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THE EFFECTS OF SELF-EFFICACY AND OUTCOME EXPECTANCY
ON THE TRANSFER OF TRAINING MATERIALS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology: Industrial/Organizational

by
Victoria Oliver Wintering
June 1999

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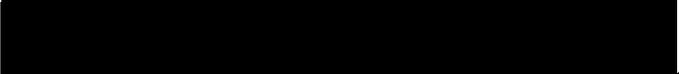
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ABSTRACT

This longitudinal study explored the effects of self-efficacy and outcome expectancy on retention and transfer of supervisory training. Simultaneous regression, observed correlations with criteria, and ANCOVA were used to assess the effects of self-efficacy and outcome expectancy on the transfer of training in a sample of 331 subjects in an organizational environment. Hypotheses one and two were not supported however, several problems were noted in regards to the training materials not being analogous with the training sessions. This would support the lack of movement between pre-training self-efficacy and post training self-efficacy. While some of the hypotheses were not supported, self-efficacy and outcome expectancy predicted the transfer of training to the job environment. In addition, results indicated subjects would retain training materials if training skills were used in the job environment while controlling for previous supervision knowledge. Implications and limitations for training retention and transfer are discussed.

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To Joe, James, Bryan and Jennifer,

Thank you for your love, patience and understanding during
this study.

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INTRODUCTION

Work place training is important to help organizations adapt to changing environments and stay competitive within their industry. Training creates an atmosphere that allows employees to remain competitive in products and services, and improve productivity. However, training is very expensive, creating a need to evaluate how actual training affects employees' performance. Training growth in the last few years has employers spending \$30 billion per year on formal training and \$180 billion for on-the-job training (Tannenbaum & Yukl, 1992). Due to the expense and time allotted by organizations, retention and effectiveness of training materials is important.

Organizations are experiencing economic growth and change in today's dynamic business environment. With this growth and change, employees require additional training to meet new challenges on the job. The goal of training is to provide learning, so the organization and employees may continue to perform in a competitive and changing work environment. In order to perform, an employee must learn from the training and be able to transfer the information back to the job environment. This is important to both the employee and organization due to the expense and time

spent on training. If training does not transfer to the job environment, this may inhibit productivity that might effect the performance of both employee and organization.

Self-efficacy has been identified as a possible attribute to explain differences in performance when measuring transfer of training to the job environment. Goldstein (1993) stated that clear expectation of the transfer training process needs to unite trainer, trainee, and manager. He identified obstacles that interfere with training transfer and the need to have training methods to overcome those obstacles. A lack of self-efficacy may be one of these obstacles. Most studies in this area have been in classroom settings using task simulation and students as participants. (Saks, 1995). Saks stated that within an organizational setting, little research has been done regarding the issue of self-efficacy and training.

In addition to self-efficacy, the notion of outcome expectancy is examined. Outcome expectancy as defined in this study is a person's belief that what they have learned in training may have a direct influence on future performance and success. Motivation in the training process could affect the transfer of training. An individual therefore may be motivated to achieve greater results if they have a greater outcome expectancy level.

Bandura and Schunk (1981) reviewed the relationship of self-motivation with goal setting and self-evaluation of one's behavior. They described the cognitive process and internal comparison of evaluating the ongoing performance of a task and how a person will persist in their effort to attain a certain level of performance. Outcome expectancy contributes to an individual's motivation to obtain an extrinsic or intrinsic reward when accomplishing a task. Outcome expectancy could therefore affect the transfer of training material to the job environment. The purpose of this study is to examine the effect of self-efficacy and outcome expectancy on a person's ability to transfer training to an organizational setting.

Self-Efficacy and Outcome Expectancy

Bandura (1986) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with the judgments of what one can do with whatever skills one possesses" (p. 391). Self-efficacy in regards to training could measure an individual's confidence in their ability to learn and use training material.

A low sense of efficacy can influence a person's perception of the task. They may view a difficult task as a personal threat (Bandura, 1995). A personal threat, which might be a person's failure to perform a job, may cause an individual to dwell on personal deficiencies, obstacles, and adverse outcomes instead of positive thoughts of success (Bandura, 1995). Bandura explained that a strong sense of self-efficacy gives an individual a sense of well being and accomplishment. The approach to a difficult task is looked upon as a challenge, and when mastered, gives the person an intrinsic interest and commitment to the activity (Bandura, 1995). Furthermore, an individual is faster at recovering their efficacy after a failed setback compared to an individual with a low sense of self-efficacy (Bandura, 1995).

In relation to training, a person with a low sense of self-efficacy would have low aspirations and goals for the training, and dwell on obstacles that might affect the transfer of training. A strong sense of self-efficacy will enable the trainee to commit and succeed in training. This commitment may help with the retention and transfer of the training material.

Bandura (1977) defined outcome expectancy as "a person's estimate that a given behavior will lead to

certain outcomes" (p.79). Outcome expectancy and self-efficacy are different concepts in that, an individual with outcome expectancy can see that additional training might lead to a promotion. However, with self-efficacy the individual might not have the confidence to perform the task learned from training. With high self-efficacy an individual will persist even if faced with adverse experiences. When an individual is successful in their job and training, they experience an increase in self-efficacy. When faced with a negative situation, a person with high self-efficacy may see a reduced impact of the negative situation and be more successful in completing a task (Bandura, 1977).

Bandura (1995) states that efficacy beliefs contribute significantly to human motivation and goal attainments. Individuals will anticipate an outcome from a goal they wish to attain and mostly motivate themselves using cognitive processes. Individuals, according to Bandura's (1986) social cognitive theory, are able to influence their cognitive processes and actions through a self-system. An individual's self-system is able to evaluate their experiences and thought process. Individuals who believe in their capabilities to complete a task influence their behavior with that task. According

to Bandura (1995), efficacy beliefs contribute to motivation through individual's goals. In addition, when effort is expended through an individual's goal, the individual will then persevere and be more resilient when faced with failure. Individuals with a low sense of self-efficacy will give up more quickly than those with a higher sense of self-efficacy. Motivation is affected by an individual's expectancy, self-efficacy, and whether the training will be used in the job environment (Baldwin & Ford, 1988; Latham, 1988; Noe, 1986). Trainees with low efficacy beliefs might have difficulty attaining or being motivated to achieve their expected level of performance with training.

Self-Efficacy and Outcome Expectancy in Training

Self-efficacy affects individuals in several ways when applied to training situations. Self-efficacy in training plays an important role and is a useful indicator of learning or skill development. Learning and skill development is considered part of an organization's objective in training.

Tannenbaum, Mathiew, Salas and Cannon-Bowers (1991) found that employees who had a greater commitment, higher level of self-efficacy, and higher levels of motivation tended to contribute more to an organization. The

measurement they used was training fulfillment, which they suggested played an important role with an individual's commitment, self-efficacy and motivation. Training fulfillment is a trainee's knowledge, expectations, intended goals, expected outcomes, and knowledge of training method to be used in future training sessions. In addition, an individual who goes through pre-training will be more motivated for their future training. Pre-training is additional training an individual receives before training begins. Pre-training could include background training to prepare trainees that might need additional assistance or confidence, and may help with the retention of training materials. Pre-training is typically able to prepare and target situations so individuals are able to achieve success in training. The results indicated pre-training may be related to greater motivation and a higher level of self efficacy. Self-efficacy can be a predictor of training success as a process variable during training or a desired outcome of the training (Tannenbaum & Yukl, 1992).

Due to the increasing pressure and the growing need for an organization to weigh the cost and return on training investment, the success of training needs to be measured. Saks (1995) conducted a longitudinal field

investigation on self-efficacy and effects on newcomer adjustment in training. In addition, Saks discussed how training outcomes were measured in regards to the tasks and included work attitudes and behaviors. The study was conducted over a ten-month period with an initial self-efficacy questionnaire being sent to a new employee. Training was measured through a self-evaluation on the training the newcomers had received. Ten months later a performance evaluation was sent to the manager to assess the performance of the newcomer. Saks indicated that an increase in the training effectiveness increased post self-efficacy. In addition, newcomers with low self-efficacy benefited more from training than newcomers with a high sense of self-efficacy. What this might indicate is that trainees who had a high sense of self-efficacy already had the knowledge to perform the job or task.

As previously noted training outcomes and motivation may be related to goals and the success of trainees in future training. Goal setting, when measured with high and low self-efficacy, indicated that there is a difference with high self-efficacy trainees focusing on goal achievement (Gist et al, 1991). Furthermore, trainees with lower self-efficacy benefit from a self-management approach through guidance to improve skills and

obtain goals. Trainees with high self-efficacy instructed on the self-management approach did not obtain high achievement in goal setting. The reason might be that the self-management approach focused on weaker skills instead of goal achievement, which could have influenced the approach of the trainees. What this could mean is employees with low self-efficacy may be instructed and guided through a process that will help them reach the desired goals of the organization.

An employee with high self-efficacy can expand and reach more difficult goals with less guidance, while an employee with low self-efficacy will need guidance and encouragement to reach their goals. Bandura and Cervone (1983) suggested that people who have committed themselves to a goal may look at substandard performance and self-satisfaction as incentive to reach that goal. Additional research indicated that an individual with higher self-efficacy set higher goals and had firmer commitments toward their goals (Wood & Bandura, 1989). Task performance and goal commitment are influenced by self-efficacy (Locke, Frederick, Lee, Bobko, 1984). People with low self-efficacy will see failure and be discouraged yet people with high self-efficacy will react with more effort and persist until they succeed.

Does past performance affect the completion of the task, or predict whether over a period of time self-efficacy or motivation will change the task performance? Mitchell, Hopper, Daniels, George-Falvy, and James (1994) found that at first, self-efficacy will initially impact a new task, but over time past performance will determine the completion of the task. They point out that participants were students, and that out in the real world one might not get the same measurement. The best predictors of performance during the first initial training were self-efficacy. However, overtime self-efficacy became less important to performance and expected score and goals became more of a predictor of the trainee's performance. In addition, Riggs and Knight (1994) found that individual performance positively correlated with both personal self-efficacy and outcome expectancy.

People with high self-efficacy are more often recommended for more formal training than people with low self-efficacy, due to success with skills and performance on their jobs (Ford, Smith, Segó & Quinones, 1993). These authors indicated that individuals with higher self-efficacy over time increased their performance rating. This study looked at only people who had been trained on

their tasks, so results on an untrained individual might be different.

An additional study indicated that in order to assess the ability of a person's self-efficacy one needs to understand the task and the individual (Gist et al. 1992). Gist and Mitchell (1992) came up with three strategies to improve self-efficacy. The three strategies include, but are not limited to, on-the-job training, sample of tasks, mentoring, job rotation, internal controls and feedback from supervisors. The authors also stated employment settings should be focused on training methods that enhance motivation in learning, skills and self-efficacy. In learning a new task an individual may be more motivated to succeed when trying to achieve an expected goal. In addition, people with a high sense of self-efficacy might have higher motivational goals and expected outcomes from training.

When conducting an instructional program, the use of reinforcement in pre-training could help enhance an individual's self-efficacy. The reinforcement theory uses positive reinforcement and a modeling approach from supervisor or trainer, to generate a higher self-efficacy score and enhance the individuals' belief in their capabilities (Gist, 1989; Gist, Schwoerer & Rosen, 1989).

Sims (1993) included environment, clear instructions, and modeling behavior as learning principles in training retention. He stated that in order to retain training, trainees needed active participation, increased self-efficacy, feedback, setting goals, and practice of the behaviors learned. Self-efficacy is important to the learning process. In order to be productive and help in performance, training programs need trainers who provide trainees with programs that help strengthen and reinforce their self-efficacy.

Guthrie and Schwoerer (1996) found that individuals with low self-efficacy during later career stages affected how successful the future training sessions would be. Trainees, if plagued by self-doubt during training, will have difficulty reaching their goals and will hinder their abilities to learn skills (Bandura & Cervone, 1983). Gist and Mitchell (1992) stated that feedback could help enhance self-efficacy in a situation where detailed information on employee's performance is given. Therefore, feedback could increase self-efficacy, which in turn would enable an individual to use learned skills.

Martocchio's (1994) study examined pre-training expectations and computer efficacy beliefs using two conditions to form a training manipulation. The training

group consisted of older and younger trainees. One group received through training a single condition that said their performance was based on skills they already possessed. The second group was in an acquirable skill condition and their performance could be developed through training. Results indicated that age and pre-training expectations predicted computer efficacy beliefs. Higher expectations were associated with higher levels of computer efficacy beliefs. Post-training computer efficacy showed that people who had a lower sense of computer efficacy learned significantly less than the trainees who had high efficacy beliefs. Furthermore, trainees in the acquirable skill condition felt they could learn from their mistakes, had less anxiety, and increased their expectations in computer efficacy beliefs. These results might indicate that trainees receiving positive feedback during training might boost their efficacy and have better retention of training.

To summarize, self-efficacy in training plays an important role in determining if a change has occurred with learning and skill development. Furthermore, training needs to be considered part of an organizational objective (Kraiger, Ford & Salas, 1993). Training is learning, and trainees are expected by their organization

to learn and apply the training material they learn (Sims, 1993).

