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Effectiveness of Stress Management Intervention

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EFFECTIVENESS OF STRESS MANAGEMENT INTERVENTION

The relationship between stress management interventions and improved stress levels in employees was examined. Two groups were involved in this study. One group received stress management training and the other did not receive training. All participants completed the Occupational Stress Inventory. Results revealed Sandra K. Filer, B.A. and the level of stress reported by the two groups of employees.

An Abstract Presented to the Faculty of the Graduate
School of Lindenwood College in Partial Fulfillment
of the Requirements for the Degree of

Masters of Arts

1996



ABSTRACT

The relationship between stress management interventions and improved stress levels on employees was examined. Fifty subjects were involved in this study, 25 who received stress management training and 25 who did not receive training. All participants volunteered to complete the Occupational Stress Inventory. Results revealed no significant difference in the level of stress reported by the two groups of employees.

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EFFECTIVENESS OF STRESS MANAGEMENT INTERVENTION

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A Culminating Project Presented to the Faculty of
the Graduate School of Lindenwood College in
Partial Fulfillment of the Requirements for the
Degree of Masters of Arts

1996

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Chapter I

Introduction

Over the last decade health care reform and the reduced demand for inpatient services has forced hospitals to restructure their organizations (Harner, 1987; Moore, 1996). The impact of these changes has been devastating to hospital employees. Poor morale and violence in the work place have become two administrative concerns in hospitals today (Moore, 1996a; Moore 1996b).

One reason for poor morale and violence in the work place is the high level of stress among hospital employees (Moore, 1996a; Moore, 1996b). Homicide is now the second leading cause of death on the job and hospitals and psychiatric programs are especially vulnerable (Moore, 1996b).

Poor morale comes from the employee's concerns over uncertainty about health care reform, changes in job duties, layoffs, reduction in staff, and salary (Moore, 1996a). These concerns create high anxieties and overall stress

for health care workers.

Employees no longer can relocate to a different hospital when they dislike their current conditions. Too few jobs are forcing employees to stay put. Employees don't like having to accept the changes associated with downsizing. These changes have taken a toll on many hospital employees (Hewett-Silk, 1995; Moore, 1996a).

Hospital administrators who are aware of employees stress levels are asking the Employee Assistance Program (EAP) for help (Jones, Barge, Steffy, Fay, Kunz, & Wuebker, 1988). The EAP has taken an active part in providing Stress Management Interventions (SMI's) to hospital employees. A recent study on external EAP services showed that out of 50 programs surveyed, three quarters of the programs offered stress management training. Eighty-four percent reported offering consultation on handling downsizing, team building, or conflict resolution (Favorini & Spitzer, 1993).

The need for SMI's has taken on record proportions as the number of mergers has continued

to climb. In 1986 alone, hundreds of thousands of employees were affected by company mergers and acquisitions. The stress and fear this level of activity generates have created a need for specialized stress interventions which deal with stresses unique to this phenomenon (Matteson & Ivancevich's study as cited in Ivancevich, Matteson, Freedman, & Phillips, 1990).

Stress is defined by Anderson (in Matheny, Aycock, Pugh, Curletti & Cannella, 1986) as simply troublesome situations, events, or thoughts. Selye (in Matheny, et al, 1986) defines stress as the body's response to troublesome situations, events or thoughts. The definition of stress that will be used for the purpose of this research will be the one used by researchers Ivancevich, Matteson, Freedman, & Phillips (1990). "Stress involves a combination of one or more of the following: an environmental stimulus or stressor, often described as a force applied to the individual; an individual's psychological or physical response to such forces; or the interaction between the two". (p. 252)

Statement of Purpose

The purpose of this research was to measure the effectiveness of Stress Management Interventions. The null hypothesis was: there is no relationship between stress management interventions and improved stress levels on hospital employees.

The benefits of stress management interventions include reduced absenteeism, lower costs, and lower turnover. In addition, stress management interventions can reduce the risk of cardiovascular disease and improve overall health. (Walton, 1985)

Chapter II

Literature Review

Benefits of SMI's

Stress management is welcomed in organizations today because it makes good economical sense to provide such services. Most organizations pay approximately 80% of all health care benefits for their employees. Offering prevention programs that promote mental health and well being is to everyone's advantage (Ivancevich, Matteson, Freedman & Phillips, 1990).

The benefits of stress management interventions include reduced health care costs, legal costs, and lower costs for goods and services. In addition, there are benefits of safety and welfare to the employee along with more general societal benefits (Everly, Feldman, Hollander, Lengermann, & Walsh's study as cited in Ivancevich et al., 1990). To know there is stress at the work site and to develop interventions to manage that stress has become an organizational focus (Kagan, Klein & Watson, 1995). Laws

including provisions for worker's compensation have increased. Worker's compensation makes it easier for employees to receive benefits for injuries incurred from work site stress (Ivancevich, Matteson, & Richards' 1988 study as cited in Ivancevich et al., 1990).

One of the strongest pieces of evidence cited in the research literature was the benefit of decreased malpractice claims. The outcome of the research will be discussed later, but out of the four studies conducted the results were positive. Researchers found stress management programs did reduce malpractice risk (Jones, Barge, Steffy, Fay, Kunz & Wuebker, 1988).

