A Dissertation
Submitted to the Faculty
Of
Xavier University
In Partial Fulfillment of the
Requirements for the Degree of
Doctor of Psychology
By
SheaLynne A. Baus, M.A.
March 30, 2001

Approved:

W. Michael Nelson, Ph.D., ABPP
Chairman, Department of Psychology

Janet R. Schultz, Ph.D.
Dissertation Chair
The Development, Implementation, and Outcome Evaluation of a Stress Management Program for Xavier University
<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>Janet R. Schultz, Ph.D.</td>
<td>Professor of Psychology</td>
</tr>
<tr>
<td>Member</td>
<td>Christine Dacey, Ph.D.</td>
<td>Professor of Psychology</td>
</tr>
<tr>
<td>Member</td>
<td>Elaine Guerrazzi, Ph.D.</td>
<td>Director of Assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Division of Student Development</td>
</tr>
</tbody>
</table>
Acknowledgments

I am thankful to many people, but especially my parents and close friends, for all the ways in which they have shown their support. I am so grateful for my husband’s strength, personal sacrifice, constant support, and belief in me. I could not have accomplished this without him. My children, John Michael and Adelynne, have enriched my life in ways I cannot describe. I hope that someday they will understand my appreciation for the simple joys that they bring to my world.

I would like to thank the entire Psychology Department at Xavier University, with profound gratitude to Mike Nelson, Ph.D. and Janet Schultz, Ph.D. I truly appreciate the support and guidance they have provided in my personal and professional development. I would also like to thank Elaine Guerrazzi, Ph.D., for the many ways in which she has been a mentor and a friend to me. Finally, I would like to thank Mary Ann Marcotte and Margaret Maybury, for their patience and diligent commitment to the graduate students. Their kindness got me through many difficult days.

I have been blessed with a wonderful family, accomplishment, and now, an opportunity to practice a career for which I am passionate. I am truly grateful.
## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgments</td>
<td>i</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>ii</td>
</tr>
<tr>
<td>List of Appendices</td>
<td>iii</td>
</tr>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
</tbody>
</table>

### Chapter

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Review of the Literature</td>
<td>4</td>
</tr>
<tr>
<td>II. Rationale and Hypotheses</td>
<td>29</td>
</tr>
<tr>
<td>III. Method</td>
<td>32</td>
</tr>
<tr>
<td>IV. Results</td>
<td>43</td>
</tr>
<tr>
<td>V. Discussion</td>
<td>46</td>
</tr>
<tr>
<td>References</td>
<td>48</td>
</tr>
<tr>
<td>VI. Dissertation</td>
<td>60</td>
</tr>
</tbody>
</table>

| Appendices                   | 93   |

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
## List of Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A</td>
<td>Stress Management Manual</td>
<td>93</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Demographics Questionnaire</td>
<td>151</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Stress Management Program Evaluation</td>
<td>153</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Instructor Checklists</td>
<td>155</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Symptoms of Stress Inventory</td>
<td>162</td>
</tr>
<tr>
<td>Appendix F</td>
<td>The Derogatis Stress Profile</td>
<td>169</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Stress Management Activities Likert Scales</td>
<td>171</td>
</tr>
<tr>
<td>Appendix H</td>
<td>Blood Pressure Chart</td>
<td>174</td>
</tr>
<tr>
<td>Appendix I</td>
<td>Stress Management Program Advertisement</td>
<td>177</td>
</tr>
<tr>
<td>Appendix J</td>
<td>Control Group Advertisement</td>
<td>179</td>
</tr>
<tr>
<td>Appendix K</td>
<td>Stress Management Group – Consent to Participate</td>
<td>181</td>
</tr>
<tr>
<td>Appendix L</td>
<td>Health Screening Questionnaire</td>
<td>184</td>
</tr>
<tr>
<td>Appendix M</td>
<td>Subject Debriefing</td>
<td>186</td>
</tr>
<tr>
<td>Appendix N</td>
<td>Control Group – Consent to Participate</td>
<td>188</td>
</tr>
</tbody>
</table>
Introduction

Stress is a fact of day-to-day living that confronts just about everyone and, certainly, college students are no exception. In fact, college students are confronted with many sources of stress. For example, one source of stress for students of all grade levels is academic performance pressure. Some of the other sources of stress that confront students of higher education, particularly the freshman students, include unfamiliarity with the college campus culture, increased responsibilities, financial burden, changes in social roles and activities, and changes in daily schedules affecting sleep, nutrition, and exercise. To help students effectively manage and cope with these various sources of stress, many colleges are promoting total wellness, in which stress management is one dimension, on their campuses.

The concept of wellness is certainly not a new idea; however, the wellness movement that pervades the college scene today emphasizes more than just the absence of disease and illness. For example, as defined by Ardell (1979), wellness is a positive approach to health that concerns five basic dimensions of living: fitness, stress management, responsibility, nutrition, and environmental sensitivity. Given this definition, ineffective coping with stress associated with relationships, work, school, and social environments is detrimental to individuals’ well-being. Hettler (1980) has given wellness an operational definition that identifies six dimensions of wellness. The first, Emotional Wellness, emphasizes an awareness and acceptance of one’s feelings. Emotional Wellness requires the capacity to manage one’s feelings and behaviors, including the realistic assessment of one’s limitations, development of autonomy, and ability to cope effectively with stress. Emotional Wellness promotes tolerance of new and unexpected social situations, thus, promoting satisfying relationships with others. The second, Intellectual
Wellness, encourages creative and stimulating mental activities. The intellectually well person not only uses the resources available to increase his or her knowledge but also shares his or her learned skills with others. Stress management has been thought to improve intellectual wellness as it promotes clearer and more productive thinking that encourages more productive problem solving. The third, Physical Wellness, encourages cardiovascular flexibility and strength through regular physical activity. Physical activity is often used as an adaptive coping mechanism for stress. The fourth dimension of wellness is Social Wellness. Social wellness emphasizes interdependence with others and nature. It also includes the pursuit of harmony in one’s family. The socially well person both receives from others and provides to others support through stressful life events. The fifth dimension, Occupational Wellness, prepares the person for work in which he or she will gain personal satisfaction and enrichment in one’s life. The occupationally well person finds satisfaction in his or her job, which allows the person to prevent and/or cope with various potential job stressors. The final dimension of wellness, as defined by Hettler, is Spiritual Wellness. Spiritual Wellness emphasizes seeking meaning and purpose in human existence. The spiritually well person develops a deep appreciation for life and the natural forces that exist in the universe. As applied to the management of stress, Spiritual Wellness can reduce the stress of negative events by providing a sense of psychological balance and control that allows a positive outlook on life.

Xavier University has joined the wellness movement and is promoting healthy lifestyle choices by its students. The Wellness Program at Xavier emphasizes the six dimensions of wellness, as described above, but it also includes the concept of Financial Wellness. As defined by Xavier University, Financial Wellness emphasizes awareness and application of money management and the sharing of financial gains with others. The Stress Management Program
designed, implemented, and evaluated in this study is intended to aid in promoting the wellness of the students of Xavier University by teaching the participants effective ways of managing and coping with the stresses that may confront them.
Chapter I

Review of the Literature

Stress seems to be a fact of day-to-day living. At some point in time, it confronts even the most well managed life to some degree. Stress, as defined by Davis, Eshelman and McKay (1995), is any change that a person must adapt to, ranging from the negative extreme of actual physical danger to the exhilaration of falling in love or achieving some long-desired success. Given this definition, it becomes apparent that all stress does not have to be negative. That is, some stress can be experienced as positive and even desirable. Whether the sources of stress are major life changes or rather just minor everyday hassles, ultimately, it is how the person responds or reacts to the stress that determines if it will have a negative or positive impact on his or her life. Davis et al. have identified four basic sources of stress: 1) the environment in which one lives and functions, 2) social stressors (finances, responsibilities, demands on time and attention, loss of social supports, etc.), 3) physiological changes (puberty, menopause, illness, aging, nutrition, exercise, sleep), and 4) cognitions. In essence, a person experiences stress from the environmental demands and social strains that confront him or her. Then, the physiological reactions he or she experiences in response to those environmental and social threats and changes are also sources of stress. Additionally, how that person interprets and labels the experience and how he or she predicts the future based on the thoughts he or she forms from past experience influences how that person adapts to the stress. As Richard Lazarus (1984) has argued, stress begins with an appraisal of a situation. The appraisal is based on how threatening the person perceives the situation to be and whether the person believes he or she has the resources to cope
with the situation effectively. People who tend to be negatively affected by stress often perceive a stressor as dangerous (Davis et al.).

Certainly, the college experience can be very stressful for students. One of the sources of stress for students of all grade levels is academic performance pressures. Some of the other sources of stress that confront students of higher education, particularly the freshman students, include unfamiliarity with the college campus culture, increased responsibilities, financial burden, changes in social roles and activities, and changes in daily schedules effecting sleep, nutrition, and exercise. Although some of the sources of stress mentioned above are experienced by students in higher-grade levels as well, these students may experience additional sources of stress. For example, higher-grade level students may experience stress associated with career exploration, completing the requirements of their degree, job recruitment, loan responsibilities, leaving friends, and facing conflict at home. Larson and Laramee (1976) found that some stresses develop throughout the academic year while other sources of stress are experienced at particular points in the academic year. For example, early in the academic year, students tend to report stress associated with values crises, feelings of inadequacy and inferiority, confusion, increased responsibility, unfamiliarity, and lack of social support (Larson & Laramee). Toward the end of the first semester (mid-academic year), an increase in stress associated with academic pressures, financial strain, time strain, and concerns of returning home for Christmas break is experienced (Larson & Laramee).

Larson and Laramee’s study (1976) also supports that the end of the academic year tends to be particularly stressful for those students facing graduation as the two most major concerns of these students tends to be career exploration and job placement. Some of these sources of stress can be avoided, or at least lessened, while others are inevitable. Therefore, it would be beneficial
for students to learn both the skills necessary to avoid possible sources of stress and the skills necessary to effectively manage and cope with the stresses that will inevitably confront them. In order to empower a person to more effectively recognize, prevent, and/or cope with the stress that may confront him or her in life, it is first beneficial for he or she to have a basic understanding of the physiology basis of stress.

Biology of Stress

A stress response is initiated the instant a stressor is detected by our senses. To understand the stress responses, it is important to note that ultimately the response a person has to a stressor is determined by the brain. That is, once sensory receptors detect a stressor, they relay information about the stressor to the brain. The brain then processes the signals sent by the senses to give meaning to the stressor. The brain determines what bodily responses would be appropriate and releases a mixture of neurotransmitters (GABA, dopamine, serotonin, norepinephrine, acetylcholine, endogenous opiates) to bring about those responses (Auerbach & Gramling, 1998).

The stress response requires preparation by the Autonomic Nervous System (ANS) to organize the body's physiological responses. The ANS is the part of the nervous system that works to ensure the vital body processes work automatically and adjust to the changing conditions imposed by the stressor. The ANS has two systems: the sympathetic (SNS) and the parasympathetic (PNS) nervous systems. Hans Selye (1956), the first major researcher on stress, found that when a stressor is detected, the SNS is stimulated producing changes in heart rate, metabolism, breathing, muscle tension, blood pressure, vision, and hearing. Recent research suggests that individuals prone to stress may have an ANS in which the PNS activity is reduced below normal, resulting in exaggerated SNS activity (Hausken et al., 1993). As soon as the brain
determines that a situation is no longer a threat, it stops sending emergency signals to the nervous system and thus, the physiological changes noted above begin to return to their normal levels. This is often referred to as the relaxation response. As described above, the nervous system responds rather quickly when the appraisal process has identified an event or situation as threatening. The nervous system in turn influences the slower responding endocrine and immune systems (Auerbach & Gramling, 1998).

The endocrine system is described by Auerbach and Gramling (1998) as a complex system of glands that interact with each other and influence other body systems by releasing hormones into the bloodstream. Several of the endocrine glands such as the pituitary and the adrenal medulla are thought to be particularly important in mediating the stress response. Specifically, during stress the hypothalamus secretes certain hormones (corticotroponin-releasing factor) into the bloodstream that activate the pituitary gland, which in turn secretes other hormones (adrenocorticotropic hormone) that activate the adrenal gland (Auerbach & Gramling). Activation of the adrenal gland has widespread effects, two of which include secretion of the hormones: adrenaline and noradrenaline (also known as epinephrine and norepinephrine, respectively). These hormones produce an effect virtually identical to that produced by direct nervous system stimulation with the exception that the response begins twenty to thirty seconds later and lasts considerably longer (Auerbach & Gramling). In essence, epinephrine and norepinephrine stimulate increases in the blood pressure and heart rate, and selectively constrict blood vessels to channel blood to appropriate organs (Fleming & Baum, 1987). Hans Selye's work (1956) focused on a different set of hormones produced by the adrenal glands, which since then have been studied the most extensively as an aspect of the endocrine response to stress. As explained by Selye, when the body senses the presence of a stressor, the adrenal glands also
release massive amounts of corticosteroids in an attempt to overcome the incursion. The pathway leading to secretion of the corticosteroids appears to begin in the hypothalamus which stimulates the pituitary adrenal cortical glands (Fleming & Baum). Selye has demonstrated that there are differences in the corticosteroid levels between stressed and unstressed animals and, furthermore, that these differences could be eliminated by removing the adrenal glands. Corticosteroid levels have also been found to be different in humans under stress compared to humans not under stress (Mason, 1975).

The function of the immune system is to protect the body from harmful substances that invade the body either from the outside or that are created internally by the body. The immune system functioning is calibrated to match the strength of the invading substance and to continuously protect the body from foreign substances (Auerbach & Gramling, 1998). Exposure to stress (either short or long-term exposure) disrupts the equilibrium of the immune system and thus can make the body more vulnerable to infection and disease. Specifically, a suppressed immune system makes the body more susceptible to infection from outside bacteria and viruses and less able to destroy mutant cells within the body. An overactive immune system can result in autoimmune disorders, in which the immune system turns and attacks the body as if it were a foreign substance. Several studies have investigated the effects of stress on immune system functioning and found support for negative effects in immunity. Specifically, Workman and La Via (1987) found lymphocyte suppression in medical students one week after their board exams. Kiecolt-Glaser and Glaser (1987), in studying immune system functioning in medical students during school examinations, concluded that many different aspects of the immune system were affected and that the entire system could be involved. Studies of acute laboratory stress (Weiss et al., 1990; Manuck, Cohen, Rabin, Muldoon, & Bachen, 1991) have identified immediate
immune system changes in response to stressors. Chronic stress such as taking care of Alzheimer's patients for long periods of time, marital conflict, and job loss have also been implicated in immune system changes (Armetz et al., 1987; Kiecolt-Glaser, Glaser, Dyer, Shuttleworth, Ogrocki, & Speicher, 1987; Kiecolt-Glaser, Kennedy, Malkoff, Fisher, Speicher & Glaser, 1988).

When the stressors a person faces are frequent, chronic, and/or extremely intense, the stress response may become over-activated, resulting in over-stimulation of the body's organs and systems (Gregson & Looker, 1994). For example, students are confronted with many day-to-day stressors such as assignments, schedules, and social demands and if they do not deal with them effectively and they allow the stresses to accumulate, they may become unable to recuperate from the stress. Thus, the brain will continually detect threat and the body will remain aroused for prolonged periods of time. When this occurs, almost every system of the body is vulnerable to varying types of stress-related damage (Gregson & Looker).

Given the biological basis of the stress response, a number of stress management techniques or skills have been utilized to prevent over-stimulation of the body's stress response and/or to aid the body in recuperating or returning to a relaxation state following a stress response. Such stress management techniques that will be addressed in this review include progressive muscle relaxation, time management, aerobic exercise, cognitive restructuring, deep breathing, problem-solving, and assertiveness training.

**Measuring Stress**

There are four basic dimensions along which the stress response can be measured: self-report, behavioral, physiological, and biochemical (Fleming et al., 1987). The choice of which measures to use depends on the nature and goals of the research.
Self-report Measures. Self-report measures of stress often include assessment of the appraisal of a stressor, affective and somatic states in response to stress, and coping with stress. Although self-report measures are the easiest and most direct way to assess whether a person is stressed or not, these measures are subject to both deliberate and unconscious sources of error. That is, self-report measures can be influenced by changes in awareness of the presence of a stressor, changes in awareness of symptoms of stress, increased concern about the effects of stress, attitudes toward a stressor, or by coping styles which may involve denying or repressing the presence of a stressor (Fleming et al., 1987). All of these variables influence how individuals will report the stress in their life. For example, following a major stressful event, symptoms that a person has ordinarily ignored or has not noticed may now have meaning to that person and become subject for concern, thus, causing the person to report increased symptoms of stress.

Behavioral Measures. Behavioral measures of stress generally examine either the ways people cope with stress or the effects of stress on skilled performance. These measures often include observation of actual behavior in response to a laboratory task and are likely to reflect stress-related deficits in motivation or performance. Behavioral measures are also subject to variance. Measures of task motivation and performance are based on the notion that arousal or distress can reduce motivation, concentration, and attention to detail (Fleming et al., 1987). Obviously, behavioral measures of stress are also subject to variance due to individual or situational variables that are not related to the stress that a person is experiencing. For example, skill, educational level, practice, and interest may affect performance on some tasks. Thus, when interpreting task performance as a measure of stress, caution must be taken to consider the other variables that are not related to stress.
Physiological Measures. Physiological measures of stress assess the impact stress has on specific physiological systems or organs. Physiological stress measures often include measures of sympathetic nervous system arousal: heightened levels of heart rate, blood pressure, muscle tension, respiration, and skin resistance. In the stress literature, heart rate and blood pressure are among the more frequently reported physiological measures of stress. Fleming et al. (1987) suggested this is because the necessary equipment is lightweight, easy to transport, and easy to learn to use, making these measures more practical for field research of stress. Due to the large individual differences and continuous fluctuations in the systems assessed by physiological measures, it is important to obtain baseline values whenever possible. Additionally, because posture and activity influence these measures, especially heart rate and blood pressure, it is critical that the procedures for taking these measures are held constant across participants and conditions.

Biochemical Measures. Biochemical measures of stress assess changes in the endocrine system or in enzyme changes in many of the body's organs. The most commonly studied stress-related biochemical changes include the catecholamines, epinephrine and norepinephrine, as well as corticosteroids, which have all been found to be effected by stress (Singer, Lundberg, & Frankenhaeuser, 1978; Frankenhaeuser, 1978; Mason, 1975; Glass, Lake, Contrada, Kehoe, Erlanger, 1983; and Selye, 1956). Accurate estimates of catecholamine levels can be obtained from both blood plasma and urine. Blood samples are most appropriate when one is interested in immediate catecholamine response to a specific acute stressor, while urine samples are more appropriate for studies of prolonged or recurrent stress and studies of stress in the real world (Fleming et al., 1987). There are several difficulties associated with measuring catecholamine levels in response to stress. First, catecholamines vary as a function of exercise, posture, diet,
and pharmacological substances. Additionally, epinephrine and norepinephrine also show circadian rhythms (Fleming et al.). Therefore, when assessing the effects of stress on catecholamine levels, it is crucial to control for these other variables. Second, plasma catecholamines fluctuate rapidly reflecting very brief periods of arousal and so they must be assessed repeatedly. Third, venipuncture is an invasive procedure and catecholamines tend to be reactive to the stress of the procedure. In contrast, the collection of urine samples is relatively easy. It is not invasive or painful and urinary catecholamine levels change more slowly than do plasma levels. However, like blood samples of catecholamines, it is important to take urine samples at the same time of the day in order to minimize the effects of circadian rhythms on the catecholamine levels.

Accurate estimates of corticosteroids can be obtained from both urine and blood samples. Like the catecholamines, the corticosteroids are influenced by factors other than stress. In addition to the variables that affect catecholamine levels, which were listed earlier, cortisol levels also show diurnal variation (Fleming et al., 1987). However, unlike catecholamines, corticosteroids show a bipolar response to stress. That is, either increases or decreases in corticosteroid secretion can indicate a stress response. Thus, interpretation of corticosteroid responses to stress is more difficult than is interpretation of catecholamine responses to stress.

### Stress Management Techniques

**Progressive muscle relaxation.** Benson (1975, 1984) has argued that all relaxation techniques produce a single "relaxation response" characterized by decreased sympathetic arousal and norepinephrine receptor activity. Therefore, he concluded that all relaxation techniques, whether progressive muscle relaxation, deep breathing, or some other relaxation technique, produce similar effects. Progressive muscle relaxation (PMR) is a technique
originated by Edmund Jacobson (1974) that is based on the premise that, when confronted with a stressful situation or event, the body responds with muscle tension. Jacobson believed that tension involves shortening of the skeletal muscle fibers. Therefore, to reduce the muscle tension that a person experiences when stressed, it would be beneficial to teach the person to relax and lengthen the muscle fibers of those muscle areas. Physiologically, PMR aims to reduce SNS arousal, which will ultimately lower emotional stress levels. Progressive muscle relaxation has been found to be an effective relaxation technique (Burger, Friedman, & Eaton, 1989; Hoshmond, Holmes, Kazarian & Tekaleh, 1985; Quayle, 1980; Warrenburg, Pagano, Woods, & Hlastala, 1980). For example, Quayle (1980) found that progressive muscle relaxation resulted in decreased self-report measures of anxiety and Hoshmond et al. (1985) found that progressive muscle relaxation resulted in decreased anxiety and stress.