Transfer of Training to the Work Environment

Self-efficacy and the relationship of pre-motivation in the individual's training perception could determine the retention of training and the outcome on transfer of training materials. The transfer of knowledge is important in order to gain required skills to be applied to the task. Robinson and Robinson (1989) indicated that an individual who is lacking in confidence measured low in training transfer. The confidence they spoke about could be associated with a person's self-efficacy.

Webster and Martocchio (1995) studied software self-efficacy, and the results indicated that high self-efficacy people used the skills and learned more following training. These results indicated self-efficacy affects the retention and transfer of training material. Latham, Winters and Locke (1994) studied subject's performance that participated in goal setting and task strategies in relation to goal commitment, self-efficacy and task strategy. The results indicated self-efficacy had a relationship with goal setting, goal commitment, task strategy and performance. The authors stated that self-efficacy is a motivational variable and could be

knowledge-driven. Individuals who know the task, will do it effectively, while the unknown tasks will be done ineffectively.

Ford, Quinones, Segó and Sorra (1992) focused on the impact of organizational work context and individual factors on the dimension of opportunity to perform trained tasks. The dimensions were breadth of tasks, activity level and type of task performed by trainees with individual characteristics being ability level and self-efficacy. The results indicated there was a relationship between positive attitudes from supervisors and a greater number of tasks being performed. Supervisors in this study would assign more difficult and complex tasks to trainees who appeared to have a positive attitude. Furthermore, trainees with a high sense of self-efficacy performed more complex and difficult tasks following training. In performing more complex and difficult tasks the role of self-efficacy and supervisor's attitude may contribute to the transfer of training to the work environment.

Is there an effective way of measuring the retention of training materials to the job environment? Latham (1989) explains how measurements such as outcome expectancy and self-efficacy will help in the evaluation

of why transfer of training material did or didn't occur. Measurement of outcome expectancy would need to measure both external and internal rewards to determine individual goals. Self-efficacy and outcome expectancy based on the literature might affect motivation, transfer, and retention of training.

To understand the different approaches of transfer of training, the following authors give examples of effective training and transfer to the work environment. Tannenbaum and Yukl (1992), in reviewing transfer of training, defined transfer as how trainees effectively apply the knowledge and skills learned in training back to the job. Baldwin and Ford (1988) discussed how the conditions of transfer stem from training inputs and outputs. Training inputs consists of trainee characteristics, training design, and work environment. Trainee characteristics describe the trainee's ability, personality, and motivation to learn. Training design is the learning principles, content, and sequencing of the training materials. The work environment is considered supportive to the trainee when a manager supports the continued use of the training materials. Training outputs are the retention and application of learning materials by the trainee. The maintenance and generalization of the

training is the condition of transfer, from trainee retention, characteristics, design and environment. Based on previous research, the ability to continue to use training material in the work environment might affect the retention and transfer of training.

Hellervik, Hazucka and Schneider (1992) examined transfer of training through the communication process of coaching and feedback between trainee, supervisor and organization. The training consisted of situations that involved real work, coping in the job environment, and support by the supervisor. These situations helped with the retention and transfer of the training material. Faccteau, Dobbins and Russell (1995) studied the influence of organizational commitment, pre-training motivation, and supervisor support on training transfer. The authors found that pre-training motivation predicted perceived transfer, and organizational commitment affected transfer indirectly through the effect on pre-training motivation. Supervisor support was not perceived as related to transfer of training. However, the results had limitations that included suppresser variables on the supervisor, subordinate, top management and peers.

Tracey, Tannenbaum and Kavanagh (1995) researched how training climate and continuous-learning culture

influenced transfer of training to the work environment. The authors defined training climate as situations in training that have helped or restricted the retention and transfer of training to the job environment. The continuous learning culture is when the employees and organization believe that learning in the workplace is an everyday event. The results found training climate and continuous learning culture had direct effects on transfer and post training behavior. This view supported the theory and model they were testing. Furthermore, the authors suggested that future research should examine the direct effect of continuous learning culture and training climate on a trainee's self-efficacy and motivation to learn. A possible outcome of this research could be trainees acquiring less knowledge in any training program due to 1) low self-efficacy and 2) environments that are not supportive of behavioral changes.

Tannenbaum (1996) reviewed the influence of the continuing learning model on work environment, learning experience, application, recognition, and motivation to learn. The author stated an individual will increase their self-efficacy and belief, learn new skills, and perform satisfactorily by working in a continuing learning environment. The results showed that a stronger learning

environment in organizations increased the overall performance. Furthermore, an ineffective learning environment may hinder continuous learning, which may affect organizational and individual effectiveness.

Goldstein (1993) also stated that the need for maintenance of the learned behavior in the work environment is needed for continuous learning. A supportive work environment means that the trainee will have a supportive manager and be able to use the training materials (Baldwin & Ford, 1988). Robinson and Robinson (1989) stated that the work environment must be supportive in order for training to be effective. The work environment is important for transfer of newly acquired behaviors and skills. Consequently, an organization may waste resources and be ineffective in a changing environment without a supportive, learning environment.

Evaluation measures are used to show whether transfer of the training material has been accomplished. The need for human resources to show return on investment impacts the process of evaluation and transfer of the training material (Phillips, 1996). Measuring results too soon after a training program could show a decline in the learning curve. It is important to wait to see if the evaluation is measuring what the trainee learned (Robinson

& Robinson, 1989). Trainers can prove the value of their training through program evaluation (Sims, 1993). Evaluation of a training program will assess if training material has been retained and applied to the job. Trainers need to know what worked, what didn't and why (Sims, 1993). Sims states benefits from evaluations improve accountability, cost effectiveness, efficiency and understanding of training programs and formal feedback will strengthen and reinforce self-efficacy and the learning process. Based on previous research of self-efficacy and outcome expectancy with retention and transfer of training the following hypotheses are proposed:

Hypothesis 1: the linear combination of self-efficacy and outcome expectancy prior to training will predict the degree of learning immediately following the training.

Hypothesis 2: the linear combination of self-efficacy and outcome expectancy prior to training will predict the retention of training materials twelve weeks after training is completed.

Hypothesis 3: the linear combination of self-efficacy and outcome expectancy prior to training will predict the transfer of training material to the job environment twelve weeks after training is completed.

Research work by several authors' (Hellervik, Hazucka & Schneider, 1992; Baldwin & Ford, 1988; Tannenbaum & Yukl, 1992 & Faccteau; Dobbins & Russell, 1995) review the importance of the supportive work environment and how trainees that effectively apply their knowledge and skills obtained during training retain and transfer the training materials. Trainees who do not utilize training materials in the job environment might not retain the training materials. Based on previous research the following hypothesis is proposed:

Hypothesis 4: Trainees who have the opportunity to utilize training in the job environment will have higher retention of training materials.

METHOD

Respondents

A total of 331 employees attended supervisor training in a public sector organization. They were trained in seven different geographic areas. Employees were divided into two groups: non-supervisors in the morning and supervisors in the afternoon, with both groups receiving the same training sessions. The supervisor group represented forty-six percent of the respondents, while the non-supervisor group represented fifty-four percent. Participants in the supervisor group were currently

working in a supervisory level. The non-supervisor group volunteered to attend the training sessions. Due to the longitudinal nature of this study, the number of respondents changed over time with each of the different phases of measurement (see Table 1). The mean age of the employees was forty-one years; seventy-four percent were female. The years employed averaged eleven and half years. Thirty-six percent of the respondents were African-American, thirty-one percent Hispanic, fourteen percent Caucasian, and eleven percent Asian.

Training

The training program offered in this organization is *The Supervisory Certificate Program Level 1*. Employees volunteer to participate in the supervisory program and receive a certificate upon completion. However, in order to become a supervisor you needed to have completed this program. The program includes eight sessions over a three-month period, with each session lasting three hours. Non-supervisors attended from 8:30 to 11:30 AM and supervisors from 12:30 to 3:30 PM. The class size for morning and afternoon session averaged 25 employees. Training instruction included lecture, discussion, demonstration and in-class examples. Each of the sessions

had different instructors who created their own materials and contracted with the organization.

Session 1, *Understanding the Supervisor's Role*, consists of establishing basic skills, expectations and clarifying the public sector supervisor's role. Included in the training packet was a summary of understanding one's role as a supervisor and examples of an effective supervisor.

Session 2, *Motivating Staff*, included listening skills, delegating and communicating for effectiveness. The contents in regards to motivation included a leadership paradigm shift, with an example of what a person wants from their job. A motivational definition, that included maintenance factors in regards to external and internal motivators. Communication skills dealing with barriers, problems, behavioral styles of leaders, responding to a difficult employee, and building a positive work climate. Delegating gives examples of how to delegate skillfully.

Session 3, *Communication I*, included conducting staff meetings, providing feedback and supporting employees. Feedback and supporting employees instruct trainees on the behavioral characteristics of supportive and defensive job climates. Conducting meetings, included examples of

meeting agendas, format, roles, responsibilities and behaviors that encourage or discourage participation.

Session 4, *Communication II*, reviews basic grammar punctuation, proofreading, wordiness, homonyms, clichés, redundancies and parallelism. Several examples of memos and sentences are used in class exercises.

Session 5, *Orientation of New Employees*, this section has guidelines, training, coaching, and counseling of new employees. The orientation of an employee includes a checklist to be used by the supervisor. The checklist consists of organizational structures, performance expectations, specific background, and payroll/benefit information. Training reviewed a four-step method of instruction. Counseling consists of a checklist of how to conduct a counseling session. The coaching section used a sports coach model and described how a coach and player interact.

Session 6, *Performance Appraisal*, reviewed continuous feedback, acknowledgment, discipline and documentation. Performance documentation reviews the important purpose of the evaluation, comments/criteria to be expressed in writing, identifying measurable/observable behavior, legal implications, and due process checklist. An example of a written formal discussion on improving performance is

included with a critical incident. Discipline is explained through progressive discipline, which entails steps of coaching, counseling and discipline.

Session 7, *Conflict Management Skills*, consists of strengthening a relationship and constructively using conflict to reach resolution. The conflict to reach resolution included a conflict cycle, conflict chart and five methods for resolving conflict. Strengthening relationships reviews interpersonal exchanges and behaviors.

Session 8, *Public Relations*, reviewed internal and external customer service and image and ethics. The session included effective and ineffective public relations techniques, benefits of improved relations and customer service examples. The ethics section had a definition of ethics and the relationship ethics had with values and action.

Measures

Measures included a demographic questionnaire, a degree of knowledge evaluation, a pre and post self efficacy scale, a pre and post outcome expectancy scale, degree of learning evaluation, retention evaluation and supervisory rating of transfer. The decision-making criterion was set at .05, which is more or less

conservative and is the traditional alpha level in the field of Psychology. The probability values will also reflect equal signs and present the actual probability value so that more information may be presented to the readers.

Demographics. The demographics included information from the participants regarding their personal background. The information included length of time in supervisor position, classification of job title, age, gender, race/ethnicity, education, and previous supervisory training experience (See Appendix A).

Degree of knowledge evaluation. The degree of knowledge is a multiple-choice test designed for use in the present study, to evaluate the knowledge of participants prior to training. The test was designed to enable the researcher to covary out and control knowledge between supervisor and non-supervisor. Fourteen multiple-choice questions were written for this project based on the training material. Training experts in the organization examined the questions to determine if content validity was present. The multiple-choice test has a stem with one correct answer and three distracters. The degree of knowledge was based on the number of correct answers (See Appendix D).

Self-Efficacy Scale. The self-efficacy scale was based on studies from articles on Bandura (1983), Guthrie & Schwoerer (1996) & Riggs, Warka, Babasa, Betancourt and Hooker (1994). The self-efficacy scale was designed for this project to measure specific tasks that were trained in the supervisor-training program. The scale was given to the subjects prior to training and immediately following the eighth session. Twenty items assessed the confidence of the trainee to understand and apply supervisor tasks from the training. The items were based on tasks that originated from the training sessions. The specific task measures were conflict skills, motivation, communication, and performance evaluation. Trainees responded on a 7-point Likert scale ranging from strongly disagree to strongly agree. A sample item includes "I am successful in conflict management styles." (See Appendix B). A reliability analysis was performed on the pre and post self-efficacy scale. The pre self-efficacy scale had 310 respondents and demonstrated good internal consistency reliability (Cronbach's alpha = .85). The post self-efficacy had 230 respondents the scales demonstrated good internal consistency reliability (Cronbach's alpha = .83).

Outcome Expectancy Scale. The outcome expectancy scale was based on an article by Riggs et al. (1994). The

outcome expectancy scale was designed for this study to measure specific tasks in a supervisor's training program. The scale was given to the subjects prior to training and immediately following the eighth session. Thirteen items measured the expectations of the trainees after completion of training. The items were designed from the eight training sessions. The items measured the attainment of promotions, external reward, interpersonal skills, work abilities, career goals, and work environment. Trainees responded on a 7-point Likert scale ranging from strongly disagree to strongly agree. A sample item includes "Supervisor training will help me attain a promotion" (See Appendix C). A reliability analysis was performed on the pre and post outcome expectancy scale. The pre outcome expectancy scale had 306 respondents and demonstrated adequate internal consistency reliability (Cronbach's alpha = .78). The post outcome expectancy scale had 220 respondents the scales demonstrated adequate internal consistency reliability (Cronbach's alpha = .74).