Health care organizations are pursuing strategies to reduce malpractice risk. One strategy is the psychological approach to help health care employees perform more effectively. The rationale is to improve mental well being, thus, hoping to also improve job functioning. The expectation of the researchers Cohen and Frey (cited in Cohen, 1980) who did a study on SMI and malpractice, was that stress adversely affects

cognitive functioning, thus impairing health care judgments that lead to malpractice. The positive results of the study gave health care workers a strategy for reducing malpractice risk (Jones et al., 1988).

The problems of poor morale and violence in the work place are also reasons to institute SMI's in health care settings. The stress employees are dealing with can lead to burnout (Hunter, Jenkins, & Hampton, 1982; Jones, Borge, Steffy, Fay, Kunz, & Willber, 1988). The benefits of SMI's in dealing with today's issues (i.e., downsizing) has not been thoroughly researched, but the evidence from other stress related issues indicates there may be benefits to SMI's.

The drawbacks of using SMI's were reported by several authors. The drawbacks included questionable measuring tools by the researchers, and not enough impact on the employees who had SMI training. The main complaint was that theoretical assumptions were not made about the nature of the stress. The assumption should play a major role in the choice of the stress management

intervention yet seldom is this the case (Ivancevich, Matteson, Freedman & Phillips, 1990; Bruning & Frew, 1987; Nickolson, Duncan, Hawkins, Belcastro & Gold, 1988).

The other point made on SMI's and their questionable benefits was that not enough combination strategies are used by trainers (Bruning & Frew, 1987; Ivancevich et al., 1990; Kagan, Klein & Watson, 1995). The different approaches to stress management are varied. The interventions need to fit the population and, as was mentioned, more than one intervention may be appropriate (Bruning & Frew, 1987).

Types of SMI's

Intervention approaches are different depending on the population of people and the work site setting. SMI's that have been used in studies include relaxation training, biofeedback, meditation, exercises, work redesign, and cognitive modification (Jones, Barge, Steffy, Fay, Kunz & Wuebler, 1988).

An additional approach, psychoeducational

programs, were used in a field study to reduce job stress. The outcome of that 3 year study supported the value of psychoeducational programs for mental health in the work place. The psychoeducational programs included assertiveness training, crisis intervention, suicide prevention, and interpersonal process recall. The work setting for these interventions was an emergency medical service of a large fire department (Kagan, Klein, & Watson, 1995).

The cognitive behavioral approach is a more recent popular approach with SMI's. The premise for this approach is that by aiding individuals in developing coping skills they are able to deal with job related stress. Job burnout is also a factor for health care providers and is addressed in the cognitive behavioral approach (Forman, 1983; Hunter, Jenkins & Hampton, 1982).

The cognitive restructuring approach involves training an individual to alter irrational beliefs about his/her stressors. Individuals will practice positive useful responses to possible stressors (Meichenbaum's study as cited in

Ivancevich, Matteson, Freedman, & Phillips, 1990).

The types of SMI's and the benefits of SMI's are important factors. The results of research on these programs assist researchers and management to recognize the effectiveness of Stress management. It takes commitment of top management in organizations to allow researchers involvement in their companies. Sabotage of control groups by some management has led to conflicts with sound research. (Ivancevich, et al., 1990).

Results of SMI's on the Job

Outcome studies evaluating SMI's were done by ten researchers dating from 1980 through 1988. The results of those studies were summarized by Ivancevich and entitled Worksite Stress Management Interventions. The results of six of the ten researcher's findings appear in Table one (Ivancevich et al., 1990).

The studies showed moderate to significant improvement in employees who were involved in SMI's. Each researcher's intervention target was to improve coping strategies, situational

stressors or cognitive appraisal. The outcome

Table 1

A Representative Sample

Researcher	Intervention Type	Results
Carrington et al (1980)	Meditation, Muscle Relaxation	Mediation was superior to Relaxation
Wall & Clegg (1981)	Work Redesign, Autonomy increase	Significant changes in job satisfaction
Murphy (1984)	Muscle Relaxation	Controls showed changes on most measures.
Bruning & Frew (1987)	Cognitive modification, meditation, exercise	Each SMI led to improvement but combination of SMI's led to greater improvement.
Murphy & Hurrell (1987)	Cognitive modification, Relaxation	Moderate changes reported. No controls used.
Jones et al (1988)	Increase participation, work redesign, relaxation exercise instruction.	Significant improvement was shown in SMI's in controls compared with matched controls.

NOTE: From "Worksite Stress Management Interventions" by Ivancevich et al., 1990, American Psychologist, 45, p. 256.

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measures researchers tested were anxiety levels, depression levels, hostility levels, headaches, blood pressure, performance levels, job satisfaction, absenteeism, and heart rate (Ivancevich et al., 1990).

The outcome measures had improved to some degree for each researcher. In some cases, however, the researcher (Carrington et al., 1980) realized one SMI meditation to be superior to another i.e., relaxation. The lack of a control group in Murphy & Hurrell's study made the results ambiguous (Ivancevich et al; 1990).

