
</tr>
<tr>
<td>Communication</td>
<td>13.6b</td>
<td>3.4</td>
<td>14.7b</td>
<td>3.1</td>
<td>14.3b</td>
<td>3.9</td>
</tr>
<tr>
<td>Empowerment</td>
<td>20.8c</td>
<td>3.2</td>
<td>21.7c</td>
<td>3.8</td>
<td>20.0c</td>
<td>5.6</td>
</tr>
<tr>
<td>Expectations</td>
<td>17.7d</td>
<td>3.2</td>
<td>19.5d</td>
<td>4.3</td>
<td>17.2d</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Table 3

Transfer Behavior Scores at Three Months

Maximum score: * = 40, b = 20, c = 30, d = 25

Consistent with the findings at one month following training, peers rated transfer behavior scores higher than the trainee’s supervisor or subordinates. Using the same rating scale as in Table 1, peers rated leadership behavior of coaching 3.84 out of 5, communication 3.88 out of 5, empowerment 3.81 out of 5, and expectations 4.09 out of 5. The statistical significance of the changes in transfer behavior scores from one month to three months following training will be discussed later in this chapter.

Data in Table 4 list transfer climate means scores and standard deviation scores at three months following training.
Consistent with the findings at one month following training, trainees perceived supervisor support higher than peer or subordinate support three months following training. Using the same rating scale as in Table 2, trainees rated supervisor support as 3.22 out of 5, subordinate support 2.7 out of 5, and subordinate support 3.1 out of 5. The statistical significance of the changes in transfer climate scores from one month to three months following training will be discussed later in this chapter.

Specific Hypotheses

For Hypothesis 1, a t-test for a dependent sample was calculated to determine if the sample differed on transfer behavior scores at one month and three months following training.

\[ H_0 \] There is no statistically significant difference in the transfer behavior scores at one month and three months for managers who complete a leadership training program.

As summarized in Table 5, paired t-tests for a dependent sample were used to test if a statistically significant difference existed between perceived performance at one month and three months following training. The transfer behavior scores (supervisor transfer behaviors, peer transfer behaviors, and subordinate transfer behaviors) at one month were compared to
the summated transfer behavior scores at three months following training. The t-tests computed for transfer behaviors were not statistically significant at the .05 alpha level.

<table>
<thead>
<tr>
<th></th>
<th>One Month</th>
<th>Three Months</th>
<th>df</th>
<th>t-value</th>
<th>significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summated Transfer Behaviors</td>
<td>21.02</td>
<td>21.18</td>
<td>18</td>
<td>-.77</td>
<td>.45</td>
</tr>
<tr>
<td>Supervisor Transfer Behavior</td>
<td>21.01</td>
<td>20.85</td>
<td>16</td>
<td>.25</td>
<td>.81</td>
</tr>
<tr>
<td>Peer Transfer Behavior</td>
<td>21.89</td>
<td>22.64</td>
<td>18</td>
<td>-.99</td>
<td>.34</td>
</tr>
<tr>
<td>Subordinate Transfer Behavior</td>
<td>20.67</td>
<td>20.79</td>
<td>18</td>
<td>-.18</td>
<td>.86</td>
</tr>
</tbody>
</table>

Table 5

Paired t-test for Transfer Behaviors One Month versus Three Months

p < .05

These results suggest there were no statistically significant changes (increase or decrease) in the degree to which leadership behaviors were performed in the work place from one month to three months following training. In general, the work groups (supervisor, peers, and subordinates) reported leadership behaviors were demonstrated “sometimes, to a moderate extent” at both one month and three months following training.

The findings imply that performance of leadership behaviors was maintained from one month to three months following training. Based on these results, the study failed to reject Hypothesis 1.
For Hypothesis 2, paired t-tests for a dependent sample were calculated to determine if the trainee's perception of transfer climate support changed between one month and three months following training.

H₂₀: There is no statistically significant difference in the transfer climate scores at one month and three months for managers who complete a leadership training program.

The results of the paired t-tests are summarized in Table 6. The summated scores for supervisor support, peer support, and subordinate support at one month following training were compared to the summated scores for supervisor support, peer support, and subordinate support at three months following training. The t-tests computed for transfer climate were not significant at the .05 alpha level.

<table>
<thead>
<tr>
<th></th>
<th>One Month</th>
<th></th>
<th>Three Months</th>
<th></th>
<th>df</th>
<th>t-value</th>
<th>significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Support</td>
<td>56.78</td>
<td>13.20</td>
<td>54.79</td>
<td>17.26</td>
<td>18</td>
<td>.72</td>
<td>.48</td>
</tr>
<tr>
<td>Peer Support</td>
<td>37.47</td>
<td>14.04</td>
<td>40.52</td>
<td>16.29</td>
<td>18</td>
<td>-.82</td>
<td>.43</td>
</tr>
<tr>
<td>Subordinate Support</td>
<td>29.57</td>
<td>11.00</td>
<td>33.84</td>
<td>12.02</td>
<td>18</td>
<td>-1.92</td>
<td>.07</td>
</tr>
</tbody>
</table>

Table 6

Paired t-test for Transfer Climate One Month versus Three Months

p < .05

These results suggest that the trainee's perception of supervisor support was "sometimes, to a moderate extent" and the trainee's perception of peer support and subordinate support was "seldom, to a small extent" at both one month and three months.
following training. Therefore, implying the trainee's perception of supervisory support, peer support, and subordinate support did not change from one month to three months following training. Based on these results, the study failed to reject Hypothesis 2.

For Hypothesis 3, Pearson Product Moment Correlation Coefficients were calculated to determine if a relationship existed between transfer behavior scores and transfer climate scores at one month following training.

\[ H_03: \text{There is no statistically significant relationship between the transfer behavior scores and the transfer climate scores at one month for managers who complete a leadership training program.} \]

Table 7 summarizes the correlations between summated transfer behavior scores and transfer climate scores at one month following training. In calculating the correlations, each work group's transfer behavior score (supervisor transfer behaviors, peer transfer behaviors, subordinate transfer behaviors) was correlated with each independent variable in the transfer climate (supervisor support, peer support, subordinate support).

<table>
<thead>
<tr>
<th>Supervisor Support</th>
<th>Peer Support</th>
<th>Subordinate Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Transfer Behaviors</td>
<td>.307</td>
<td>Peer Transfer Behaviors</td>
</tr>
<tr>
<td>Subordinate Transfer Behaviors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7

Correlation Coefficients at One Month \((n = 19)\)

\(*p < .05\)
These results suggest a statistically significant relationship exists between transfer behaviors reported by peers and trainee’s perception of peer support ($r = .569$, $p < .05$). The correlation value of $r = .569$ suggests a substantial, positive association (Davis, 1971) between transfer behaviors reported by peers and trainee’s perception of peer support. These findings imply the perception of transfer climate support is a factor which is associated with the perceived level of performance. Based on these results, this study rejected Hypothesis 3.

Hypothesis 4 was tested using a multiple regression analysis to determine the amount of variance in summated transfer behavior score that could be explained by the combination of supervisor support, peer support, and subordinate support at one month following training.

$H_{04}$: The proportion of variance explained in transfer behaviors at one month is zero for managers who complete a leadership training program.

In the regression analysis, the dependent variable was summated transfer behavior score (combining supervisor transfer behavior, peer transfer behavior, and subordinate transfer behavior into one summated score). The independent variables were supervisor support, peer support, and subordinate support. The independent variables were entered into the regression analysis simultaneously. The simultaneous strategy is most appropriate when there is no logical or theoretical basis for considering one variable before another (Warmbrod, 1995). Therefore, all independent variables were entered on the first step of the regression analysis.