Since Jacobson originated this technique, a number of variations have been developed. However, the principles of PMR remain consistent: systematically tensing and then relaxing different groups of skeletal muscles in order to bring the subject’s attention to discriminating between the contrasting sensations. Relaxation of these muscle areas induces effects that are incompatible with anxiety. Evidence supports that with practice an individual can become more proficient at recognizing when his or her body is tense which will then allow him or her to respond by taking steps to relax the muscle areas and reduce or prevent the physical and psychological consequences that could result (Hoshmond et al., 1985; Quayle, 1980).

Deep breathing. Even though breathing is a necessity of life, it is so natural that most people take it for granted and the result is often poor breathing habits, especially during periods of stress. Given this idea, it is not surprising that most forms of relaxation incorporate some type of
breathing exercise. That is, deep breathing is another technique that aims to produce a “relaxation response” as described by Benson (1975, 1984).

Although the primary role of breathing is to supply the body with oxygen, breathing has two major features: respiration and ventilation (Lehrer & Woolfolk, 1993). As described by Lehrer and Woolfolk (1993), respiration, which oxygenates the body cell, involves two processes of the lungs: inspiration and expiration. During inspiration, air fills the lungs and then oxygen diffuses into blood circulation because its pressure is greater than that in the blood. Carbon dioxide pressure, on the other hand, is greater in the blood, so it diffuses from the blood into the alveoli and is expelled with expiration. Although a person cannot survive without oxygen, the critical variable in the psychophysiological response to stress is not oxygen but carbon dioxide (Lehrer & Woolfolk, 1993).

With few exceptions, stress sufferers report various combinations of symptoms common to those of the hyperventilation syndrome including tension, irritability, anxiety, dyspnea (inability to catch one’s breath), fatigue, insomnia, and heart palpitations (Lehrer & Woolfolk, 1993). Under stress, breathing tends to be through the chest rather than through the diaphragm. Breathing through the chest diminishes the flow of oxygen into the body and carbon dioxide out of the body. Diaphragmatic breathing, on the other hand, draws inhaled air deep into the lungs which is then exhaled as the diaphragm contracts and expands. Breathing using the diaphragm is slower and more rhythmical allowing the respiratory system to produce energy from the oxygen inhaled. When a person is experiencing anxiety, the pace of his or her breathing may also suffer in that it may become irregular rather than rhythmical as during relaxed breathing. Ultimately, breathing exercises are designed to teach persons to become more aware of their breathing and to practice making greater use of the diaphragm when breathing. The following effects have been
reported to result from deep breathing relaxation exercises: 1) breathing rate slows down, 2) breathing mode becomes predominantly abdominal, 3) the rhythm becomes smooth with equal duration of inspiration and expiration, 4) pulse rate typically drops, and 5) systolic and diastolic blood pressure drops (Fried, Fox, Carlton, & Rubin, 1984; Fried, 1987). Lehrer and Woolfolk reported that clients presenting with symptoms of stress such as fatigue, anxiety, and depression suggest that deep breathing relaxation strategies make them feel more relaxed and in control, and that they have fewer symptoms as a result.

**Time management.** Inadequate time management behaviors are often considered a source of stress and low performance. Given this idea, stress management programs (particularly college campus stress management programs) have utilized time management training to improve coping strategies for dealing with academic, work, and/or daily life stressors. The position that inadequate time management behaviors contribute to academic stress and low academic performance has been supported in previous research (Gall, 1988; Longman & Atkinson, 1988; Macan, Shahani, Dipboye, & Phillips, 1990; Wratcher & Jones, 1986). Specifically, Macan et al. (1990) investigated the relationship between the use of time management behaviors using the Time Management Behavior Scale (TMBS) and various self-reported measures of stress and performance. There was a significant correlation between time management and grade point average and between time management and self-reported performance. Furthermore, students who scored lower on the TMBS were found to report more role ambiguity, more somatic tension, lower life satisfaction, and lower job satisfaction. Given the above relationship, it would seem obvious that training students to use more effective time management skills would decrease stress related to academic pressures and most likely, increase academic performance. In fact several studies have found that time management training

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
programs for college students have resulted in decreased stress related to academic pressures and increased academic performance (Decker, 1987; Munsell & Cornwell, 1994; Bost, 1984).

However, other research in this area has found that, although time management training has been shown to increase the use of time management behaviors, it does not necessarily indicate an impact on coping with stress. For example, several studies have found that students who received training in time management reported an increased usage of the time management behaviors but did not report an impact on academic performance or perceived stress (Hall & Hursch, 1982; King, Winett, & Lovett, 1986; Morgan, 1984). Several researchers have proposed the dispositional nature of time management as one possible explanation for the limited efficacy of time management training programs (Calabresi & Cohen, 1968; Shahani, Weiner, & Streit, 1993). That is, attitudes toward time and time management reflect features of an individual’s personality, and personality features are not easily changed. In support of the dispositional nature of time management, Bond and Feather (1988) reported significant correlations between time management procedures and self-esteem and sense of purpose in life. Wessman (1973) found significant correlations between time management practices and personality correlates. Although the efficacy of time management training on coping with stress is uncertain and there is support for a dispositional nature of time management behaviors, the author proposes that campus stress management programs should incorporate some training of time management techniques to help alleviate stress and increase personal wellness. That is, time management skills may be efficacious in reducing stress by affording the students greater time to allow practice of other stress reduction behaviors, for example, time to participate in leisure activities. Better time management may also aid in decreasing a student’s procrastination and thus allow for better study habits. Additionally, time management may provide a student
with a greater sense of control over his or her day thus, decreasing the stress he or she associates with the activities of the day.

Aerobic exercise. Aerobic exercise has received considerable attention in the past decade as a therapeutic treatment to modify the deleterious effects of psychosocial stress. The primary rationale for examining the effects of exercise and stress responses stems from the fact that improved physical fitness reduces autonomically mediated cardiovascular responses to stress; therefore, it is hypothesized that responses to psychosocial stress might likewise be reduced (Lehrer & Woolfolk, 1993). There have been two major research methodologies used to examine the potential anxiety reducing effects of exercise (Duda, Sedlock, Melby, & Thaman, 1988). The first is focused on the relationship between chronic exercise and either self-reports of life stress or the tendency to experience stress-related symptoms. Specifically, these studies tend to examine the relationship between exercise involvement and the participants’ perceptions of stress in their lives. Several studies have found significant reductions in self-reported life stress in response to participation in an aerobic exercise program (Berger & Owen, 1992; Cox, 1988; King, Taylor, & Haskell, 1993; Subhan, White, & Kane, 1987), while other studies did not find support for exercise as a means for decreasing self-reported stress (Berger & Owen, 1988; Cramer, Nieman, & Lee, 1991; Hilyer, et al., 1982). The second methodology has focused on the relationship between exercise and response to specific psychosocial stressors. These investigations tend to measure physiological indices such as heart rate, blood pressure, oxygen uptake, cortisol, prolactin, epinephrine and norepinephrine levels, while the participant is engaging in a psychosocial stressor such as a digit backwards test. Several studies have found support for the theory that exercise reduces autonomically mediated cardiovascular responses to psychosocial stressors (Duncan, Farr, Upton, Hagan, & Ogelsby, 1985; Holmes & Roth, 1988;
Lion, 1978; Long, 1984; Long, 1985; Sinyor, Golden, Steinert, & Sergnian, 1986; Sinyor, Schwartz, Peronnet, Brisson, and Seraganian, 1983). Specifically, Duncan et al. found exercise training to reduce norepinephrine concentrations. However, Sinyor et al. found that participants who were trained in aerobic fitness showed higher levels of norepinephrine and prolactin early in the stress period and more rapid heart rate recovery following the stressor compared to untrained participants. The results suggest that aerobically trained individuals may be capable of faster recovery following a stressor. Consequently, these are various thrusts of research methodologies being used to investigate the effects of exercise on stress responses. An integrative theoretical framework to explain the efficacy of exercise as a means of coping with stress may be useful but has not been established.

Another reason for the uncertainty of the efficacy of exercise as a coping strategy for stress is that coping strategies are often categorized according to their function: problem-focused or emotion-focused. Problem-focused coping involves coping with a specific problem that is causing distress while emotion-focused coping aims to reduce emotional stress in general. It is difficult to determine the focus of the coping when an individual is engaging in exercise. That is, is an individual engaging in exercise to become more relaxed (which is emotion-focused coping), or does he or she simply use the exercise time to solve specific problems that are confronting him or her at that time (which is problem-focused coping), or is it a combination of the two? Previous investigations of exercise as a coping strategy for stress generally assume exercise serves an emotion-focused function. For example, DeVries (1976) concluded that exercise was a means of inducing relaxation. Other studies found exercise induced changes in mood (Blumenthal et al., 1989), acted as a time out from daily hassles (Edwards, 1984), and provided a psychological distraction (Bahrke & Morgan, 1978). However, it can be assumed that when
engaging in specific problem solving, individuals who use exercise to aid their problem solving strategies may become more relaxed, distracted, and enhance their mood. Additionally, some research indicates exercise may increase a person’s coping effectiveness because it enhances personal resources such as self-esteem, self-efficacy, and energy levels (Doan & Sherman, 1987; Petruzzello, Landers, Hatfield, Kubitz, & Salazar, 1991).

As summarized by Rostad and Long (1996) in their review of exercise as a coping strategy for stress, exercise may be used in several ways as a coping strategy. First, the cardiovascular and respiratory systems may be enhanced from exercise such that the cardiovascular response to stress is reduced and recovery from stress is enhanced. Second, it may provide a strategy for coping with a stressful situation by regulating emotions. Third, it may facilitate a problem-focused function. For example, exercise may provide the time to work through a problem. Fourth, it may enhance personal resources by providing experiences that allow the individual to become more physically fit, self-confident, and self-efficacious.

Cognitive restructuring. Cognitive appraisal plays a major role in determining a stress response. That is, the cognitive interpretations an individual assigns to an event are often key to whether a stress response will be elicited or not (Auerbach & Gramling, 1998; Davis et al., 1995). Often the interpretations one makes about an event are distorted, irrational, and/or self-defeating. To correct these distortions, cognitive restructuring can be useful. As described by Arnkoff (1986), cognitive restructuring has two components: a coping component and a restructuring component. The coping component aims to teach the person to deal more effectively with potentially stressful situations. The restructuring aspect is designed to alter the person’s meaning system so that the event no longer has to be perceived as stressful. Although the two components are practically intertwined, they are conceptually separate. The coping
aspect gives the person the skills to employ when stress is experienced, while the aim of the restructuring aspect is to reduce the likelihood that the stress will be experienced. Arnkoff (1986) investigated the effectiveness of the coping component versus the restructuring component in reducing test anxiety and academic performance. Results supported that the coping group fared significantly better than the restructuring group on some measures of academic performance and anxiety but, on other measures, the groups did not significantly differ nor did they significantly differ from the control group.

There are several variant forms of cognitive restructuring, all of which attempt to identify a client's maladaptive, irrational thought patterns and to replace them with more rational, constructive thoughts. For example, Beck's cognitive therapy (Beck, 1979) attempts to identify and replace a client’s unrealistic, maladaptive thoughts through behavioral methods such as modeling and rehearsal. Meichenbaum's cognitive approach (Meichenbaum, 1977) has the same goal but makes use of teaching clients to identify their own negative self-statements and to apply a set of adaptive self-instructions to guide them through stressful situations. Several studies have assessed the outcome of cognitive restructuring therapies and have found them to be effective in the treatment of anxiety (Goldfried, Linehan, & Smith, 1978; Meichenbaum, 1972). Cognitive restructuring seems to be particularly effective in treating test anxiety. In fact, Denney (1980) concluded in a review of the literature that cognitive restructuring was the most effective treatment available to treat test anxiety.

**Problem solving.** As presented by Auerbach and Gramling (1998) “the essence of effective stress management is acquiring a repertoire of skills that enable one to manage problematic situations, building on and refining those skills, learning when and where they will be effective, and actually implementing them when they are called for” (p.138). One of the
most influential factors in an individuals’ motivation to use effective problem solving strategies is their conviction that they have the ability or the capacity to achieve a desired outcome. The assumption is that if the individual does not believe that he or she is capable of solving the problem, there will be the tendency to not engage in the behaviors needed to diffuse the problem. That is, the individual will avoid the problem rather than master the problem. This, then, is detrimental to future problem solving efforts because experienced mastery of particular kinds of problems results in increased expectations of future mastery of similar situations.

Recent research supports the idea that self-perceptions of good problem-solving ability enhances stress coping effectiveness and overall psychological adjustment (Heppner, Reeder, & Larson, 1983; Heppner, Baumgardner, & Jackson, 1982; D'Zurilla & Sheedy, 1991).

Specifically, in 1982, Heppner et al. found active problem solving to be related to lower trait anxiety and depression. Similarly, Heppner and colleagues (1983) found that people who view problems as challenges and who actively approach problems report fewer dysfunctional thoughts and irrational beliefs. D'Zurilla et al. (1991) found in their study that those who participated in active problem solving reported less stress when compared to participants who viewed problems as threats to their well-being and consequently put-off dealing with the problems. MacNair and Elliot (1992) found that self-appraised effective problem-solvers perceive less threat in stressful situations, perceive more options for coping, and use more problem-focused coping and less emotion-focused coping than ineffective problem-solvers. Other research, particularly among the college student population, has supported that problem solving ability is significantly related to future psychological stress, such that higher problem solving ability predicts lower stress levels (D'Zurilla, 1986, 1990; D'Zurilla & Nezu, 1990).
One proposed problem-solving model is that of D’Zurilla and Goldfried (1971). This model is a cognitive-behavioral approach including four stages of problem solving. The first stage, Problem Definition and Formulation, involves defining the problem areas in clear, operational terms, and differentiating them from more peripheral and less crucial problem areas. This stage takes a “can do” problem solving orientation rather than a “out of my control” orientation. The second stage, Generation of Alternatives, involves brainstorming possible solutions without concern for their utility or appropriateness. The solutions must be formulated in concrete terms of specific actions. The third stage, Decision Making, entails estimating the consequences of each of the alternative courses of action and deciding the best alternative. Finally, the last stage, Solution Implementation and Verification, involves implementing the course of action chosen and evaluating the desirability of the consequences that they produced. Based on this four-stage model of problem solving, D’Zurilla and Nezu (1990) developed the Social Problem Solving Inventory to measure problem solving ability. Using the Social Problem Solving Inventory, D’Zurilla and Sheedy (1991) were able to support a significant negative correlation between skills in these four stages of problem solving and psychological stress.

Assertiveness Training. Assertiveness refers to direct and clear expression of one’s thoughts, feelings, and desires in a socially appropriate way (Auerbach & Gramling, 1998). It is an important aspect of social competence that helps create equality in relationships. Indeed, assertiveness allows an individual to exercise his or her personal rights without denying those of others (Ballou, 1995). Assertive behavior, however, may be a difficult skill to learn and/or to practice for some people.

Given the prevalence of social interactions as a major source of stress for many people including college students (Kolko & Milan, 1985; McEwan, 1983) assertiveness training has
been recognized as an effective stress management intervention. Additionally, assertiveness training has implications for stress management because of the tendency for assertive behavior to result in achievement of desired goals and the impact assertive behavior has on others (Auerbach & Gramling, 1998). That is, assertive behavior results in more compliance, greater respect, and less dislike from others than aggressive or passive behavior (Galassi, Galassi, & Fulkerson, 1984). Indeed, these characteristics are associated with more rewarding social interactions and thus, decreased stress related to social interactions. Assertiveness training has two major goals: anxiety reduction and social skills training. However, in learning assertive behavior, it is first necessary to understand what assertiveness is. This requires differentiating between passive, aggressive, and assertive behavior. First, passive behavior is characterized by withholding forthright expression of thoughts and feelings and by allowing others to take advantage (Auerbach & Gramling). In essence, the passive person denies himself or herself the right to expressing his or her feelings. Passive behavior allows avoidance of conflict, which is rewarding in the short-term. However, in the long-term, passive behavior often produces feelings of anxiety, frustration, and anger because the individual seldom achieves his or her own desired goals. Aggressive behavior, on the other hand, is characterized by direct expression of thoughts and feelings but in ways that blame and imply threats (Auerbach & Gramling). The aggressive person often carries his or her desire for expression to the extreme. The result is usually the person getting what he or she wants but at the expense of others who end up feeling humiliated, angry, and resentful. Assertive behavior, therefore, is the middle ground between these two behaviors. The assertive person is direct in making clear, tactful statements that are communicated in a calm, assured manner (Auerbach & Gramling). Assertiveness involves honesty and requires the assertive person to have a strong sense of self-worth. The assertive
person often achieves his or her desired goals without feeling compromised or alienating the rights of others.

A person may not engage in assertive behavior for a number of reasons including a lack of assertive skills, learned nonassertive behavior in specific situations, and development of a belief system that prohibits assertive behavior. As discussed by Auerbach and Gramling (1998), temperament, learning history, and belief systems play significant roles in molding nonassertive behavior. That is, there is evidence that some people are born with the propensity to be shy and thus tend to be inhibited with other people and to avoid unfamiliar nonsocial situations as well (Kagan, Snidman, & Arcus, 1993). Learning history, however, also plays a significant role in nonassertive behavior even among those who were born with the predisposition to be nonassertive. That is, as a result of a variety of experiences, many individuals have come to accept the idea that asserting their thoughts and feelings is socially inappropriate. Parents tend to play a key role in developing this type of attitude. For example, parents may model passive behavior by not expressing their own thoughts and feelings and may even reinforce passivity in their children. On the other hand, parents may model inappropriately aggressive behavior and reinforce it in their children in the same manner. In some cases of nonassertive and aggressive behavior, the person may have the skills and the learning history of emitting assertive behavior but his or her belief system may inhibit assertive behavior. For example, Wolpe (1990) noted that assertive behavior is often discouraged and even punished among devoutly religious persons who believe that it is a moral imperative to turn the other cheek. Auerbach and Gramling expressed that learning histories of this kind have two types of consequences that are detrimental to the learning of appropriate assertive behavior. First, social situations that call for assertive behavior may come to have aversive properties based on previous experiences and thus elicit
anxiety in a classical conditioning sense. Second, as a result of these negative experiences that lead to avoidance of social situations, there may be limited opportunity to learn appropriate assertive behaviors. The result, then, is two types of difficulties in assertiveness, the first of which is a classically conditioned fear and resulting avoidance. The second is a deficiency in assertiveness skills and knowledge of when and how to apply them (Auerbach & Gramling).

Additionally, assertiveness difficulties can be either situational or general. That is, people who have adequate assertive skills may become passive or aggressive only in certain situations or, in contrast, there are some people who lack the skills necessary to be assertive in any type situation. Regardless if the assertiveness difficulty is specific or general, research indicates that assertiveness training can be an effective intervention for several types of behavior problems including substance abuse (Rakos, 1991), depression (Brown & Carmichael, 1992), anxiety (Rakos, 1991), and stress (Oest, Jerremalm, & Johnson, 1981). Alberti and Emmons (1986) reported many settings in which assertiveness training was effective including school, professional, and community settings. One study (Wehr & Kaufman, 1987) found that assertiveness training decreased anxiety in ninth graders. Another study (Williams & Hall, 1988) found that undergraduate students who received assertiveness training showed significant improvement over a control group in resisting peer pressure.

Although assertiveness training programs vary, they generally involve the same major components including identifying specific assertive behavior difficulties, role playing and modeling of assertive behaviors in specific contrived situations, then attempting newly learned assertive behaviors in actual settings. When an individual presents a number of situations in which he or she experiences difficulties being assertive or his or her nonassertive behavior seems
to not be situation specific, often a hierarchy of problematic situations is developed in order of increasing difficulty and is dealt with progressively.