Research by Jones, Barge, Steffy, Fay, Kunz & Wuelker (1988) (noted in table I) was completed on hospital employees. The longitudinal study investigated a series of four hospitals examining the relationship between stress and malpractice claims. The researchers used objective job performance error rate as an outcome measure. Results showed significant improvement with employees making fewer errors on the job (Ivancevich, et al., 1990; Jones et al., 1988).

Ivancevich, et al (1990) state that a growing list of companies have made a commitment to ongoing stress

management programs. The comprehensive stress management programs some companies offer had evaluation studies that showed reductions in anxiety, hostility, and depression. The results of work site SMI's cited in the article were directed to short-term individual outcome improvement. Future research needs to address the issue of long term improvement in interventions. Also the article points out the needed improvements in research design and implementation (Ivancevich et al., 1990; Nickolson, Duncan, Hawkins, Belcastro & Gold, 1988).

One study with health care providers showed why researchers pursued strategies to reduce malpractice risk. A 57% increase from 1981 to 1985 in medical malpractice claims, per 100 physicians, gave reasons for concern. The study was initiated with hopes that by reducing work place stress employees could also improve health care judgment, decision making and behaviors that lead to malpractice (Jones, Barge, Steffy, Fay, Kunz, & Wuebker, 1988).

The results of this study has been beneficial to researchers who continue exploring SMI's. According to Ivancevich et al. (1990) the research was sound and the

reduction of malpractice claims made this research successful.

Results of Psychoeducation Programs

A study using psychoeducational programs, i.e., assertiveness training, crisis intervention, suicide prevention, and hostage negotiation was done on Emergency Medical Service (EMS) employees. The focus of the study was to examine psychoeducational intervention models for reduction of job stress (Kagan, Klein & Watson, 1995).

The three areas examined were:

1. Cost effectiveness
2. Reduced stress levels over time
3. Specific program effectiveness (Kagan et al, 1995).

Previous stress management programs among EMS personnel to reduce stress had not been evaluated which Kagan, Klein & Watson used both pre and post testing on their subjects. Their study involved 373 subjects were Beck Depression Inventory (BDI), Occupational Stress Inventory (OSI) and State-Trait Anxiety Inventory (STAI). Follow-up testing was done again at 9 months

and 16 months after the completion of training (Kagan et al., 1995).

The results included stress measures of 206 participants. The mean and the standard deviation were given for the pretest, post test and follow-up studies. The scores for depression, anxiety and psychological strain had decreased significantly on post test and follow up scores. Out of the 373 possible participants only 206 completed the study.

The tested null hypothesis was rejected because training did reduce stress over the long term as indicated by reduced mean scores in post test and follow-up results. The significant improvements according to Kagan et al, (1995) make the study a success. The researchers concluded that the SMI's were cost effective in reducing job stress. It was also concluded that combinations of programs were more effective than programs that were presented alone. The most effective in long term results was combining assertiveness training and crisis intervention along with interpersonal process recall (Kagan et al., 1995).

Results of SMI's on Nursing Students

Nursing students who identified anxiety as interfering with their educational process were involved in a study. The nurses agreed to stress management training to see if training reduced their anxiety levels. The training involved 10 sessions over a 5 week period. The stress management strategy chosen was a cognitive approach which addressed faulty thinking that created anxiety (Godbey & Courage, 1994).

The research question was: "will an individualized stress management program increase academic achievement as measured by grades, increase levels of self esteem, and decrease levels of depression, and state-trait anxiety?" (Godbey & Courage, 1994, p. 192). The subjects were students in a baccalaureate nursing program at a major state university. The researchers used a control group and tested both groups pre-intervention and post-intervention. Self esteem, depression levels, anxiety levels and GPA's were the dependent variables used in the study.

Table 2 illustrates depression levels of the nursing students. The high levels of depression on the

experimental group--pre-intervention could have been considered a clinical significant problem. Despite the high depression levels the students continued to function. There was a significant decrease in mean scores for the experimental group i.e., 41.00 to 19.57 by graduation. The lower scores indicated a decrease in depression among the students (Godbey & Courage, 1994).

Table 2

Depression levels by Groups

Group	N	Preintervention		Postintervention		Graduation	
		M	SD	M	SD	M	SD
Experimental	7	41.00	13.76	24.14	14.80	19.57	14.51
Control	12	23.00	15.85	17.75	17.54	19.41	13.51

* Note: From "Stress-Management Program: Intervention in Nursing Student Performance Anxiety" by Godbey & Courage 1994, Archives of Psychiatric Nursing, 8, p. 197, Copyright 1994 by W.B. Saunders Company. Adopted with permission of the author.

The other variables tested also showed improvement ie self esteem, anxiety and GPA. The GPA scores were

less significant for the experimental group than the other scores. The GPA scores for the experimental group were 2.80 upon admission and 3.00 upon graduation. The researchers validated the effectiveness of SMI's as a means to overcome stress (Godbey & Courage, 1994).

Concurrent with the previous study, researchers used Stress Inoculation Bibliotherapy in the treatment of test anxiety. The participants were again undergraduate students having difficulty with exams given in college. The intervention approaches were bibliotherapy and stress-inoculation. Bibliotherapy is the use of literary work in the treatment of emotional problems. Stress-inoculation training involves training in relaxation and cognitive coping strategies (Register, Beckham, May, & Gustafson, 1991).