Table 8 displays the summary data for the dependent and independent variables in the multiple regression analysis.
Summary Data: Regression of Transfer Behavior on Selected Variables at One Month

(n = 19)

*p ≤ .05

By examining the correlation matrix, statistically significant associations are noted among the independent variables supervisor support and peer support (r = .574) and peer support and subordinate support (r = .476). These associations suggest multicollinearity which occurs when some of the independent variables are substantially correlated with each other.

A suggestion for dealing with multicollinearity is to perform a Principal Components Analysis. A principal components analysis is used to reduce the set of independent variables into a smaller set of factors that are uncorrelated. The uncorrelated factor(s) are then entered into the multiple regression analysis as the independent variable(s) (Warmbrod, 1995).

In the principal components analysis for this study, the original independent variable set was supervisor support, peer support, and subordinate support. Table 8 displays the
descriptive statistics and correlation matrix for these variables. Table 9 displays summary data
about the principal components analysis.

<table>
<thead>
<tr>
<th>Component</th>
<th>Eigenvalue</th>
<th>% of Variance</th>
<th>Cumulative % of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.94</td>
<td>64.7</td>
<td>64.7</td>
</tr>
<tr>
<td>2</td>
<td>.658</td>
<td>21.9</td>
<td>86.6</td>
</tr>
<tr>
<td>3</td>
<td>.401</td>
<td>13.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 9

Summary Data: Principal Component Analysis at One Month (n = 19)

Eigenvalue values of greater than one were used as criteria for determining which
components to retain. The results from the principal components analysis yielded a one factor
solution that accounted for 65% of the total variance. Table 10 displays the factor loadings for
cOMPONENT ONE.

<table>
<thead>
<tr>
<th>Component</th>
<th>Loadings</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Support</td>
<td>.804</td>
<td>.647</td>
</tr>
<tr>
<td>Peer Support</td>
<td>.864</td>
<td>.747</td>
</tr>
<tr>
<td>Subordinate Support</td>
<td>.738</td>
<td>.545</td>
</tr>
</tbody>
</table>

Table 10

Principal Components Extracted One Month

Factor loadings are used to describe or name the principal component that is retained.
Factor loadings of .40 or higher were used to select items which described the component.
Using this criteria, all three variables load substantially high and positive on component one.
The interpretation of these loadings resulted in one component being labeled "Work Group Support". The component work group support will be used as the independent variable in the regression analysis for Hypothesis 4.

In the multiple regression analysis for Hypothesis 4, summated transfer behavior score was entered as the dependent variable and work group support was entered as the independent variable. Table 11 displays the summary data for these variables.

<table>
<thead>
<tr>
<th>Y</th>
<th>X_1</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summated Transfer Behavior</td>
<td>1.0</td>
<td>21.24</td>
<td>3.24</td>
</tr>
<tr>
<td>(Y)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Group Support (X_1)</td>
<td>.41</td>
<td>1.0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 11

Summary Data: Regression of Transfer Behavior on Selected Variables at One Month

(n = 19)

*p ≤ .05

As highlighted in Table 12, the results of the multiple regression analysis indicate that work group support does not explain a statistically significant amount of the variance in summated transfer behavior score at one month following training. The $R^2$ was .167 ($F_{overall} = 3.41$).
Table 12

Results: Regression of Transfer Behaviors on Work Group Support at One Month
(n = 19)

Note. The assumption of residuals being normally distributed is tenable.

Standard error = 3.05

Adjusted $R^2 = .118$

For model: $F = 3.41; p < .05$

The findings suggest the trainee’s perception of work group support did not explain a statistically significant amount of the variance in transfer behavior score. This finding implies that something other than work group support is a significant factor in explaining the degree to which leadership behaviors are transferred and utilized in the work place. Therefore, the study failed to reject Hypothesis 4.

At this point, the researcher intuitively speculated what other variables may have an intervening affect on the transfer of behaviors. The literature suggests individual factors of job involvement (Noe & Schmidt, 1986), need for achievement (Baumgartel & Jenapierre, 1972), belief in the value of training (Ryan & Beersner, 1975), and intelligence level (Tubiana & Ben-Shakar, 1982). There were no data available to test these intervening variables but there was demographic information available on the educational levels of the participants.

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Variables} & R^2 & b & t & p \\
\hline
\text{Work Group Support} & .17 & 1.32 & 1.85 & .082 \\
\text{Constant} & & & & 21.24 \\
\hline
\end{array}
\]
The characteristics of the sample revealed the educational level of the participants ranged from some high school to a graduate school degree. Intuitively, the researcher hypothesized the amount of formal education of the participant might be an intervening variable in explaining the summated transfer behavior score.

Therefore, a follow-up multiple regression analysis was conducted with summated transfer behavior score entered as the dependent variable, and education level of the trainee and work group support were entered as the independent variables. Dummy coded variables were used to enter the categorical variable of education level.

The dummy variables created for education level were “high school diploma”, “some college”, “college degree”, and “graduate school degree”. Table 13 displays the summary data for the dependent and independent variables in the follow-up multiple regression analysis.
Intercorrelations

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summated Transfer Behavior (Y)</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21.24</td>
<td>3.24</td>
</tr>
<tr>
<td>High School Diploma (X1)</td>
<td>-.06</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.26</td>
<td>.45</td>
</tr>
<tr>
<td>Some College (X2)</td>
<td>-.22</td>
<td>-.31</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td>.21</td>
<td>.42</td>
</tr>
<tr>
<td>College Degree (X3)</td>
<td>-.15</td>
<td>-.31</td>
<td>-.27</td>
<td>1.0</td>
<td></td>
<td></td>
<td>.21</td>
<td>.42</td>
</tr>
<tr>
<td>Graduate School Degree (X4)</td>
<td>.44</td>
<td>-.36</td>
<td>-.31</td>
<td>-.31</td>
<td>1.0</td>
<td></td>
<td>.26</td>
<td>.45</td>
</tr>
<tr>
<td>Work Group Support (X5)</td>
<td>.41</td>
<td>.24</td>
<td>-.25</td>
<td>-.33</td>
<td>.06</td>
<td>1.0</td>
<td>.00</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 13

Summary Data: Regression of Transfer Behavior on Selected Variables at One Month (n = 19)

*p ≤ .05

To control for the education level of the trainees, the dummy variables were entered on the first step of the regression analysis. The independent variable work group support was entered in the second step of the regression analysis. The logic used to determine the order of entry was to enter educational level first (control for educational level), thus making it possible to determine how much variance work group support would account for over and above the educational level.

As highlighted in Table 14, the results of the multiple regression analysis indicate that educational level of the trainee and work group support did not explain a statistically
significant amount of the variance in summated transfer behavior score. The $R^2$ was .419 ($F_{overall} = 1.87$).

<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>b</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Level</td>
<td>.21</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSD</td>
<td></td>
<td></td>
<td>3.8</td>
<td>1.09</td>
<td>.293</td>
</tr>
<tr>
<td>SC</td>
<td></td>
<td></td>
<td>4.37</td>
<td>1.12</td>
<td>.282</td>
</tr>
<tr>
<td>CD</td>
<td></td>
<td></td>
<td>5.13</td>
<td>1.29</td>
<td>.218</td>
</tr>
<tr>
<td>GSD</td>
<td></td>
<td></td>
<td>7.02</td>
<td>1.95</td>
<td>.07</td>
</tr>
<tr>
<td>Work Group</td>
<td>.419</td>
<td>.21</td>
<td>1.9</td>
<td>2.15</td>
<td>.05*</td>
</tr>
<tr>
<td>Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>16.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14

Results: Regression of Transfer Behaviors on Education Level and Work Group Support at One Month (n = 19) (Simultaneous Entry)

Note. The assumption of residuals being normally distributed is tenable.