Degree of learning evaluation. The degree of learning evaluation was designed to measure the information obtained during training based on the training material. The evaluation was administered immediately following the eighth session, which was twelve weeks after

the first session. Sixteen multiple choice questions were designed to assess the knowledge retained through the eight sessions. Organizational training experts and Human Resource training personnel reviewed the post knowledge test for correct information and format. The format of the test is a multiple choice with four options. One of the options given was the correct answer, the other three answers were distracters. The degree of learning was based on the number of correct answers. (See Appendix E).

Retention evaluation. The retention evaluation exercise was designed for this study to measure the retention of training. The retention evaluation consisted of questions that were derived from training materials. The evaluation was sent to the subjects via mail twelve weeks after the eighth session to complete and return the enclosed stamped addressed envelope. Six different scenarios were given based on the training sessions and what a supervisor observed on the job. The six examples asked for specific answers that were discussed and demonstrated in training. An answer sheet with either right or wrong phrases or words was provided for the first five examples. The sixth example was to be answered by memory by filling in the correct answer in a space provided. Totaling the correct number of responses

assessed the evaluation. The organization training experts and other personnel reviewed the examples for clarity of information. The retention evaluation measured the knowledge obtained during training and after returning to the job environment. There were a total of forty-seven questions, however it was noted that number nine had two possible answers. Due to this discrepancy the item was omitted from the evaluation (See Appendix F).

Supervisory rating of transfer. The supervisory rating of transfer was sent to the trainee's manager twelve weeks after session eight via mail with a stamped return address envelope enclosed. The transfer rating was designed to measure the degree of transfer to the job. The rating was based on articles by Tracey, Tannenbaum and Kavanagh (1995) and Facticeau, Dobbins, Russell, Ladd and Kudisch, (1995). The authors indicated that ratings from supervisors were more reliable than self-ratings from participants. Furthermore, an outsider might be better able to determine the different areas of training that transferred to the work environment. This transfer rating was designed for this study to add to the reliability of transfer of training material. The transfer rating was based on tasks learned during the training session. Fifteen behavioral statements were designed for this study

based on the training sessions and measured on a 5-point Likert scale ranging from (1) not at all to (5) to a great extent. The number six (6) was added to measure if the task was not observed. A sample item includes "Supervisor uses praise and encouragement to communicate how the employees are doing" (See Appendix G). The supervisory rating of transfer demonstrated good internal consistency reliability (Cronbach's alpha = .96).

Procedure

The demographic questionnaire, degree of knowledge evaluation, self-efficacy scale, and outcome expectancy scale were handed to the respondents to complete twenty minutes before the introduction of session one. The informed consent form was attached to the measures and collected after respondents completed the measures. The respondents were assured of confidentiality. Each person was assigned a number and the evaluation measures were tracked according to their assigned number. 242 respondents (twenty-seven percent of original group had discontinued training) were administered the degree of learning evaluation at the conclusion of session eight. The evaluation measured the degree of learning and retention of training during the sessions. Session eight

of the training was concluded between twelve and thirteen weeks after training session one.

The supervisory rating of transfer and retention evaluation were distributed by mail twelve weeks after the completion of session eight. The response by the subjects declined throughout the training process and dramatically dropped with the retention evaluation (see Table 1). The response rate for the retention evaluation was ten percent for a total of twenty-five, so a second request was sent out fifteen weeks after the completion of session eight. Thirty-four additional responses were obtained for a total of fifty-nine subjects representing a twenty-four percent response rate. The response rate for the supervisory rating of transfer was forty percent for a total of forty-four. The second request yielded an additional seventeen responses for a total response rate of fifty-five percent.

The retention evaluation measured the retention of training materials to the job environment. Both the non-supervisor and supervisor trainees completed the retention evaluation. The supervisory rating of transfer was sent to only the manager of the supervisor trainee, to evaluate trained tasks. The retention evaluation and supervisory rating of transfer were both returned through the mail.

TABLE 1**Survey Responses by Measurement**

Measurement	Supervisor	Non-Supervisor	Total Number Subjects
Pre Self-efficacy	152	173	325
Pre Outcome expectancy	141	167	308
Post Self-efficacy	109	127	236
Post Outcome-expectancy	100	121	221
Degree of Knowledge	152	173	325
Degree of Learning	109	128	237
Retention Evaluation	29	28	57
Supervisory Rating of Transfer	55	6	61

RESULTS

Results are divided into three sections. The first section is, descriptive statistics that include the mean, standard deviation, and correlations among the evaluations and scales. The second is results of the simultaneous regression using the pre and post training self-efficacy and outcome expectancy scale to predict degree of learning, retention and transfer of training. The third section indicates the results of the analysis of covariance, which measured the differences between supervisors and non-supervisors and the retention evaluation while covarying out degree of knowledge.

Descriptive Statistics

The means, standard deviations, reliabilities, and correlations are presented in Table 2. All data was examined for normality, linearity, and outliers by comparing the expected values of the normal distribution to the obtain values (see Figures 1-9). The pre-training self-efficacy scale and outcome expectancy scale were moderately negatively skewed with minor deviation from normality (see Figure 1 and 2). This might suggest that the subjects prior to training were more positive about training. It was determined, however that the method was robust enough that the skewness would not effect the

Table 2

Descriptive Statistics and Correlation

Variable	N	M	SD	1	2	3	4	5	6	7	8	9	10
1.	327	5.89	.59	1.00									
2.	310	5.92	.70	.34**	1.00								
3.	237	5.82	.56	.58**	.27**	1.00							
4.	222	6.03	.65	.19	.48**	.45**	1.00						
5.	327	7.84	1.80	.08	.17**	.13*	.22**	1.00					
6.	238	6.61	1.55	.02	-.10	-.01	-.05	-.04	1.00				
7.	57	27.23	5.69	.17	.18	.01	-.04	.08	.01	1.00			
8.	61	4.61	.67	.35**	.08	.18	-.03	.10	-.01	.47	1.00		
9.	319	41.25	9.09	.02	-.04	.06	-.07	-.04	-.13*	.34*	.07	1.00	
10.	324	11.62	7.32	-.04	-.13*	-.10	-.19**	-.08	-.10	.16	-.14	.45**	1.00

* $p < .05$ ** $p < .01$

1. Pre-training self-efficacy
2. Pre-training outcome expectancy
3. Post training self-efficacy
4. Post training outcome expectancy
5. Degree of knowledge
6. Degree of learning
7. Retention evaluation
8. Supervisory rating of transfer
9. Age
10. Years employed

results. There was limited variance on the pre and post training self-efficacy and outcome expectancy scales. A number of outliers were identified in the study and an analysis of the measurements pre and post training self-efficacy and pre and post training outcome expectancy using z scores was performed. The z score analysis indicated that six cases had extreme z scores above the recommended standardized score of 3.29 (Tabachnick & Fidell, 1996). The z scores for one case on post outcome expectancy scale was 6.73 and post self-efficacy scale 6.84. Two outliers were identified in the pre self-efficacy scale ($z = 4.35$) and degree of learning evaluation ($z = 3.40$). The four cases were examined and it was determined that the outliers did not seem to represent the sample population and were deleted from the analysis. Two additional cases examined in the Z score analysis indicated a Z score on both cases of 3.50 in the supervisory rating of transfer. A review of the scatter plot revealed that both cases appeared to be part of the sample population and may simply represent low performers (see Appendix J, Figure 10 & 11). It was therefore determined that the two cases would be included in the analysis.

A correlation analysis was performed to investigate if there was any relationship between pre-training self-efficacy and outcome expectancy, post-training self-efficacy and outcome expectancy and degree of learning, degree of knowledge, retention evaluation, and supervisory rating of transfer. An analysis of the relationship between degree of learning and pre-training self-efficacy indicated pre-training self-efficacy had no relationship with degree of learning (See Table 2). Furthermore, a correlation indicated no relationship between degree of learning and pre outcome expectancy. The analysis between pre-training self-efficacy and outcome expectancy indicated there was a correlation, $\underline{r} = .34$ ($\underline{p} = .00$).

The analysis between post self-efficacy and outcome expectancy indicated there was a correlation, $\underline{r} = .45$ ($\underline{p} = .00$). Some correlation was expected in the analysis between the pre-training and post self-efficacy and outcome expectancy scales. While there was a relationship between both the pre-training self-efficacy and outcome expectancy, and the post-training self-efficacy and outcome expectancy there was no distinct variable.

The analysis between degree of knowledge and pre-training outcome expectancy indicated a positive relationship, $\underline{r} = .17$ ($\underline{p} = .00$). What this might indicate

is that subjects who had a higher degree of knowledge in supervision would expect more benefits from their training. The analysis between post-training self-efficacy and degree of knowledge indicated a correlation of $r = .13$ ($p = .04$). The relationship between self-efficacy and degree of knowledge might indicate participants had a higher sense of self-efficacy after supervisory training based on their previous knowledge. A correlation between supervisory rating of transfer and pre-training self-efficacy was $r = .35$ ($p = .01$). The effect size was moderate and accounted for twelve percent of the variance. The relationship indicated that an individual with a high level of self-efficacy was more likely to transfer the training back to the job environment. The analysis between years employed and pre-training outcome expectancy indicated a negative relationship, $r = -.12$ ($p < .03$). Years employed and post-training outcome expectancy also indicated a negative relationship, $r = -.19$ ($p = .01$). What these results might indicate is that the subjects who have a number of years with the organization and are also older, might have lower expectation of the benefits that might come from the training.

Hypothesis 1

Simultaneous regression was used to examine hypothesis one, proposing that pre-training self-efficacy and pre-training outcome expectancy predict the degree of learning of training immediately after training is completed. The number of subjects who participated in this analysis was 222. As reported in Table 3, the pre-training self-efficacy and outcome expectancy did not significantly predict the degree of learning, $R^2 = .01$, $F(2,221) = 1.48$, $p = .23$. Based on these results it appears that there is little relationship between self-efficacy and the degree of learning immediately after training is complete. In addition to evaluating pre-training self-efficacy and outcome expectancy, a post-training self-efficacy and outcome expectancy analysis was performed. The results were similar in that there was no significant relationship (see Table 3).

Hypothesis 2

To test the second hypothesis, a regression analysis was conducted to evaluate how pre-training self-efficacy and outcome expectancy predicted the retention of training. The predictor variables were pre-training self-efficacy, and outcome expectancy, and the criterion

TABLE 3

Simultaneous Regression of Criterion and Predictor Variables

Variables	β	R ²
Degree of learning (n=224)		
1. Pre-training self-efficacy	.07	.01
2. Pre-training outcome expectancy	-.12	
Retention Evaluation (n=52)		
1. Pre-training self-efficacy	.14	.05
2. Pre-training outcome expectancy	.12	
Retention Evaluation (n=51)		
1. Pre-training outcome expectancy	.22	
2. Age	.33*	.14*
Transfer Evaluation (n=55)		
1. Pre-training self-efficacy	.40*	.14*
2. Pre-training outcome expectancy	-.10	
3.		

* $p < .05$ ** $p < .01$

variable was the retention evaluation. The sample size was 51 and the results for predicting retention of training were not significant, R^2 .05, $F(2,49) = 1.21$, $p = .31$. The confidence interval for retention on self-efficacy was -1.72 to 4.38. While the low sample size might affect the probability of results, the small effect size shows no relationship. The effect size captured only five percent of the variance.

In addition to evaluating pre-training self-efficacy and outcome expectancy, a post-training self-efficacy and outcome expectancy analysis was performed. The results were similar to pre-training and indicated that post-training self-efficacy and outcome expectancy had no relationship with the retention of supervisory training (see Table 2).

Hypothesis 3

The third hypothesis was tested using a regression analysis to evaluate if pre-training self-efficacy and outcome expectancy predicted the transfer of training. The supervisory rating of transfer was based on a supervisory observed rating twelve weeks after training was completed. The predictors were the pre-training self-efficacy scale and the outcome expectancy scale, while the criterion variable was the supervisory rating of transfer.

The number of supervisor's included in the analysis totaled fifty-five. The results, as reported in Table 2, indicated that prior to training, self-efficacy and outcome expectancy accounted for a significant amount of training transfer, $R^2 = .14$, $F(2, 53) = 4.16$, $p = .02$. With self-efficacy as a predictor, the variance accounted for was fourteen percent in the transfer of training materials. Outcome expectancy was not a significant predictor of training transfer ($\beta = -.10$, $p = .50$).

In addition, an analysis was performed using post-training self-efficacy and outcome expectancy. The results indicated that even though pre-training self-efficacy was significant the post scale for self-efficacy and outcome expectancy was not significant. The effect size is low and captures only six percent of the variance (See Table 3).