Outcome measures were based on the Test Anxiety Inventory, the State Test Anxiety Report and the State-Trait Anxiety Inventory. The study had a one month follow-up. The results of the study supported the efficacy of stress inoculation-bibliotherapy in reducing anxiety in test anxious students. The treatment gains were also maintained one month later.

The lack of increase in GPA averages was attributed to the limitations of the approach. Future research could explore the relationship between test-taking strategies and study-skills training (Register et al., 1991).

Before discussing other SMI results with different populations an additional study with nursing personnel is noteworthy. The subjects were not students but actual RN's in hospital settings. The twenty-eight nurses received relaxation techniques which included biofeedback or muscle relaxation. The group of nurses who received biofeedback reported an increase in the amount of work energy and increased effectiveness in coping skills (Murphy, 1983).

The group of nurses who received muscle relaxation also reported an increase in the ability to cope with stress. The measures for the study were a self report Symptom Distress Checklist and the State-Trait Anxiety Inventory (Murphy, 1983).

The nursing profession has enough stressors to alert employers of the need for stress management. Stressful situations include dying patients, conflicts with other nurses, insecurity about competence, work overload, problems with patients, and concerns about

nursing care (Parkes, 1985). The success of SMI's among nurses has given this profession support in dealing with their stressors (Parker, 1985; Murphy, 1983).

Results of SMI's on Teachers

Work related stress among teachers is serious, with such consequences as a negative impact on teachers' health status and performance (Pithers & Fogarty, 1995). Psychological outcomes from stress can lead to poor teaching performance, decrease in self-esteem, job dissatisfaction, increase in absenteeism and poor decision making (Eckles, Quick & Quick's study as cited in Pithers & Forgarty, 1995).

The occupational stressors reported by school teachers in Western societies and Australia included work load, role conflict, lack of recognition, poor physical environment, lack of resources, lack of control or decision making power, poor communication, and the emotional demands of teaching (Pithers & Forgarty, 1995).

Researchers developed a study to look into the issue of occupational stress among teachers. Pithers &

Fogarty, (1995) compared a group of vocational teachers to a group of professional non-teachers. The sample of teachers (N=83) and the comparative sample (N=71) were given the Occupational Stress Inventory (OSI) to complete.

The OSI measures occupational stress, psychological strain and coping resources in working adults. The adults must be employed in technical, professional or managerial fields. The teachers and professional non teachers were full time employees. The experienced teachers had been teaching at least 2 years. The professional business men and women had employment history of at least 6 months (Pithers & Fogarty, 1995).

The results indicated the stress levels among teachers and non teachers were similar. The average mean scores for both groups were listed by variables. The variables were role overload, role insufficiency, responsibility and physical environment. The scores for role insufficiency and physical environment did not differ greatly between the two groups (Pithers & Fogarty, 1995).

The variables that had higher scores for teachers

were role overload and responsibility. As a result both male and female teachers' scores were larger for role overload and responsibility than non-teachers. The larger mean scores indicated higher stress levels (Pithers & Fogarty, 1995).

The study did not use a treatment intervention for the teachers. The researchers suggested, however, the need for implementing stress management programs among teachers. The recommendation was to keep the SMI focused on organizational stress management as opposed to personal stress management (Pithers & Fogarty, 1995).

Although the results were not widespread between the two groups tested, role and overload and responsibility emerged as significant stressors for teachers. Stress management training for teachers along with further research was suggested (Pithers & Fogarty, 1995).

Results of SMI's on Public Agency

The emphasis has changed from personal strategies for handling job stress to organizational strategies for handling job stress. These strategies include:

1. Those aimed at changing organizational characteristic or conditions.
2. Those aimed at changing role characteristics or conditions.
3. Those aimed at changing task/job characteristics or conditions. (Newman & Beehr, 1979, p. 20).

The organizational strategies are what researchers Landveigis and Vivona-Vaughan (1995) used in their study with public agency personnel. The results they hoped for included improved communication, trust and climate. The researchers also wanted to have a positive impact on job satisfaction.

The SMI chosen was job design. Committees were developed to address problems at work. The committee members met with employees five times over the course of seven months. They then met with management to discuss work organization and job design. The problems were prioritized and changes were made when appropriate. There was a pre and post test given to employees. The instrument was a standardized survey that assessed job satisfaction, group process and job characteristics (Landbergis & Vivona-Vaughan, 1995).

Correlation analysis showed no significant difference between the intervention group and control group at pre-test. The post-test indicated limited support that job satisfaction or job characteristics had improved. The problem solving committee had a mixed impact in one department and a negligible or negative impact in another. The results were discussed in terms of methodological limitations. (Landbergis & Vivona-Vaughan, 1995).

The methodological limitations discussed included short duration of the intervention, and small sample size. Psychometric scales also failed to achieve acceptable reliability and lack of compliance from staff was a threat to internal validity (Landlegis & Vivona- Vaughn, 1995).

Other Findings

Nicholson, Duncan, Hawkins, Belcastro & Gold (1988) reviewed stress studies dating from 1967 through 1984. The studies evaluated Stress Management Programs. The summary results of 62 published reports on Stress Management Programs from numerous fields were examined.