(HSD= high school diploma, SC=some college, CD=college degree, GSD=graduate school degree)

Standard error = 2.91

Adjusted $R^2 = .195$

For model: $F = 1.87; p < .05$

Although these results were not statistically significant, the combination of educational level and work group support does explain a practically significant amount of the variance in the transfer behavior score. The results of the follow-up multiple regression analysis indicate that 42% of the variance in transfer behavior score can be accounted for by the combination of educational level and work group support. Additionally, when educational level is controlled,
work group support explains 21% of the variance in transfer behavior score as opposed to 17% when education level is not controlled.

By interpreting the partial regression coefficients, a trainee with a graduate school degree would score 7.02 points higher on the transfer behavior assessment than a trainee with some high school education, a trainee with a college degree would score 5.13 higher on the transfer behavior assessment than a trainee with a high school diploma, and a trainee with a high school diploma would score 4.37 points higher than a trainee with some high school education. These results suggest educational level explains a practically significant amount of the variance in the transfer behavior score.

For Hypothesis 5, Pearson Product Moment Correlation Coefficients were calculated to determine if a relationship existed between transfer behavior scores and transfer climate scores at three months following training. In calculating the correlations, each work group transfer behavior score (supervisor transfer behavior score, peer transfer behavior score, subordinate transfer behavior score) was correlated with each independent variable in the transfer climate (supervisor support, peer support, subordinate support).

H05: There is no statistically significant relationship between the transfer behavior scores and the transfer climate scores at three months for managers who complete a leadership training program.

Table 15 summarizes the correlation coefficients between transfer behavior scores and transfer climate scores three months following training.
At the .05 alpha level, no significant relationships existed between transfer behavior scores and supervisor support, peer support, and subordinate support. These results imply that elements in the work environment (supervisor support, peer support, and subordinate support) are not associated with the demonstration of transfer behaviors in the work place at three months following training.

However, upon examination of the other intercorrelations there are other significant relationships that need to be discussed. Table 16 displays the intercorrelations.
Specifically, the correlations between independent variables supervisor support and peer support ($r = .705$), supervisor support and subordinate support ($r = .723$), and peer support and subordinate support ($r = .679$). These very strong positive associations (Davis, 1971) suggest multicollinearity among the independent variables.

The implication is that at three months following training, as well as one month following training, the trainee may not distinguish among supervisor support, peer support, and subordinate support in the work place. Thus, the findings suggest a collective definition of transfer climate rather than a definition by individual work group.

Table 16
Correlation Coefficients at Three Months

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Summated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer Behaviors</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer Behaviors</td>
<td>.807*</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Peer Transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behaviors</td>
<td>.792*</td>
<td>.560*</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Subordinate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer Behaviors</td>
<td>.874*</td>
<td>.548*</td>
<td>.475*</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>.384</td>
<td>.236</td>
<td>.602*</td>
<td>.128</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Peer Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.242 .232 .418 -.0142</td>
<td>.705*</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Subordinate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>.393</td>
<td>.225</td>
<td>.564*</td>
<td>.211</td>
<td>.723*</td>
<td>.679*</td>
<td>1.0</td>
</tr>
</tbody>
</table>

*p < .05
As stated earlier, a method for dealing with multicollinearity is to perform a principal components analysis. In the principal components analysis for this hypothesis, the original independent variable set was supervisor support, peer support, and subordinate support.

Table 16 displays the summary data for these variables. Table 17 displays summary data about the principal components analysis.

<table>
<thead>
<tr>
<th>Component</th>
<th>Eigenvalue</th>
<th>% of Variance</th>
<th>Cumulative % of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1</td>
<td>2.40</td>
<td>80.1</td>
<td>80.1</td>
</tr>
<tr>
<td>Component 2</td>
<td>.323</td>
<td>10.8</td>
<td>90.9</td>
</tr>
<tr>
<td>Component 3</td>
<td>.272</td>
<td>9.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 17

Summary Data: Principal Components Analysis on Selected Variables

Three Months (n = 19)

Eigenvalues of greater than one were used as criteria for determining which components to retain (Warmbrod, 1995). The results from the principal components analysis yielded a one component solution that accounted for 80% of the total variance. Table 18 displays the factor loadings for component one.

<table>
<thead>
<tr>
<th>Component 1</th>
<th>Loadings</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Support</td>
<td>.905</td>
<td>.819</td>
</tr>
<tr>
<td>Peer Support</td>
<td>.886</td>
<td>.785</td>
</tr>
<tr>
<td>Subordinate Support</td>
<td>.894</td>
<td>.799</td>
</tr>
</tbody>
</table>

Table 18

Principal Components Extracted at Three Months
Factor loadings are used to describe or name the principal component that is retained. Factor loadings of .40 or higher were used to select items which described the component. Using this criteria, all three variables loaded substantially and positively on component one. The interpretation of the loadings resulted in one component which was labeled "Work Group Support." The component work group support will be used as the independent variable in calculating the correlation coefficients for Hypothesis 5 and used in the regression analysis for Hypothesis 6.

Highlighted in Table 19 is the correlation matrix with the independent variable work group support correlated with transfer behavior scores for Hypothesis 5.

<table>
<thead>
<tr>
<th></th>
<th>Work Group Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Support</td>
<td>.259</td>
</tr>
<tr>
<td>Peer Support</td>
<td>.590*</td>
</tr>
<tr>
<td>Subordinate Support</td>
<td>.122</td>
</tr>
</tbody>
</table>

Table 19

Correlation Coefficients at Three Months

*p < .05

The results suggest a statistically significant relationship exists between transfer behaviors reported by peers and work group support (r = .59, p < .05). The correlation value of .59 suggests a substantial, positive association (Davis, 1971) between transfer behaviors reported by peers and the trainee’s perception of work group support. These findings imply the perception of work group support is a factor which is associated with the perceived level of performance. Based on these results, this study rejected Hypothesis 5.
Hypothesis 6 was tested using a multiple regression analysis to determine the amount of explained variance in summated transfer behavior score.

Hₐ₆: The proportion of variance explained in transfer behaviors at three months is zero for managers who complete a leadership training program.

In the regression analysis for hypothesis 6, summated transfer behavior score was entered as the dependent variable and work group support (variable from the principal components analysis) was entered as the independent variable. Table 20 displays the summary dependent and independent variable in the regression analysis.

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>X₁</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summated Transfer Behavior (Y)</td>
<td>1.0</td>
<td></td>
<td>21.58</td>
<td>4.06</td>
</tr>
<tr>
<td>Work Group Support (X₁)</td>
<td>.381</td>
<td>1.0</td>
<td>0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 20

Summary Data: Regression of Transfer Behavior on Work Group Support at One Month (n = 19)

*p < .05

As highlight in Table 21, the results of the regression analysis indicates that work group support does not explain a statistically significant amount of the variance in transfer behavior score at three months following training. The $R^2$ was $.145$ ($F_{overall} = 2.88$). Accordingly, work group support explains a smaller amount of the variance in transfer behavior score at three months than was explained at one month following training.
<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>b</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Group</td>
<td>.145</td>
<td>1.55</td>
<td>1.70</td>
<td>.108</td>
</tr>
<tr>
<td>Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>21.58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 21

Results: Regression of Transfer Behaviors on Work Group Support at Three Months

(n = 19)

Note. The assumption of residuals being normally distributed is tenable.

Standard error = 3.87

Adjusted $R^2 = .095$

For model: $F = 2.88; p < .05$

The findings of the regression analysis at three months following training suggest that something other than work group support is a significant factor in explaining the transfer behavior score.