**College Campus Stress Management Programs**

The literature describing college campus stress management programs is limited. The programs that are described usually consist of teaching a variety of stress management techniques to help students learn to more effectively manage the stress that confronts them more effectively. Although stress management programs are common on university campuses, empirical research evaluating the effectiveness of such programs is lacking. One of the reasons for the lack of empirical evaluation of stress management programs is that they are preventative programs and thus, it is difficult to ascertain the effectiveness of these efforts (Archer, 1986). Of the empirical investigations of stress management programs that do exist, results vary. Some research supports beneficial effects from teaching students stress management skills (Archer, 1986; Deffenbacher & Shepard, 1989; Hudesman, Beck, & Smith, 1987; Romano, 1984; Somersville, Allen, Noble, & Sedgwick, 1984) while others report no beneficial effects (Kooken & Hayslip, 1984, 1984; McWhirter, Okey, Roth, & Herlache, 1996; Nicholson, Belcastro, & Duncan, 1989). Archer (1986) was able to evaluate the effects of a stress management course for college students by using a similar class control group with an analysis of variance (ANOVA) comparison of gain scores on nine different stress management behaviors. The participants were 86 students (43 per group) representing all four undergraduate levels at a large southeastern university. The model of stress management on which Archer reported included physical, cognitive, and lifestyle components. Specifically, the stress management course took students through a variety of approaches and techniques that helped him or her to learn to physically and mentally relax, to modify cognitive processes that create stress and anxiety, and to examine
lifestyle choices that lead to stress (Archer, 1986). Results indicated that the stress management group had significantly greater gain scores in four of the nine stress management areas: regular relaxation, situational relaxation, aerobic exercise, and positive self-statements.

McWhirter and colleagues (1996) also examined the effects of a 5-week college campus stress management course by using two similar class control groups. Participants consisted of 334 university students enrolled in a modular-based psychology course at a large southwestern university. Participants were enrolled on one of three modules: (1) Stress and Coping \((n = 195)\); Encounter with the Self \((n = 55)\); or Adolescent at Risk \((n = 84)\). Eighty-five percent of the students represented the upper division students. The Stress and Coping course taught about the underlying physical and psychological mechanisms of stress, the nature of stressors and cognitive, emotional, behavioral, and physiological components of stress. Through role-plays in class, students were also introduced to stress reduction activities such as exercise, nutrition, biofeedback, cognitive restructuring, and progressive muscle relaxation. The authors examined pre and post-test measures of self-reported levels of state-trait anxiety, coping resources, and self-esteem. Multivariate analyses of covariance (MANCOVA), with pretest scores as covariates, revealed no significant main or interactional effects. When discussing the methodological weaknesses of the study, McWhirter and his colleagues concluded that future studies of stress management programs should randomly assign experimental and control group participants and be longer to allow instructors to introduce more thorough strategies for dealing with the many types of stressors students face.

Deffenbacher and Shepard (1989) evaluated six stress management seminar classes taught over a 6-year period. The number of participants in each class ranged from 31 to 51 and consisted primarily of upper division college students. The stress management class was a 3-
credit seminar taught on two weekends. Class time was divided about evenly between didactic and applied activities. The didactic material included: (a) the nature of stressors; (b) cognitive, emotional, behavioral, and physiological components of stress reactions; (c) fear, anxiety, anger, and depression as common stress reactions; (d) stress, disease, and physiological functioning; (e) stress reduction through defensive coping, environmental restructuring, biochemical interventions, affective modification, cognitive restructuring, and behavioral change; and (f) the importance of sleep, nutrition, and exercise in stress management. The applied activities were matched up with the didactic material including progressive muscle relaxation, assertion, autogenic relaxation, imagery-based relaxation, cognitive change strategies, and problem solving. Students reported significantly less general anxiety, general anger, situational stress reactivity, and stress-related physiological reactivity after the class than before.

Comparing such studies is difficult because the stress management programs cited in the literature vary in the techniques and the formats used to teach the students how to cope with their stress. For example, Archer (1986) discussed a three part (physical, cognitive, lifestyle) model of stress management utilizing a small group course format in which both theoretical and applied perspectives of several different techniques were covered. LaCivita (1982) designed a 4-week program that entailed assessment, breathing, progressive muscle relaxation, and smooth muscle relaxation using biofeedback. Vierke (1979) described a rather comprehensive program called lifestyling, which targeted four areas for improving the quality of college life including exercise, nutrition, ecology, and relaxation. McWhirter et al., (1996) described a 5-week course using multiple instructors that entailed education of the underlying physical and psychological mechanisms of stress, deep breathing, progressive muscle relaxation, exercise, time management, and cognitive restructuring.
Chapter II

Rationale and Hypothesis

It is evident that the college experience and all that it entails is stressful. Some of the stress is inevitable; however, the literature suggests that much of the stress which confronts college students can be alleviated through use of stress management skills to cope in healthier, more constructive ways (Archer, 1986; Deffenbacher et al., 1989; Hudesman et al., 1987; Romano, 1984; Somersville et al., 1984). Based upon these findings, college campuses all over the country are attempting to develop college campus stress management programs to help students learn more effective coping strategies. The types of stress management techniques taught and the formats for teaching them vary from program to program. Similarly, the literature is inconsistent as to what techniques, if any, are effective in reducing stress related physical and psychological health consequences (Archer, 1986; Deffenbacher et al., 1989; Hudesman et al., 1987; Kookan et al., 1984; McWhirtier et al., 1996; Nicholson et al., 1989; Romano, 1984; Somersville et al., 1984).

The current study adds to the existing body of research of college campus stress management programs by utilizing a comprehensive model of teaching college students effective stress management; a model that emphasizes the physiological basis, theory, and practice of several stress management strategies. A comprehensive program as such is supported by specific recommendations made by previous researchers (Archer, 1986; Deffenbacher et al., 1989; McWhirtier et al., 1996; Somersville et al., 1984). As Zastow (1984) suggests, effective stress management needs to be individualized. That is, each person must choose which strategy he or she is most interested in. Therefore, teaching students several stress management techniques so...
they can evaluate and utilize the techniques they believe are most comfortable and useful for them may be beneficial.

The purpose of the present study is twofold. The first is to design and implement a comprehensive college campus stress management program that is based upon current research findings to aid in promoting wellness by addressing the following goals:

1) To acquaint the students with a basic understanding of the physiology of stress and its implications for various stress management techniques.

2) To acquaint the students with the fundamental concepts and theories of several stress management techniques, including progressive relaxation, time management, aerobic exercise, cognitive restructuring, assertiveness training, deep breathing, effective coping strategies, and thematic imagery.

3) To provide a structured opportunity for students to practice and apply stress management techniques to their present lives.

The second purpose of this study is to evaluate the outcome of this stress management program. Of particular interest will be the students’ use of the stress management techniques taught in the program, students’ reports of their experiences of stress, and the physical and psychological stress-related symptoms reported by the students.

The following null hypotheses will be tested in order to investigate the effects of the Stress Management Program on the participants stress management behaviors, reports of stress, and stress-related symptoms.

Ho 1: When examining the utilization of stress management skills, there are no statistically significant differences between gain scores on Likert scale ratings of stress management behaviors including time management behaviors, problem solving behaviors,
relaxation, assertive behaviors, aerobic exercise, or cognitive restructuring tasks between the two groups – Stress Management and Control Groups.

Ho 2: When examining the experiences of stress, there is no statistically significant difference among pre and post-test Symptoms of Stress Total Mean Scores (as measured by the Symptoms of Stress Inventory) between the two groups – Stress Management and Control Groups.

Ho 3: When examining the symptoms of stress, there is no statistically significant difference among pre and post-test Total Stress Scores (as measured by the Derogatis Stress Profile) between the two groups – Stress Management and Control Groups.

Ho 4: There are no statistically significant differences among the pre and post Systolic and Diastolic Blood Pressures between the two groups – Stress Management and Control Groups.
Chapter III

Method

Participants

Approximately 80 (40 per group – Stress Management and Control Groups) undergraduate students (men and women) will be recruited from Xavier University, a medium sized Midwestern University. Participants will be divided into two groups, Stress Management and Control Groups, according to their responses to advertisements for participation in the study. The demographic variables (See Appendix B) that will be examined will include age, sex, race, and education level. The means and standard deviations of the ages per group will be presented in a Table 1. The frequencies of the sex categories, race categories, and education levels per group will also be presented in a Table 2. In order to examine comparability of the participants in the two groups—Stress Management and Control Groups, a One Way Analysis of Variance (ANOVA) will be computed on age and education and Chi Square analyses will be conducted on sex and race.

Instructors

There will be at least two instructors to facilitate the Stress Management Group sessions, both of whom will be psychology graduate students in the Clinical Psychology Doctorate Program. The instructors will be trained by the researcher.

Design of Stress Management Program

The context of the stress management treatment module will consist of both theoretical and practical interventions for coping with stress. The stress management manual includes specific procedural details (See Appendix A). There will be a total of six sessions. Specifically, during Session 1, students will be given an overview of the underlying physical and
psychological mechanisms of stress as well as the cognitive, emotional, behavioral, and physiological components of stress reactions. Following, the students will be introduced to some concepts of time management, which will be followed with a time management exercise.

Session 1 will be a two-hour session. Sessions 2 - 5, all one-hour sessions, will follow the same format in that each session will introduce a new stress management technique, the theoretical implications will be discussed, and the students will be given the opportunity to practice the skill during the session via session exercises. Each session will conclude with a homework assignment corresponding to that session. Homework assignments will include active participation in stress reduction activities including practicing the skills demonstrated during the session. Finally, during Session 6, a new stress management technique will not be presented. Rather, an overview of the skills that were introduced will be reviewed, any questions, clarifications, and/or concerns will be addressed, and the students will be given the opportunity to discuss what they found useful or not useful in reducing their stress. More specific feedback concerning the program will be asked to be given in written form at the end of Session 6 (See Appendix C).

Aerobic exercise will also be a component of the Stress Management Program. Students will be encouraged to participate in aerobic exercise at least three times per week for a minimum of 20 minutes each time. The minimum of 20 minutes at least three times a week has been supported by previous research (Simons et.al., 1985; Petruzzello et.al., 1991). Aerobic exercise includes running, walking briskly, aerobics, swimming, stair climbing, tennis, rope jumping, racquetball, hiking, dancing, bicycling, basketball, and skating.
Measures

**Protocol Checks.** Instructors will be asked to complete a checklist after each session indicating what they covered from the agenda (See Appendix D). Percent of adherence will then be calculated for each session and presented in Table 3. The Stress Management Activities Likert scales (See Appendix G) will be used to assess the adherence of the Stress Management Group participation.

**Symptoms of Stress Inventory.** The Symptoms of Stress Inventory (SOSI; Thompson & Budzynski, 1989) is a 94-item checklist to which respondents indicate on a scale from never (1) to almost all the time (5) how frequently they have encountered various stress related symptoms over the past week (See Appendix E). The SOSI has 10 subscale scores and a total score. The subscale scores include indicators of emotional stress responses (depression, anxiety/fear, emotional irritability, and cognitive disorganization), physical symptoms (peripheral manifestations, cardiopulmonary symptoms, neurological symptoms, gastrointestinal symptoms, and muscle tension), and habitual pattern responses. Internal consistency ranges from .62 to .91 for the subscales and is .97 for the total score. Test-retest reliability is .83 for the total score. The SOSI has been used frequently in other studies (Greene & Hiebert, 1988; Kiselica, Baker, Thomas, & Reedy, 1994) as an indicator of stress-related symptoms and has been reported to have high face validity. Additionally, Thompson and Budzynski (1989) suggested that the correlation between the total SOSI and the SCL-90, a measure of psychological distress, is .82. For scoring purposes, high scores indicate more pronounced symptoms of stress. To obtain the SOSI Total Mean Score, the frequency values for items 1 through 94 are summed and divided by the number of items the participant answered in the total scale. To obtain each of the subscale scores, the frequency values for each item within a
subscale are summed and divided by the total number of items within that subscale that the participant actually answered. SOSI normative data are currently available for 413 individuals (112 males and 301 females) who participated in a stress management program. Additionally, there are data available from other researchers (Kiselic et al., 1994). The normative data from this study will be provided to Elaine A. Thompson, Ph.D., R.N., of the Department of Psychosocial and Community Health, University of Washington, to add to the normative database for this instrument. The SOSI will be used in the present study at pretest and at posttest to assess changes in symptoms of stress. The Symptoms of Stress Total Score will be used in the data analysis of this study.

The Derogatis Stress Profile. The Derogatis Stress Profile (DSP; Derogatis, 1980) is a 77-item multidimensional self-report inventory designed to measure stress (See Appendix F). The DSP was derived from the interactional theory of stress proposed by Lazarus (1966). Lazarus proposed that there are three domains of stress (environmental stress, personality mediators, and emotional responses) that must be considered interactively in order to understand the stress construct. The DSP reflects this theoretical approach by representing stress in a hierarchical model. There are 11 primary stress dimensions (domestic, vocational, health, time pressures, driven behavior, attitude posture, role definition, relaxation potential, anxiety, depression, and hostility) that are subsumed under 3 principal stress domains (environmental events domain, personality mediators domain, emotional response domain). These three principal stress components cumulatively provide a quantitative estimate (Total Stress Score) of the respondent’s current stress levels. Additionally, the DSP also contains a Subjective Stress Score measured in an analogue fashion to provide an estimate of the respondent’s conscious appreciation of his or her stress status (Derogatis, 1987). Test-retest reliability, as measured
seven days apart, of the DSP ranges from .72 to .92 for the 11 stress dimensions, .82 to .89 for the 3 stress domains, is .90 for the Total Stress Score, and .81 for the Subjective Stress Score. Internal consistency reliability ranges from .79 to .91 for the 11 stress dimensions and from .83 to .88 for the 2 stress domains (Derogatis, 1987). The DSP will be used in the present study as a pretest and posttest measure to assess changes in reports of experiences of stress. For the data analysis of this study, the DSP Total Stress Score will be used.

**Stress Management Activities Likert Scales.** Participants of the Stress Management Group will be asked to report how frequently they practiced stress management activities during the past week on a five-point Likert scale from “never” (0) to “always” (5) for each of the component areas of the program (See Appendix G). Participants of the Stress Management Group will complete the Likert scales at each session. Participants of the Control Group will complete the stress management activities Likert scales at each of the two sessions. Pre and post measures will be compared to assess changes in the practice of stress management activities. Additionally, 20-week follow-up measures will be compared to the post measures to assess the stability of the change in practice of stress management activities. The Likert scale ratings for each session will also be assessed for trends.

**Systolic and Diastolic Blood Pressure.** Several studies have found that stress management methods such as those included in this investigation can be effective in treating hypertension (Lichstein, 1988; Linden & Chambers, 1994; Subhan et al., 1987). For example, Lichstein (1988) reported decreases of at least 10 mm Hg systolic and 5 mm Hg diastolic in moderate hypertensives. Changes of this magnitude are generally considered clinically important (Lichstein, 1988).
In this study, Systolic and Diastolic Blood Pressure will be obtained using a standard cuff sphygmomanometry with the participants in a sitting position. Student athletic trainers have volunteered to come to the first and last sessions of the Stress Management Program to take the participants' blood pressure. The participants will have their pre and post-blood pressure measures taken by the same volunteer. The measures will be recorded by the volunteer on a chart provided (See Appendix H).

Procedure

The dissertation proposal will be approved by the Xavier University Institutional Review Board.

Eighty undergraduate male and female college students at Xavier University will be recruited through two campus-wide advertisements. The first advertisement will be used to recruit participants for the Stress Management Program. This advertisement will specify a six-week Stress Management Program, co-sponsored by the University Wellness Team and the Psychological Services Center (See Appendix I). The advertisement will ask interested students to sign-up by calling the phone number listed. When the students call the phone number listed, they will reach a recorded message regarding the Stress Management Program. The message will provide information regarding the date, time, and location of the Stress Management Program and will instruct the student to sign-up by leaving his or her name and phone number. Two $100.00 cash incentives that will be raffled to participants will also be indicated in the advertisement. The second advertisement will be used to recruit participants for the Control Group. This advertisement will ask for participation in a survey assessing the stress experienced by Xavier students and will indicate that blood pressure readings will be taken at both meetings (See Appendix J). Participation in two sessions will be required. This advertisement will not
instruct participants to phone to sign-up but rather will include the date, time, and location of the first session to enable participants to attend. Additionally, the advertisement will indicate that a $50.00 cash prize will be raffled off. Both advertisements will be announced campus-wide: (1) announcements on bulletin boards throughout the campus, (2) bulletin board announcements in all the residence halls, including on-campus apartments, (3) an ad in the university newspaper, and (4) verbal announcements in introductory psychology classes. Additionally, the advertisements and a letter requesting verbal announcements and referrals will be sent to various faculty and staff on campus including but not limited to: (1) psychology instructors, (2) instructors of other campus departments, (3) residence hall directors, and (4) staffs of various organizations on campus. Verbal announcements will include the same messages as the written advertisements. The recruitment for the Stress Management Program in the psychology classes will be slightly different in that students will be asked to sign-up during the class. Advertisement will begin three weeks prior to the first session with a deadline for signing-up of two days prior to that first scheduled session. Any students who show up for the first scheduled meeting but did not sign-up beforehand will be allowed to participate.

One to two days prior to the first scheduled session, the students who signed-up for participation in the Stress Management Program will be phoned to remind them of the first session meeting time and to inform them of the location. The date and time of the first session for both groups will be the same but the meeting location will be different to prevent participants from participating in both groups.

During the first session, the Stress Management Group will be given a brief introduction to the Stress Management Program informing them that they are being asked to participate in a study concerning the effectiveness of this Stress Management Program. The participants will be
asked to read, sign, and return to the instructor, a consent form which will give a brief
description of the study and an explanation that participation is voluntary (see Appendix K). The
participants will be instructed to return one copy of the consent form to the instructor and keep
an additional copy for their own records. Upon returning the signed consent form to the
instructor, participants will be asked to complete the pretests (See Appendices E, F, G.). A
physical activity questionnaire (See Appendix L) that will also be given as part of the pretest
materials will be used as a screening device for health conditions that may require special
aerobic exercise advisement. The questionnaire is the screening device used at the Xavier
University Recreation Center for persons requesting advisement on exercise. Those Stress
Management Group participants who indicate a health problem indicative of the need for aerobic
exercise advisement will be contacted within two days following the first session and referred to
Caroline Spencer of Xavier University Recreational Sports for advisement on aerobic exercise.
These participants will also be advised at that time to consult with their physician regarding
participation in the program. While the participants are completing the pretests, volunteer
Xavier University student athletic trainers will take blood pressure measures. The volunteers
will record the participant’s name, systolic, and diastolic measures on the chart provided (See
Appendix H). Additionally, the volunteers will record the blood pressures on cards (See
Appendix H) to give to the participants for their own records. The cards indicate that this
screening is not a substitute for a medical exam. Once the Stress Management Group
participants complete the pretests, they will be given a more detailed description of the program
requirements.

Participation in all six sessions will be stressed by the instructor. The handouts of a
session will be provided to any participant who missed a session. If a participant fails to attend
at least five of the six sessions, the data for that participant will be excluded from the data
analysis.

At the end of the sixth session, the participants will be given the posttests (See Appendix
E, F, G,). A feedback survey will be given at the end of the posttest materials (See Appendix C).
While the participants are completing the posttests, volunteer Xavier University student athletic
trainers will take blood pressure measures. The volunteers will be provided with the pretest chart
they completed during the initial session and will be asked to take the blood pressure measures of
the participants they measured during the initial session. They will record the posttest blood
pressure measures on the chart provided (See Appendix H). Following the completion of all
measures, the participants will be given a written Debriefing Form (See Appendix M) and will be
given the opportunity to ask any questions concerning the study.

During the first session, the Control Group will be given a brief description of the study
informing them that they are being asked to participate in a survey to assess the stress
experienced by Xavier University students. It will be indicated that they are being asked to
participate in two sessions. At this time, participants will be informed of the second session
date, time and location. The participants will be asked to read, sign, and return to the instructor,
a consent form which will give a brief description of the study and an explanation that
participation is voluntary (see Appendix N). Upon returning the signed consent form to the
instructor, participants will be asked to complete the pretests (See Appendices E, F, G,). While
the participants are completing the pretests, volunteer Xavier University student athletic trainers
will take blood pressure measures. The volunteers will record the participant’s name, systolic,
and diastolic measures on the chart provided (See Appendix H). Additionally, the volunteers
will record the blood pressure measures on cards (See Appendix H) to give to the participants for
their own records. The blood pressure cards indicate that this screening is not a substitute for a medical exam. Once participants complete the pretests, they will be free to go.

The Control Group participants will be phoned to remind them of the second session date, time, and location. During the second session for the Control Group (which will be the date and time of the sixth session for the Stress Management Group) the participants will be given the posttests. While the participants are completing the posttests, volunteer Xavier University student athletic trainers will take blood pressure measures. The volunteers will be provided with the pretest chart they completed during the initial session and will be asked to take the blood pressure measures of the participants they measured during the initial session. They will record the posttest blood pressure measures on the chart provided (See Appendix H). Following the completion of the posttest measures, the participants will be given a written Debriefing Form (See Appendix M) and will be given the opportunity to ask any questions concerning the study.

The Control Group participants who attend both sessions will have their name entered into a raffle to win a $50.00 cash prize. The advertisement for this group will indicate the chance of winning the cash prize. Similarly, those participants of the Stress Management Group who participate in all six of the sessions will have their name entered in a raffle of two cash prizes of $100.00 each. The advertisement of the Stress Management Program will indicate the chance of winning the cash prizes.