The results showed of the 62 programs, 56 (90.3%) were claimed to be effective by the author/evaluator. The degree of effectiveness needs to be examined, however. Some authors claimed only minimal or short term improvement. Most researchers examined more than one intervention and outcome. Many found improvements on some but not all outcome measures. The definition of success among the authors varied (Nicholson et al., 1988).

One author defined his study a success when there were improvements in initial testing of a treatment group and a control group. There were no significant improvements, however, between groups at post test and follow-up. Other researchers claimed success when the improvements in scores were only minimal (Nicholson et al., 1988).

Criticisms by Nicholson et al. (1988) on the research of the literature, evaluating SMI's, suggest caution in the acceptance of the effectiveness of stress management. Complaints about research design, lack of control groups, instruments used, and sufficient information about reliability were mentioned. In 39 (62.9%) of the studies investigators

used instruments developed by the evaluators themselves. Rarely did researchers go on to provide information on the validity of the tests. The criticisms of researchers and the way they gathered their information suggests SMI's are not as successful as authors imply (Nicholson et. al., 1988; Landbergis & Vivona-Vaughan, 1995).

"To date the research literature does not provide enough evidence to warrant widespread, unquestioned application. Stress Management Programs should continue to be considered experimental in nature, requiring further refinement and verification" (Nicholson et al., 1988, p. 639). The authors go on to say, researchers need to define the SMI appropriate for the population and what outcome can be best affected by stress management.

Approaches Based on Population

The SMI Approach used could help determine the success of the intervention. For example, a population of employees who have anger and aggressive behaviors would benefit more from a cognitive-behavioral approach. This approach tends to be more effective

than relaxation training (Lehrer, Carr, Sargunaraj & Woolfolk, 1994) (Bruning & Frew, 1987).

For a population of employees suffering from depression, relaxation therapies would be more beneficial. Relaxation techniques combined with cognitive components have greater effects than relaxation training alone, however (Lehrer et al., 1994) (Bruning & Frew, 1987).

Biofeedback has been effective among people who complain of stress headaches. For self-reported, stress related, symptoms positive results favor biofeedback over taped relaxation (Lehrer et al., 1994) (Murphy, 1983).

To address the symptom of anxiety around stress related issues, several techniques can be used. Techniques most often used are cognitive restructuring, breathing retraining and relaxation therapies. No single technique proved more effective than another and the combination of techniques was more effective (Lehrer et al., 1994; Forman, 1983).

Choice of a technique for stress management is more clinical judgment than a hard science. Treatments that address the cognitive and behavioral aspects have

been most effective, but they are not always the approach most appropriate. Careful consideration by the researcher is important before a method is chosen (Lehrer et al., 1994; Forman, 1983).

Present Study

The research in the literature review gave arguments for and against Stress Management Training. The majority of the research, however, supported SMI's. The implementation of SMI's by researchers should take careful planning and thought.

This study focuses on the effectiveness of stress management interventions. The study was designed to test the null hypothesis that there is no relationship between stress management interventions and improved stress levels on employees. The alternative hypothesis was there is a relationship between Stress Management Interventions and improved stress levels on employees.

Chapter III

Method

Subjects

This study took place in St. Louis, Missouri. The subjects of this study were full time hospital employees of the Unity Health System. The sample size was 50. Twenty-five of the subjects received treatment intervention on stress management. The control group of 25 did not receive treatment.

The subjects for the control group were volunteers. The experimental group, (subjects who received treatment) were taken from a sample of employees who had treatment. They were professionals who worked in the Laboratory Department. The control group were health care professionals from the Psychiatric Department.

There were 5 males and 20 females for the control group with a mean age of 46.2. The 6 males and 19 females in the experimental group had a mean age of 45.2.

Treatment

The subjects who received treatment were involved in four hour stress management classes. The approach was cognitive-behavioral. The classes were broken into two sessions. These sessions were 2 hours in length. The Employee Assistance Program (EAP) for the hospital provided this service. The EAP was asked by the laboratory department to provide this service due to poor morale among their employees.

The EAP instructor was both a Licensed Clinical Social Worker and Masters level counselor. His training made him qualified to provide stress management intervention to the staff. The co-instructor was a practicum student and the researcher for this study.

The focus in both sessions were the changes in health care, the impact of downsizing, and the participants own fear of possible job loss. In addition, the lack of support participants felt from administration was also addressed.

The employees were provided with cognitive and behavioral techniques to help them cope better with

their stressors. The class sizes were 8 to 10 employees and open communication was encouraged. The feedback during the classes was that the information provided was helpful.

Research Instrument

The instrument used in this study was the Occupational Stress Inventory (OSI). The Occupational Stress Inventory has three domains which measure occupational stress, psychological strain and coping resources. The latter two domains were completed by the employees in the survey. Occupational stress among hospital employees was obvious and therefore not necessary for this research.

The variables measured under psychological strain were:

1. Vocational strain, (attitude toward work).
2. Psychological strain, (problems being experienced by the individual).
3. Interpersonal strain, (disruption in interpersonal relationships).
4. Physical strain, (poor health or poor

self-care)

The variables measured under coping resources were;

1. Recreation, (pleasure and relaxation periods).
2. Self-care, (activities that reduce stress).
3. Social support, (feels support from others).
4. Rational/Cognitive Coping, (how one was cognitive skills to face work-related stress). (Osipow & Spokane, 1992).