At this point, the researcher was curious whether educational level of the trainee was an intervening variable similar to the results at one month following training. Therefore, a follow-up regression analysis was conducted. In the follow-up regression analysis, work group support and educational level of the trainee were entered as the independent variables and transfer behavior score was entered as the dependent. Dummy coded variables were used to enter the categorical variable of education level.
The dummy coded variables created for education level were “high school diploma”, “some college”, “college degree”, and “graduate school degree”. Table 22 displays the summary data for the dependent and independent variables in the multiple regression analysis.

<table>
<thead>
<tr>
<th>Summated Transfer Behavior (Y)</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Diploma (X1)</td>
<td>-.26</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td>.26</td>
<td>.45</td>
</tr>
<tr>
<td>Some College (X2)</td>
<td>-.13</td>
<td>-.31</td>
<td>1.0</td>
<td></td>
<td></td>
<td>.21</td>
<td>.42</td>
</tr>
<tr>
<td>College Degree (X3)</td>
<td>-.01</td>
<td>-.31</td>
<td>-.27</td>
<td>1.0</td>
<td></td>
<td>.21</td>
<td>.42</td>
</tr>
<tr>
<td>Graduate School Degree (X4)</td>
<td>.54</td>
<td>-.36</td>
<td>-.31</td>
<td>-.31</td>
<td>1.0</td>
<td>.26</td>
<td>.45</td>
</tr>
<tr>
<td>Work Group Support (X5)</td>
<td>.38</td>
<td>.02</td>
<td>-.28</td>
<td>-.16</td>
<td>.15</td>
<td>.00</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 22

Summary Data: Regression of Transfer Behavior on Selected Variables at Three Months (n = 19)

*p ≤ .05

To control for the education level of the trainees, the dummy variables were entered on the first step of the regression analysis. The independent variable work group support was entered on the second step of the regression analysis. The logic used to determine the order of entry was to enter education level first (control for education level), thus making it possible to determine how much variance work group support would account for over and above the education level.
As highlighted in Table 23, the results of the regression analysis indicated a significant amount of the variance in summated transfer behavior score was explained by the combination of education level of the trainee and work group support at three months following training.

At the .05 alpha level, the $R^2$ was .679 ($F_{\text{overall}} = 8.52$).

<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>$b$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSD</td>
<td>.38</td>
<td>.38</td>
<td>9.09</td>
<td>2.7</td>
<td>.016*</td>
</tr>
<tr>
<td>SC</td>
<td></td>
<td></td>
<td>11.4</td>
<td>3.18</td>
<td>.007*</td>
</tr>
<tr>
<td>CD</td>
<td></td>
<td></td>
<td>11.84</td>
<td>3.38</td>
<td>.005*</td>
</tr>
<tr>
<td>GSD</td>
<td></td>
<td></td>
<td>13.81</td>
<td>4.25</td>
<td>.001*</td>
</tr>
<tr>
<td>Work Group Support</td>
<td>.68</td>
<td>.30</td>
<td>2.68</td>
<td>3.48</td>
<td>.004*</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
<td>10.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 23

Results Regression of Transfer Behaviors on Education Level and Work Group Support at Three Months (n = 19) (Simultaneous Entry)

Note. The assumption of residuals being normally distributed is tenable.

(HSD= high school diploma, SC=some college, CD=college degree, GSD=graduate school degree)

Standard error = 2.70

Adjusted $R^2 = .556$

For model: $F = 5.51; p < .05$

The results of the multiple regression analysis suggest that after controlling for education level of the trainees, work group support explained a statistically significant
amount (30%) of the variance in summated transfer behavior scores. These findings imply, when education level is controlled, there is evidence that trainee perception of work group support is a statistically significant factor in explaining the degree to which leadership behaviors are maintained in the work place at three months following training.

Additionally, the results of the multiple regression analysis suggest that educational level of the trainee is a statistically significant mediating factor in explaining the transfer behavior score. The educational level of the trainee explained 38% of the variance in the transfer behavior score. This result suggests that over time, the educational level of the trainee explains an increasingly significant amount of the variance in the transfer behavior score. Accordingly, the trainee with more years of formal education consistently scored higher on the transfer behavior assessment than a trainee with no formal education.

Interpreting the partial regression coefficients, the transfer behavior score of a trainee with a graduate school degree would be almost 14 points higher than a trainee with only some high school education. Compare this with the findings at one month following training. At one month following training, the transfer behavior score of a trainee with a graduate school degree would score 7 points higher than a trainee with only some high school education. Therefore, providing evidence that over time, educational level becomes an increasingly significant intervening variable. Based on the results of the follow-up multiple regression analysis, this study rejected Hypothesis 6.

Summary

This chapter presented the statistical results of the study. The difference in transfer behavior scores and transfer climate scores at one month and three months were examined as
well as, the trainee's perception of transfer climate support. Six hypotheses were presented and the results of the statistical analyses were discussed.

The results of the study were mixed. The study failed to reject Hypotheses 1 and 2 which determined that no significant differences existed between transfer behavior scores and transfer climate scores at one month and three months following training. The perceived level of performance did not increase or decrease from one to three months following training. Likewise, the trainee's perception of transfer climate support did not change from one month to three months following training.

The study rejected Hypotheses 3 and 5. The results suggest that a relationship existed between transfer behavior scores and work group support at one month and three months following training. The more positive the perception of work group support, the more positive the perceived level of performance at both one month and three months following training.

The study failed to reject Hypothesis 4. The results suggest even when educational level of the trainee is controlled, work group support does not explain a statistically significant amount of the variance in the transfer behavior score. Although these results were not statistically significant, the combination of educational level and work group support does explain a practically significant amount of the variance in the transfer behavior score.

The study rejected Hypothesis 6. The results suggest that when the educational level of the trainee was controlled, work group support explained a statistically significant portion of the variance in summated transfer behavior score at three months following training.
Hence, the findings provide evidence that work group support is a statistically significant factor in explaining the maintenance of transfer behaviors over a three month period.
CHAPTER 5

DISCUSSION, CONCLUSIONS, RECOMMENDATIONS

The purpose of this chapter is to discuss the research findings, draw some conclusions from these findings, provide recommendations, and suggest possible areas for future research.

Summary of Findings

The purpose of this study was threefold, to determine: a) if differences existed in the degree to which leadership behaviors were transferred to the job at one month and three months, b) if a relationship existed between transfer behaviors and transfer climate at one month and three months following training, and c) if the variance in transfer of behaviors could be explained by the variables supervisor support, peer support, and subordinate support.

The results of the study were mixed. The study failed to reject Hypothesis 1 which sought to determine if statistically significant difference existed between transfer behavior scores at one month and three months following training. The results of the t-tests suggest there were no statistically significant differences between transfer behavior scores at one month and three months following training. This results imply that trainee
performance of leadership behaviors was maintained over a three month period following training.

This study failed to reject Hypothesis 2 which examined whether a statistically significant difference existed between the trainee's transfer climate at one month and three months following training. The results of the t-tests suggest no statistically significant difference in the transfer climate from one month to three months following training. The results imply the trainee did not perceive a change (increase or decrease) in the transfer climate support over the three month period following training.

This study rejected Hypotheses 3 and 5. The results of the correlation coefficients suggest that a relationship existed between transfer behavior scores and transfer climate support. However, at both one month and three months following training, several strong, positive associations between the independent variables suggested multicollinearity. Therefore, a principal components analysis was conducted. The principal components analysis resulted in the extraction of one factor which was labeled work group support. The factor work group support was then used as the independent variable in the regression analyses of Hypotheses 4 and 6.