At 20-weeks post Stress Management Program the Stress Management Likert Scale Ratings and a self-addressed stamped envelope will be mailed out to the Stress Management Group participants. The participants will be asked to complete the Stress Management Likert Scale Ratings and return it in the envelope provided. To examine practice of the stress management activities introduced in the Stress Management Program 20 weeks following the
conclusion of the program, the follow-up Stress Management Activities Likert Scale Ratings will be compared to the posttest Stress Management Activities Likert Scale Ratings using an Independent t-Test.
Chapter IV

Results

The purpose of the present study is twofold. The first, is to design and implement a comprehensive college campus stress management program that aids in promoting wellness by addressing the following goals:

4) To acquaint the students with a basic understanding of the physiology of stress and its implications for various stress management techniques.

5) To acquaint the students with the fundamental concepts and theories of several stress management techniques, including progressive relaxation, time management, aerobic exercise, cognitive restructuring, assertiveness training, deep breathing, effective coping strategies, and thematic imagery.

6) To provide a structured opportunity for students to practice and apply stress management techniques to their present lives.

The second purpose of this study is to evaluate the outcome of this stress management program. Of particular interest will be the students' use of the stress management techniques taught in the program as well as any changes found in the students' physical and psychological symptoms of stress.

The first null hypothesis is that there are no statistically significant differences between gain scores of Likert scale ratings of stress management behaviors including time management behaviors, problem solving behaviors, relaxation, assertive behaviors, aerobic exercise, or cognitive restructuring tasks between the two groups – Stress Management and Control Groups.
The pre and post means and standard deviations of the Likert scale ratings for each of the stress management behaviors per group will be presented in Table 4. To test the first null hypothesis, the gain scores (difference between pre and post scores) of the Likert scale ratings will be analyzed in a 2 X 6 Analysis of Variance (ANOVA). The results of this ANOVA will be presented in Table 5. The variable of total minutes of aerobic exercise will be analyzed in a 2 x 2 Analysis of Variance (ANOVA) for repeated measures. In addition, to analyze the trend of stress management activities over the course of the Stress Management Program, the means of the Likert scale ratings for the Stress Management Group will be presented in a Run Chart.

The second null hypothesis is that there is no statistically significant differences among pre and post-test Symptoms of Stress Total Mean Scores (as measured by the Symptoms of Stress Inventory) between the two groups – Stress Management and Control Groups.

The pre and post means and standard deviations of the Symptoms of Stress Total Mean Scores per group will be presented in Table 6. To test the second null hypothesis, the Total Symptoms of Stress Scores will be analyzed in a 2 x 2 Analysis of Variance (ANOVA) for repeated measures. The results of the ANOVA will be presented in Table 7.

The third null hypothesis is that there is no statistically significant differences among pre and post-test Total Stress Scores (as measured by the Derogatis Stress Profile) between the two groups – Stress Management and Control Groups.

The pre and post means and standard deviations of Total Stress Scores per group will be presented in Table 8. To test the third null hypothesis, the Total Stress Scores will be analyzed in a 2 x 2 Analysis of Variance (ANOVA) for repeated measures. The results of the ANOVA will be presented in Table 9.
The fourth null hypothesis is that there are no statistically significant differences among pre and post Systolic and Diastolic Blood Pressures measures between the two groups – Stress Management and Control Groups.

The means and standard deviations of the Systolic and Diastolic Blood Pressure measures per group will be presented in Table 10. To test the fourth null hypothesis, the Systolic and Diastolic Blood Pressure measures will be analyzed in a 2 x 2 Multivariate Analysis of Covariance (MANCOVA) factoring out baseline measures. The results of the MANCOVA will be presented in Table 11.
College campuses all over the country are attempting to develop college campus stress management programs to help students manage and cope more effectively with the many stressors that they are confronted with. The types of stress management techniques taught and the formats for teaching them vary from program to program. Similarly, the literature is inconsistent as to what techniques, if any, are effective in reducing stress related physical and psychological health consequences (Archer, 1986; Deffenbacher et al., 1989; Hudesman et al., 1987; Kookan et al., 1984; McWhirter et al., 1996; Nicholson et al., 1989; Romano, 1984; Somersville et al., 1984). The purpose of the present study is to design and implement a comprehensive college campus stress management program that aids in promoting wellness by addressing the following goals:

7) To acquaint the students with a basic understanding of the physiology of stress and its implications for various stress management techniques.

8) To acquaint the students with the fundamental concepts and theories of several stress management techniques, including progressive relaxation, time management, aerobic exercise, cognitive restructuring, assertiveness training, deep breathing, effective coping strategies, and thematic imagery.

9) To provide a structured opportunity for students to practice and apply stress management techniques to their present lives.

The second purpose of this study is to evaluate the outcome of this stress management program. Of particular interest will be the students' use of the stress management techniques
taught in the program as well as any changes found in the students' physical and psychological symptoms of stress.

The current study adds to the existing body of research of college campus stress management programs by utilizing a comprehensive model of teaching college students effective stress management; a model that emphasizes the physiological basis, theory, and practice of several stress management strategies. A comprehensive program as such is supported by specific recommendations made by previous researchers (Archer, 1986; Deffenbacher et al., 1989; McWhirtier et al., 1996; Somersville et al., 1984) As Zastow (1984) suggests, effective stress management needs to be individualized. That is, each person must choose which strategy he or she is most interested in. Therefore, it is expected that this Stress Management Program will result in increased utilization of stress management strategies by the participants, and consequently, a decrease in reported experiences of stress and stress related symptoms.
References


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


Chapter VI

Abstract

The efficacy of a six-week, comprehensive college campus stress management program that consisted of relaxation training, aerobic exercise, time management, problem solving, assertiveness training, and cognitive restructuring was examined. Stress management participants were compared with a control group on measures of stress management activities, aerobic exercise practice, stress experiences, and symptoms of stress. Compared with controls, the stress management participants showed significant increases in relaxation, exercise, time management, problem solving, and assertiveness practice. There were no significant differences noted between the two groups, from pre to post treatment, on cognitive restructuring practice or the total time spent each week exercising. Although significant increases were noted in the practice of several stress management activities, the stress management program did not produce significant changes in stress experiences. However, relative to the control group, significant decreases in the symptoms of stress were noted for the stress management participants from pre to post treatment conditions.
The Development, Implementation, and
Outcome Evaluation of a Stress Management Program
For Xavier University

Stress, as defined by Davis, Eshelman and McKay (1995), is any change that a person must adapt to, ranging from the negative extreme of actual physical danger to the exhilaration of falling in love or achieving some long-desired success. Given this definition, it becomes apparent that all stress does not have to be negative. That is, some stress can be experienced as positive and even desirable. Whether the sources of stress are major life changes, or rather, just minor everyday hassles, ultimately, it is how the person responds or reacts to the stressor that determines if it will have a negative or positive impact on his or her life. Davis et al. have identified four basic sources of stress: 1) the environment in which one lives and functions, 2) social stressors (finances, responsibilities, demands on time and attention, loss of social supports, etc.), 3) physiological changes (puberty, menopause, illness, aging, nutrition, exercise, sleep), and 4) cognitions. In essence, a person experiences stress from the environmental demands and social strains that confront him or her. Then, the physiological reactions he or she experiences in response to those environmental and social threats and changes are also sources of stress. Additionally, how that person interprets and labels the experience and how he or she predicts the future based on the thoughts he or she forms from past experience influences how that person adapts to the stress.

Stress is a fact of day-to-day living that confronts just about everyone and, certainly, college students are no exception. In fact, college students are confronted with many sources of stress. For example, one source of stress for students of all grade levels is academic performance.
pressure. Some of the other sources of stress that confront students of higher education, particularly the freshman students, include unfamiliarity with the college campus culture, increased responsibilities, time constraints, financial burden, changes in social roles and activities, and changes in daily schedules affecting sleep, nutrition, and exercise (Larson & Laramee, 1976; Pressley, Etten, Yokoi, Freebern & Meter, 1998; Romano, 1978; Wong & Kwok, 1997). To help students effectively manage and cope with these various sources of stress, many colleges are promoting total wellness, in which stress management is one dimension, on their campuses. The assumption is that some of the sources of stress that confront college students can be avoided, or at least lessened, while others are inevitable. Thus, it is beneficial for students to learn both the skills necessary to avoid possible sources of stress and the skills necessary to effectively manage and cope with the stresses that will inevitably confront them.

Although stress management programs are common on college campuses, empirical research evaluating the efficacy of such programs is limited. The programs that are described usually consist of teaching a variety of stress management techniques to help students to more effectively manage the stress that confronts them. One of the reasons for the lack of empirical evaluation of stress management programs is that they are preventative programs and thus, it is difficult to ascertain the effectiveness of these efforts (Archer, 1986). Of the empirical investigations of the stress management programs that do exist, results vary. Some research supports beneficial effects from teaching students stress management skills (Archer, 1986; Deffenbacher & Shepard, 1989; Hudesman Beck, & Smith, 1987; Romano, 1984; Somersville, Allen, Noble, & Sedgwick, 1984) while others report no beneficial effects (Kooker & Hayslip, 1984; McWhirter, Okey, Roth, & Herlache, 1996; Nicholson, Belcastro, & Duncan, 1989).
Comparing such studies is difficult because the stress management programs cited in the literature vary in techniques and in format. For example, Archer's (1986) three-part (physical, cognitive, lifestyle) model of stress management utilized a college course format in which both theoretical and applied perspectives of several different techniques were covered. Specifically, the course took students through a variety of approaches and techniques to help the student mentally and physically relax, modify cognitive processes that create stress and anxiety, and examine lifestyle choices that increase stress. Results indicated that the stress management group had significantly greater gain scores in four of nine stress management areas: regular relaxation, situational relaxation, aerobic exercise, and positive self-statements. Deffenbacher and Shepard (1989) evaluated a two day psychology seminar class on stress management. The seminar included stress management skills such as relaxation training, assertiveness training, personal awareness, environmental change, and cognitive restructuring. The seminar, which incorporated didactic and experiential components, resulted in reductions in anger, anxiety, fear, person-specific stress, and physiological reactivity. McWhirter et al. (1996) described a 5-week course using multiple instructors that entailed education of the underlying physical and psychological mechanisms of stress, deep breathing, progressive muscle relaxation, exercise, time management, and cognitive restructuring. The program failed to produce changes in self-report measures of state-trait anxiety, coping resources, and self-esteem.

The purpose of the present study was twofold. The first was to design and implement a comprehensive college campus stress management program, based upon current research findings. The program acquainted the students with a basic understanding of the physiology of stress and its implications for various stress management techniques. It also acquainted the students with the fundamental concepts and theories of several stress management techniques,
including progressive muscle relaxation, time management, aerobic exercise, cognitive restructuring, assertiveness training, deep breathing, effective problem solving, and thematic imagery. As Zastrow (1984) suggested, effective stress management needs to be individualized. That is, each person must choose which strategy is more applicable to his or her needs. Finally, it provided a structured opportunity for students to practice and apply stress management techniques to their present lives. The second purpose of the study was to evaluate the outcome of the program. Of particular interest was the students' use of the stress management techniques taught in the program, students' reports of their experiences of stress, and the physical and psychological stress-related symptoms reported by the students. This study adds to the existing body of research of college campus stress management programs by utilizing a comprehensive model of teaching college students effective stress management; a model that emphasizes the physiological basis, theory, and practice of several stress management strategies.

**Method**

**Participants**

Eighty-one students responded to a campus wide advertisement for participation in the study at a medium sized, Midwestern university. Of the eighty-one students who responded, 43 selected to be in the Stress Management Program while 38 were only interested in completing the questionnaires. Although participation in all six sessions of the Stress Management Program was emphasized, six of the 43 Stress Management participants failed to attend at least five of the six sessions and thus, their data were not included in the data analyses. Four of the six Stress Management participants who were not included in the study only missed two sessions. Two participants missed one session each and were given the handouts from the session they missed. Seven of the Control Group participants failed to show to complete the post questionnaires. The
final analyses were conducted on 37 Stress Management participants and 31 Control Group participants. The frequencies of the sex and race of the participants are presented in Table 1. Chi Square analyses supported comparability of the two groups (Stress Management and Control Groups) on sex, \( \chi^2 (1, N = 68) = 3.77, p = .05 \) but not on race, \( \chi^2 (3, N = 68) = 110.94, p = .0001 \). Thus, all further analyses of the Stress Management vs. Control Groups included race as a covariate. The means and standard deviations of the age and year in school per group are presented in Table 2. Separate analyses of covariance (ANCOVA) indicated no significant differences between the two groups (Stress Management and Control) on age, \( F (1, 68) = .23, p = .63 \), and year in school, \( F (1, 68) = .04, p = .85 \). During the first Stress Management session, the 37 Stress Management Group participants were immediately separated into two groups to reduce treatment group size (n = 16 and n = 21).

**Instructors**

Instructors were two psychology doctoral students (one instructor per Stress Management Group), who were trained by the researcher. In addition, the researcher floated between groups during the sessions to assist.

**Design of Stress Management Program**

The context of the stress management treatment module consisted of both theoretical and practical interventions for avoiding and coping with stress. There was a total of six sessions. During Session 1 (a two-hour session), students were given an overview of the underlying physical and psychological mechanisms of stress as well as the cognitive, emotional, behavioral, and physiological components of stress reactions. The participants were then introduced to some concepts of time management followed with a time management exercise. Sessions 2 – 5, all one-hour sessions, followed the same format in that each session introduced a new stress
management concept (Time Management, Relaxation, Cognitive Restructuring, Problem Solving, and Assertiveness, respectively), the theoretical implications for its use, and an opportunity to practice the skill during the session via session exercises. Each session concluded with a homework assignment. Session 6, a one-hour session, did not introduce a new concept but rather all the concepts introduced in the program were reviewed, questions/concerns were addressed, and the participants were given the opportunity to discuss what they found useful or not useful in reducing their stress. More specific feedback was asked to be given in written form included in the questionnaire.

Aerobic exercise was also a component of the Stress Management Program. Participants were encouraged to participate in aerobic exercise at least three times per week for a minimum of 20 minutes each time.

**Instruments**

The measures were given to the participants in the order in which they are presented here.

**Symptoms of Stress Inventory.** The Symptoms of Stress Inventory (SOSI; Thompson & Budzynski, 1989) is a 94-item checklist to which respondents indicate on a scale from never (1) to almost all the time (5) how frequently they have encountered various stress related symptoms over the past week. The SOSI has 10 subscale scores and a total score. The subscale scores include indicators of emotional stress responses (depression, anxiety/fear, emotional irritability, and cognitive disorganization), physical symptoms (peripheral manifestations, cardiopulmonary symptoms, neurological symptoms, gastrointestinal symptoms, and muscle tension), and habitual pattern responses. Internal consistency ranges from .62 to .91 for the subscales and is .97 for the total score. Test-retest reliability is .83 for the total score. The SOSI has been used in other studies (Greene & Hiebert, 1988; Kiselica, Baker, Thomas, & Reedy, 1994) as an indicator of
stress-related symptoms and has been reported to have high face validity. For scoring purposes, high scores indicate more pronounced symptoms of stress. The SOSI was used in this study at pretest and posttest to assess changes in symptoms of stress.

**Stress Management Activities Rating Scales.** Participants of the Stress Management Group were asked each week to report how frequently they practiced stress management activities during the previous week on a five-point scale from “never” (0) to “always” (5) for each of the component areas of the program. Participants of the Control Group completed the stress management activities rating scales at each of the two sessions. Pre and post measures were compared to assess changes in the practice of the stress management activities.

**The Derogatis Stress Profile.** The Derogatis Stress Profile (DSP; Derogatis, 1980) is a 77-item multidimensional self-report inventory designed to measure stress experiences. The DSP was derived from the interactional theory of stress proposed by Lazarus (1966). Lazarus proposed that there are three domains of stress (environmental stress, personality mediators, and emotional responses) that must be considered interactively in order to understand the stress construct. Thus, the DSP paradigm holds that a person’s personality characteristics and the quality of the individual’s emotional response mediate stress-inducing life events so that the burden of the environmental stressor is either magnified and enhanced or deflected and diminished. There are 11 primary stress dimensions (domestic, vocational, health, time pressures, driven behavior, attitude posture, role definition, relaxation potential, anxiety, depression, and hostility) that are subsumed under three principle stress domains (environmental events domain, personality mediators domain, emotional response domain). These three principal stress components cumulatively provide a quantitative estimate (Total Stress Score) of the respondent’s current stress levels. Test-retest reliability, as measured seven days apart, of the DSP ranges
from .72 to .92 for the 11 stress dimensions, .82 to .89 for the three stress domains, and is .90 for the Total Stress Score. Internal consistency reliability ranges from .79 to .91 for the 11 stress dimensions and from .83 to .88 for the two stress domains (Derogatis, 1987). The DSP Total Stress Score was used in this study as a pretest and posttest measure of stress experiences.

**Systolic and Diastolic Blood Pressure.** Several studies have found that stress management methods such as those included in this investigation can be effective in treating hypertension (Lichstein, 1988; Linden & Chambers, 1994). In this study, pre and post Systolic and Diastolic Blood Pressures were to be obtained for the Stress Management and Control groups for comparisons. However, due to circumstances beyond the researcher's control, blood pressures were not obtained pre-treatment. Thus, blood pressure was not analyzed in this study.

**Procedure**

Students were recruited through two campus-wide advertisements. The Stress Management Program advertisement specified a six-week Stress Management Program, co-sponsored by the University Wellness Team and the Psychological Services Center. The advertisement instructed interested students to call to sign-up. Students who called the phone number listed reached a prerecorded message providing information regarding the date, time, and location. The advertisement also indicated a raffle of two $100.00 incentives for participants who completed the entire program. The second advertisement informed students of a survey assessing the stress experienced by university students. The advertisement indicated that participation in two sessions was required and informed interested students of the date, time, and location of the survey. This advertisement also indicated that a $50.00 cash prize would be raffled. Both advertisements were campus-wide: (1) announcements on bulletin boards throughout the campus, (2) bulletin board announcements in all residence halls, including on-
campus apartments, (3) an ad in the university newspaper, and (4) verbal announcements in introductory psychology classes. Additionally, the advertisements and a letter requesting verbal announcements and referrals was sent to various faculty and staff on campus including but not limited to: (1) psychology instructors, (2) instructors of other campus departments, (3) residence hall directors, and (4) staffs of various organizations on campus. Verbal announcements included the same messages as the written advertisements.

One to two days prior to the first scheduled session, the participants who signed-up for the Stress Management Program were phoned to remind them of the first session meeting time and to inform them of the meeting location. The date and time of the first session for both the stress management and control groups was the same with different meeting locations to prevent participation in both groups.

During the first session, the Stress Management Group was given a brief introduction to the Stress Management Program informing them that they were being asked to participate in a study concerning the effectiveness of this Stress Management Program. Once written consent was given, the participants completed the pretest materials. The stress management participants were also asked to complete a checklist reporting any preexisting health conditions such as arthritis, heart problems, high blood pressure, and/or history of fainting so that the participant could be referred for exercise advisement. Nine Stress Management Group participants indicated a preexisting health problem and were referred to the recreational sports director at the university for advisement on aerobic exercise. These participants were also advised to contact their physician regarding participation in the program. At the end of the sixth session, the participants were given the posttests including a feedback survey. Following completion of the
posttest materials, the participants were given a written debriefing form and were given the opportunity to ask questions and/or comment on the program.

During the first session for the Control Group, participants were given a brief description of the study informing them that they were being asked to participate in a survey of the stress experienced by university students. It was indicated that participation in two separate sessions (six weeks apart) was being asked of the participants. At that point, the date, time, and location of the second session were given. Once consent was given, the participants completed the pretest materials.

The Control Group participants were phoned one to two days prior to the second session to remind them of the time and location (which was the date and time of the sixth stress management session). During the second session, the Control Group participants were given the posttest materials. Upon returning the posttest materials, they were given a written debriefing form and were given the opportunity to ask any questions concerning the study.

All the cash prizes were raffled the week following completion of the data collection and the winners were notified by phone.

At 30-weeks post Stress Management Program, the Stress Management Rating Scales and a self-addressed stamped envelope were mailed out to 32 of the 37 Stress Management Group participants (no follow-ups were sent to graduated students because the researcher did not have access to their current addresses). The participants were asked to complete the rating scale and return it in the envelope provided. Only three follow-up Stress Management Activities Rating Scales were returned and thus follow-up data analysis was not conducted.
Results

To assess comparability of the two Stress Management Groups, age, sex, race, and educational level were assessed. Consistent with the findings of the Stress Management vs. Control Group demographic comparisons, Chi square analyses indicated the two Stress Management Groups were not comparable on race, $\chi^2 (3, N = 37) = 45.05, p = .0001$ but were comparable on sex $\chi^2 (1, N = 37) = 3.27, p = .07$ (Table 3). The Stress Management Groups were also comparable (adjusting for the effects of race) on age, $F (1, 37) = .92, p = .34$ and education $F (1, 37) = .20, p = .66$ (Table 4). Additionally, pretreatment Stress Management Activities Rating Scales, SOSI Total Mean Score, and the DSP Total Stress Score differences between the Stress Management Groups were assessed via separate Analyses of Covariance (ANCOVA), with race as a covariate. Results supported no significant pretreatment differences on any of the outcome measures (Table 5). Given these results, the two Stress Management Groups were collapsed into a single experimental group for statistical analyses.