Hypothesis 4

To examine the fourth hypothesis, an analysis of covariance was performed to measure the differences between supervisors and non-supervisors. The analysis was conducted with the belief that if you use training back in the job environment there might be a greater retention of training. The criterion variable was the retention evaluation and degree of knowledge was covaried out so

that both supervisors and non-supervisors were measured similarly. A pre-analysis was conducted to determine the unequal variance. The groups did not vary in the retention evaluation based on their degree of knowledge. An independent-samples t-test was conducted to evaluate whether degree of knowledge differed with supervisors or non-supervisors. The test indicated no significant difference on degree of knowledge between the supervisors and non-supervisors, $t(1,53) = .17$, $p = .86$. To further examine the difference an analysis of covariance was conducted co-varying out degree of knowledge prior to training. The supervisors and non-supervisors varied significantly with the retention evaluation, $F(1,54) = 4.34$, $p = .04$. The strength of the relationship between the supervisors and non-supervisors factor and retention was small, as assessed by a partial eta square, with the group factor accounting for seven percent of the variance, holding constant the degree of knowledge ($\eta^2 = .07$).

As a means for gaining further insight, additional analyses were conducted. A repeated-sample t-test on the pre-training self-efficacy scale and post-training self-efficacy scale was conducted to evaluate whether respondents differed significantly between the two scales. The results indicated that the mean for the pre-

training self-efficacy (\underline{M} = 5.86, \underline{SD} = .59) was not significantly different than post-training self-efficacy (\underline{M} = 5.82, \underline{SD} = .59), \underline{t} (236), \underline{p} = .25 (See Appendix J, Figure 12). There was no magnitude of difference in the means for the two self-efficacy scales (\underline{d} = .08) (Green, Salkind & Akey, 1997). The confidence interval was -2.75 to .11.

In addition, a repeated-sample t-test was conducted to evaluate whether the respondents differed on the pre-training outcome expectancy and post-training outcome expectancy. The results indicated that the mean for pre-training outcome expectancy, (\underline{M} = 5.94, \underline{SD} = .68) was significantly greater than the mean for post-training outcome expectancy (\underline{M} = 6.04, \underline{SD} = .66) \underline{t} (212) = -2.18, \underline{p} = .03 (See Appendix J, Figure 13). The magnitude of the difference in the means for outcome expectancy was small (\underline{d} = .15) (Green, Salkind & Akey, 1997). The confidence interval indicated the mean difference of -.10 was between the two scales. The results indicate that the subjects had a higher mean score on the post-outcome expectancy scale than prior to training.

Further evaluation of a correlation analysis indicated that post outcome expectancy had a significantly negative relationship with the number of years at the job,

($\underline{r} = -.19$, $\underline{p} = .01$). A regression analysis was conducted to evaluate the relationship between the predictor variables, pre-training outcome expectancy, age, and the criterion variable retention evaluation. The results of the analysis were significant, $\underline{R}^2 = .14$, $\underline{F} (2,49) = 3.97$, $\underline{p} = .03$. Age was a significant predictor of training retention (beta = .32, $\underline{p} = .02$). The effect size was moderate capturing fourteen percent of the variance.

DISCUSSION

The research issues pertaining to this study examined self-efficacy and outcome expectancy and how they would predict learning, retention, and the transfer of training. In an attempt to examine these issues, the research was conducted with a field sample. Supervisors and non-supervisors participated in the same training program designed to enhance and teach supervisory skills. The results were compiled from the evaluation response from the subjects and their immediate managers. The response from the subjects on the retention evaluation was limited with twenty-four percent returning the retention evaluation. The response from the immediate managers was better with a return rate of fifty-five percent. The limitations in sample size from the response of both the retention evaluation and transfer rating were noted in

this study. Despite the limitations, information obtained might help direct future research in training.

The regression results for pre-training self-efficacy and outcome expectancy in predicting the increase of knowledge of supervisory skills was not supported. This finding was inconsistent with other previous research, such as Martocchio (1994). Martocchio found that those with high self-efficacy learned more than those with low self-efficacy. No support was found in this study: high self-efficacy did not indicate that the subjects learned more immediately following training. In reviewing why no support was found, several alternatives will be offered. The first possibility is within the training sessions. During the last session the respondents were asked whether any of the eight sessions were inadequate in teaching supervisory skills. The respondents stated that modules two and seven did not follow the outline in the training materials. What this might indicate is that the degree of learning evaluation that tested the respondent's knowledge did not evaluate the knowledge from two of the eight modules. This could have accounted for the low scores in the degree of learning evaluation. Pre-training self-efficacy and post self-efficacy indicated no difference during training. Self-efficacy, in research is a

predictor of training success Tannenbaum and Yukl (1992). The self-efficacy scales indicated that training was not successful, and that several of the training sessions may be poorly designed.

In addition, the respondents have an average of eleven and a half years with the organization. Saks (1995) stated that newcomers with a lower self-efficacy benefited more from training. Respondents in this study were not newcomers to the organization and so the number of years with an organization might have affected the results. Another possibility may be that the respondents were veteran employees and felt they already had adequate supervisory skills.

Facteau, Dobbins, Russell, Ladd and Kudisch (1995) looked at pre-training motivation, which was conceptually similar to outcome expectancy. Pre-training motivation has to do with the goals and rewards an individual might have to complete training. Outcome expectancy evaluates the trainee's perception of what internal and external rewards they might have with completion of training. The authors found that when employees were not required to attend training, those employees had higher levels of motivation. The findings in this study indicate no relationship was found between pre-training outcome

expectancy and learning and retention. This finding appears to be consistent with Riggs and Knight (1994) research, in which outcome expectancy didn't predict performance. The respondents in this organization were required to attend supervisory training in order to supervise other employees. The motivation or goal might be to acquire a supervisory position, not to learn supervisory skills. Furthermore, additional descriptions of internal and external rewards in the outcome expectancy scale might help clarify individual goals and motivation.

In reviewing other aspects of pre-training outcome expectancy, a relationship with age in regards to retention of training materials was found. This finding appears to be consistent with Guthrie and Schwoerer (1996) research that employees who had worked longer at their jobs and were in the late career stages viewed training as less beneficial to them. What this might suggest is that employers need to encourage employees to continue training and provide career counseling so individuals may continue to grow within the organization and their careers.

The degree of knowledge prior to training had a positive relationship with pre-training and post-training outcome expectancy. The results indicate that the subjects were very confident with their knowledge of

supervisory skills. The subjects might also feel that the supervisory skills they had were sufficient to move into a supervisory position without the required training. When employees are required to attend a training class that is repetitive for them they might lack the motivation to attend, learn or transfer the information back to the work environment. This suggestion would be consistent with the results obtained by Facteau et al. (1995).

Why were the scores for the knowledge evaluation somewhat higher than the learning evaluation in this study? The finding appeared to be inconsistent with a previous study conducted by Tracy, Tannenbaum and Kavanagh (1995). They found that subject's knowledge increased with training. The decrease of respondents by twenty-seven percent throughout training may suggest the higher scoring subjects lost interest and didn't continue, based on previous knowledge. The subjects also stated, in the last training session, that modules two and seven were inadequate and did not teach them those supervisory skills. What this might suggest is that the subjects didn't feel they had a good understanding of certain supervisory skills. In addition, some of the training modules might need some modification.

Similar to the regression results of hypothesis one, pre-training self-efficacy and outcome expectancy did not predict the retention of training material. Based on the previous research in this area Sims (1993), hypothesized that increased self-efficacy appeared to be needed in order to retain training. In the current study pre-training self-efficacy was no different than post-training self-efficacy. Consequently, self-efficacy did not predict the retention of training materials. Pre-training outcome expectancy however, indicated a difference and was slightly lower than post-training outcome expectancy.

In addition, Sims (1993) stated modeling behavior and environment influenced the retention of training. The environment for this current study supported the supervisors who would continue to use the training materials in their work environment. The non-supervisors would not have the opportunity in the work environment to use the training materials. What the results from this current study appear to indicate is that the work environment may add to the retention of training when controlling previous supervisory knowledge. The supervisors and non-supervisors were evaluated prior to training on their supervisory knowledge. By controlling the supervisory knowledge both the supervisors and non-

supervisors were similarly measured by the retention evaluation. Consequently, the results from hypothesis four support similar findings that employees, when not supported in their work environment, are unable to model the training received, and appear to retain less of the training materials.

Transfer of the training materials is important not only for individual attainment but to support the training efforts of an organization. A previous research article that supported these results is Tracy, Tannenbaum and Kavanagh (1995). The authors suggested that the support of managers regarding training helped transfer the newly acquired skills. Also it was thought that previous knowledge would help in the transfer of training materials. The opposite was true in the current study in that there was no relationship between previous knowledge and transfer of the training. The results however were similar to the results of Tracy, Tannenbaum and Kavanagh (1995). The authors suggested it is not uncommon for the previous knowledge and transfer of training to be uncorrelated. A possible explanation in the current study might be that the measurement for pre-training knowledge was based on item content, while the transfer evaluation was based on observation from the subject's supervisor.

Both measures related to similar supervisory knowledge and skills. However, the different assessments might have allowed for some error. In the future to allow more continuity with the measurement, the supervisors might do a pre-evaluation of subjects.

Perhaps the most interesting finding was that pre-training self-efficacy scale had a positive relationship with the transfer of training. In particular were the results that came from two separate sources. The transfer rating was a manager's observation of the trainee's supervisory skills. The self-efficacy scale was a self-evaluation conducted prior to training. What's important is that the managers observed supervisory skills that the trainees were using. Furthermore the two measurements were conducted at two separate intervals which might reduce possible measurement error. Consequently, employees with lower self-efficacy might not apply training skills they learned to the job environment.

Finally, an analysis was conducted to determine whether there was a difference between supervisors and non-supervisors in the retention of training materials. In order to have continuity between the supervisors and non-supervisor, previous knowledge was covaried out. The analysis indicated that there is a difference between

supervisor and non-supervisors when training materials are supported in the work environment. The findings supported previous research by Baldwin and Ford (1988), Tracy, Tannenbaum and Kavanagh (1995) and Facticeau, Dobbins and Russell (1995) that studied the retention of training and the influence of supervisor support, environment and continuous learning culture appear to help increase retention of training.

Limitations

The influence of outliers and the decreasing number of subjects presented several problems in the regression analysis. The removal of the outliers through data screening and analysis, solved the influence of outliers. The decreasing subjects however, presented a bigger problem in that it is harder to control. The number of subjects needed to obtain the desired effects was low due to the lack of control in a field study. During the initial presentation of the research project respondents questioned whether their responses would be kept confidential. Many respondents voiced their concern and did not trust that the responses would be kept confidential, even after reassurance from the author. To address this issue effect sizes were examined along with probability findings. Because the pre-knowledge

evaluation and post-learning evaluation were created based on the handouts, participants may have been tested on material that deferred from the actual contents of training.

The retention evaluation was based on training materials, and as previously noted in two of the modules the instructors deviated from their handouts. This might have confused the subjects when reviewing the supporting documents in the training handout materials. Sims (1993) indicated that certain pitfalls might be attributed to improper interpretation of the results if evaluation errors have been noted.

The current study did provide additional support that self-efficacy appeared to predict the transfer of training when looking at the supervisory transfer rating. Furthermore, supporting and using the training materials in the work environment helps in the retention of training. Although the effects were not large (Cohen, 1992), they were moderate and not unlike those found in Saks (1995), Martocchio (1994), Noe and Schmidt (1986), Guthrie and Schwoerer (1996), Gist, Stevens and Bavetta (1991), and Gregoire, Propp and Poertner (1998).

In the future, it is suggested that a study similar to this one have a common format evaluation between the

twelve weeks and immediately following training. Changing the evaluation format from multiple choice, to short answer and fill in the blank might have created some confusion. In addition, the retention evaluation had a higher level of difficulty that might have attributed to subjects not returning the evaluation.

The subjects in the current study volunteered to participate in this field study. However, after completion of the training the subjects, twelve weeks later, lacked commitment to finish the last retention evaluation. The longitudinal study it appears lost the interest of the subjects after their last training session. What this might suggest is that the employees need support from management to complete and return the evaluation.

The supervisory rating of transfer sent to the subject's supervisors, had a fifty-five percent rate of return. Supervisory ratings in the current study might reflect behaviors that were not measured in the retention evaluation. Supervisors were able to observe and record the training behaviors that were expected after training. This appears to indicate that the supervisory rating completed by the subject's supervisor might be a better

indication of the retention and transfer of training materials.

Implications

Although there were certain limitations with this current study, a higher sense of self-efficacy predicted the transfer of training as indicated by supervisory rating. In addition, training skills that were used in the work environment had a higher level of retention.

The current study suggests several areas for future research and revision of evaluation measures. First, in future studies using a benchmark of where the employee is before training on the supervisory rating of transfer will help measure a difference between the two ratings. Second, research on how the employee's length of current position or length of employment might predict the level of self-efficacy and outcome expectancy. Finally, how does previous knowledge increase an employee's outcome expectancy and how does it help the employee and organization with training goals.

Organizations are faced with an increase in training expense. Training helps to develop employees in individual growth and performance within the organization. Organizations need to know that the training employees receive will be transferred back to the work environment.