This study failed to reject Hypothesis 4 which examined the degree to which the transfer behavior score could be explained by knowing the transfer climate score. The results of the regression analysis suggest that work group support did not explain a statistically significant amount of the variance in the transfer behavior score at one month following training. However, the results of a follow-up regression analysis suggest the educational level of the trainee may be an intervening variable. Although not statistically
significant, the combination of educational level of the trainee and work group support explained 42% of the variance in the transfer behavior score. When the educational level of the trainee was controlled, work group support explained 22% of the variance in transfer behavior score at one month following training.

The study rejected Hypothesis 6 which examined the degree to which the transfer behavior score could be explained by knowing the work group support score at three months following training. The results of the regression analysis suggest that work group support explains a statistically significant amount of the variance in the transfer behavior score at three months. Similar to the results at one month following training, the educational level of the trainee was found to be an intervening variable. The combination of educational level of the trainee and work group support explained 68% of the variance in the transfer behavior score. Controlling for educational level of the trainee, work group support explained 30% of the variance in transfer behavior score.

Discussion and Conclusions

The analysis of data led the researcher to several conclusions. The results of the t-tests led the research to conclude that transfer behaviors were maintained from one month to three months following training. These results imply that trainees displayed the same degree of leadership behaviors over the three month period with no statistically significant increase or decrease in performance.

Surprisingly, the performance of leadership behaviors was maintained over the three month period. Results from several studies (Wexley & Baldwin, 1986; Wexley & Nemeroff, 1975) suggest post-training strategies are effective in improving transfer
behaviors. However, without the implementation of specific post-training strategies to maintain performance, the researcher expected the transfer behavior score to decrease over the three month period.

One explanation for the maintenance of transfer behaviors might be that trainees were already performing these leadership behaviors before they attended training. The organization created the leadership training to provide baseline information to all managers before the implementation of their Quality Initiative. An acceptable assumption by the training department was that some managers were already utilizing certain leadership skills in the work place. The scope of this study was to assess the degree to which performance was maintained following training and not to compare post-training and pre-training levels of performance.

Another explanation for the maintenance of transfer behaviors over the three months might be the selection of the post-training assessment period. Hand et al. (1973) did not report a change in post-training performance until 18 months following training. Suggesting, a longer assessment period may be needed for trainees to demonstrate a change in performance or for the work group to observe a change in the trainee’s performance.

The analysis of data also led the researcher to conclude the trainee’s perception of supervisor support, peer support, and subordinate support should be operationalized as one variable, work group support. The presence of multicollinearity between the independent variables, at one and three months following training, suggests trainees
perceive support as a collective attribute rather than by the individual providing the support.

A collective definition of work group support confirms the findings of Rouiller and Goldstein (1993) who defined the concept of transfer climate as the “situations and consequences that either inhibit or help to facilitate the transfer of what has been learned in training into the job situation” (p. 379). Additionally, a collective definition of work group support also confirms the findings of Tracey et al. (1995) who found that “...transfer climate tends to exist at the self-selected work group level” (p. 249). Tracey et al. (1995) defined self-selected work group as people who commonly interact and are most likely to share a perception of the work place.

One explanation for not finding a distinction between supervisor support, peer support, and subordinate may relate to the special nature of the participants. In this study, trainees supervised full-time employees as well as, students (both graduate and undergraduate). Consequently, the relationships between the trainees and the students may not represent typical supervisory situations.

One example of the special supervisory relationship is the graduate student. In many cases, graduate students are placed in administrative roles with responsibilities and challenges similar to the trainee. More specifically, the trainee may view the graduate student as a peer rather than a subordinate because graduate students are utilized as “professionals in training”. Consequently, the trainees may not distinguish between the various elements (supervisor support, peer support, and subordinate support) in the work environment which are present in other work environments.
Additionally, the results of the multiple regression analysis led the researcher to conclude that work group support, as well as trainee educational level, are increasingly significant variables in explaining the variance in transfer behavior scores over a three month period. One explanation for the increasing significance of work group support may rest in the special nature of the sample. As mentioned earlier, the trainees supervise students as well as, full time staff. A consequence of supervising students is a high turnover in student personnel each quarter. Consistent change in personnel create ongoing challenges for maintaining trainee performance. Accordingly, trainees may place greater reliance on work group support to maintain their performance over the three month period than was needed immediately following training.

Additionally, the results of the multiple regression analysis led the researcher to conclude that educational level of the trainee was an intervening variable in explaining the transfer behavior score over the three month period following training. Specifically, trainees with college degrees consistently scored higher on the transfer behavior assessment at one month and three months following training. One explanation for this finding may rest in the skills developed while attending college which, in turn, increase the likelihood that trainees transfer and utilize skills in the work place. However, further research is needed to understand the nature of this relationship. Specifically, what skills do trainees with college education possess that consistently result in higher transfer behavior scores?
Recommendations

The results of this study provide HRD professionals additional information for enhancing training effectiveness. The support of Hypotheses 3, 4, and 6 reinforce the growing perception that support from the work environment is statistically significant factor in determining whether training will transfer and be maintained in the work place (Rouiller & Goldstein, 1993; Tracey et al., 1995). Accordingly, the researcher recommends that an organizational analysis become an integral part of the transfer process.

This recommendation supports Goldstein (1986) who argues that assessment of the organizational transfer climate should be an integral part of any needs-assessment process. By assessing the transfer climate, a decision can be made whether an organization is ready to implement and support training programs or if specific organizational interventions are required to increase the transfer climate support for the trainee. Goldstein (1986) warns, a process that only focuses on identifying the skills needed for job performance will often fail because it does not recognize the organizational elements that affect the transfer process.

Once an organizational analysis has been completed, the organization can decide whether specific post-training interventions are needed to remove obstacles or to implement processes to encourage transfer of training once the trainee returns to the work place. For example, the organization could organize discussions groups on how to overcome barriers to the transfer process or provide job aids suggesting supportive ways to reinforce the application of newly trained skills.
With the knowledge that a trainee's work group support influences transfer of training, the researcher recommends the organization should consider initiating specific post-training interventions to increase work group support. The post-training strategies could focus on preparing the trainee to overcome barriers in the work place, utilizing rewards and recognition demonstrating training, and establishing goals and expectations for implementing training.

Finally, the researcher recommends the organization continue to assess its work environment to enhance the understanding of the transfer process. The organization should extend the scope of the this study and continue to gather information on changes in performance and work group support. The organization can use this study for baseline data but they should continue to assess changes over the next 12 months to enhance the understanding of the relationship between training and performance.

Need for Further Study

Given the findings of this study, as well as others, future research should continue to examine the role of work environment on the transfer of behaviors. Future work should examine how the work environment is associated with trainee perceptions and behaviors. For example, do specific post-training organizational interventions affect the maintenance of transfer behaviors over time? Do specific post-training interventions such as goal setting, rewards and recognition, formal planning sessions or setting expectations affect individual behaviors or perceptions of transfer climate to a greater degree than another?
Prior research suggests that implementation of specific post-training interventions do affect transfer behaviors (Wexley & Baldwin, 1986; Wexley & Nemeroff, 1975), but the long-term affects of post-training interventions on the maintenance of transfer behaviors requires additional examination. Thus, additional research is needed to explore the effects of post-training strategies on the changes of generalization and maintenance of transfer behaviors.

Additionally, future transfer of training research should incorporate periodic measures to record the effects of post-training strategies on the transfer of behaviors. Research is needed in which measures are taken at multiple intervals to examine the interactive effects of the work environment and time on the generalization and maintenance of behaviors. As outlined by Hastings (1994), incorporation of long-term transfer strategies is imperative for businesses struggling to remain competitive. “In fact, future corporate survival will be determined by a company’s ability to flexibly react to dramatic, rapid, multifaceted change” (p. 97). Focusing on long term transfer strategies can take HRD professionals from the question of “whether training works”, to a more important question “why training works”.