The instructors completed a checklist of the session agenda following each session. There was 100% adherence to the agenda for each session per instructor.

The means and standard deviations for the Stress Management Activities Rating Scale pretreatment, post treatment, and change scores for the Stress Management and Control Groups are presented in Table 6. A One-Way Multiple Analysis of Covariance (MANCOVA), with race and pretreatment Stress Management Ratings as covariates, yielded a significant main effect for the six outcome measures, Wilks $F (6, 54) = 10.93, p = .0001$. Separate Univariate ANCOVAs supported significant differences between the Stress Management and Control Groups on the relaxation, exercise, problem solving, time management, and assertiveness rating change scores but not on the cognitive restructuring rating change score (See Table 6). The results suggest that,
relative to the Control Group, the Stress Management Group participants reported more practice of relaxation, exercise, problem solving, time management, and assertiveness activities at post treatment than at pretreatment, but did not report more practice of cognitive restructuring activities at post treatment than at pretreatment.

The means and standard deviations for total exercise minutes pretreatment, post treatment, and change scores for the Stress Management and Control Groups are presented in Table 7. A One-Way ANCOVA, using race and pretreatment total exercise minutes as covariates, supported no significant differences in total exercise minutes change scores, Stress Management vs. Control Group, $F (1, 61) = .85, p = .36$. These results suggest that although data analyses indicate that, relative to the Control Group, the Stress Management Group reported more frequent exercising activities at post treatment than at pretreatment, they did not report a greater amount of time practicing exercise at post than at pretreatment.

The pretreatment, post treatment, and change score means and standard deviations for Symptoms of Stress Total Mean Scores (SOSI) per group are presented in Table 8. A One-Way ANCOVA, using race and pretreatment SOSI Total Mean Scores as covariates, on the SOSI Total Mean Change Scores supported significant differences between the Stress Management and Control Groups, $F (1, 64) = 19.19, p = .0001$. These results indicate that, relative to the Control Group, the Stress Management Group reported fewer symptoms of stress at post treatment than at pretreatment. Post hoc analyses were computed on the SOSI subscale scores to evaluate the specific stress symptoms clusters. The results are presented in Table 9. A One-Way Multiple Analysis of Covariance (MANCOVA), with race and pretreatment SOSI subscale scores as covariates, yielded a significant main effect for the 10 outcome measures, Wilks’ $F (10, 46) = 2.91, p = .01$. The results suggest that relative to the Control Group, the Stress
Management Group reported a significant decrease in specific clusters of stress symptoms including: peripheral manifestations (sweating, rash, itching, hot/cold spells), cardiopulmonary symptoms, gastrointestinal symptoms, muscle tension, habitual patterns, depression, emotional irritability, and cognitive disorganization. No significant changes were noted in neurological symptoms or anxiety.

The pretreatment, post treatment, and change scores mean and standard deviations for the Derogatis Stress Profile (DSP) Total Scores per group are presented in Table 10. A One-Way ANCOVA, using race and pretreatment DSP Total Scores as covariates, on the DSP Total change scores did not support significant difference between the Stress Management and Control Groups $F (1, 64) = 2.10, p = .15$. These results suggest that, relative to the Control Group, the participants in the Stress Management Group did not report a difference between pretreatment and post treatment stress experiences. Post hoc analyses of the DSP Domain Scores (Personality Mediators Domain, Environmental Events Domain, and Emotional Response Domain) were computed to evaluate if group differences were noted from pre to post treatment on specific stress foci (See Table 11). No group differences were noted between the pre and post treatment DSP Domain Scores, Wilks’ $F (3,57) = .57, p = .05$.

Discussion

This study evaluated the efficacy of a comprehensive college campus stress management program. The program design assumed that some of the sources of stress that confront college students are avoidable, while others are inevitable. Thus, this program introduced both prevention and intervention stress management skills. The program design also attended to the
theory that effective stress management must be individualized. The program introduced several stress management strategies and emphasized that each participant must choose which strategies are most applicable to his or her life and then he or she needs to perfect those individualized skills.

In comparison to control conditions, the Stress Management Program resulted in increased practice of relaxation, exercise, problem solving, time management, and assertiveness activities. Throughout the program, many of the participants shared positive experiences of practicing their new skills. Some participants even reported that, surprisingly, they were practicing some stress management tasks automatically. Following the time management session, many of the participants expressed a newfound appreciation for day organizers and to do lists. Several participants shared experiences of practicing deep breathing when preparing for an upcoming exam. Other participants reported feeling increased energy from exercising on a regular basis while others reported they felt more relaxed following an exercise session.

Although cognitive restructuring was also introduced in the program, increased practice was not proven to result from the Stress Management Program. Interestingly, feedback from the Stress Management Group participants suggested that, when pretreatment measures were taken, some of the participants believed they were practicing various stress management activities appropriately, such as cognitive restructuring, but later in the program, when educated about the skill, they learned that they actually were not practicing these activities appropriately. The participants also reported that they found cognitive restructuring to be the most difficult component of the program to learn. Most of the participants agreed that restructuring the thoughts that are automatic to them is something that takes keen awareness and much more individualized instruction, suggesting the need for more intense instruction than the hour session
provided in this program. Given the participants’ feedback, it is not clear whether the program really did not increase the practice of cognitive restructuring activities or whether the participants’ appraisals of their practice of cognitive restructuring changed with education. Regardless, future stress management programs should consider the limitations of teaching cognitive restructuring in time limited group settings.

It is also interesting that the Stress Management Group participants reported more frequent practice of exercise activities from pre to post treatment, but did not report an increase in the amount of time they spent each week exercising. Again, from participant feedback, as the group was educated on this facet of the program, they learned that many different aerobic exercise activities could be practiced to reduce stress and that they did not have to engage in exercise for long periods of time for it to be efficacious. The feedback emphasizes the importance of educating participants on the theory and fundamental concepts of these stress management skills before teaching the skill itself.

While the Stress Management Program resulted in increased practice of stress management activities, it did not reduce stress inducing experiences. That is, the participants’ personality characteristics and emotional response styles did not change; thus, mediation of environmental stressors did not improve. Indeed, both personality characteristics and emotional response styles are enduring characteristics that the researcher would not have expected to change as a result of a stress management program. The Stress Management Program did, however, produce positive treatment gains in the perceived symptoms of stress experienced by the participants. Specifically, the Stress Management Program produced significant reductions in the participants’ perceptions of their peripheral manifestations of stress, cardiopulmonary symptoms, gastrointestinal symptoms, muscle tension, habitual patterns, depression, emotional
irritability, and cognitive disorganization. Overall, these results suggest that the Stress Management Program did not produce changes in how the participants mediated environmental stressors but rather it helped participants learn skills to effectively cope with the stress they did experience. Also, although several of the stress management skills introduced in the program aimed at preventing environmental stressors (i.e. cognitive restructuring and time management), as indicated by the Environmental Events Domain of the Derogatis Stress Profile, the program did not change the environmental stressors that confronted the participants. Interestingly, the participants suggested that the program be offered earlier in the semester as they felt it was too late to avoid some of the stressors. For example, many reported that had they practiced some of the time management activities earlier in the semester they could have avoided some of the academic pressures they were currently experiencing. Some participants reported stressors related to relationships that, had they problem solved or been more assertive earlier on, they could have avoided some of the relationship strains with which they were currently struggling. Although it is uncertain, it appears likely that the middle to end of the semester timing of the program hindered the participants' ability to experience preventative gains from the stress management practices. It is encouraging that the participants recognized that they could have avoided some of the stressors that they were now facing; supporting the chance that some of the participants may practice their new skills in preventing future stress.

This study adds to the existing body of research of college campus stress management programs with its utilization of a comprehensive model of teaching college students effective stress management; a model that emphasized the physiological basis, theory, and practice of several stress management strategies. A comprehensive program, as such, is supported by specific recommendations of previous research (Archer, 1986; Deffenbacher et al., 1989;
McWhirtier, et al., 1996; Somersville et al., 1984). As Zastrow (1984) suggested, effective stress management needs to be individualized. Indeed, many of the participants of this program reported that they appreciated the presentation of several stress management strategies because it allowed them to individualize the program, thus making the material more applicable to their own particular stress experiences. As discussed earlier, it is recommended that future stress management program investigations consider the timing and length of the program to address concerns raised by the participants in this study. Benefits of early semester and longer stress management programs are implicated in this study. An inherent limitation in the design of this study was allowing the participants to self-select the group in which they participated. It is recommended that future research employ more stringent controls such as random assignment of experimental and control groups. Future investigators are also encouraged to explore opportunities for program formats that encourage individualization and to assess the implications of various program formats for more individualized stress management skills, such as cognitive restructuring.
References


Table 1

Frequencies of Sex and Race per Group

<table>
<thead>
<tr>
<th>Group</th>
<th>Category</th>
<th>Total</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress Management</td>
<td>Male</td>
<td>13</td>
<td>3.77</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Male</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management</td>
<td>White</td>
<td>26</td>
<td>110.94</td>
<td>.0001</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian/Pacific Island</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>White</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian/Pacific Island</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2

Means and Standard Deviations of Age and Year in School per Group

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management</td>
<td>20.69</td>
<td>4.02</td>
<td>.23</td>
<td>.63</td>
</tr>
<tr>
<td>Control</td>
<td>20.00</td>
<td>1.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year in School</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management</td>
<td>2.33</td>
<td>.83</td>
<td>.04</td>
<td>.85</td>
</tr>
<tr>
<td>Control</td>
<td>2.35</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The year in school was coded as follows: 1= Freshman, 2= Sophomore, 3= Junior, and 4= Senior.
Table 3

Frequencies of Sex and Race per Stress Management Group

<table>
<thead>
<tr>
<th>Group</th>
<th>Category</th>
<th>Total</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress Management 1</td>
<td>Male</td>
<td>5</td>
<td>3.27</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management 2</td>
<td>Male</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management 1</td>
<td>White</td>
<td>10</td>
<td>45.05</td>
<td>.0001</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian/Pacific Island</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management 2</td>
<td>White</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asian/Pacific Island</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4

**Means and Standard Deviations of Age and Year in School per Stress Management Group**

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management 1</td>
<td>19.87</td>
<td>.64</td>
<td>.92</td>
<td>.34</td>
</tr>
<tr>
<td>Stress Management 2</td>
<td>21.29</td>
<td>5.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year in School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management 1</td>
<td>2.40</td>
<td>.83</td>
<td>.20</td>
<td>.66</td>
</tr>
<tr>
<td>Stress Management 2</td>
<td>2.29</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The education levels were as follows: 1= Freshman, 2= Sophomore, 3= Junior, and 4= Senior.
Table 5

**Mean, Standard Deviations and Analyses of Covariance for Pretreatment Dependent Variables per Stress Management Groups**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>M</th>
<th>SD</th>
<th>(df)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stress Management Group 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management Activities Ratings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relaxation</td>
<td>1.33</td>
<td>2.13</td>
<td>(5,30)</td>
<td>.82</td>
<td>.54</td>
</tr>
<tr>
<td>Exercise</td>
<td>1.80</td>
<td>1.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>14.47</td>
<td>5.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Management</td>
<td>18.00</td>
<td>7.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>11.40</td>
<td>3.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Restructuring</td>
<td>10.60</td>
<td>4.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOSI Total Mean Score</td>
<td>1.00</td>
<td>.51</td>
<td>(1)</td>
<td>.19</td>
<td>.67</td>
</tr>
<tr>
<td>DSP Total Score</td>
<td>143.00</td>
<td>25.06</td>
<td>(1)</td>
<td>2.37</td>
<td>.13</td>
</tr>
<tr>
<td><strong>Stress Management Group 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress Management Activities Ratings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relaxation</td>
<td>1.18</td>
<td>1.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise</td>
<td>1.91</td>
<td>1.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>18.27</td>
<td>7.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Management</td>
<td>18.36</td>
<td>8.42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assertiveness</td>
<td>11.68</td>
<td>3.42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Restructuring</td>
<td>10.77</td>
<td>5.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOSI Total Mean Score</td>
<td>1.08</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSP Total Score</td>
<td>128.14</td>
<td>29.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6

Means, Standard Deviations and Analyses of Covariance for Stress Management Activities
Ratings Change Scores per Group

<table>
<thead>
<tr>
<th>Stress Management Group</th>
<th>Posttreatment − Pretreatment = Change Score</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaxation</td>
<td>M = 6.22</td>
<td>M = 1.24</td>
<td>M = 4.97</td>
</tr>
<tr>
<td></td>
<td>SD= 2.95</td>
<td>SD= 1.79</td>
<td>SD= 2.80</td>
</tr>
<tr>
<td>Exercise</td>
<td>M = 2.81</td>
<td>M = 1.86</td>
<td>M = .95</td>
</tr>
<tr>
<td></td>
<td>SD= 1.11</td>
<td>SD= 1.08</td>
<td>SD= 1.39</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>M = 8.32</td>
<td>M =16.73</td>
<td>M = 1.59</td>
</tr>
<tr>
<td></td>
<td>SD= 6.94</td>
<td>SD= 6.84</td>
<td>SD= 7.14</td>
</tr>
<tr>
<td>Time Management</td>
<td>M = 23.16</td>
<td>M =18.22</td>
<td>M = 4.95</td>
</tr>
<tr>
<td></td>
<td>SD= 7.40</td>
<td>SD= 8.05</td>
<td>SD= 6.87</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>M = 12.59</td>
<td>M =11.57</td>
<td>M = 1.03</td>
</tr>
<tr>
<td></td>
<td>SD= 3.99</td>
<td>SD= 3.47</td>
<td>SD= 4.51</td>
</tr>
<tr>
<td>Cognitive Restructuring</td>
<td>M = 11.24</td>
<td>M =10.70</td>
<td>M = .54</td>
</tr>
<tr>
<td></td>
<td>SD= 4.60</td>
<td>SD= 4.74</td>
<td>SD= 5.72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Posttreatment − Pretreatment = Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaxation</td>
<td>M = 2.06</td>
</tr>
<tr>
<td></td>
<td>SD= 1.93</td>
</tr>
<tr>
<td>Exercise</td>
<td>M = 2.61</td>
</tr>
<tr>
<td></td>
<td>SD= 1.33</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>M = 15.39</td>
</tr>
<tr>
<td></td>
<td>SD= 5.33</td>
</tr>
<tr>
<td>Time Management</td>
<td>M = 17.77</td>
</tr>
<tr>
<td></td>
<td>SD= 8.82</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>M = 10.16</td>
</tr>
<tr>
<td></td>
<td>SD= 3.80</td>
</tr>
<tr>
<td>Cognitive Restructuring</td>
<td>M = 9.81</td>
</tr>
<tr>
<td></td>
<td>SD= 4.12</td>
</tr>
</tbody>
</table>
Table 7

Means, Standard Deviations, and Analysis of Covariance for Total Exercise Minutes Change Scores per Group

**Stress Management Group**

<table>
<thead>
<tr>
<th>Posttreatment</th>
<th>Pretreatment</th>
<th>Change Score</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M = 167.35$</td>
<td>$M = 124.19$</td>
<td>$M = 33.97$</td>
<td>.85</td>
<td>.36</td>
</tr>
<tr>
<td>$SD = 120.96$</td>
<td>$SD = 138.68$</td>
<td>$SD = 138.56$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Control Group**

<table>
<thead>
<tr>
<th>Posttreatment</th>
<th>Pretreatment</th>
<th>Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M = 214.52$</td>
<td>$M = 218.87$</td>
<td>$M = -4.35$</td>
</tr>
<tr>
<td>$SD = 237.82$</td>
<td>$SD = 272.66$</td>
<td>$SD = 135.05$</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 8

Means, Standard Deviations, and Analysis of Covariance for Symptoms of Stress Total Mean Change Scores per Group

<table>
<thead>
<tr>
<th></th>
<th>Stress Management Group</th>
<th></th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Posttreatment - Pretreatment = Change Score</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Stress Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>M = .69</td>
<td>M = 1.05</td>
<td>M = .74</td>
</tr>
<tr>
<td></td>
<td>SD = .46</td>
<td>SD = .55</td>
<td>SD = .37</td>
</tr>
<tr>
<td></td>
<td>M = -.36</td>
<td>SD = .30</td>
<td>M = .07</td>
</tr>
<tr>
<td></td>
<td>F = 19.19</td>
<td>p = .0001</td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M = .74</td>
<td>M = .67</td>
<td>M = .37</td>
</tr>
<tr>
<td></td>
<td>SD = .37</td>
<td>SD = .39</td>
<td>SD = .29</td>
</tr>
</tbody>
</table>
Table 9

Means, Standard Deviations and Analyses of Covariance for Symptoms of Stress Subscale Scores per Group

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Posttreatment</th>
<th>Pretreatment</th>
<th>Change Score</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Symptoms</td>
<td>M = .65</td>
<td>M = 1.10</td>
<td>M = -.44</td>
<td>5.36</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>SD = .69</td>
<td>SD = .71</td>
<td>SD = .63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiopulmonary</td>
<td>M = .69</td>
<td>M = 1.07</td>
<td>M = -.38</td>
<td>4.76</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>SD = .59</td>
<td>SD = .65</td>
<td>SD = .60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Nervous System</td>
<td>M = .26</td>
<td>M = .47</td>
<td>M = -.20</td>
<td>3.80</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>SD = .41</td>
<td>SD = .43</td>
<td>SD = .36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>M = .66</td>
<td>M = .91</td>
<td>M = -.25</td>
<td>5.81</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>SD = .64</td>
<td>SD = .70</td>
<td>SD = .48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle Tension</td>
<td>M = .90</td>
<td>M = 1.27</td>
<td>M = -.37</td>
<td>17.42</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>SD = .63</td>
<td>SD = .76</td>
<td>SD = .43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Habitual Patterns</td>
<td>M = .86</td>
<td>M = 1.12</td>
<td>M = -.26</td>
<td>9.48</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>SD = .60</td>
<td>SD = .69</td>
<td>SD = .42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>M = .62</td>
<td>M = .95</td>
<td>M = -.34</td>
<td>5.09</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>SD = .58</td>
<td>SD = .66</td>
<td>SD = .53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>M = .56</td>
<td>M = .71</td>
<td>M = -.15</td>
<td>.16</td>
<td>.69</td>
</tr>
<tr>
<td></td>
<td>SD = .75</td>
<td>SD = .58</td>
<td>SD = .62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Irritability</td>
<td>M = .70</td>
<td>M = 1.12</td>
<td>M = -.41</td>
<td>11.07</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>SD = .59</td>
<td>SD = .71</td>
<td>SD = .49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Disorganization</td>
<td>M = .83</td>
<td>M = 1.18</td>
<td>M = -.32</td>
<td>5.65</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>SD = .66</td>
<td>SD = .76</td>
<td>SD = .66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 9 cont.