Furthermore, organizations need to implement pre-training and evaluation of employees before sending them to training classes. The evaluation will benefit the employee and the organizations by saving time, money and obtaining training and career goals. Otherwise, the organization might be spending money on training that may not be used in the workplace. A self-efficacy measurement before training may alert the trainer that a trainee might be hindered in learning new skills. Pre-training classes might help the employee be successful in the training. Continued research of pre-training with low self-efficacy employees might help in future retention training classes.

Training for employees and organizations will continue to grow. In order to substantiate the time and money spent on training, continued research to improve the retention of training is needed. The current study and training literature suggests that management support in the work environment is needed along with employee evaluations of how they perceive they will do in training. With implementation of employee development and the success of training transfer and retention, organizations will be able to support and evaluate the training in their organization and provide some guidance in areas that have been unclear. Organizations also need to support and

develop self-efficacy, which has been positively associated with training transfer.

Appendix A

Demographic Questionnaire

Please respond to the following questions about yourself.

How many years have you been employed with the school district? _____

How long have you been at your current position?

What is your current job title?

Is this a supervising position? Yes No

What is your age? _____

Gender? Male Female

Race/Ethnicity: _____

Education: High school graduate (Year completed) ?

College (Circle level completed) 1 2 3 4

Master Degree (Year completed) _____Ph.D._____

Have you previously completed any supervisor or manager training? _____

If so when? _____

What was the course name? _____

Appendix B

Self-efficacy Evaluation

Please indicate beside each statement in the space, the number from the following scale that best describes you.

- | | |
|------------------------------|-------------------|
| 1= Strongly Disagree | 5= Slightly Agree |
| 2= Disagree | 6= Agree |
| 3= Slightly disagree | 7= Strongly Agree |
| 4= Neither Agree or Disagree | |

- _____ 1. I have supervisory skills needed to motivate my staff.
- _____ 2. I am confident that I will succeed in supervisory training.
- _____ 3. I will be able to apply all the skills I learned in supervisor training.
- _____ 4. I doubt I will be able to counsel an employee.
- _____ 5. It will be hard for me to understand the training program due to ability/experience.
- _____ 6. Most people will understand supervisor training better than I
- _____ 7. My performance will be good as a supervisor.
- _____ 8. I am successful in conflict management styles.
- _____ 9. I will be able to delegate work effectively.
- _____ 10. I am confident in my writing skills.
- _____ 11. I communicate well with people.
- _____ 12. I engage people in communicating by listening.
- _____ 13. I am confident I will be able to support employees.
- _____ 14. I am unable to communicate well.
- _____ 15. It is difficult for me to provide effective feedback.

- _____ 16. I will understand how a supervisor sets goals, according to the organization.
- _____ 17. I doubt I will be able to effectively write a performance evaluation.
- _____ 18. I will be able to take the necessary steps during a conflict situation.
- _____ 19. I am confident that I will be effective in public relations.
- _____ 20. I am good at motivating others.

Appendix C

Outcome Expectancy Evaluation

Please indicate in the space next to each statement the number from the following scale that best describes you.

- | | |
|-------------------------------|--------------------|
| 1 = Strongly Disagree | 5 = Slightly Agree |
| 2 = Disagree | 6 = Agree |
| 3 = Slightly Disagree | 7 = Strongly Agree |
| 4 = Neither Agree or Disagree | |

- _____ 1. Supervisor training will help me to motivate employees.
- _____ 2. Supervisor training is not worth my effort.
- _____ 3. Supervisor training will help me attain a promotion.
- _____ 4. Learning conflict resolution skills will not help me on my job.
- _____ 5. Supervisor training will not change the outlook of my job.
- _____ 6. My work will not change with supervisor training.
- _____ 7. Supervisor training will lead to external rewards.
- _____ 8. Supervisor training will enable me to perform my job better.
- _____ 9. Supervisor training will help me with my interpersonal skills.
- _____ 10. I am taking supervisor training to become more effective at my job.
- _____ 11. I believe supervisor training will help me with my career goals.
- _____ 12. Training skills for a supervisor will not be used in the work environment.

Appendix D

Degree of Knowledge Evaluation

There are a total of 14 multiple choice questions. Please indicate the correct response by circling only one answer per question.

1. Which behavioral characteristic, best describes a supportive supervisor?
 - a. Evaluating your behavior.
 - b. Imposing predetermined solutions
 - * c. Considering herself or himself equal to us
 - d. Using unnamed sources of information

2. Which of the following is **not** part of an effective meeting?
 - a. Clarifying purpose and outcome of meeting
 - * b. Speaking softly and cautiously
 - c. Clarifying questions
 - d. Protecting individuals ideas

3. Supervisor's who motivate their staff, do so by:
 - a. Allowing the subordinates to come and go as they please.
 - b. Asking for a daily workflow report
 - c. Giving feedback every two weeks, regardless of circumstances
 - * d. Providing recognition, company benefits and convenient work location

4. In responding to an employee who is demanding and disruptive you would
 - a. Challenge the employee to stop giving you a problem
 - * b. Let the employee express anger without immediate response
 - c. Make a firm, serious statement
 - d. Calmly tell the employee to leave and come back later

5. The four basic supervisory skills are
 - a. Delegation, personal relations, trust and control
 - b. Relationship, trust, discipline and control
 - * c. Effective communication, trust, leadership and interpersonal relations
 - d. Communication, trust, dominance and competence

6. A supervisor should
 - a. Remain in control of group
 - b. Encourage individual self-satisfaction
 - c. Establish their influence according to there position
 - * d. Encourage employees through delegation and coaching

7. Poor writing skills are
 - * a. Proofreading by another person once
 - b. Proofreading for spelling and punctuation
 - c. Looking for homonyms
 - d. Looking for wordiness

8. A supervisor orientates a new employee by
 - a. Having the employee get involved in knowing the politics of the office
 - b. Making sure the employee knows who to know and who to avoid
 - * c. Having employee go over performance expectations
 - d. Making sure employee knows all the confidential information

9. Performance evaluations are
 - a. The supervisors perspective of the job the employee has done
 - b. Informing employee of poor performance
 - c. To remind employee of time schedules
 - * d. To improve performance

10. As a supervisor, you notice that an employee is late everyday, you would
 - a. Make a note and include in performance evaluation
 - b. Confront employee, saying that everyone else gets her on time, why can't they
 - * c. Talk with employee about policy and get feedback
 - d. Record each absent and write up warning

11. When resolving a conflict, withdrawal is best used
 - a. When the other person is angry
 - b. When the issue is important
 - c. When the issue is relatively unimportant
 - * d. When avoiding the problem is the best solution

12. In resolving a conflict what method would you **not** want to use
- a. The use of power and dominance
 - b. The use of denial or withdrawal
 - c. The use of compromise or negotiation
 - * d. The use of arbitrary means
13. Public relations are effective when
- a. Quoting from the company policy book
 - b. Trying to explain to a person why they're wrong
 - c. Telling a person to sit down while you finish your conversation on the phone
 - * d. Going to a person who knows what the individual needs
14. What statement best describes good public relation behavior
- a. I don't know the answer, I will need to transfer you to that department
 - b. I can't put the call through the line is busy
 - c. It is after 5:00, I won't be able to check that information today
 - * d. I am unable to locate that information let me have Mr. Jones call you back

Appendix E

Degree of Learning Evaluation

Directions:

There are a total of 16 multiple choice questions. Please circle the best response by circling only one answer to each question.

1. Which of the following describes behavioral characteristics of a supportive working climate?
 - a. Evaluating behavior
 - * b. Spontaneous behavior
 - c. Superior behavior
 - d. Controlling behavior

2. In conducting a meeting, the role of a supervisor is
 - a. To control the meeting
 - b. To speak softly
 - c. To stand back and watch discussion
 - * d. To stand back and actively listen

3. The importance of feedback in our work environment is so
 - a. Employees can compare their performance
 - b. Employees recognize they are wrong
 - c. Employees can have written instructions
 - * d. Employees can respond to mistakes

4. As a supervisor, motivating the staff is important. The most appropriate way is
 - a. Motivating by fear
 - b. Motivating by control
 - * c. Motivating by participation
 - d. Motivating by paid vacation

5. When dealing with a subordinate problem, the supervisor should
 - a. Confront the subordinate with the problem
 - * b. Confront the subordinate by greeting them
 - c. Give the subordinate written instruction
 - d. Give the subordinate ideas to correct the problem

6. Which statement is true in regarding delegation of tasks.
- a. Delegation is accomplished by delegating work evenly
 - b. Delegation is delegating work that can be done by a subordinate
 - * c. Monitoring the assignment should not be required
 - d. Monitoring the assignment is required
7. A supervisor that delegates as much of her/his work as possible to others is
- * a. A supervisor who is effective
 - b. A supervisor who is skillful
 - c. A supervisor who plans
 - d. A supervisor who improves workflow
8. When writing a business memo to the staff, remember to
- a. Proofread memo at least once
 - * b. Proofread memo at least twice
 - c. Use homonyms frequently
 - d. Use synonyms infrequently
9. When writing clearly it is best to
- a. Eliminate advice
 - * b. Eliminate style
 - c. Include style
 - d. Include homonyms
10. Orientation of a new employee is important. As a supervisor you want to give an
- a. Impression of being warm and firm
 - * b. Impression of being warm and friendly
 - c. Impression of strong work ethics
 - d. Impression of being friendly and firm
11. When letting an employee know that you respect his/her ability to develop solutions you are
- * a. Counseling an employee
 - b. Delegating to an employee
 - c. Agreeing with an employee
 - d. Disagreeing with an employee

12. Performance evaluation is for the purpose of
- a. Giving written warning to an employee
 - b. Giving perspective on employee's performance
 - c. Recommendations that are legally documented
 - * d. Recommendation to improve employee's performance
13. In employee related problems, a supervisor needs to take appropriate action. Action is indicated through
- a. Immediate discipline
 - b. Progressive documentation
 - * c. Progressive discipline
 - d. Progressive dismissal
14. In resolving a conflict the supervisor would like a win/win situation. This can best be done through
- a. Denial
 - b. Smoothing over
 - c. Compromise
 - * d. Collaboration
15. When two people in the department are unable to solve a problem, the first thing a supervisor does is
- a. Analyze the pattern
 - b. Analyze the solution
 - c. Analyze the plan
 - * d. Analyze the problem
16. As a supervisor you lead by example. Which of the following is a good public relationship technique
- a. Explaining to customer why they are incorrect
 - b. Explaining to customer the company policy
 - c. Being able to show client to another department
 - * d. Being able to provide client accurate information

Appendix F

Retention Evaluation

Directions

The following six scenarios are to be read and answered individually. Please do not consult with any individual or refer to your training packets. Answer to the best of your ability. These answers are confidential and will not be shared with anyone at the school district. The Selective Answer Sheet (page two), will be used only for scenarios one through five. Scenario six will be answered by filling in the correct answer in the space provided. On the selective answer sheet, phrases and words are listed that are either the right or wrong answer. Each phrase or word is listed in numeric order. Please read each scenario, then answer the questions by writing the correct number of the correct phrase or word in the space provided. Example: J. Jones is writing an evaluation on M. Smith. List three items needed to be included in the evaluation. a. 1 b. 3 c. 4

Selective Answers 1. Job responsibilities 2. Lunch schedule
3. Ratings 4. Improvements.

Background

You are J. Jones and have been a supervisor in the financial business office for six weeks. You were promoted from the Valley division after having a satisfactory performance for the last couple of years and completion of the supervisory training program. Each of your employees are unique and need to be effectively supervised.

Selective Answer Sheet

- | | |
|---------------------------------------|------------------------------------|
| 1) Thank employee for good job | 23) Offer suggestions |
| 2) Give advance notice to changes | 24) Express concern |
| 3) Delegate work | 25) Feedback |
| 4) Encourage team work | 26) Impact of performance problem |
| 5) Department mission | 27) Agree on actions |
| 6) Unit structure | 28) Listen and Acknowledge |
| 7) Major functions | 29) Question employee's idea |
| 8) Review job description | 30) Inform employee who's right |
| 9) Clearly define responsibilities | 31) Work location |
| 10) Discuss time lines | 32) Money |
| 11) Seek ideas for job | 33) Rules are consistent |
| 12) Offers support | 34) Company benefits |
| 13) Communicates | 35) Compatible work force |
| 14) Reinforces importance of employee | 36) Good supervisor |
| 15) Documentation supports treatment | 37) Daycare center on location |
| 16) Working hours | 38) Oral warning |
| 17) Time sheet | 39) Written warning |
| 18) Payday | 40) Employee given time to improve |
| 19) Payroll deductions | 41) Records show evidence |
| 20) Leave of absence | 42) Record steps in discipline |
| 21) Medical sign up | 43) Summary given to employee |
| 22) Reason for discussion | 44) Employee's treated the same |

Scenario 1:

It is Monday morning, and you arrive early so that you may prepare the paperwork for the new employee M. Smith. It is important to prepare for the meeting and make sure that all points are covered during the orientation of the new employee. You are sitting at your desk and you are writing the four main themes of orientation. The themes are organizational structures, performance expectation, and specific background and payroll/benefit information.