Another area that still requires additional investigation is the influence of supervisor support on the transfer of behaviors. The results of the principal components analysis suggests that supervisor support was a contributing factor to the component work group support.

Although this study did not find significant association between supervisor support and transfer behaviors, prior research has suggested a relationship exists between
supervisor support and transfer behaviors. Thus, it is recommended that future studies explore the relationship of supervisor support and transfer of training in greater detail. The studies should focus on operationalizing the attributes of supervisor support and seek to determine which supervisor attribute has the greatest and long lasting impact on performance.

Finally, future research should concentrate on defining the attributes of educational level and the effects on the transfer process. This study found the educational level of the trainee was consistently an intervening variable in determining the transfer behavior score over the three month period. Future research should focus on defining and operationalizing the attribute educational level. By defining educational level, researchers can begin to understand the association between educational level and the transfer of training.

Final Comment

The results of this study add to the growing knowledge that a trainee's work environment is a significant factor which is associated with the transfer and maintenance of training behaviors. Accordingly, these findings suggest that interventions which target the trainee's work group may yield the greatest dividends towards establishing a supportive transfer climate.
LIST OF REFERENCES


APPENDIX A

Transfer of Training and Transfer Climate Surveys

One Month Following Training
February 1997

XXXXXXX has agreed to participate in a dissertation study about the transfer of training. The purpose of the study is to examine the relationship between work environment factors of supervisor, peer, and subordinate support and the transfer of leadership behaviors to the workplace.

XXXXXXX has given me permission to contact you for additional information regarding her leadership performance in the workplace. Specifically, the attached assessment asks you to determine the degree to which XXXXXX displays certain leadership behaviors and skills in the workplace.

I am asking for your assistance. Please fill out the attached survey assessing the degree to which XXXXXX displays certain leadership behaviors and skills in the workplace. Your responses will be kept in complete confidence. No one will have access to your responses and no individual responses will be released. Any reported results from this study will be released in summary form with no individual names attached. The time required to complete the assessment is approximately 15 minutes.

Once you have completed the survey, place the survey in the attached envelope and drop the envelope in the campus mail service. Again, no one will be reviewing your responses except for me.

If you have any questions, please contact me at XXXXX or e-mail XXXXXXXX. Thank you in advance for your cooperation.

Mary Ann Short  
Ph.D. Candidate  
Graduate Administrative Associate  
Housing, Food Services and Event Centers
TRANSFER BEHAVIOR ASSESSMENT
(one month)

Background Information

So I can match your responses across surveys, please provide the following information. Your responses will be kept in complete confidence and no individual responses will be released.

1. ___________________________ ___________________________
   name                     today's date

2. ___________________________
   work area (ex: building services, res life, ohio union, food service, student life, fawcett center)

3. ___________________________ is your (check only one category):
   _____ Supervisor             _____ Peer             _____ Supervisee

4. Job title: ___________________________

5. _____ Female                _____ Male

6. _____ African American, Non-Hispanic       _____ Hispanic Origin, any race
   _____ Asian American             _____ White, Non-Hispanic
   _____ American Indian, Eskimo or Aleut     _____ Other

7. Number of years employed with The Ohio State University: _________

8. Number of years in current position: _________

9. Education (check the highest level attained):
   _____ Some High School          _____ High School Diploma or GED
   _____ Some College              _____ College Degree (Technical, Associate or Bachelor Degree)
   _____ Some Graduate School      _____ Graduate Degree
   _____ Other (please specify) ________________________________
TRANSFER BEHAVIOR ASSESSMENT  
(one month)

This survey is designed to identify behaviors the manager may be currently demonstrating in his or her job.

Directions: Please rate how often the manager (identified on prior page) demonstrates the following behaviors. Use the following scale to respond to each question:

5  Always, To a very great extent  
4  Usually, To a large extent  
3  Sometimes, To a moderate extent  
2  Seldom, To a small extent  
1  Never, Not at all

At the present time, this manager . . .

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. helps employees develop plans to improve job knowledge and skills.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>2. encourages employees to learn new skills.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>3. knows the strengths and weaknesses of his/her employees.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>4. assists employees in setting goals.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>5. recognizes and breaks down barriers for employees to achieve goals.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>6. seeks feedback when setting work goals.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>7. sets work goals for employees.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>8. helps employees achieve goals.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>9. provides helpful feedback to employees.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>10. listens carefully to suggestions and ideas from others.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>11. discusses alternative ways for solving problems.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>
TRANSFER BEHAVIOR ASSESSMENT
(one month continued)

5 Always, To a very great extent
4 Usually, To a large extent
3 Sometimes, To a moderate extent
2 Seldom, To a small extent
1 Never, Not at all

At the present time, this manager . . .

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. attempts to reduce tensions when dealing with difficult people.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>13. encourages others to make decisions, when appropriate.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>14. determines boundaries for others to make decisions.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>15. removes obstacles for employees to get their jobs done.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>16. provides employees autonomy to get their jobs done.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>17. creates guidelines to assist in making decisions with daily tasks.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>18. explains organizational core values.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>19. establishes expectations for employees.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>20. meets regularly to communicate expectations with employees.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>21. provides opportunities for employees to set individual expectations.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>22. provides reinforcement and praise to individuals who meet or exceed expectations.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>23. provides opportunities for employees to meet expectations.</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

Thank you for taking the time to complete this survey.

Please return completed survey in the attached envelope.
February 1997

Thank you for participating in this study. As I explained to you, the purpose of this study is to examine the relationship between work environment factors of supervisor, peer, and subordinate support and the transfer of leadership behaviors to the work place.

Your participation will require you to complete two surveys. The first survey is attached and the second survey will be mailed to you in two months. Additionally, I will be contacting 2-3 of your peers, 2-3 of your direct reports and your supervisor to complete similar surveys. These surveys ask the respondent to determine the degree to which you display certain leadership behaviors and skills in the work place.

All responses will be kept in complete confidence. No one will have access to the responses and no individual responses will be released. Any reported results from this study will be released in summary form with no individual names attached. The time required to complete the assessment is approximately 15 minutes.

Once you have completed the survey, place the survey in the attached envelope and drop the envelope in the campus mail service. Again, no one will be reviewing your responses except for me.

If you have any questions, please contact me at XXXXX or e-mail XXXXX. Again, thank you for cooperation.

Sincerely,

Mary Ann Short
Ph.D. Candidate
Graduate Administrative Associate
Housing, Food Services and Event Centers
Transfer Climate Assessment
(one month)

Background Information

So I can match your responses across surveys, please provide the following information. Your responses will be kept in complete confidence and no individual responses will be released.

1. ________________________________________________
   name
   today’s date

2. ________________________________________________
   work area (ex: building services, res life, ohio union, food service, student life, fawcett center)

3. Job title: ________________________________

4. _____ Female   _____ Male

5. _____ African American, Non-Hispanic    _____ Hispanic Origin, any race
   _____ Asian American                         _____ White, Non-Hispanic
   _____ American Indian, Eskimo or Aleut       _____ Other

6. Number of years employed with The Ohio State University: ______

7. Number of years in current position: ______

8. Education (check the highest level attained):
   _____ Some High School
   _____ High School Diploma or GED
   _____ Some College
   _____ College Degree (Technical, Associate or Bachelor Degree)
   _____ Some Graduate School
   _____ Graduate Degree
   _____ Other (please specify) ____________________________
**Transfer Climate Assessment**  
*(one month)*

**Section A: Supervisor**

This section asks you to describe the degree to which your supervisor supports or inhibits your ability to use your leadership skills in the workplace.