**Control Group**

<table>
<thead>
<tr>
<th></th>
<th>Posttreatment</th>
<th>Pretreatment</th>
<th>Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peripheral Symptoms</strong></td>
<td>M = .72</td>
<td>M = .67</td>
<td>M = .05</td>
</tr>
<tr>
<td></td>
<td>SD = .47</td>
<td>SD = .52</td>
<td>SD = .49</td>
</tr>
<tr>
<td><strong>Cardiopulmonary</strong></td>
<td>M = .59</td>
<td>M = .61</td>
<td>M = -.02</td>
</tr>
<tr>
<td></td>
<td>SD = .36</td>
<td>SD = .36</td>
<td>SD = .30</td>
</tr>
<tr>
<td><strong>Central Nervous System</strong></td>
<td>M = .29</td>
<td>M = .21</td>
<td>M = .07</td>
</tr>
<tr>
<td></td>
<td>SD = .35</td>
<td>SD = .23</td>
<td>SD = .37</td>
</tr>
<tr>
<td><strong>Gastrointestinal</strong></td>
<td>M = .59</td>
<td>M = .46</td>
<td>M = .13</td>
</tr>
<tr>
<td></td>
<td>SD = .57</td>
<td>SD = .41</td>
<td>SD = .51</td>
</tr>
<tr>
<td><strong>Muscle Tension</strong></td>
<td>M = .94</td>
<td>M = .88</td>
<td>M = .06</td>
</tr>
<tr>
<td></td>
<td>SD = .55</td>
<td>SD = .62</td>
<td>SD = .39</td>
</tr>
<tr>
<td><strong>Habitual Patterns</strong></td>
<td>M = .91</td>
<td>M = .79</td>
<td>M = .12</td>
</tr>
<tr>
<td></td>
<td>SD = .57</td>
<td>SD = .55</td>
<td>SD = .48</td>
</tr>
<tr>
<td><strong>Depression</strong></td>
<td>M = .81</td>
<td>M = .72</td>
<td>M = .09</td>
</tr>
<tr>
<td></td>
<td>SD = .73</td>
<td>SD = .68</td>
<td>SD = .52</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td>M = .43</td>
<td>M = .44</td>
<td>M = -.02</td>
</tr>
<tr>
<td></td>
<td>SD = .35</td>
<td>SD = .44</td>
<td>SD = .35</td>
</tr>
<tr>
<td><strong>Emotional Irritability</strong></td>
<td>M = .97</td>
<td>M = .95</td>
<td>M = .07</td>
</tr>
<tr>
<td></td>
<td>SD = .77</td>
<td>SD = .78</td>
<td>SD = .69</td>
</tr>
<tr>
<td><strong>Cognitive Disorganization</strong></td>
<td>M = 1.05</td>
<td>M = .88</td>
<td>M = .17</td>
</tr>
<tr>
<td></td>
<td>SD = .65</td>
<td>SD = .62</td>
<td>SD = .68</td>
</tr>
</tbody>
</table>

*Note.* *p* < .05. **p** < .01.
Table 10

Means, Standard Deviations, and Analysis of Covariance for Derogatis Stress Profile Total Change Scores per Group

**Stress Management Group**

<table>
<thead>
<tr>
<th>Posttreatment</th>
<th>Pretreatment</th>
<th>Change Score</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>M = 124.73</td>
<td>M = 134.16</td>
<td>M = -9.43</td>
<td>2.10</td>
<td>.15</td>
</tr>
<tr>
<td>SD = 24.32</td>
<td>SD = 28.40</td>
<td>SD = 18.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Control Group**

<table>
<thead>
<tr>
<th>Posttreatment</th>
<th>Pretreatment</th>
<th>Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>M = 131.48</td>
<td>M = 136.77</td>
<td>M = -5.29</td>
</tr>
<tr>
<td>SD = 20.32</td>
<td>SD = 23.95</td>
<td>SD = 13.50</td>
</tr>
</tbody>
</table>
Table 11

Mean and Standard Deviations for Derogatis Stress Profile Domain Scores per Group

<table>
<thead>
<tr>
<th></th>
<th>Stress Management Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Posttreatment - Pretreatment = Change Score</td>
<td>Posttreatment - Pretreatment = Change Score</td>
</tr>
<tr>
<td>Personality Mediators</td>
<td>( M = 229.86 ), SD= 30.46</td>
<td>( M = 240.13 ), SD= 26.39</td>
</tr>
<tr>
<td>Environmental Events</td>
<td>( M = 147.02 ), SD= 20.85</td>
<td>( M = 151.39 ), SD= 13.17</td>
</tr>
<tr>
<td>Emotional Response</td>
<td>( M = 149.10 ), SD= 21.12</td>
<td>( M = 149.84 ), SD= 16.70</td>
</tr>
</tbody>
</table>

\( F \) and \( p \) values for the change scores are as follows:

- Personality Mediators: \( F = 2.24, p = .14 \)
- Environmental Events: \( F = 2.45, p = .13 \)
- Emotional Response: \( F = 2.61, p = .02 \)
Appendix A

Stress Management Manual
Session 1 (2 Hour Session)

Goals

1. To inform the participants of the Stress Management Program.
2. To introduce the participants to the biological basis of stress.
3. To introduce the participants to some basic time management principles.
4. To discuss and practice time management skills.

Materials Required

- Pretests
- Blood Pressure Charts
- Ways Exercise Will Enrich Your Life Handout
- Stress Management Activities Likert Scales
- Diagram of Biological Basis of Stress and Stress Management (transparency)
- Handout of the Basic Principles of Time Management
- 168 Hours a Week Exercise
- Time Management Exercise

Session Outline

- Distribute Consent Forms and give Introduction to Stress Management Program
- Distribute Pretests and obtain blood pressure measures
- Briefly review Over 35 Ways Exercise Could Enrich Your Life Handout
- Overview of biological basis of stress and stress management using diagram to illustrate
- Introduction to time management
- Discuss Principles of Time Management
- Motivate students to be receptive of change using three steps:
  1. reinstate stress associated with the previous semester
  2. examine the semester schedule
  3. examine the stress of the semester
- Illustrate to the participants how much of their time is already committed to different activities and potential conflicts in managing new responsibilities using the 168 Hours a Week Exercise
- Explain Homework

Homework

- Organizing Your Week/Day Exercise for the next week
Introduction of the Stress Management Program

The goal of this stress management program is to reduce the distress or negative stress you experience. It is important to note that not all stress is negative. For example, coming to college brings with it a change of status and new responsibilities that can be exciting and rewarding, but stressful. Similarly, advancing in college or preparing for graduation evokes feelings of accomplishment and excitement but also increased demands and uncertainty. Negative stress or distress occurs when you perceive the challenge as threatening and you are concerned that you lack the resources to cope with it. Therefore, the goal of this program is to integrate into your life activities and skills that will reduce the negative stress you experience, such as relaxation, rational thinking, exercise, effective time management, effective problem solving, and rewarding social interactions.

It is very important that you not skip any of the sessions, as each week you will learn a new skill. However, if at any time, you want to withdraw from the program, you may do so. You will be given homework to practice that skill outside of the session. You will also be asked to participate in aerobic exercise at least three times a week for a minimum duration of 20 minutes. Aerobic exercise includes running, walking briskly, aerobics, swimming, stair climbing, tennis, rope jumping, racquetball, hiking, dancing, bicycling, basketball, and skating.

Why Exercise? Review 35 Ways Exercise Could Enrich Your Life Handout

The handout illustrates specific benefits from aerobic exercise. As summarized by Rostad and Long (1996) in their review of exercise as a coping strategy for stress, exercise may be used in several ways as a coping strategy. First, the cardiovascular and respiratory systems may be enhanced from exercise such that the cardiovascular response to stress is reduced and recovery from stress is enhanced. Second, it may provide a strategy for coping with a stressful situation by regulating emotions. Third, it may facilitate a problem-focused function. For example, exercise may provide the time to work through a problem. Fourth, it may enhance personal resources by providing experiences that allow the individual to become more physically fit, self-confident, and self-efficacious. Research supports that to achieve the cardiovascular benefits from exercise you need to exercise for a minimum of 20 minutes (20 minutes of aerobic activity) at least three times per week. (Rostad and Long, 1996).

Biological Basis of Stress

Before explaining proposed strategies for reducing stress, it may be helpful to first explain the interactive response of the body and brain in responding to a stressor. As depicted in Figure 1, a stress response is initiated the instant a stressor is detected by our senses. To understand the stress response it is important to note that ultimately the response a person has to a stressor is determined by their brain. That is, once sensory receptors detect a stressor, they relay information about the stressor to the brain. The brain then processes the signals sent by the senses to give meaning to the stressor. The brain then decides what bodily responses would be appropriate and releases a mixture of neurotransmitters (GABA, dopamine, serotonin, norepinephrine, acetylcholine, endogenous opiates) to bring about those responses (Auerbach & Gramling, 1998).

The stress response requires preparation by the Autonomic Nervous System (ANS) to organize the body’s physiological responses. The ANS is the part of the nervous system that works to ensure the vital body processes work automatically and adjust accordingly with the
changing conditions imposed by the stressor. The ANS has two systems: the sympathetic (SNS) and the parasympathetic (PNS) nervous systems. When a stressor is detected, the SNS is activated producing changes in heart rate, blood pressure, eye dilation, breathing, etc. As soon as the brain determines that a situation is no longer a threat, it stops sending emergency signals to the nervous system and thus, the physiological changes noted above begin to return to their normal levels. This is often referred to as the relaxation response.

When the stressors a person faces are frequent, chronic, or extremely intense, the stress response may become over-activated resulting in over-stimulation of the body's organs and systems. For example, a student is confronted with many day-to-day stressors such as assignments, schedules, and social demands which if not dealt with effectively and allowed to accumulate he or she may become unable to recuperate from any one of them. Thus, the brain will continually detect threat and the body will remain aroused for prolonged periods of time. When this occurs, almost every system of the body is vulnerable to varying types of stress-related damage.

Stress management techniques can target the environment, brain, body, and the interaction of all three. For example, as depicted in Figure 1, a person can modify their environment, the cognitions the brain has in response to the environment through cognitive restructuring, the physiological responses the body has through physical fitness, or the behavioral responses resulting from the cognitive and physiological responses through relaxation.

![Figure 1. Biological basis of stress and stress management. Adapted from Gregson and Looker (1994).](image)

**Time Management**

College students are obviously going to experience stress in their academic careers. Periods of higher stress can even be predicted at certain times during the semester. However, much of the stress students tend to experience can be avoided through the use of self-management
techniques such as effective time management and study skills. The key to effective time management is to avoid procrastination by breaking down large tasks into small ones and then do those small tasks on a regular schedule. This concept is one that students tend to know about but unfortunately, they regularly ignore it and find themselves in great distress right before a due date of an assignment or before an exam.

**Review Basic Principles of Time Management Handout** (adapted from Brown, 1991)

1. All time management is self-management. The fact is that we cannot manage time. That is, time goes by whether we use effectively or not – we cannot save or store it to be used later. We can, however, manage our own behavior to use our time more effectively.

2. Spaced practice is more effective than massed practice. Research supports that several short sessions of practice spaced over time are more effective than the same amount of practice massed in long sessions. In fact, spaced study may be twice as effective as massed studying (Dempster, 1989).

3. Many overlearned behaviors may be adequate but ineffective. Students come to college with well-learned sets of study behaviors that have served them adequately thus far. Those behaviors are often then used at college, even though college demands may be different and require different, more effective behaviors. The idea being that some of the “worn in” behaviors actually become “worn out”.

4. Both study and practice require effort and time. Students willingly spend hours and much effort to master a sport, musical instrument, or any other nonacademic skill. The same factors are important in mastering academic material.

5. The best predictor of future behaviors is past behaviors. We tend to do the same things in the future that we did in similar situations in the past, even if more effective behaviors are available. For example, students who have procrastinated on writing a paper in the past, will tend to procrastinate on writing the next paper they have to write even if they experienced stress when they procrastinated the last time.

6. The best predictor of future stress is past stress. If our behavior does not change, situations that evoked stress in the past will do so in the future. This is true even when people want to avoid it. For example, the student that procrastinates getting the paper done will experience the same stress that he or she experienced the last time.

7. Stress may be predictable or unpredictable and therefore avoidable or unavoidable. Some stressful situations may be sudden, unexpected, and unavoidable. For example, at the beginning of the semester, students know when they will have papers due and exams to take. Whether they avoid additional stress by assigning certain tasks as important and urgent depends on their behaviors early in the semester.

8. Motivation and goal-setting facilitate active involvement in learning and studying. Motivation directs behaviors toward a goal. Without motivation, students are unlikely to show goal-directed behavior.

9. Intrinsic motivation is frequently more effective than extrinsic. Having a desire to know something or a long-term goal may be a more effective motivator than will such things as grades. The fact is that effective motivation to perform well in classes comes from within.
Motivate students to change their management of time (adapted from Brown, 1991)

**Step 1:**
Reinstate stress associated with the previous semester.
- How did you feel during final exams last semester?
- Did you enjoy the distress?
- Do you want to go through it again?
- Will it be any different this semester if you do the same things you did last semester?

**Step 2:**
Examine the remaining schedule of the semester
- Do you have more free time now (10th week of semester) or four weeks from now?

![Figure 2. Amount of free time available across the semester.](image)

- Most students say they have more time now. Being on the semester schedule, most students have midterm exams about seven to eight weeks into the semester, then final exams and papers due 15-16 weeks from the beginning of the semester.
- Point out that what they should do is begin now, even if exams and papers are due weeks from now, since they obviously cannot save some of their time available now for future use.
Step 3:
Examine the stress of the semester
• Will you be more stressed now or four weeks from now?

Figure 3. Amount of stress experienced across the semester.
• Most students expect to be more stressed later in the semester as final exams and due dates approach. Do you look forward to this peak – final exams?
• Suggest to students that they can choose to increase stress moderately now in order to reduce it significantly later.
Figure 4. Adjustment to stress experienced across the remaining time of the semester using time management principles.

- So in essence, students can choose to pay a little now or a whole lot later.
The 168 Hour A Week Exercise (adapted from Brown, 1991)

The goal of this exercise is to identify how much of their time is committed to different activities, how much time they have to their own discretion, and where potential conflicts in time use may arise. The concept is to begin with 168 hours, which is the number of hours available each week and subtract the number of hours students expect to devote to certain activities each week. This should be done as a group exercise, taking average amounts of time for each activity.

- tell students that this particular example may not apply to everyone exactly but it will be an average

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>168</td>
<td>Number of hours available each week</td>
</tr>
<tr>
<td>-49</td>
<td>Sleep (7 hours/7nights)</td>
</tr>
<tr>
<td>119</td>
<td>Hours remaining</td>
</tr>
<tr>
<td>-21</td>
<td>Bodily maintenance (includes eating, dressing, showers, etc.)</td>
</tr>
<tr>
<td>98</td>
<td>Hours remaining</td>
</tr>
<tr>
<td>-15</td>
<td>Class (contact hours)</td>
</tr>
<tr>
<td>83</td>
<td>Hours remaining</td>
</tr>
<tr>
<td>-30</td>
<td>Study (2 hours for every class hour)</td>
</tr>
<tr>
<td>53</td>
<td>Hours remaining</td>
</tr>
<tr>
<td>-14</td>
<td>Daily hassles (includes such things as commuting, getting to class, laundry, errands, shopping, appointments, problems, etc.)</td>
</tr>
<tr>
<td>39</td>
<td>Hours remaining</td>
</tr>
<tr>
<td>-20</td>
<td>Work, sports, volunteer, service</td>
</tr>
<tr>
<td>19</td>
<td>Hours remaining a week, including weekends, for all other activities including socializing and recreation</td>
</tr>
</tbody>
</table>

- students may admit to getting less sleep than 7 hours a night – point out importance of getting enough sleep and that many may be sleep deprived
- students' may disagree with 2 hours study time for every class hour – point out that the main reason for less than optimal academic performance is insufficient study time and many instructors may actually expect that much effort.
Time Management Homework – Organizing Your Week/Day

Managing time requires managing your time on a weekly and daily basis. This requires goal setting of immediate priorities, mid priorities, and low priorities and then sticking to those goals.

Step 1: At the beginning of each week, develop a list of goals for the week. Be specific, including steps you need to take to reach that goal. For example, rather than just listing “write research paper” list the steps you need to take to write that paper such as “go to the library”.

Step 2: Prioritize each goal according to high priority, mid priority, and low priority. High priority items include things that you must get done such as studying for an exam that is scheduled for that week. High priority items also include activities that are essential. High priorities will result in negative consequences if they don’t get done. Mid priority items include activities that you could put off for a while, but they are still important. These items often become high priority items in the following weeks. Low priority items can easily be put off indefinitely with no harm done.

Step 3: Based on your list of prioritized goals for the week, develop a “to-do” list for each day of the week. Start with the high priority goals, then, mid priority and finally, the low priority. Remember: the low priority goals should only be included in your daily “to-do” list if you anticipate having time remaining after completing the high and mid priority goals.

Step 4: Review your “to-do” list the night before or in the morning to be prepared.

Step 5: As you move through the day, stay focused on the high priority goals and as you complete each of the goals on your list make sure to cross that item off your list. Many people find it very rewarding to see their accomplishments.

Step 6: At the end of the day, review your “to-do” list. Move the important things that you did not finish to the next day but try to avoid this as things can build up quickly.
**Session 1 – Handout #1**

**35 Ways Exercise Could Enrich Your Life**

1. Increases your self-confidence and self-esteem.
2. Improves your digestion.
3. Helps you to sleep better.
4. Gives you more energy.
5. Enhances your immune system.
6. Improves your body shape.
7. Burns up extra calories.
8. Improves circulation and helps to reduce blood pressure.
10. Increases metabolic rate.
11. Alters how your body utilizes nutrients more efficiently.
12. Increases the enzymes in the body which burn fat.
13. Enhances oxygen transport throughout the body.
14. Enhances feedback through the nervous system.
15. Improves blood flow through the body.
16. Enhances the functioning of the cardiovascular system.
17. Enables you to relax more quickly and completely.
18. Alleviates depression.
19. Enhances clarity of the mind.
20. Improves resistance to infectious disease.
21. Enhances neuromuscular relaxation thus reducing anxiety and tension.
22. Makes you feel good.
23. Decreases fat tissue more easily.
24. Increases your positive attitude about yourself and life.
25. Increases the efficiency of utilizing adrenaline, resulting in more energy.
26. Reduces joint discomfort.
27. Stimulates and improves concentration.
28. Decreases appetite when you work out from 20 min. to one hour.
29. Gets your mind off of irritations.
30. Stimulates a feeling of well-being and accomplishment.
31. Invigorates the body and mind.
32. Increases the body’s own awareness of itself.
33. Increases your ability to solve problems more easily and often effortlessly.
34. Gives you a clearer perspective on ideas, issues, problems, and challenges.
35. Enables your body to utilize nutrients more efficiently.
Session 1 – Handout #2

Review Basic Principles of Time Management (adapted from Brown, 1991)

1. *All time management is self-management.*

2. *Spaced practice is more effective than massed practice.*

3. *Many over-learned behaviors may be adequate but ineffective.*

4. *Both study and practice require effort and time.*

5. *The best predictor of future behaviors is past behaviors.*


7. *Stress may be predictable or unpredictable and therefore avoidable or unavoidable.*

8. *Motivation and goal-setting facilitate active involvement in learning and studying.*

9. *Intrinsic motivation is frequently more effective than extrinsic.*
Session 1 – Handout #3

Time Management Homework – Organizing Your Week/Day

Managing time requires managing your time on a weekly and daily basis. This requires goal setting of immediate priorities, mid priorities, and low priorities and then sticking to those goals.

Step 1: At the beginning of each week, develop a list of goals for the week. Be specific, including steps you need to take to reach that goal. For example, rather than just listing “write research paper” list the steps you need to take to write that paper such as “go to the library”.

Step 2: Prioritize each goal according to high priority, mid priority, and low priority. High priority items include things that you must get done such as studying for an exam that is scheduled for that week. High priority items also include activities that are essential. High priorities will result in negative consequences if they don’t get done. Mid priority items include activities that you could put off for a while, but they are still important. These items often become high priority items in the following weeks. Low priority items can easily be put off indefinitely with no harm done.

Step 3: Based on your list of prioritized goals for the week, develop a “to-do” list for each day of the week. Start with the high priority goals, then, mid priority and finally, the low priority. Remember: the low priority goals should only be included in your daily “to-do” list if you anticipate having time remaining after completing the high and mid priority goals.

Step 4: Review your “to-do” list the night before or in the morning to be prepared.

Step 5: As you move through the day, stay focused on the high priority goals and as you complete each of the goals on your list make sure to cross that item off your list. Many people find it very rewarding to see their accomplishments.

Step 6: At the end of the day, review your “to-do” list. Move the important things that you did not finish to the next day but try to avoid this as things can build up quickly.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Session 2 (1 hour session)

Goals
1. To introduce students to some relaxation techniques such as deep breathing, progressive muscle relaxation, and thematic imagery.
2. To train students in the use of deep breathing, progressive muscle relaxation, and thematic imagery as effective stress reduction techniques.

Materials Required
- Deep breathing script
- Deep breathing handout
- Progressive muscle relaxation script
- Progressive muscle relaxation handout
- Thematic imagery script
- Thematic imagery handout
- Thematic Imagery Examples Handout
- Stress Management Activities Likert Scales
- Beliefs Inventory

Session Outline
- Complete Stress Management Activities Likert Scales
- Review time management homework
- Introduce deep breathing as relaxation technique
- Deep breathing exercise
- Introduce progressive muscle relaxation
- Progressive muscle relaxation exercise
- Introduce thematic imagery as relaxation technique
- Thematic imagery exercise
- Discuss reactions, questions, and concerns of using techniques introduced
- Explain Homework and hand out Beliefs Inventory

Homework
- Continue time management methods
- Practice the relaxation techniques introduced
- Exercise
- Complete Beliefs Inventory

Introduction to Deep Breathing
It is obvious that breathing is a necessity of life. With each breath, you take in vital oxygen and then release the waste product carbon dioxide. Even though breathing is a necessity of life, it is so natural that most people take it for granted and the result is often poor breathing habits, especially during periods of stress. That is, when a person is under stress, their breathing tends to be through the chest rather than through the diaphragm. Breathing through the chest diminishes the flow of oxygen into the body and carbon dioxide out of the body. Diaphragmatic
breathing, on the other hand, draws inhaled air deep into the lungs which is then exhaled as the diaphragm contracts and expands. Breathing using the diaphragm is also slower and more rhythmical allowing the respiratory system to produce energy from the oxygen inhaled. Poor breathing habits make it more difficult to deal with stress. For example, when a person is anxious, such as during periods of stress, the pace of their breathing tends to become more rapid and irregular than it is during periods of relaxation. Becoming aware of your breathing and practicing good breathing habits will allow you to better detect (for example, during periods of anxiety) when your breathing is being compromised and respond by slowing and normalizing your breaths.