List 3 major points under each of the four main themes of orientation you will discuss with M. Smith.

Organizational Structures:

a. _____ b. _____ c. _____

Performance Expectation:

a. _____ b. _____ c. _____

Specific Background:

a. _____ b. _____ c. _____

Payroll/Benefit Information:

a. _____ b. _____ c. _____

Scenario 2:

It is Tuesday morning, you are sitting at your desk thinking about the responsibility you have to employees in guiding them to a successful performance. M. Smith, has declined in performance and it is up to you to discuss and coach M. Smith to improve their performance.

Please list 7 techniques that you as a supervisor would use to conduct a successful counseling session with M. Smith.

- a. _____ b. _____ c. _____ d. _____
e. _____ f. _____ g. _____

Scenario 3:

You are reviewing the file on T. Jones for the last month. You have received several complaints on the work that T. Jones has submitted. You need to take administrative action through progressive discipline and documentation. It is critical to have due process under progressive discipline, documentation evidence needed and non-disparate treatment.

You need to list a minimum of 3 items under

Progressive Discipline:
Documentation

- a. _____ b. _____ c. _____

Evidence Needed:

- a. _____ b. _____ c. _____

Non-Disparate Treatment:

- a. _____ b. _____ c. _____

Scenario 4:

Your manager, B. Hill has come to your office and informed you that the budget deadline for 1997 has been changed from two months to one month. B. Hill would like

a written plan from you this afternoon on how you are going to motivate your staff to meet the deadline.

Name 5 motivational factors that will help your staff become motivated.

a. _____ b. _____ c. _____ d. _____ e. _____

Scenario 5:

B. Hill, the manager of the department, came to you this morning and requested that you conduct a meeting with 20 of the new supervisors in the division on how to be an effective supervisor. You are very proud to be acknowledge and want to do a good job relaying the points of an effective supervisor. You sit down and begin to list out the skills needed to be an effective supervisor.

Please list 8 effective supervisory skills:

a. _____ b. _____ c. _____ d. _____ e. _____
f. _____ g. _____ h. _____

Scenario 6:

The employees in the department have addressed a concern to you, regarding a supervisor in your department. The employees have stated the supervisor is sometimes rude and gives inaccurate information. As a manager you appreciate the concern of the employees, and decide to use this example in your next supervisory meeting on Public Relation Techniques.

Please list three effective Public Relations Techniques

1. _____
2. _____
3. _____

Please list three benefits of improved Public Relations

1. _____
2. _____
3. _____

Appendix G

Supervisory Rating of Transfer

This evaluation was designed to evaluate the effectiveness of supervisor training. It is for research purposes only and responses will not be shared by anyone at the school district. This research project was approved by the school district on February 24, 1997.

In the following statements, supervisor refers to _____ . Please indicate a number from the following scale in the space provided that best describes the behavior of the supervisor, who recently completed the Supervisor Training Program.

Your participation is appreciated and responses received by October 21, 1997 will be entered in a combined drawing with the supervisor, for a \$50.00 gift certificate.

Thank you for taking the time to evaluate your employee and help to further research in training. If you have any questions, please contact researcher Victoria Oliver.

1= not at all	3= rarely	5= to a great extent
2= very rarely	4= to some extent	6= not observed

_____ The productivity in supervisor's department has improved since supervisor training.

_____ Supervisor's job performance has improved since supervisor training.

_____ Supervisor gives recognition to subordinates and continuing feedback to motivate staff.

_____ Supervisor conducts more effective meetings, because of a clarification of the purpose of the meeting.

_____ Supervisor is using delegating skills such as: listing assignments, informing and instructing employees and follow-up of the assignments.

1= not at all

3= rarely

5= to a great
extent

2= very rarely

4= to some extent

6= not observed

_____ Supervisor uses praise and encouragement are used to communicate how the employees are doing.

_____ Effective coaching and counseling are provided by supervisor when needed.

_____ Supervisor is communicating and listening to employees with an open mind.

_____ Business memos are concise and illustrate effective writing skills.

_____ Is able to communicate in writing, and avoids clichés and jargon.

_____ Supervisor orients new employee by reviewing performance expectation, organizational structures and policy and pay/benefit information.

_____ During counseling session supervisor discusses: performance problem and impact, offers suggestion, open-ended questions, agrees on actions, follow-up and feedback.

_____ Conflict with employee is resolved by naming the problem, goal setting, searching for a solution, planning and evaluation

_____ Supervisor uses effective public relations techniques such as: courtesy, respect, empathy and active listening.

_____ Supervisor conducts effective meetings by summing and clarifying the items that were discussed

v'

Appendix H

Psychology Department
California State University San Bernardino

Informed Consent

The study in which you are about to participate is designed to learn more about work place training. It will require approximately 20 minutes to complete. You will receive an evaluation and survey in the next few months that will take approximately 20 minutes to complete. This study is being conducted by Victoria Oliver, under the supervision of Dr. Janelle Gilbert, professor of Psychology. The Psychology Department, Human Subjects Review Board of California State University San Bernardino has approved this study.

All information you provide will be held in strict confidence by the researchers. At no time will your name be reported along with your responses. All data will be reported in-group form only. Your responses will not be seen by anyone at the school district. Your participation in this research is totally voluntary, and you are free to withdraw at any time during this study. If you have any questions about this study please contact, Victoria Oliver, through Dr. Janelle Gilbert, professor of Psychology at California State University San Bernardino.

In thanking you for your participation you will be entered in a drawing for a \$50.00 gift certificate, at the completion of session eight.

I acknowledge that I have been informed of, and understand, the nature and purpose of this study, and I freely consent to participate. I acknowledge that I am at least 18 years of age.

Place a check mark here if you consent to participate_____

Date_____

Researcher's Signature

Date_____

Appendix I

Debriefing Statement

Thank you for participating in this study. This study was conducted to examine the transfer of training in the workplace and the effects of self-efficacy and outcome expectancy on retention of training materials. Self-efficacy is defined as people's judgments or confidence in to their capabilities in organizing and executing the required action to perform a task. Outcome expectancy is defined as "a person's estimate that a given behavior will lead to certain outcomes" (Bandura, 1977, p.79). Your participation will help to further enrich the training environment and organization. The data will be reported in-group form only. Your responses will not be seen by anyone at the school district. The responses are being used for research purposes only.

To thank you for your participation, all respondents who return this test within two weeks, will be entered into a drawing for a \$50.00 gift certificate.

The results of this study will be available in approximately six months, through the school district.

Thank you again for your participation and help with this study.