**Directions:** For each question, circle the response that best describes your level of agreement.

- 5 Always, To a very great extent
- 4 Usually, To a large extent
- 3 Sometimes, To a moderate extent
- 2 Seldom, To a small extent
- 1 Never, Not at all

<table>
<thead>
<tr>
<th>Your supervisor...</th>
<th>Always...</th>
<th>Never...</th>
</tr>
</thead>
<tbody>
<tr>
<td>discussed performance expectations (based on training) with you shortly after training.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>set goals with you which encouraged you to apply your training on the job.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>expects you to make use of your training.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>helps you set realistic goals to evaluate job performance based on your training.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>makes sure you have the opportunity to use your training.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>discusses problems in using your training with you.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>has you share your training experience and learning with your peers.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>meets with you to discuss ways to apply training on the job.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment  
(one month)

**Directions:** For each question, circle the response that best describes your level of agreement.

- 5 Always, To a very great extent
- 4 Usually, To a large extent
- 3 Sometimes, To a moderate extent
- 2 Seldom, To a small extent
- 1 Never, Not at all

Your supervisor... 

<table>
<thead>
<tr>
<th></th>
<th>Always..............</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>provides answers to questions about the use of training on the job.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>10</td>
<td>meets regularly with you to work on problems you may be having in trying to use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>11</td>
<td>eases the pressures of work for a short time so you have a chance to practice your new skills.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>12</td>
<td>praises you when you have performed well by using your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>13</td>
<td>lets you know you are doing a good job when you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>14</td>
<td>thinks you are being effective when you use the techniques learned in training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>15</td>
<td>notices when you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>16</td>
<td>gives you feedback about the value and usefulness of training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>17</td>
<td>seems to care whether you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment
(one month)

Section B: Peers

This section asks you to describe the degree to which your peers support or inhibit your ability to use your leadership skills in the work place.

Directions: For each question, circle the response that best describes your level of agreement.

5 Always, To a very great extent
4 Usually, To a large extent
3 Sometimes, To a moderate extent
2 Seldom, To a small extent
1 Never, Not at all

Your peers...

<table>
<thead>
<tr>
<th>Your peers</th>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. expect you to make use of your training.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. help you set realistic goals to evaluate your job performance based on your training.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. make sure you have the opportunity to use your training.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. discuss problems in using your training with you.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. meet with you to discuss ways to apply training on the job.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. provide answers to questions about the use of training on the job.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. meet with you to discuss problems you may be having in trying to use your training.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. ease the pressures of work for a short time so you have a chance to practice your new skills.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. praise you when you have performed well using your training.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. let you know you are doing a good job when you use your training.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment  
(one month)

**Directions:** For each question, circle the response that best describes your level of agreement.

5 Always, To a very great extent  
4 Usually, To a large extent  
3 Sometimes, To a moderate extent  
2 Seldom, To a small extent  
1 Never, Not at all

<table>
<thead>
<tr>
<th>Your peers...</th>
<th>Always.........Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. think you are being effective when you use the techniques learned in training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>12. notice when you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>13. give your feedback about the value and usefulness of training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>14. seem to care whether you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>15. expect you to share your training experience with them.</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment  
(one month)

Section C: Subordinates

This section asks you to describe the degree to which your subordinates support or inhibit your ability to use your leadership skills in the work place.

Directions: For each question, circle the response that best describes your level of agreement.

<table>
<thead>
<tr>
<th>Response</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always, To a very great extent</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Usually, To a large extent</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes, To a moderate extent</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Seldom, To a small extent</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Never, Not at all</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Your Subordinates...

| 1. expect you to make use of your training. | 5 4 3 2 1 |
| 2. discuss problems in using your training with you. | 5 4 3 2 1 |
| 3. meet with you to discuss ways to apply your training on the job. | 5 4 3 2 1 |
| 4. provide answers to questions about the use of training on the job | 5 4 3 2 1 |
| 5. ease the pressures of work for a short time so you have a chance to practice your new skills. | 5 4 3 2 1 |
| 6. praise you when you use your training. | 5 4 3 2 1 |
| 7. think you are being effective when you use the techniques learned in training. | 5 4 3 2 1 |
| 8. notice when you use your training. | 5 4 3 2 1 |
| 9. give you feedback when trying new techniques from training. | 5 4 3 2 1 |
| 10. seem to care whether you use your training. | 5 4 3 2 1 |
| 11. have you share your training experience with them. | 5 4 3 2 1 |

Thank you for responding to this survey. Return survey in attached envelope.
Appendix B

Transfer of Training and Transfer Climate Surveys

Three Months Following Training
April 22, 1997

Again, I want to thank you for participating in this dissertation study. To remind you, the purpose of this study is to examine the relationship between work environment factors of supervisor, peer, and subordinate support and the transfer of leadership behaviors to the work place.

Attached with this letter is the second and final survey for you to complete. A little reminder, the first page asks for demographic information about you (not demographic information about the identified manager). This information will be used to describe the participants in the study. The survey (back to back sheet) asks you to determine the degree to which the identified manager displays certain leadership behaviors and skills in the work place. The response scale is 1 to 5. One being “Never, not at all” does this manager display this particular behavior in the work place to Five being “Always, To a very great extent” this manager displays this particular behavior in the work place.

To reassure you, your responses will be kept in complete confidence. No one will have access to your responses and no individual responses will be released. Any reported results from this study will be released in summary form with no individual names attached.

Once you have completed the survey(s), place the survey(s) in the attached envelope and drop the envelope in the campus mail service. Again, no one will be reviewing your responses except for me.

If you have any questions, please contact me at XXXX or e-mail XXXXXXX. Thank you in advance for your cooperation and assistance with this project. I am truly grateful for your support of my academic endeavors. Without your support, my educational goals would not be realized.

Mary Ann Short
Ph.D. Candidate
Graduate Administrative Associate
Housing, Food Services and Event Centers

short/proposal/assess3c
TRANSFER BEHAVIOR ASSESSMENT
(three months)

Background Information

So I can match your responses across surveys, please provide the following information. The background information is about you and not the identified manager. Your responses will be kept in complete confidence and no individual responses will be released.

1. ___________________________ ______________________
   name today’s date

2. __________________________
   work area (ex: building services, res life, ohio union, food service, student life, fawcett center)

3. ____________________________ is your (check only one category):
   _____ Supervisor _____ Peer _____ Supervisee

4. Job title: __________________________

5. _____ Female _____ Male

6. _____ African American, Non-Hispanic _____ Hispanic Origin, any race
   _____ Asian American _____ White, Non-Hispanic
   _____ American Indian, Eskimo or Aleut _____ Other

7. Number of years employed with The Ohio State University: ________

8. Number of years in current position: __________

9. Education (check the highest level attained):
   _____ Some High School _____ High School Diploma or GED
   _____ Some College _____ College Degree (Technical, Associate or Bachelor Degree)
   _____ Some Graduate School _____ Graduate Degree
   _____ Other (please specify) _________________________________
TRANSFER BEHAVIOR ASSESSMENT
(three months)

This survey is designed to identify behaviors the manager may be currently demonstrating in his or her job.

Directions: Please rate how often the manager (identified on prior page) demonstrates the following behaviors. Use the following scale to respond to each question:

5 Always, To a very great extent
4 Usually, To a large extent
3 Sometimes, To a moderate extent
2 Seldom, To a small extent
1 Never, Not at all

At the present time, this manager...