The Occupational Stress Inventory was developed in 1981. The population of people appropriate for OSI material are technical, professional, and managerial workers employed in schools, service organizations, and large manufacturing settings (Osipow & Spokane, 1992).

The test reliability analysis was completed on a sample of 549 working adults. The alpha coefficients were .94 for psychological strain and .99 for coping resources. The norm T score for the survey was a mean score of 50 and a standard deviation of 10 (Osipow & Spokane, 1992).

The validity data for the OSI was derived from four sources:

1. factor analytic studies,
2. correlational studies of the relationships of the scales to variables of theoretical importance,
3. studies using the scales as outcome measures following stress reduction treatment, and
4. studies of the stress, strain, and coping model employing comparisons of selected criterion groups (Osipow & Spokane, 1992).

Procedure

The researcher was given permission by administration to administer surveys to the hospital employees. The potential participants were given a brief explanation of the purpose of the study which was to examine the effectiveness of stress management interventions.

The participants were informed of an incentive gift certificate to Famous Barr for completing the

survey. The control group were employees from the psychiatric department. The experimental group were 25 of the employees who had attended the stress management class in November 1995.

The survey took approximately 20 minutes to complete. Due to busy work schedules participants were given the surveys and asked to return them completed one week later. The population of people used in this survey were health care professionals from the Psychiatric Department.

The selection process involved participants volunteering by raising their hands when asked who was willing to be involved in the study. The study was explained in detail to the volunteers. The subjects were introduced to the research instrument and instructed to complete sections two and three. The supervisors for these two departments had involved the researcher at the end of their departmental meeting. The researcher was informed of dates and times of these meetings by phone.

Analysis of Data

The psychological strain and coping resource values were analyzed by means of the T-test. The T-test was conducted in order to measure the mean difference of the group who had stress management training and the group who did not receive training.

The independent T-test was the statistical measure for the two groups. The independent T-test measured two separate groups. Group I was an independent variable (testing the employees) and Group II was a dependent variable (the outcome of the surveys).

Chapter IV

Results

The response rate for the study was 90%. Out of the 50 employees who volunteered to take the survey 45 returned the test. Time constraints and losing the survey were reasons employees gave for not returning test.

In the control group 17 female and 5 males completed the survey. In the experimental group there were responses from 18 females and 5 males. All 45 participants were white.

According to Osipow & Spokane (1992) psychological strain high scores suggest significant levels of psychological strain and stress. Scores above a T-score of 70 would indicate a strong probability of maladaptive stress. Scores in the range of 60-69 suggest mild levels of maladaptive stress. Any score in the range of 40-59 are within a standard deviation of the mean and should be interpreted as being within normal ranges (Osipow & Spokane, 1992).

The mean T-score for a normalized score was 50.

The range of T-scores for the control group was 44 to 50. The range of T-scores for the experimental group was 40-48. Both groups had T-scores that were within the normal ranges. Table 3 provides the mean T-scores for psychological strain. The higher scores indicate higher levels of stress.

The variables measured under psychological strain were Vocational Strain (VS), Psychological Strain (PSY), Interpersonal Strain (IS), and Physical Strain (PHS).

Table 3

Psychological Strain

Mean T-Scores		
VARIABLES	GROUP I-TRAINING	GROUP II-NO TRAINING
	N=23	N=22
VS	44.5	48
PSY	43.5	47
IS	42	47.5
PHY	47.5	47.5

Group I with training had lower mean scores except

for the variable physical strain. These scores were the same.

To determine if the distribution was symmetrical the mean, mode, and the median, were examined. Table 4 has Central Tendency data.

Table 4

Central Tendency For Psychological Strain Scores

	POPULATION TOTAL (N=45)	GROUP I TRAINING (N=23)	GROUP II NO-TRAINING (N=22)
MEAN	45.9	44.4	47.5
MODE	47, 48	40, 47	47, 48
MEDIAN	45	44	47

All scores were within one standard deviation (10) from the normal mean t-score of 50. Therefore, the distribution of psychological strain scores appeared symmetrical.

The T-test revealed a mean difference of -3.1. This signified the difference between the two mean

scores from Group I and Group II.

The Levene's test for equality of variance revealed a F ratio of 1.069. This was a ratio of the larger sample variance to the smaller. The critical value of the F distribution was 3.79. The critical Value (3.79) was larger than the calculated value 1.069 and therefore the homogeneity of the variance was accepted. Homogeneity of variance indicated that both group variances were equal.

The other domain that was analyzed in this study was coping resources. For scores on this scale the low scores are indicative of stress and lack of adequate coping skills. A T-score of 30 or below indicates significant lack of coping resources. Scores in the range of 31-39 suggest mild deficits in coping skills. Scores between 40 and 59 indicate average resources, while higher scores indicate stronger coping skills (Osipow & Spokane, 1992).

The variables that were measured under coping resources were Recreation (RE), Self-Care (SC), Social Supports (SS) and Rational/Cognitive (RC). Remember the lower scores are indicative of stress in this category. Table 5 illustrates meant T-score data.