Appendix J

Figure 1

Pre-training Self-Efficacy Scale

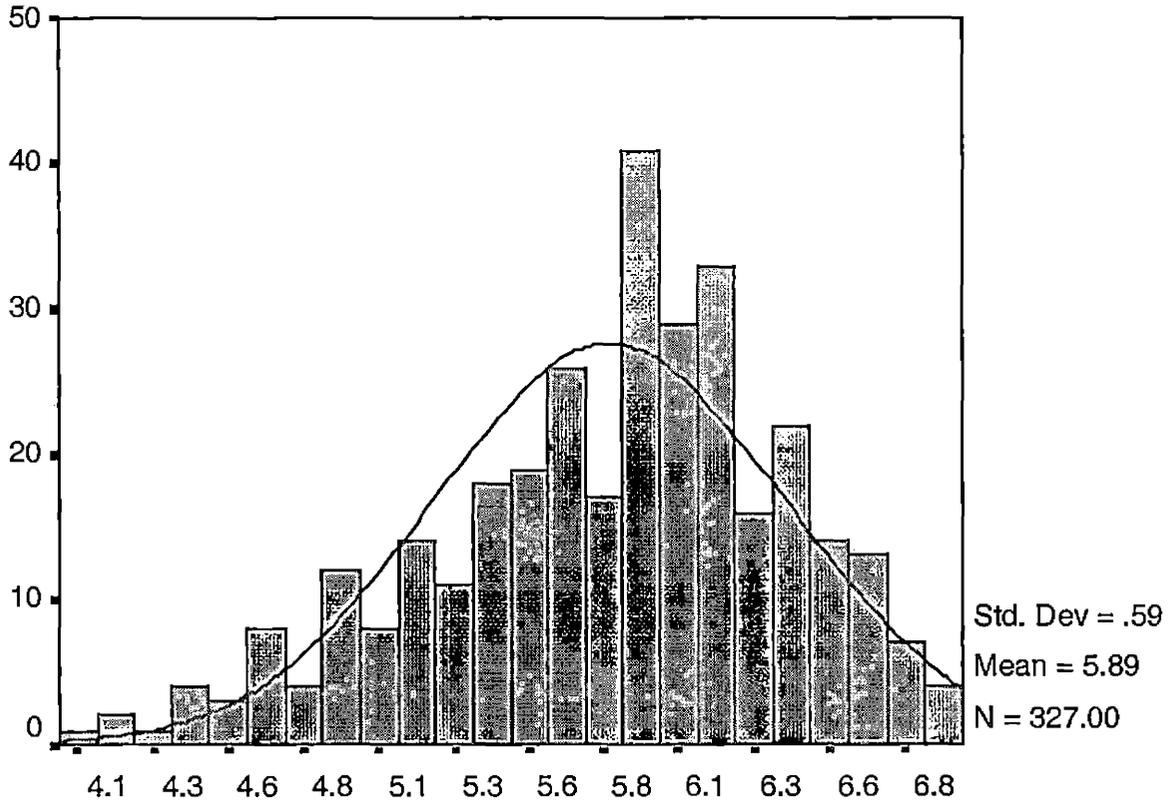


Figure 2

Pre-training Outcome Expectancy Scale

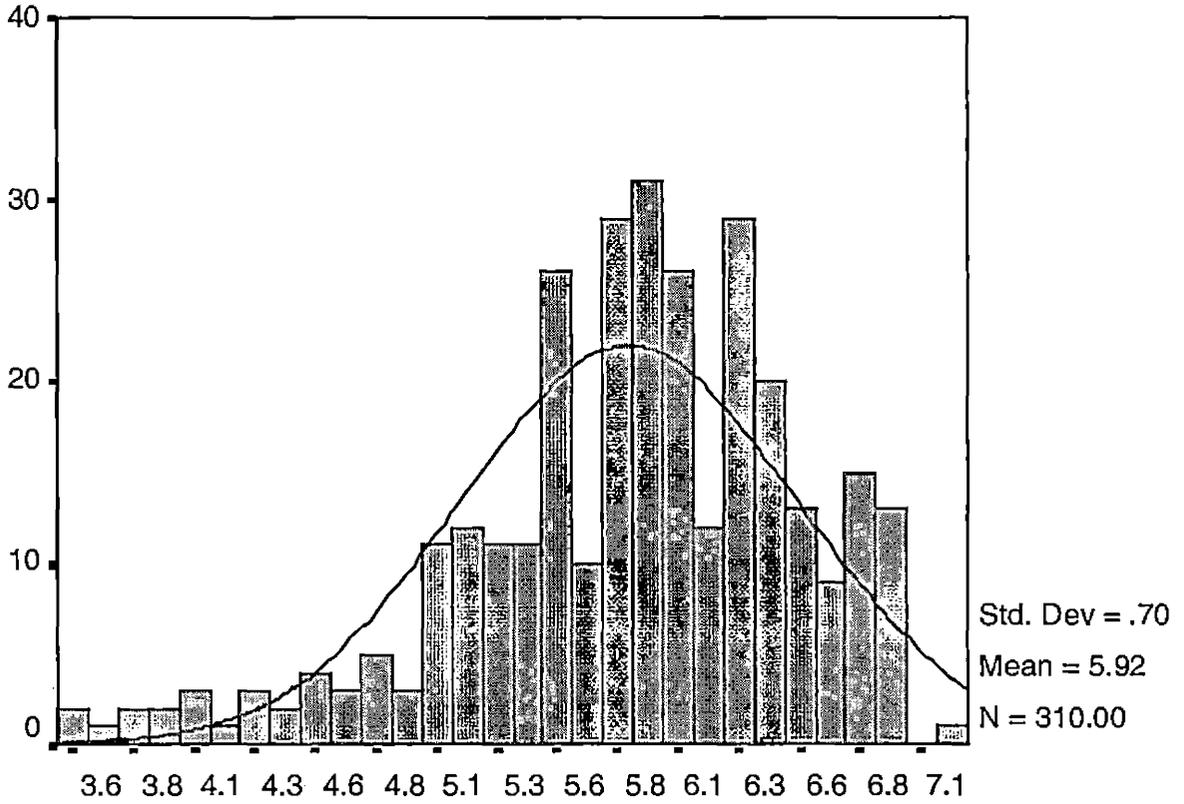


Figure 3

Post-training Self Efficacy Scale

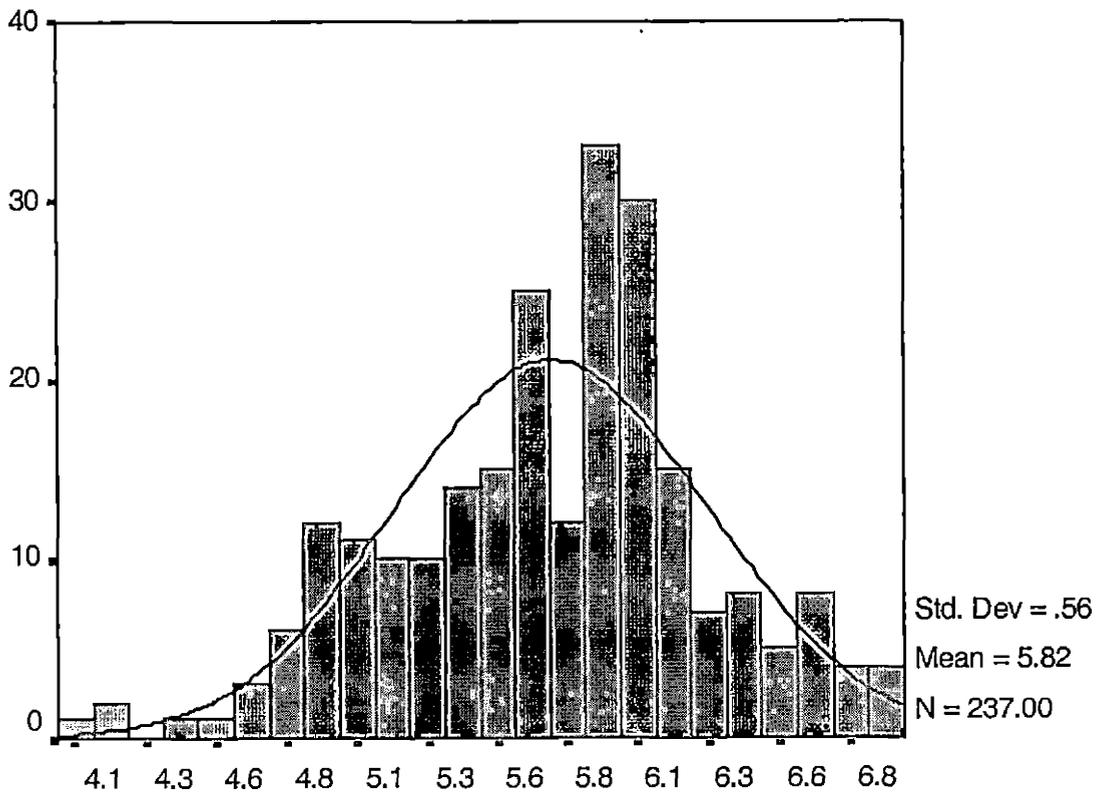


Figure 4

Post Training Outcome Expectancy

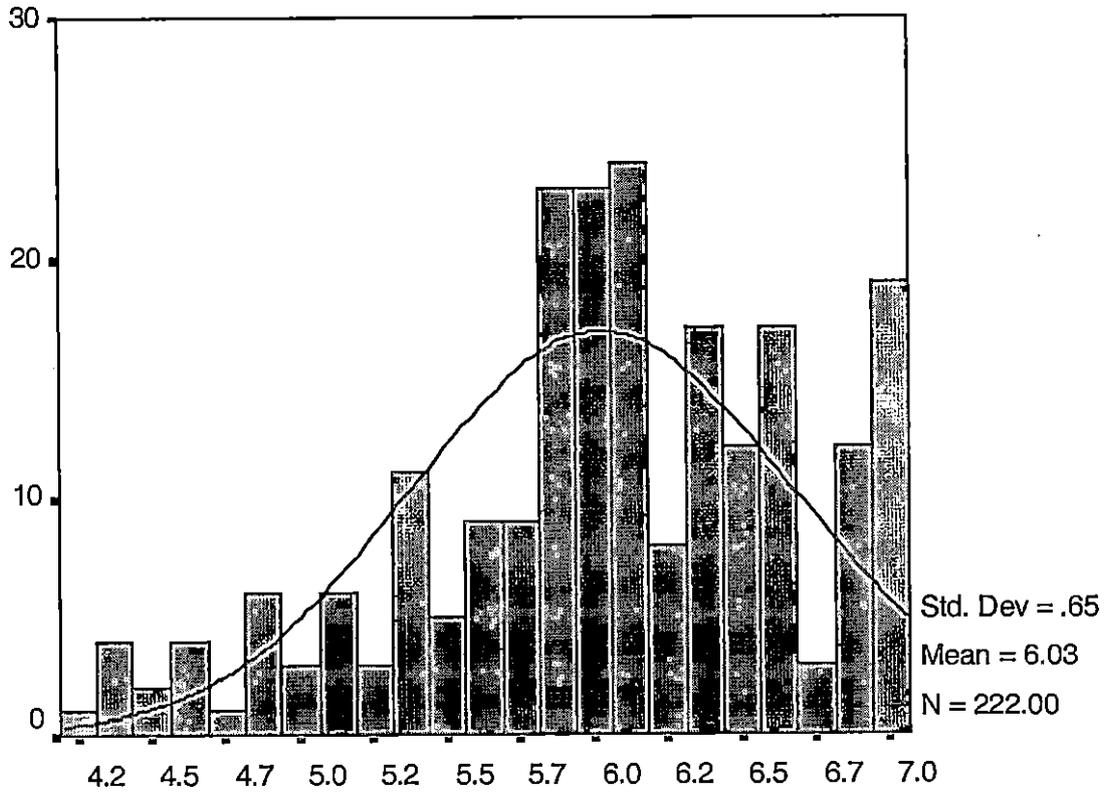


Figure 5

Degree of Knowledge

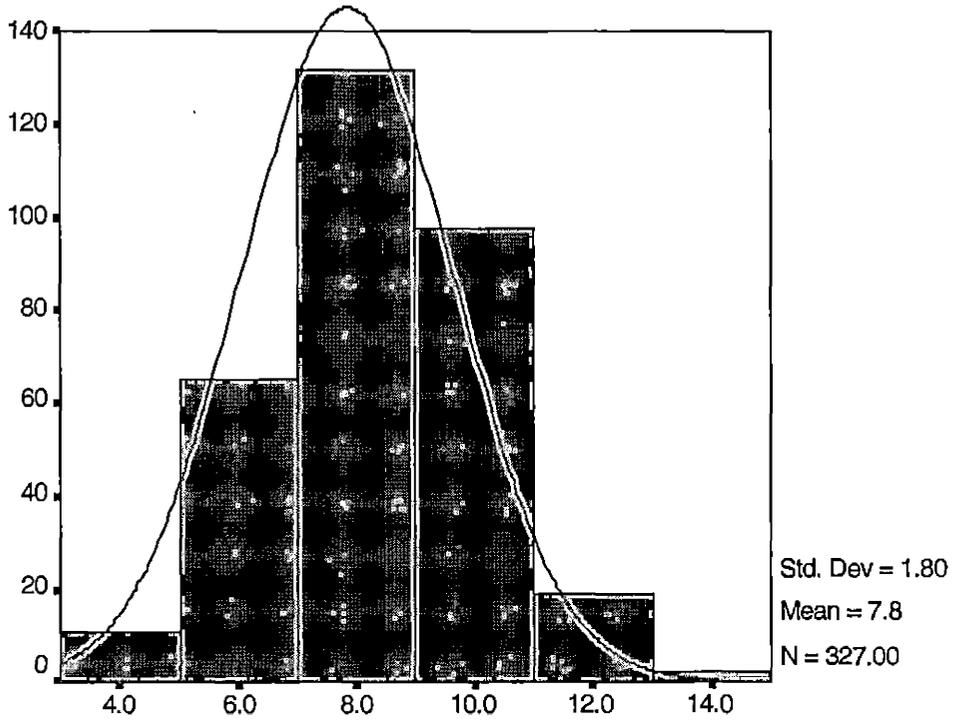


Figure 6

Degree of Learning

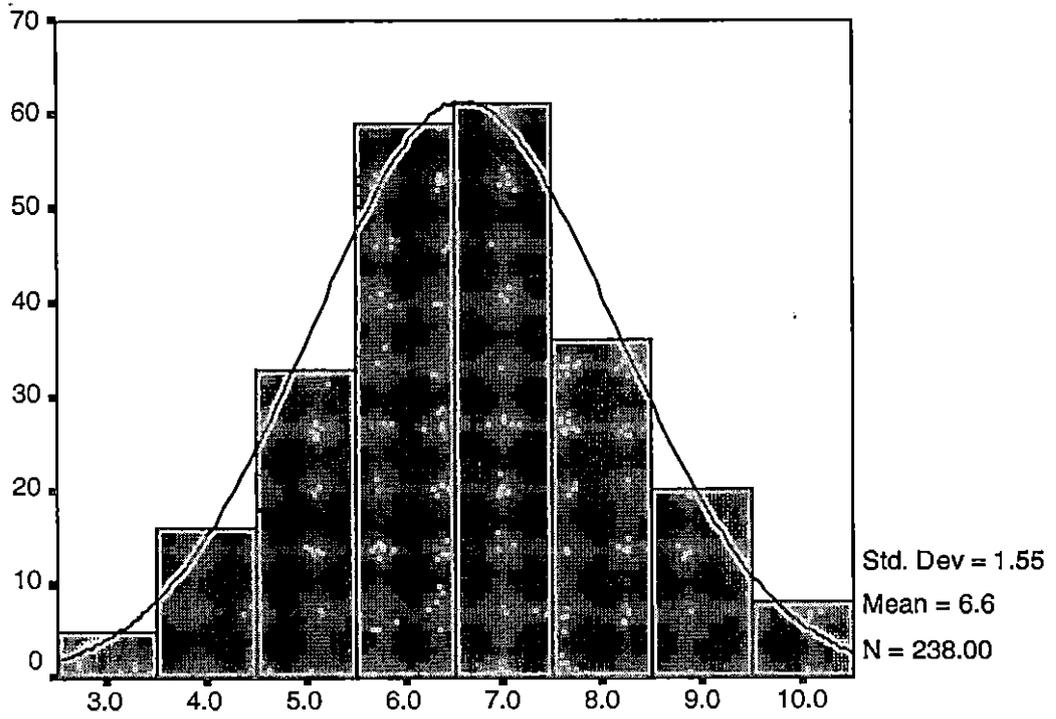


Figure 7

Supervisory Rating of Transfer

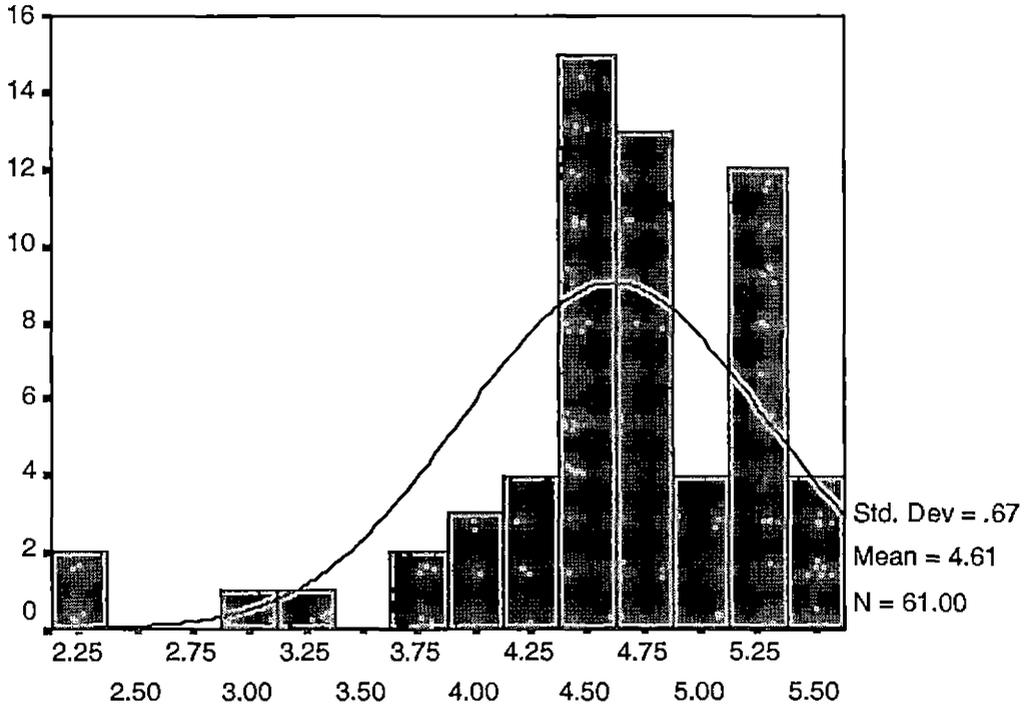


Figure 8