<table>
<thead>
<tr>
<th>Behavior</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. helps employees develop plans to improve job knowledge and skills.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. encourages employees to learn new skills.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. knows the strengths and weaknesses of his/her employees.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. assists employees in setting goals.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. recognizes and breaks down barriers for employees to achieve goals.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. seeks feedback when setting work goals.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. sets work goals for employees.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. helps employees achieve goals.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. provides helpful feedback to employees.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. listens carefully to suggestions and ideas from others.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>11. discusses alternative ways for solving problems.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

continue on reverse side
TRANSFER BEHAVIOR ASSESSMENT
(three months)

5 Always, To a very great extent
4 Usually, To a large extent
3 Sometimes, To a moderate extent
2 Seldom, To a small extent
1 Never, Not at all

At the present time, this manager . . .

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. attempts to reduce tensions when dealing with difficult people.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>13. encourages others to make decisions, when appropriate.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>14. determines boundaries for others to make decisions.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>15. removes obstacles for employees to get their jobs done.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>16. provides employees autonomy to get their jobs done.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>17. creates guidelines to assist in making decisions with daily tasks.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>18. explains organizational core values.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>19. establishes expectations for employees.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>20. meets regularly to communicate expectations with employees.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>21. provides opportunities for employees to set individual expectations.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>22. provides reinforcement and praise to individuals who meet or exceed expectations.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>23. provides opportunities for employees to meet expectations.</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

Thank you for taking the time to complete this survey.

Please return completed survey in the attached envelope.
April 22, 1997

Again, I want to thank you for participating in this dissertation study. To remind you, the purpose of this study is to examine the relationship between work environment factors of supervisor, peer, and subordinate support and the transfer of leadership behaviors to the work place.

Attached with this letter is the second and final survey for you to complete. A little reminder, the first page asks for demographic information about you. This information will be used to describe the participants in the study. The survey (following three pages) asks you to determine the degree to which your supervisor, peers, and subordinates support or inhibit your ability to use your leadership skills in the work place. The response scale is 1 to 5. One being “Never, not at all” to five being “Always, To a very great extent” your supervisor, peers, and subordinates support your ability to use your leadership skills in the work place.

To reassure you, your responses will be kept in complete confidence. No one will have access to your responses and no individual responses will be released. Any reported results from this study will be released in summary form with no individual names attached.

Once you have completed the survey, place the survey in the attached envelope and drop the envelope in the campus mail service. Again, no one will be reviewing your responses except for me.

If you have any questions, please contact me at XXXXX or e-mail XXXXXXX. Thank you in advance for your cooperation and assistance with this project. I am truly grateful for your support of my academic endeavors. Without your support, my educational goals would not be realized.

Mary Ann Short
Ph.D. Candidate
Graduate Administrative Associate
Housing, Food Services and Event Centers
Transfer Climate Assessment
(three months)

Background Information

So I can match your responses across surveys, please provide the following information. The background information is about you and not the identified manager. Your responses will be kept in complete confidence and no individual responses will be released.

1. ___________________________ ___________________________
   name                     today’s date

2. ___________________________
   work area (ex: building services, res life, ohio union, food service, student life, fawcett center)

3. Job title: ___________________________

4. _____ Female    _____ Male

5. _____ African American, Non-Hispanic    _____ Hispanic Origin, any race
   _____ Asian American    _____ White, Non-Hispanic
   _____ American Indian, Eskimo or Aleut    _____ Other

6. Number of years employed with The Ohio State University: _________

7. Number of years in current position: __________

8. Education (check the highest level attained):
   _____ Some High School
   _____ High School Diploma or GED
   _____ Some College
   _____ College Degree (Technical, Associate or Bachelor Degree)
   _____ Some Graduate School
   _____ Graduate Degree
   _____ Other (please specify) ______________________________________
Transfer Climate Assessment
(three months)

Section A: Supervisor

This section asks you to describe the degree to which your supervisor supports or inhibits your ability to use your leadership skills in the work place.

Directions: For each question, circle the response that best describes your level of agreement.

5 Always, To a very great extent
4 Usually, To a large extent
3 Sometimes, To a moderate extent
2 Seldom, To a small extent
1 Never, Not at all

Your supervisor... Always...........Never

1. discussed performance expectations (based on training) with you shortly after training. 5 4 3 2 1
2. set goals with you which encouraged you to apply your training on the job. 5 4 3 2 1
3. expects you to make use of your training. 5 4 3 2 1
4. helps you set realistic goals to evaluate job performance based on your training. 5 4 3 2 1
5. makes sure you have the opportunity to use your training. 5 4 3 2 1
6. discusses problems in using your training with you. 5 4 3 2 1
7. has you share your training experience and learning with your peers. 5 4 3 2 1
8. meets with you to discuss ways to apply training on the job. 5 4 3 2 1

(please continue on following page)
Transfer Climate Assessment  
(three months)

**Directions:** For each question, circle the response that best describes your level of agreement.

5 Always, To a very great extent  
4 Usually, To a large extent  
3 Sometimes, To a moderate extent  
2 Seldom, To a small extent  
1 Never, Not at all

<table>
<thead>
<tr>
<th>Your supervisor...</th>
<th>Always...........Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. provides answers to questions about the use of training on the job.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>10. meets regularly with you to work on problems you may be having in trying to use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>11. eases the pressures of work for a short time so you have a chance to practice your new skills.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>12. praises you when you have performed well by using your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>13. lets you know you are doing a good job when you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>14. thinks you are being effective when you use the techniques learned in training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>15. notices when you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>16. gives you feedback about the value and usefulness of training.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>17. seems to care whether you use your training.</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment
(three months)

Section B: Peers

This section asks you to describe the degree to which your peers support or inhibit your ability to use your leadership skills in the work place.

Directions: For each question, circle the response that best describes your level of agreement.

5 Always, To a very great extent
4 Usually, To a large extent
3 Sometimes, To a moderate extent
2 Seldom, To a small extent
1 Never, Not at all

Your peers... Always..............Never

<table>
<thead>
<tr>
<th>Question</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. expect you to make use of your training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. help you set realistic goals to evaluate your job performance based on your training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. make sure you have the opportunity to use your training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. discuss problems in using your training with you.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. meet with you to discuss ways to apply training on the job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. provide answers to questions about the use of training on the job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. meet with you to discuss problems you may be having in trying to use your training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. ease the pressures of work for a short time so you have a chance to practice your new skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. praise you when you have performed well using your training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. let you know you are doing a good job when you use your training.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment
(three months)

**Directions:** For each question, circle the response that best describes your level of agreement.

5  Always, To a very great extent
4  Usually, To a large extent
3  Sometimes, To a moderate extent
2  Seldom, To a small extent
1  Never, Not at all

Your peers...

<table>
<thead>
<tr>
<th>Question</th>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. think you are being effective when you use the techniques learned in training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. notice when you use your training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. give your feedback about the value and usefulness of training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. seem to care whether you use your training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. have you share your training experience with them.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(please continue on following page)
Transfer Climate Assessment  
(three months)  

Section C: Subordinates  

This section asks you to describe the degree to which your subordinates support or inhibit your ability to use your leadership skills in the work place.  

Directions: For each question, circle the response that best describes your level of agreement.  

5  Always, To a very great extent  
4  Usually, To a large extent  
3  Sometimes, To a moderate extent  
2  Seldom, To a small extent  
1  Never, Not at all  

Your Subordinates...  

<table>
<thead>
<tr>
<th>Your Subordinates</th>
<th>Always</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. expect you to make use of your training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. discuss problems in using your training with you.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. meet with you to discuss ways to apply your training on the job.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. provide answers to questions about the use of training on the job</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ease the pressures of work for a short time so you have a chance to practice your new skills.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. praise you when you use your training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. think you are being effective when you use the techniques learned in training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. notice when you use your training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. give you feedback when trying new techniques from training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. seem to care whether you use your training.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. have you share your training experience with them.</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for responding to this survey.  
Return survey in attached envelope.