**Deep Breathing Exercise Script**

1. Sit up straight in a relaxed position. Close your eyes.
2. Place one hand on your abdomen, right at the waistline, and put one hand on your chest, right in the center.
3. Without changing your breathing, simply notice which hand rises the most as you inhale—the hand on your abdomen or the hand on your chest.
4. If your chest is rising more than your abdomen, press your hand down on your abdomen as you exhale and let your abdomen push your hand back up as you inhale deeply.
5. Now inhale slowly and deeply through your nose into your abdomen to push your hand on your abdomen up as much as feels comfortable. Your chest should only move a little and only with your abdomen.
6. Now gently let all the air out through your lips. Take your time and try to relax.
7. When you are ready, take another deep breath in through your nostrils. Feel your belly rise slowly. Now let it out through your lips making a whooshing sound as you blow through your lips.
8. Now continue breathing like this for at least one minute.
9. Take a deep breath in, and s-l-o-w-l-y let it out.
10. Notice the air moving in past your nostrils and into your lungs, pushing the hand on your abdomen up and then out of your lungs, and then your hand on your abdomen goes back down.
11. (Pause for several seconds) With each breath you feel more and more relaxed. Your body is being cleansed of the stress and tension.
12. (After about one minute) Take one more deep breath in and as you exhale, enjoy the pleasant feelings of relaxation. Then slowly open your eyes.
13. Continue deep breathing for about five or ten minutes at home, once or twice a day concentrating on your abdomen moving up and down. Remember: effective relaxation takes practice. Then, as you become more comfortable with breathing into your abdomen, practice deep breathing whenever you feel yourself getting tense.
Introduction to Progressive Muscle Relaxation

Most people do not realize which of their muscles are tense when they are experiencing stress. Progressive muscle relaxation (PMR) provides a way of identifying which muscles are tense by distinguishing between sensations of tension and relaxation. Physiologically, progressive muscle relaxation aims to reduce Sympathetic Nervous System arousal, which will ultimately lower emotional stress levels. PMR involves systematically tensing and then relaxing different groups of skeletal muscles in order to become aware of contrasting sensations. The idea being that relaxation of these muscle areas induces effects that are incompatible with anxiety. With practice, it is believed that an individual can become more proficient at recognizing when their body is tense which will then allow them to respond by taking steps to relax the muscle areas and reduce or prevent the physical and psychological consequences that could result.

Progressive Muscle Relaxation Script (adapted from Davis, Eshelman, and McKay, 1995)

1. Sit up straight, with your feet on the floor, in a relaxed position. Close your eyes if you would like.
2. Take a deep breath in (pause) and now exhale 2-3-4. Remember to breathe from your diaphragm, pushing your abdomen out as you inhale. Now take another deep breath in (pause) and exhale 2-3-4. Keep taking deep breaths.
3. You’re going to be tensing and relaxing your muscles. It’s important to concentrate specifically on the muscle group you’re tensing and relaxing.
4. Now, while keeping the rest of your body relaxed, clinch your fists together, tighter and tighter. Feel the tightness in your hands and up your forearms. (Pause five seconds.) Now relax. Notice the contrast between a tight muscle and a loose one. Notice a pleasant sort of burning that occurs when the muscle relaxes.
5. Now bend your elbows and tense your biceps. Tense them as much as you can and feel the tightness in your muscles. (Pause five seconds.) Relax and straighten your arms. Feel the tension let go. Shake your arms out to your side really loosening those muscles. Pay attention to the difference you feel between tensing and relaxing.
6. Now turn your attention to your head. Wrinkle your forehead as tight as you can squinting your eyes. Feel the tightness and pulling sensation across your forehead. (Pause five seconds.) Now relax and smooth it out. Let yourself imagine your entire forehead and scalp becoming smooth and relaxed. (Pause.)
7. Now frown and notice the strain spreading throughout your forehead. Pay attention to the tightness (Pause.) Now let go, allow your brow to become smooth again. Notice the difference between tension and relaxation in your forehead. (Pause.)
8. Now clench your jaw, bite hard, and notice the tension throughout your jaw. Feel the tightness all the way back to your ears. (Pause five seconds.) Now relax your jaw. Open your mouth and move your jaw around. Feel the difference between tensing and relaxing. Notice how your teeth even feel relief when you relax your jaw.
9. Now while staying relaxed, take a deep breath in (Pause), and blow the tension out 2-3-4. Take another deep breath in (Pause), and blow all the tension out of your body 2-3-4.
10. Now shrug your shoulders. Pull your shoulders up as far as they’ll go. Feel the tension in your shoulders as you hunch your head down between your shoulders. (Pause five
seconds.) Relax. Drop your shoulders and feel the relaxation spreading through your neck.

11. Now turn your head all the way to the right. Feel your neck muscles pull on the left side. Concentrate on the tightness on the side of your neck. (Pause for five seconds.) Now relax and turn your head back to the middle. Move your head around to feel the muscles loosen.

12. Now turn your head all the way to the left tightening the muscles on the right side of your neck. Experience the tension and discomfort. (Pause five seconds.) Relax and turn your head back to the middle, and then all around.

13. Now give your entire body a chance to relax. Feel the comfort and the heaviness. Take a deep breath in and let it fill your abdomen. (Pause.) Now exhale 2-3-4. Continue relaxing, letting your breath come freely and gently. Now, tighten your stomach and hold it. Pay attention to the tension in your stomach muscles. (Pause five seconds.) Relax. Place your hand on your stomach. Breathe deeply into you belly, pushing your hand up. Hold. (Pause.) And relax. Feel the contrast in muscle tension as the air rushes out.

14. Now tighten your buttocks and thighs. Hold the tension and notice how it feels. (Pause five seconds.) Now relax those muscles and feel the difference between tension and looseness. Really experience the relaxation in those muscles.

15. Now curl your toes squeezing them tightly making your calves tense. Concentrate on the tension. (Pause.) Relax and enjoy the relaxation. (Pause.)

16. Feel the heaviness in your body as your body is relaxed. Feel yourself heavier and heavier, more and more deeply relaxed. (Pause.) Take a deep breath in, and let it out s-l-o-w-l-y. Feel the peace and calm. When you're ready, open your eyes.

Considerations for Progressive Muscle Relaxation

- Mastery of progressive muscle relaxation requires practice. Initially, relaxation will require a considerable amount of time but eventually, it will be possible to relax your entire body in a few moments.
- If there are some muscle groups that are particularly uncomfortable for you to tense and relax, you do not have to include those areas in your progressive muscle relaxation.
- It may be helpful to make a tape of the basic procedures to facilitate your relaxation program.
- It is important to relax tensed muscles instantly rather than relaxing the muscle slowly. The slow-motion release of tension actually requires sustained tension, therefore, let the muscle become suddenly limp.

Introduction to Thematic Imagery

Imagery can be a very useful approach to relaxation. Thematic imagery involves selecting a relaxing theme and then dwelling on it. There are some rules for imagery. First, make sure the theme is passive, simple, and relaxing. Second, you must involve all of your senses in the imagery. That is, you must include what you hear, see, feel against your skin, smell, and taste. Some imagery themes that you might want to consider include travel imagery, nature/outdoor imagery, water imagery, and indoor imagery. Often the place one imagines is referred to as their “special place”. Regardless if your “special place” is outdoors or indoors, from your past or your present, or a place you’ve never really seen, it should be a place where you feel safe, secure, and relaxed.
Thematic Imagery Script (adapted from Davis, Eshelman and McKay, 1995)

1. Walk slowly to a quiet place in your mind.
2. Your place can be inside or outside.
3. Imagine a place where you feel peaceful, calm, and relaxed. A place where you feel safe and secure.
4. Imagine your special place, a retreat, a haven.
5. You're going there now.
6. Picture yourself unloading your anxieties, your worries.
7. You can see the shapes and colors of your special place.
8. Look as far as your can see. What do your see?
9. You can see every detail like a picture. (Pause.)
10. And now you can begin to hear the sounds of your special place.
11. You can see and hear everything. (Pause.)
12. This is your special place, nothing can harm you here.
13. And now you can feel your special place. You can feel it against our skin. (Pause.)
14. You feel bathed in a deep sense of contentment in you special place.
15. Now take a deep breath and smell your special place.
16. Take another deep breath and let the peace and tranquility of your special place spread throughout your entire body.
17. This is your special place.
18. Just enjoy what you see (Pause.), and hear (Pause.), and smell (Pause.), and feel (Pause.)
19. Enjoy your special place for a while. Enjoy the feeling being safe and secure.
20. Let it relax you. (Pause for about one minute)
21. You can come back and relax here, whenever you want.
22. When you're ready, open your eyes and spend a few seconds appreciating your relaxation.

Homework

1. Continue to practice time management skills.
2. Practice one or more of the relaxation techniques introduced at least one time a day every day. Progressive muscle relaxation, deep breathing, and thematic imagery scripts have been provided to you (Session 2 Handout #1, #2, and #3). Either study the procedures or make your own tape. Session 2 Handout #4 provides some examples of imagery and details involving the senses.
3. Complete the Beliefs Inventory and bring it back in the next session (Session3).
Session 2 – Handout #1

Deep Breathing Script

1. Sit up straight in a relaxed position. Close your eyes.
2. Place one hand on your abdomen, right at the waistline, and put one hand on your chest, right in the center.
3. Without changing your breathing, simply notice which hand rises the most as you inhale – the hand on your abdomen or the hand on your chest.
4. If your chest is rising more than your abdomen, press your hand down on your abdomen as you exhale and let your abdomen push your hand back up as you inhale deeply.
5. Now inhale slowly and deeply through your nose into your abdomen to push your hand on your abdomen up as much as feels comfortable. Your chest should only move a little and only with your abdomen.
6. Now gently let all the air out through your lips. Take your time and try to relax.
7. When you are ready, take another deep breath in through your nostrils. Feel your belly rise slowly. Now let it out through your lips making a whooshing sound as you blow through your lips.
8. Now continue breathing like this for at least one minute.
9. Take a deep breath in, and s-l-o-w-l-y let it out.
10. Notice the air moving in past your nostrils and into your lungs, pushing the hand on your abdomen up and then out of your lungs, and then your hand on your abdomen goes back down.
11. (Pause for several seconds) With each breath you feel more and more relaxed. Your body is being cleansed of the stress and tension.
12. (After about one minute) Take one more deep breath in and as you exhale, enjoy the pleasant feelings of relaxation. Then slowly open your eyes.
13. Continue deep breathing for about five or ten minutes at home, once or twice a day concentrating on your abdomen moving up and down. Remember: effective relaxation takes practice. Then, as you become more comfortable with breathing into your abdomen, practice deep breathing whenever you feel yourself getting tense.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Session 2 – Handout #2

Progressive Muscle Relaxation Script (adapted from Davis, Eshelman, and McKay, 1995)

1. Sit up straight, with your feet on the floor, in a relaxed position. Close your eyes if you would like.
2. Take a deep breath in (pause) and now exhale 2-3-4. Remember to breathe from your diaphragm, pushing your abdomen out as you inhale. Now take another deep breath in (pause) and exhale 2-3-4. Keep taking deep breaths.
3. You’re going to be tensing and relaxing your muscles. It’s important to concentrate specifically on the muscle group you’re tensing and relaxing.
4. Now, while keeping the rest of your body relaxed, clinch your fists together, tighter and tighter. Feel the tightness in your hands and up your forearms. (Pause five seconds.) Now relax. Notice the contrast between a tight muscle and a loose one. Notice a pleasant sort of burning that occurs when the muscle relaxes.
5. Now bend your elbows and tense your biceps. Tense them as much as you can and feel the tightness in your muscles. (Pause five seconds.) Relax and straighten your arms. Feel the tension let go. Shake your arms out to your side really loosening those muscles. Pay attention to the difference you feel between tensing and relaxing.
6. Now turn your attention to your head. Wrinkle your forehead as tight as you can squinting your eyes. Feel the tightness and pulling sensation across your forehead. (Pause five seconds.) Now relax and smooth it out. Let yourself imagine your entire forehead and scalp becoming smooth and relaxed. (Pause.)
7. Now frown and notice the strain spreading throughout your forehead. Pay attention to the tightness (Pause.) Now let go, allow your brow to become smooth again. Notice the difference between tension and relaxation in your forehead. (Pause.)
8. Now clench your jaw, bite hard, and notice the tension throughout your jaw. Feel the tightness all the way back to your ears. (Pause five seconds.) Now relax your jaw. Open your mouth and move your jaw around. Feel the difference between tensing and relaxing. Notice how your teeth even feel relief when you relax your jaw.
9. Now while staying relaxed, take a deep breath in (Pause), and blow the tension out 2-3-4. Take another deep breath in (Pause), and blow all the tension out of your body 2-3-4.
10. Now shrug your shoulders. Pull your shoulders up as far as they’ll go. Feel the tension in your shoulders as you hunch your head down between your shoulders. (Pause five seconds.) Relax. Drop your shoulders and feel the relaxation spreading through your neck.
11. Now turn your head all the way to the right. Feel your neck muscles pull on the left side. Concentrate on the tightness on the side of your neck. (Pause for five seconds.) Now relax and turn your head back to the middle. Move your head around to feel the muscles loosen.
12. Now turn your head all the way to the left tightening the muscles on the right side of your neck. Experience the tension and discomfort. (Pause five seconds.) Relax and turn your head back to the middle, and then all around.
13. Now give your entire body a chance to relax. Feel the comfort and the heaviness. Take a deep breath in and let it fill your abdomen. (Pause.) Now exhale 2-3-4. Continue relaxing, letting your breath come freely and gently. Now, tighten your stomach and hold it. Pay attention to the tension in your stomach muscles. (Pause five seconds.) Relax.
Place your hand on your stomach. Breathe deeply into you belly, pushing your hand up. Hold. (Pause.) And relax. Feel the contrast in muscle tension as the air rushes out.

14. Now tighten your buttocks and thighs. Hold the tension and notice how it feels. (Pause five seconds.) Now relax those muscles and feel the difference between tension and looseness. Really experience the relaxation in those muscles.

15. Now curl your toes squeezing them tightly making your calves tense. Concentrate on the tension. (Pause.) Relax and enjoy the relaxation. (Pause.)

16. Feel the heaviness in your body as your body is relaxed. Feel yourself heavier and heavier, more and more deeply relaxed. (Pause.) Take a deep breath in, and let it out s-l-o-w-l-y. Feel the peace and calm. When you’re ready, open your eyes.
Session 2 – Handout #3

Thematic Imagery Script (adapted from Davis, Eshelman and McKay, 1995)
1. Walk slowly to a quiet place in your mind.
2. Your place can be inside or outside.
3. Imagine a place where you feel peaceful, calm, and relaxed. A place where you feel safe and secure.
4. Imagine your special place, a retreat, a haven.
5. You’re going there now.
6. Picture yourself unloading your anxieties, your worries.
7. You can see the shapes and colors of your special place.
8. Look as far as you can see. What do you see?
9. You can see every detail like a picture. (Pause.)
10. And now you can begin to hear the sounds of your special place.
11. You can see and hear everything. (Pause.)
12. This is your special place, nothing can harm you here.
13. And now you can feel your special place. You can feel it against your skin. (Pause.)
14. You feel bathed in a deep sense of contentment in your special place.
15. Now take a deep breath and smell your special place.
16. Take another deep breath and let the peace and tranquility of your special place spread throughout your entire body.
17. This is your special place.
18. Just enjoy what you see (Pause.), and hear (Pause.), and smell (Pause.), and feel (Pause.)
19. Enjoy your special place for a while. Enjoy the feeling being safe and secure.
20. Let it relax you. (Pause for about one minute)
21. You can come back and relax here, whenever you want.
22. When you’re ready, open your eyes and spend a few seconds appreciating your relaxation.
Session 2 – Handout #4

Thematic Imagery Example Themes (Ballou, 1995)

Travel Imagery
Relaxing on a train
Relaxing on an airplane
Your private limousine
Relaxing on a hot air balloon
On a cloud or floating through air
Your favorite vacation spot
A trip through outer space
Underwater in a submarine

Nature/Outdoor Imagery
Sitting on a grassy plain
The farm
Relaxing in the woods
The garden
The nature trail
The campfire
Watching the night sky on a hill
On top of a hill/mountain overlooking a valley
Looking at the moon

Water Imagery
Resting on a beach by the ocean
Lying on a boat far out to sea
Fishing by the river
On the banks of a stream
Beside a small pond
A relaxing pool or tub
In a mist or fog
Walking in the rain

Indoor Imagery
The bed/sofa/chair
Resting by the fireplace in a warm winter cabin
A restful room in the vacation house of your dreams
A church/temple/cathedral
The porch/balcony
High in a skyscraper
The tree house
Your childhood home
### Beliefs Inventory (Eshelman, Davis, & McKay, 1995)

<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
<th>SCORE</th>
<th>BELIEF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. It is import to me that others approve of me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. I hate to fail at anything.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. People who do wrong deserve what they get.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. I usually accept what happens philosophically.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. If a person wants to, he can be happy under almost any circumstances.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6. I have a fear of some things that often bothers me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. I usually put off important decisions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8. Everyone needs someone he can depend on for help and advice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9. &quot;A zebra cannot change his stripes.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10. I prefer quiet leisure above all things.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11. I like the respect of others, but I don't have to have it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12. I avoid things I cannot do well.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13. Too many evil persons escape the punishment they deserve.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14. Frustrations don't upset me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15. People are distributed not by situations but by the view they take of them.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16. I feel little anxiety over unexpected dangers or future events.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17. I try to go ahead and get irksome tasks behind me when they come up.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18. I try to consult an authority on important decisions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19. It is almost impossible to overcome the influences of the past.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20. I like to have a lot of irons in the fire.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21. I want everyone to like me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>22. I don't mind competing in activities in which others are better than I.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23. Those who do wrong deserve to be blamed.</td>
</tr>
</tbody>
</table>

*Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.*
<table>
<thead>
<tr>
<th>AGREE</th>
<th>DISAGREE</th>
<th>SCORE</th>
<th>BELIEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>24. Things should be different from the way they are.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>25. I cause my own moods.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>26. I often can't get my mind off some concern.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>27. I avoid facing my problems.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>28. People need a source of strength outside themselves.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>29. Just because something once affects your life strongly doesn't mean it need do so in the future.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>30. I'm most fulfilled when I have lots to do.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>31. I can like myself even when many others don't.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>32. I like to succeed at something, but I don't feel I have to.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>33. Immorality should be strongly punished.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>34. I often get disturbed over situations I don't like.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>35. People who are miserable have usually made themselves that way.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>36. If I can't keep something from happening, I don't worry about it.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>37. I usually make decisions as promptly as I can.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>38. There are certain people whom I depend on greatly.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>39. People overvalue the influence of the past.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>40. I most enjoy throwing myself into a creative project.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>41. If others dislike me, that's their problem, not mine.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>42. It is highly important to me to be successful in everything I do.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>43. I seldom blame people for their wrongdoings.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>44. I usually accept things the way they are, even if I don't like them.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>45. A person won't stay angry or blue long unless he keeps himself that way.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>46. I can't stand to take chances.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>47. Life is too short to spend it doing unpleasant tasks.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>48. I like to stand on my own two feet.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td>□</td>
<td>49. If I had different experiences I could be more like I want</td>
</tr>
<tr>
<td>AGREE</td>
<td>DISAGREE</td>
<td>SCORE</td>
<td>BELIEF</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>50. I'd like to retire and quit working entirely.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>51. I find it hard to go against what others think.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>52. I enjoy activities for their own sake, no matter how good I am at them.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>53. The fear of punishment helps people be good.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>54. If things annoy me, I just ignore them.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>55. The more problems a person has, the less happy he will be.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>56. I am seldom anxious over the future.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>57. I seldom put things off.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>58. I am the only one who can really understand and face my problems.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>59. I seldom think of past experiences as affecting me now.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>60. Too much leisure time is boring.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>61. Although I like approval, it's not a real need for me.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>62. It bothers me when others are better than I am at something.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>63. Everyone is basically good.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>64. I do what I can to get what I want and then don't worry about it.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>65. Nothing is upsetting in itself -- only in the way you interpret it.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>66. I worry a lot about certain things in the future.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>67. It is difficult for me to do unpleasant chores.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>68. I dislike having others make my decisions for me.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>69. We are slaves to our personal histories.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>70. I sometimes wish I could go to a tropical island and just lie on the beach forever.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>71. I often worry about how much people approve of and accept me.</td>
</tr>
<tr>
<td>•</td>
<td>□</td>
<td></td>
<td>72. It upsets me to make mistakes.</td>
</tr>
</tbody>
</table>
| •     | □        |       | 73. It's unfair that "the rain falls on both the just and the
<table>
<thead>
<tr>
<th>Agree</th>
<th>Disagree</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

74. I am fairly easygoing about life.

75. More people should face up to the unpleasantness of life.

76. Sometimes I can’t get a fear off my mind.

77. A life of ease is seldom very rewarding.

78. I find it easy to seek advice.

79. Once something strongly affects your life, it always will.

80. I love to lie around.

81. I have considerable concern with what people are feeling about me.

82. I often become quite annoyed over little things.

83. I usually give someone who has wronged me a second chance.

84. People are happiest when they have challenges and problems to overcome.

85. There is never any reason to remain sorrowful for very long.

86. I hardly ever think of such things as death or atomic war.

87. I dislike responsibility.

88. I dislike having to depend on others.

89. People never change basically.

90. Most people work too hard and don’t get enough rest.

91. It is annoying but not upsetting to be criticized.

92. I’m not afraid to do things which I cannot do well.

93. No one is evil, even though his deeds may be.

94. I seldom become upset over the mistakes of others.

95. Man makes his own hell within himself.

96. I often find myself planning what I would do in different dangerous situations.

97. If something is necessary, I do it even if it is unpleasant.

98. I’ve learned not to expect someone else to be very concerned about my welfare.
Session 3 (1 hour session)

Goals

1. To introduce concepts of cognitive restructuring and implications for stress management.
2. To practice utilization of cognitive restructuring skills.