Retention Evaluation

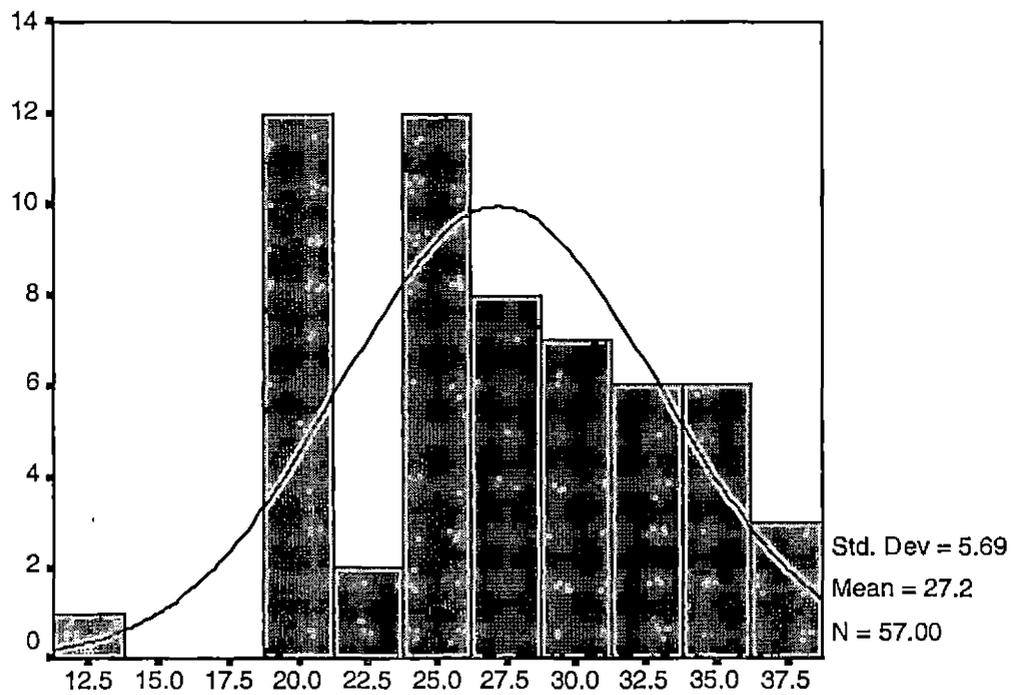


Figure 9

Age

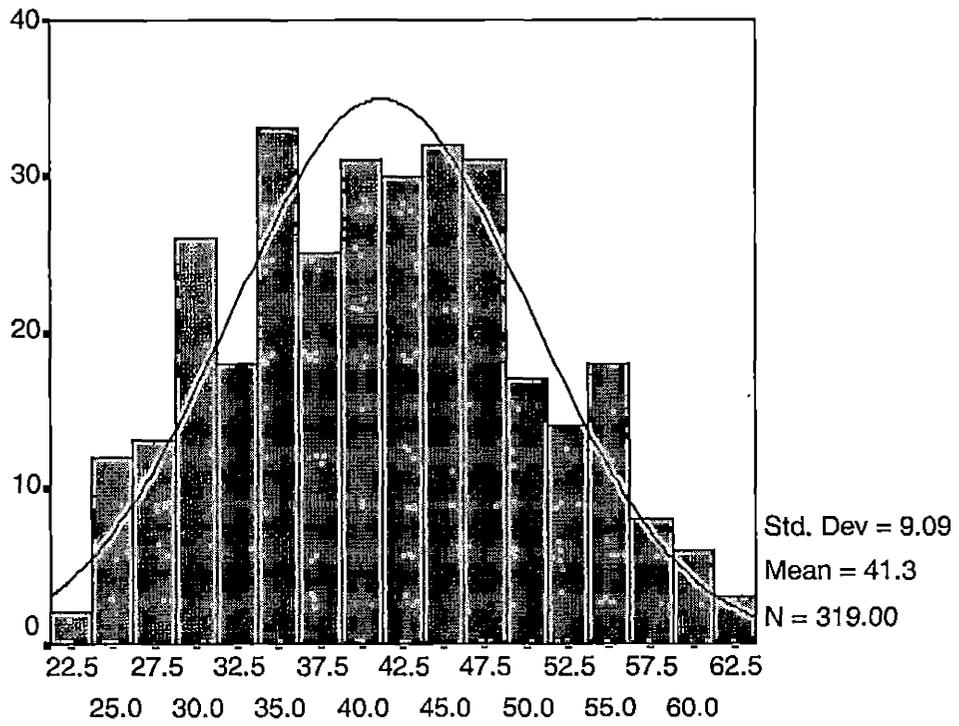


Figure 10

Scatterplot: Supervisory Rating of Transfer and Pre-Training Self-efficacy

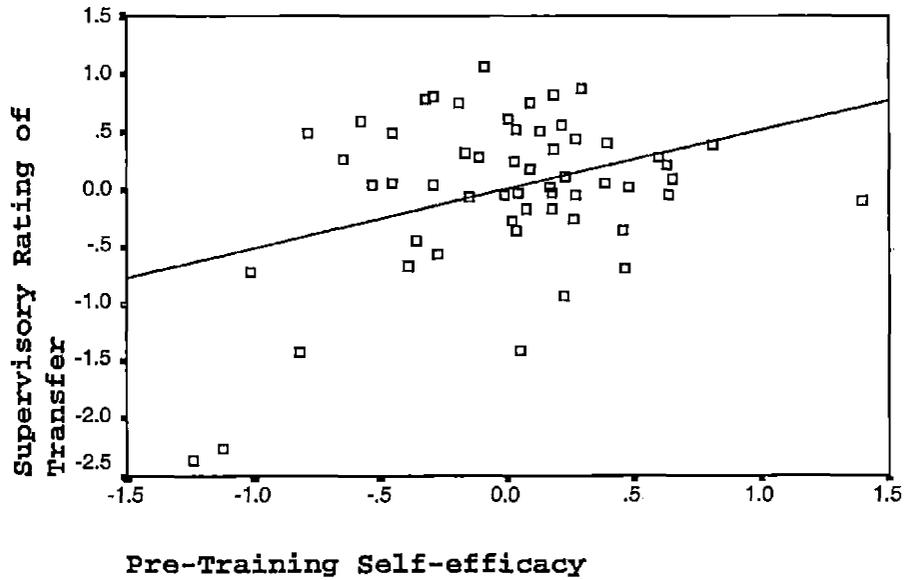


Figure 11

Scatterplot: Supervisory Rating of Transfer and Pre-training Outcome Expectancy

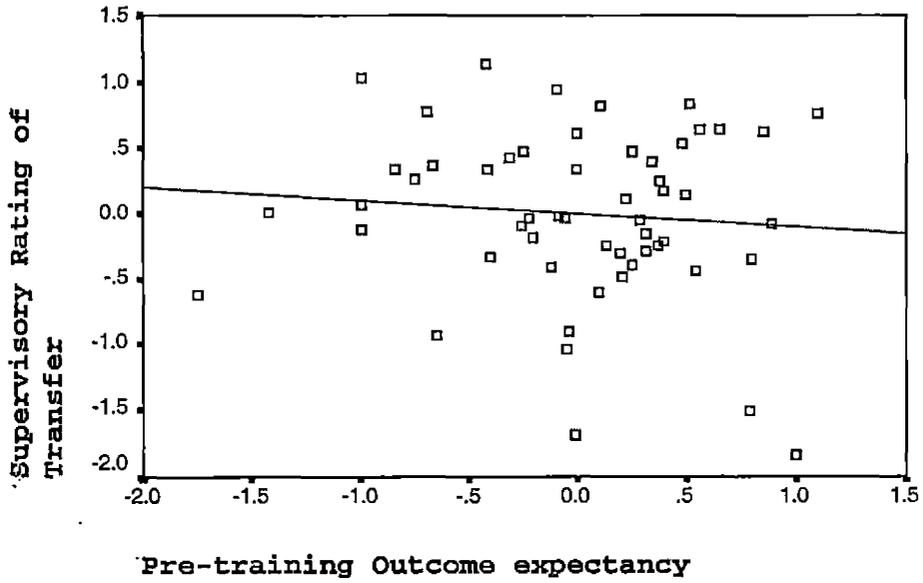


Figure 12

Boxplot of Self-Efficacy Scales

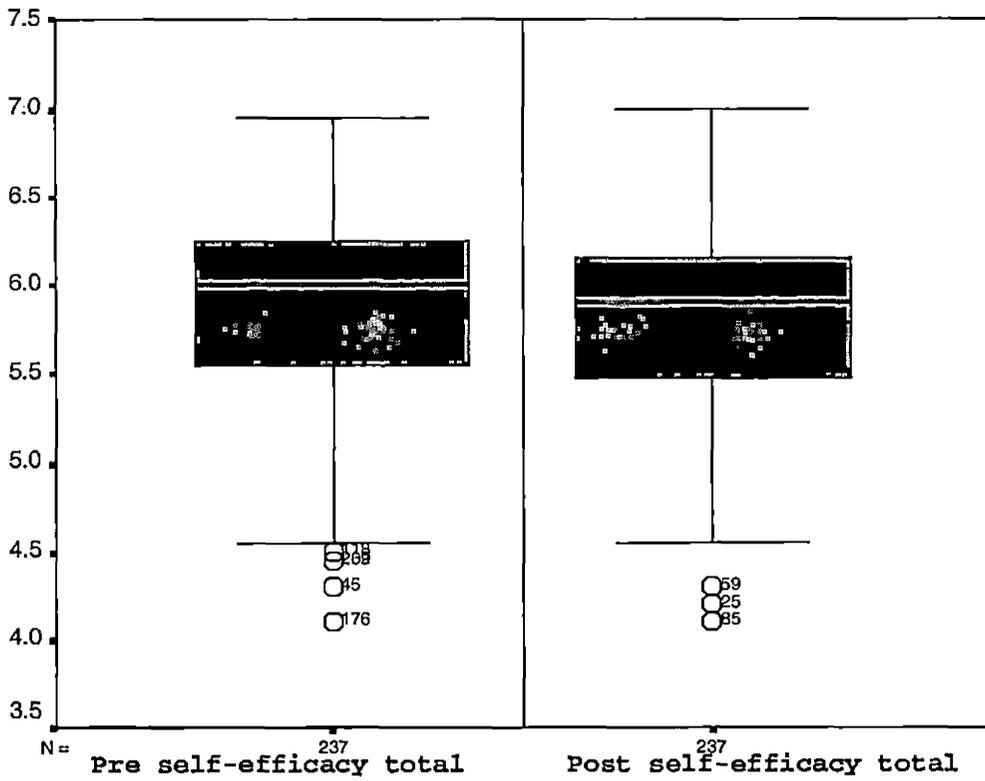
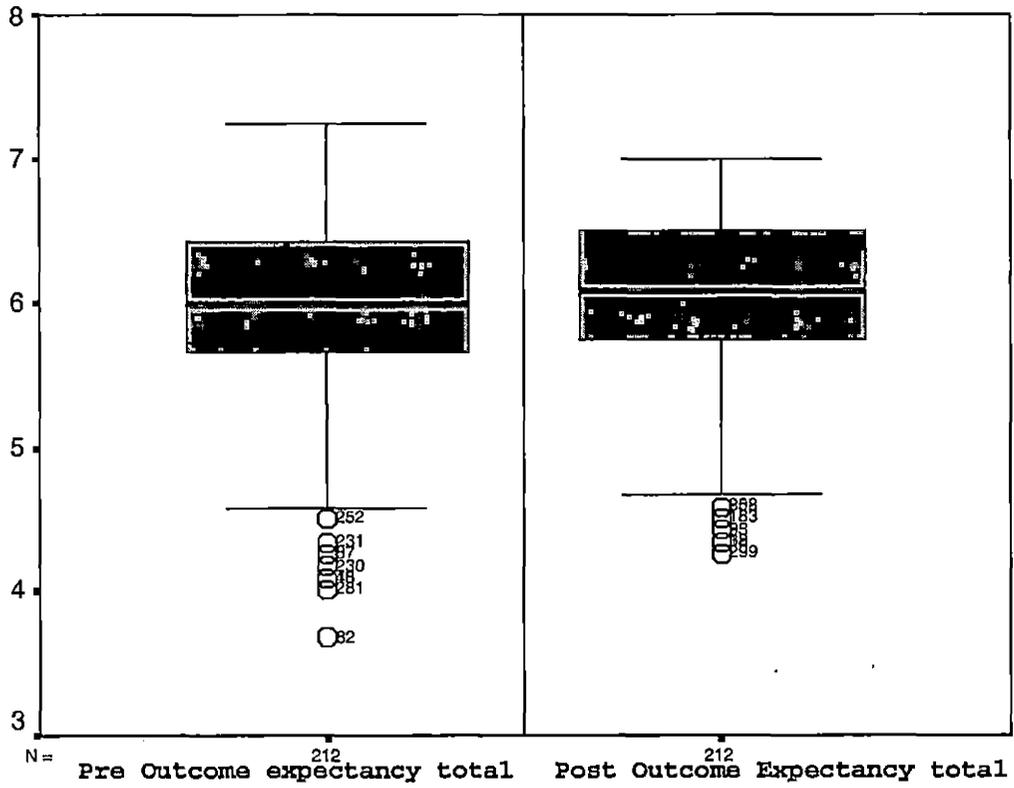


Figure 13

Boxplot of Outcome Expectancy Scales



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