The range of T-scores for Group I were 45 to 72. The range of T-scores for Group II were 40 to 58. Table 5 illustrates the average scores for the two groups. The average scores fell within the range of 40 to 59 that indicates average coping skills.

Table 6 offers data on Central Tendency. The mean, mode, and median were examined to determine symmetry of the distribution of scores. The distribution was slightly negatively skewed due to the extreme score of 72.

Table 5

Coping Resources

Mean T-Scores		
Variables	Group I - Training N=23	Group II - No Training N=22
RE	58.5	43
SC	59.5	54.5
SS	50	50
RC	53	48.5

Table 6

Central Tendency For Coping Resource Scores

	Population Total (N=45)	Group I Training (N=23)	Group II No-Training (N=22)
Mean	52.1	55.2	49
Mode	45.49	45	49.51
Median	56	58	49

The T-test revealed a mean difference between Group I and Group II of 6.2. The Levene's test for equality of variances revealed an F ratio of 1.13. This was a ratio of the larger sample variance to the smaller. The critical value of the F distribution was 3.79. The critical value (3.79) was larger than calculated value of 1.069. Therefore, the homogeneity of the variance was accepted. Homogeneity of variance indicated that both group variances were equal.

The T-value for both domains, i.e., psychological strain and coping resources was -1.04 with 43 degrees of freedom (df). Degrees of freedom referred to the degree to which deviations were free to vary. The two tailed significance for the T value was 2.021. The two

tailed significance level (rejection level was a means to determine whether a hypothesis should be accepted or rejected).

In this case the significance level was greater than alpha (.05) i.e. rejection level) therefore the null hypotheses was accepted. Table 7 provides data on results for accepting hypothesis.

Table 7

T-Test for Equaity of Means

Variiances	T-Value	df	2-tail sig	SE of Diff
Equal	-1.04	43	2.021	1.50
Unequal	-1.04	42.86	2.021	1.50

Chapter V

Discussion

The null hypothesis being tested stated there was no relationship between stress management intervention and improved stress levels on employees. The null hypothesis was accepted which suggested there was no difference in the level of reported stress among employees who had stress management training compared to employees who had no training.

Even though the mean T-Scores for the group with training indicated less stress, there still was not significant difference to reject the null hypothesis. The mean scores for both groups fell within normal T-score ranges indicating subjects were not experiencing maladaptive stress levels. Their coping resources were also in the average range.

Stress management training has become increasingly popular in work settings over the last decade (Murphy & Sorenson, 1988; Murphy, 1984). This study along with the many described in the literature review have researchers looking for solutions to job stress. SMI's

have proven beneficial according to some researchers and still others are not ready to support the use of SMI's (Bruning & Frew, 1987).

The outcome of this study did not support the findings of the majority of studies examined in the literature review. Although there were researchers who found SMI's lacking in effectiveness (Nicholson, Duncan, Hawkins, Belcastro & Gold 1988), most of the researchers found SMI's to be beneficial. This was true especially if interventions were used in a combination of strategies i.e., cognitive, relaxation and exercise (Bruning & Frew, 1987; Lehrer, Carr, Sarguarey & Woolfolk, 1994).

One should note that the degree of effectiveness in this study is not much different from some studies which claimed success (Nicholson et al., 1988). The improvements were minimal though not statistically significant. Following the research of various studies (Kagan, Klein & Watson, 1995) the results might be considered successful. As one article pointed out the definition of success varies and some research reported slight improvements (Nicholson, et al., 1988).

Limitations

This study was limited in that the SMI approach was a minimal attempt at teaching techniques to deal with stress. A four hour session was not adequate. After review of the research the inadequacies of this SMI were obvious. A combination of strategies along with more time devoted to teaching techniques would have been more appropriate. A pre-test to evaluate stress levels before training would also have been helpful.

This study was also limited by the small sample size and selection process. Some subjects left their name off the survey, despite an incentive gift had they provided a name. This indicated some fear on the part of the subjects. The researcher speculates the subjects feared their employers would be provided with results of the survey. If the researcher's speculations were accurate the study could be limited by employee's fear of providing accurate information.

Recommendations for Future Studies

Further studies in this area should focus on a Stress Management Intervention approach that combines

strategies to fit the work-site setting. The intervention should provide enough training to impact the employees long-term instead of providing a short term fix. The studies need to be longitudinal to provide researchers with long term results.

A pre- and post-test on employees would also give a clearer picture on stress levels. A control group would be a necessary factor in these studies. One last recommendation would be to involve management in the training process along with employees.

Conclusion

In conclusion the effectiveness of Stress Management Interventions is still debatable. To provide stress management without a well thought out plan seems an injustice to employees.

Organizations who really want to help employees with job stress should take the intervention seriously. Half-hearted attempts at providing stress management would not be cost effective or an appropriate use of employees time.

On the other hand stress management using all the right elements has been effective. Decrease in pulse

rates, stress levels, and medical errors has been proven by research. Perhaps the best way to sum up the effectiveness of SMI's is for the researcher to know that they are as effective as the plan before the intervention.

Section Two (1992)

Take your ratings in Section Two of the Rating Sheet.

1. I don't seem to be able to get things done at work.
2. I dread going to work, lately.
3. I am bored with my work.
4. I find myself getting behind on my work.
5. I have accidents on the job or at home.
6. The quality of my work is poor.
7. I find my work interesting and rewarding.
8. I can concentrate on the things I need to do at work.
9. I make errors or mistakes in my work.
10. Lately, I am easily irritated.
11. Lately, I have been depressed.
12. Lately, I have been feeling nervous.
13. I have been happy, lately.
14. In early thoughts run through my mind at night that I have trouble falling asleep.
15. Lately, I worried badly in a situation that normally wouldn't bother me.
16. I find myself complaining about little things.

Appendix

Occupational Stress Inventory



Section Two (PSQ)

Make your ratings in Section Two of the Rating Sheet.

1. I don't seem to be able to get much done at work
2. I dread going to work, lately.
3. I am bored with my work.
4. I find myself getting behind in my work, lately.
5. I have accidents on the job of late.
6. The quality of my work is good.
7. Recently, I have been absent from work.
8. I find my work interesting and/or exciting.
9. I can concentrate on the things I need to at work.
10. I make errors or mistakes in my work.
11. Lately, I am easily irritated.
12. Lately, I have been depressed.
13. Lately, I have been feeling anxious.
14. I have been happy, lately.
15. So many thoughts run through my head at night that I have trouble falling asleep.
16. Lately, I respond badly in situations that normally wouldn't bother me.
17. I find myself complaining about little things.



18. Lately, I have been worrying.
19. I have a good sense of humor.
20. Things are going about as they should.
21. I wish I had more time to spend with close friends.
22. I quarrel with my spouse.
23. I quarell with friends.
24. My spouse and I are happy together.
25. Lately, I do things by myself instead of with other people.
26. I quarrel with members of the family.
27. Lately, my relationships with people are good.
28. I find that I need time to myself to work out my problems.
29. I wish I had more time to spend by myself.
30. I have been withdrawing from people lately.
31. I have unplanned weight gains.
32. My eating habits are erratic.
33. I find myself drinking a lot lately.
34. Lately, I have been tired.
35. I have been feeling tense.
36. I have trouble falling and staying asleep.
37. I have aches and pains I can not explain.

38. I eat the wrong foods.
39. I feel apathetic.
40. I feel lethargic.

1. When I need a vacation I take one.
2. I am able to do what I want to do in my free time.
3. On weekends I spend time doing things I like to do.
4. Largely my main recreational activity is watching television.
5. A lot of my free time is spent attending performances (e.g., sporting events, theater, movies, concerts, etc.).
6. I spend a lot of my free time in doing your activities (e.g., sports, music, painting, woodworking, sewing, etc.).
7. I spend a lot of my time in community activities (e.g., sports, religious, school, social, political, government, etc.).
8. I find sleeping in recreational activities relaxing.
9. I spend enough time in recreational activities to satisfy my needs.

Section Three (PRQ)

Make your ratings in Section Three of the Rating Sheet.

1. When I need a vacation I take one.
2. I am able to do what I want to do in my free time.
3. On weekeneds I spend time doing the things I enjoy most.
4. Lately, my main recreational activity is watching television.
5. A lot of my free time is spent attending performances (e.g., sporting events, theater, movies, concerts, etc.).
6. I spend a lot of my free time in participant activities (e.g., sports, music, painting, woodworking, sewing, etc.).
7. I spend a lot of my time in community activities (e.g., scouts, religious, school, local, government, etc.).
8. I find engaging in recreational activities relaxing.
9. I spend enough time in recreational activities to satisfy my needs.

10. I spend a lot of my free time on hobbies (e.g., collections of various kinds, etc.).
11. I am careful about my diet (e.g., eating regularly, moderately, and with good nutrition in midn).
12. I get regular physical checkups.
13. I avoid excessive use of alcohol.
14. I exercise regularly (at least 20 minutes most days).
15. I practice "relaxation" techniques.
16. I get the sleep I need.
17. I avoid eating or drinking things I know are unhealthy (e.g., coffee, tea, cigarettes, etc.).
18. I engage in meditation.
19. I practice deep breathing exercises a few minutes several times each day.
20. I set aside time to do the things I really enjoy.
21. There is at least one person important to me who values me.
22. I have help with tasks around the house.
23. I have help with the important things that have to be done.
24. there is at least one sympathetic person with whom

24. I can discuss my concerns.
25. There is at least one sympathetic person with whom I can discuss my concerns.
26. I feel I have at least one good friend I can count on.
27. I feel loved.
28. There is a person with whom I feel really close.
29. I have a circle of friends who value me.
30. I gain personal benefit from participation in formal social groups (e.g., religious, political, professional organizations, etc.).
31. I am able to put my job out of my mind when I go home.
32. I feel that there are other jobs I could do besides my current one.
33. I periodically re-examine or reorganize my work style and schedule.
34. I can establish priorities for the use of my time.
35. Once they are set, I am able to stick to my priorities.
36. I have techniques to help avoid being distracted.
37. I can identify important elements of problems I encounter.

38. When faced with a problem I use a systematic approach.
39. When faced with the need to make a decision I try to think through the consequences of choices I might make.
40. I try to keep aware of important ways I behave and things I do.

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