Materials Required

- Cognitive Restructuring Exercise Sheets (enough for in class exercise and homework)
- Beliefs Inventory
- Irrational and Stressful Thoughts Dictionary Handouts
- Stress Management Activities Likert Scales

Session Outline

- Complete Stress Management Activities Likert Scales
- Review relaxation homework
- Progressive muscle relaxation exercise
- Introduce concepts of cognitive restructuring
- Beliefs Inventory to identify irrational thought patterns
- Cognitive restructuring exercise
- Explain homework

Homework

- Continue time management and relaxation exercises
- Cognitive restructuring exercise
- Exercise

Cognitive Restructuring (Re-thinking your thinking)

Cognitive restructuring is based on the idea that the cognitive interpretations a person assigns to an event are often key to whether a stress response will be elicited or not. Often the interpretations one makes about an event are distorted, irrational, and/or self-defeating. Cognitive restructuring aims to correct the distortions. There are two basic components of cognitive restructuring including a coping component and a restructuring component. The coping component aims to teach the person to deal more effectively with potentially stressful situations. The restructuring aspect is designed to alter the person’s meaning system so that the event no longer has to be perceived as stressful. Although the two components are practically intertwined, they are conceptually separable: The coping aspect gives the person the skills to employ when stress is experienced, while the aim of the restructuring aspect is to reduce the likelihood that the stress will be experienced (Arnkoff, 1986).
There are several variant forms of cognitive restructuring, all of which attempt to identify a client’s maladaptive, irrational thought patterns and to replace them with more rational, constructive thoughts.
Step 1: Identifying irrational beliefs using the Beliefs Inventory

The Beliefs Inventory is designed to uncover particular irrational ideas which contribute to unhappiness and stress. Take the test now and then we'll score it together. Be sure to mark the answers based on how you really think, not how you think you should think. Try not to spend a lot of time on each statement.

Scoring of Beliefs Inventory (Davis, Eshelman, & McKay, 1995)

A. Single dot items (*) – If the item has one dot (*) and you checked the “agree” box, give yourself one point in the space provided next to the item.

B. Double dot items (**) – If the item has two dots (**) and you checked the “disagree” box, give yourself a point in the space provided next to the item.

C. Add up your points for items:

1,11,21,31,41,51,61,71,81,91 = The higher the total, the greater your agreement with the idea that it is an absolute necessity for an adult to have love and approval from peers, family, and friends.

2,12,22,32,42,52,62,72,82,92 = The higher the total, the greater your agreement with the idea that you must be unfailingly competent and almost perfect in all you undertake.

3,13,23,33,43,53,63,73,83,93 = The higher the total, the greater your agreement with the idea that certain people are evil, wicked, and villainous, and should be punished.

4,14,24,34,44,54,64,74,84,94 = The higher the total, the greater your agreement with the idea that it is horrible when things are not the way you would like them to be.

5,15,25,35,45,55,65,75,85,95 = The higher the total, the greater your agreement with the idea that external events cause most human misery – people simply react as events trigger their emotions.

6,16,26,36,46,56,66,76,86,96 = The higher the total, the greater your agreement with the idea that your should feel fear or anxiety about anything that is unknown, uncertain, or potentially dangerous.

7,17,27,37,47,57,67,77,87,97 = The higher the total, the greater your agreement with the idea that it is easier to avoid than face life’s difficulties and uncertainties.

8,18,28,38,48,58,68,78,88,98 = The higher the total, the greater your agreement with the idea that you need something other or stronger or greater than yourself to rely on.

9,19,29,39,49,59,69,79,89,99 = The higher the total, the greater your agreement with the idea that the past has a lot to do with determining the present.

10,20,30,40,50,60,70,80,90,100 = The higher the total, the greater your agreement with the idea that happiness can be achieved by inaction, passivity, and endless leisure.
Step 2: Refuting Irrational Ideas

A. Select a situation that consistently generates stressful emotions in you. Some examples include: taking an exam, meeting new people, expressing opinions in class or to peers, saying no, standing up for yourself in certain situations, and expressing anger toward a friend.

B. Write down the facts of the events as they occurred at the time you were upset. Include only the objective facts, not your subjective impressions or value judgements. Example: “a friend cancelled our plans for the night”

C. What are your thoughts or assumptions? That is, what did you say to yourself? State your subjective value judgements, assumptions, beliefs, predictions, and worries. Examples: “she’s under a lot of time pressure right now” or “she must be doing something with someone else instead” or “no one ever wants to spend time with me...I hate being alone...I can’t take being alone”. Pick the most important thought to you.

D. How true is the thought? What evidence exists for the falseness of this idea? Examples: “I have several other friends” or “I was busy with friends all last weekend” or “I’ve had to cancel plans and it didn’t mean I didn’t like the person anymore” or “I’ve been alone before and it wasn’t so bad”. Rate the truthfulness of the thought or assumption on a scale of 1 – 10 with 1 being not true and 10 being true.

E. How is the thought irrational or self-defeating. Example: “no one ever wants to spend time with me...I hate being alone...I can’t take being alone” is irrational because it assumes that you are the cause of a friend having to cancel plans with you and that being alone is horrible. Be realistic, things come up that demand other people’s time that have nothing to do with you. Also, being alone isn’t the worst thing in the world.

F. How is your thought stressful? Using the dictionary of irrational thoughts that are stressful, determine how your irrational thought is stressful. Example: “no one ever wants to spend time with me...I hate being alone...I can’t take being alone” is irrational and can be characterized as awfulizing thinking. It is also leaping to the conclusion that no one ever wants to spend time with you based on one incident of a friend having to cancel plans.

G. What is the worst thing that could happen to you in this case? Example: you could continue to feel disappointed and not find anyone else to do something with tonight.

H. Come up with some alternative or counter thoughts and rate how true it is. Example: “I’ll be OK spending time by myself tonight” or “I feel disappointed but her canceling our plans tonight doesn’t mean she doesn’t like me anymore”
How true is this thought on a scale of 1 – 10.

I. Now, reconsider your original thought. How true is it on a scale of 1 – 10.

**Homework**
1. Continue to practice time management and relaxation exercises.
2. Fill out Refuting Irrational Thoughts worksheet for at least one problematic event that you experience during the week.
Irrational and Stressful Thoughts Dictionary (Ellis, 1975)

All-or-None Thinking
This type thinking involves unrealistically dividing your world into rigid black and white thinking and either or categories. For example, “I will either fail the test miserably or get an A.”

Awfulizing
This type thinking exaggerates the significance of a negative event such as turning a simple disappointment into a disaster, a frustration into a catastrophe, and a hassle into the end of the world. For example, “If I get a low grade in this class I’ll never get into graduate school.”

Blaming
Blaming involves arbitrarily and unthinkingly throwing the responsibility for an unfortunate event onto some external source, person, or circumstance. That is, you inappropriately blame someone or something else. For example, “the only reason I flunked the test is because the professor didn’t cover the material well.”

Childhood Fantasy
This type thinking involves continuing to live in a world of childhood dreams, where our need are taken care of by others and we expect to be loved and protected by nearly everyone around us. For example, “Everyone in the group should appreciate the work I do.”

Egocentrism
To be egocentric is to think of yourself as the center of the world. This type thinking involves behaving as if you have some special status, or rights and privileges above what others have. For example, “This should not have happened to me, what did I do to deserve this?”

Fortune-Telling
Fortune-telling type thinking involves acting as if we know just how things will turn out. For example, “I’m going to have a terrible time on spring break, I just know it.”

Helpless Thinking
This type thinking involves completely giving up and assuming total helplessness. It ignores the resources most of us have. For example, “There’s nothing I can do to help the situation.”

Leaping to Conclusions
This type thinking involves making up your mind about something in absence of relevant evidence or on the basis of incomplete, inappropriate, or purely emotional evidence. For example, “nobody likes me”.

Mind-Reading
Assuming we know the motives, reasons, emotions of others, even in absence of clear evidence. For example, “She’s just trying to embarrass me in front of our friends.”
Minimizing
The minimizer tends to understate or discount the significance of a stress situation. This type thinking often undervalues the importance of personal feelings or the potential costs of an event. For example, “I don’t need to get an answer to my question, it isn’t that important anyway.”

Personalizing
This type thinking involves blaming oneself, viewing unrelated events as personal attacks, or arbitrarily assuming a personal involvement or responsibility for an unfortunate situation. For example, “I know they were laughing at me, what’s wrong with me?”
Session 3 – Handout #2
Refuting Irrational Ideas Homework Sheet

A. Activating Event:


B. Facts:


C. Thoughts or Assumptions:
1. __________________________
2. __________________________
3. __________________________
4. __________________________
5. __________________________

What is most important thought or assumption to you? (circle the number)

D. How true is the thought? (scale from 1-10)
True 1—2—3—4—5—6—7—8—9—10 Not true

What evidence exists for the falseness of the idea?


E. How is your thinking self-defeating or irrational?


F. How is this irrational thought stressful?


G. What is the worst thing that could happen to you?


H. What is your alternative or counter thought line?

How true is the thought? (scale from 1-10)
True 1—2—3—4—5—6—7—8—9—10 Not true

I. Now, reconsider your original thought?
How true is the thought? (scale from 1-10)
True 1—2—3—4—5—6—7—8—9—10 Not true
Session 4 (1 Hour Session)

Goals

1. To introduce specific concepts of problems solving.
2. To discuss and practice problem solving.

Materials Required

- Five Steps of Problem Solving Handout
- Stress Management Activities Likert Scales

Session Outline

- Complete Stress Management Activities Likert Scales
- Review cognitive restructuring homework
- Introduction of Problem Solving
- Introduce and discuss Five Steps of Problem Solving
- Explain Homework

Homework

- Continue to practice previously presented stress management concepts
- Practice Five Steps of Problem Solving

Problem Solving

As presented by Auerbach and Gramling (1998) “the essence of effective stress management is acquiring a repertoire of skills that enable one to manage problematic situations, building on and refining those skills, learning when and where they will be effective, and actually implementing them when they are called for”. One of the most influential factors in an individual’s motivation to use effective problem solving strategies is their conviction that they have the ability or the capacity to achieve a desired outcome. The assumption is that if the individual does not believe that he or she is capable of solving the problem, there will be the tendency to not engage in the behaviors needed to diffuse the problem. That is, the individual will avoid the problem rather than master the problem. The key, then, is to practice problem solving skills so that you will come to believe that you have the effective problem solving abilities to handle whatever problem you are faced with.

Research has supported that good problem solving ability enhances stress coping effectiveness, is related to lower anxiety and depression, decreases irrational thinking, and increases effective study habits.
Seven Steps of Problem Solving
Discuss steps and ask students to do example in class as a group.

1. What is the Problem? Example: doing poorly in a class
2. Clarify the Problem:
   a. Feelings Example: anxious, fear, helpless
   b. Cognitions Example: “I’m a failure”
   c. Subproblems Example: if fail class won’t graduate
   d. Specify behaviorally Example: getting poor grades on exams and papers
   e. Locus of problem (whose problem is it) Example: if you can’t understand the material the professor presents or if your mother is the one disappointed in your grades
3. Goal Specification Example: bring grade up to passing
4. Brainstorming of possible ways to solve the problem
   a. as many ideas as possible
   b. state ideas in terms of actions
   c. do not evaluate ideas
   d. give sequence to complex ideas
   e. accept ideas for part of the problem
5. Evaluation
   a. discard outrageous or totally undesirable ideas
   b. discard irrelevant ideas
   c. value of ideas alone or in combination
   d. consequences of each action
   e. make risks explicit
6. Decision Making
   a. select idea or combination of ideas
   b. specify time, place, and preparation for implementation
7. Verification
   a. to what degree did strategy work?
   b. provide evidence of effectiveness
   c. is further problem solving work necessary?

Homework
1. Continue to practice aerobic exercise, relaxation, time management, and cognitive restructuring.
2. Practice Five Steps of Problem Solving to at least one problem situation over the week.
Session 4 – Handout #1

Seven Steps of Problem Solving

1. What is the Problem?
2. Clarify the Problem
   a. Feelings
   b. Cognitions
   c. Subproblems
   d. Specify behaviorally
   e. Locus of problem (whose problem is it)
3. Goal Specification
4. Brainstorming possible ways to solve the problem
   a. as many ideas as possible
   b. state ideas in terms of actions
   c. do not evaluate ideas
   d. give sequence to complex ideas
   e. accept ideas for part of the problem
5. Evaluation
   a. discard outrageous or totally undesirable ideas
   b. discard irrelevant ideas
   c. value of ideas alone or in combination
   d. consequences of each action
   e. make risks explicit
6. Decision Making
   a. select idea or combination of ideas
   b. explicate time, place, and preparation for implementation
7. Verification
   a. to what degree did strategy work?
   b. provide evidence of effectiveness
   c. is further problem solving work necessary?
Session 5 (1 Hour Session)

Goals

1. Introduce participants to concepts of assertiveness and implications for stress management.
2. Discuss and practice assertiveness training exercise.

Materials

- Interpersonal Styles Exercise
- The Assertiveness Questionnaire
- Steps for Assertive Behavior Handout
- Assertive Behavior Homework Sheet
- Stress Management Activities Likert Scales

Session Outline

- Complete Stress Management Activities Likert Scales
- Review problem solving homework
- Introduction of Assertiveness Training
- Assertiveness Training Exercise
- Explain Homework

Homework

- Continue practice of previously presented stress management concepts
- Complete Assertive Behavior Homework Sheet and prepare to role play next session

Introduction of Assertiveness Training

How you interact with others can be a great source of stress. Assertive behavior can reduce some of that stress but assertive behavior is difficult for certain people in all situations or difficult for all people in certain situations. Assertiveness refers to direct and clear expression of one’s thoughts, feelings, and desires in a socially appropriate way (Auerbach et al., 1998). It is an important aspect of social competence that helps create equality in relationships. Indeed, assertiveness allows an individual to exercise his or her personal rights without denying those of others (Ballou, 1995). Assertive behavior, however, is a difficult skill to learn.

Due to the two major goals of assertiveness training: anxiety reduction and social skills training, assertiveness training has been recognized as an effective stress management intervention. Assertiveness training can help to reduce your stress by teaching you to stand up for yourself, without violating the rights of others or allowing them to violate your rights.
Assertiveness Training Exercise (adapted from Davis, Eshelman, & McKay, 1995)
(Give participants enough time to complete each step as you introduce it, then, address any questions or concerns as a group.)

Step 1: Identify the three basic interpersonal styles.

**Aggressive Style.** The opinions, feeling, and wants are honestly stated, but at the expense of someone else’s feelings. The underlying message is “I’m superior and right, and you’re inferior and wrong.” The advantage of aggressive behavior is that people often do what you want them to. The disadvantage is that aggressive behavior often results individuals making enemies.

**Passive Style.** The opinions, feelings, and wants are withheld altogether or expressed indirectly and only in part. The underlying message is “I’m weak and inferior, and you’re powerful and right.” The advantage of passive behavior is that it minimizes responsibility for making decisions and the risk of taking a personal stand on an issue. The disadvantage of passive behavior is a sense of lowered self-esteem and having to live with the decisions of others.

**Assertive Style.** Opinions, feelings, and wants are clearly stated without violating the rights of others. The underlying assumption is “You and I may have our differences, but we are equally entitled to express ourselves to one another.” The major advantages include active participation in decision making, getting what you want without alienating others, emotional and intellectual satisfaction, and high self-esteem.

Practice Exercises:
Instructions: Practice distinguishing interpersonal styles by labeling person A’s behavior in the following scenes as aggressive, passive, or assertive.

**Scene 1**
A: Is that a new dent I see in the car?
B: Look, I got home, it was a wretched day, and I don’t want to talk about it now.
A: This is important to, and we’re going to talk about it now.
B: Have a heart.
A: Let’s decide now who is going to pay to have it fixed, when, and where.
B: I’ll take care of it. Now leave me alone, for heaven’s sake!

A’s behavior is _X_Aggressive ___Passive ___Assertive
Scene 2
A: You left me by myself at that party... I really felt abandoned.
B: You were being a party pooper.
A. I didn't know anybody - the least you could have done is introduce me to some of your friends.
B. Listen, you're grown up. You can take care of yourself. I'm tired of your nagging to be taken care of all the time.
A: And I'm tired of your inconsiderateness.
B: Okay, I'll stick to you like glue next time.

A's behavior is _X_Aggresive _Passive _Assertive

Scene 3
A: Would you mind helping me for a minute with this file?
B: I'm busy with this report. Catch me later.
A: Well, I really hate to bother you, but it's important.
B: Look, I have a four o'clock deadline.
A: Okay, I understand. I know it's hard to be interrupted.

A's behavior is _Passive _X_Passive _Assertive

Scene 4
A: I got a letter from Mom this morning. She wants to come and spend two weeks with us. I'd really like to see her.
B: Oh no, not your mother! And right on the heels of your sister. When do we get a little time to ourselves?
A: Well, I do want her to come, but I know you need to spend some time without my in-laws underfoot. I'd like to invite her to come in a month, and instead of two weeks, I think one week would be enough. What do you say to that?
B: That's a big relief to me.

A's behavior is _Passive _Passive _X_assertive

Scene 5
A: Boy, you're looking great today!
B: Who do you think you're kidding? My hair is a fright and my clothes aren't fit for the Goodwill box.
A: Have it your way.
B: And I feel just as bad as I look.
A: Right. I've got to run now.

A's behavior is _Passive _X_Passive _Assertive

Step 2: The Assertiveness Questionnaire (Adapted from Bower & Bower, 1991). Identify the situations in which you want to be more effective.
Instructions: Put a check mark in column A by the items that are applicable to you and then rate those items in column B as:

1 = Comfortable
2 = Mildly Uncomfortable
3 = Moderately Uncomfortable
4 = Very Uncomfortable
5 = Unbearably Threatening

<table>
<thead>
<tr>
<th>When do you behave non-assertively?</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asking for help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stating a difference of opinion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving and expressing negative feelings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving and expressing positive feelings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealing with someone who refuses to cooperate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking up about something that annoys you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talking when all eyes are on you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protesting a rip-off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saying &quot;no&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responding to undeserved criticism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making requests of authority figures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiating for something you want</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having to take charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposing an idea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealing with attempts to make you feel guilty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for a date or appointment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for favors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Who are the people with whom you are nonassertive?

<table>
<thead>
<tr>
<th>Category</th>
<th>Check if applies to you</th>
<th>Rate from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fellow classmates, workers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strangers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boyfriend, girlfriend, spouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquaintances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales people, clerks, hired help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than two or three people in a group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### What do you want that you have been unable to achieve with nonassertive styles?

<table>
<thead>
<tr>
<th>Want</th>
<th>Check if applies to you</th>
<th>Rate from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval for things you have done well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get help with certain tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More attention, or time with your mate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be listened to and understood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To make boring or frustrating situations more satisfying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To not have to be nice all the time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence in speaking up when something is important to you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater comfort with strangers, store clerks, mechanics, and so on</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence in asking for contact with people you find attractive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get a new job, ask for interviews, raises, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfort with people who supervise you or work under you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To not feel angry and bitter a lot of the time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To overcome a feeling of helplessness and the sense that nothing ever really changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To initiate satisfying relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To do something totally different and novel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To have time by yourself</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To do things that are fun and relaxing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Evaluating your responses. Examine your answers, and analyze them for an overall picture of what situations and people threaten you. How does non-assertive behavior contribute to the specific items you checked on the “What” list? In constructing your own assertiveness program, it will be initially useful to focus on items you rated as falling in the 2-3 range. These are the situations that you will find it easiest to change. Items that are very uncontrollable or threatening can be tackled later.

Step 3: Describing your problem scenes.

Instructions: Select a mildly to moderately uncomfortable situation that suggests itself from items on the Assertiveness Questionnaire. Write out a description of the scene, being certain to include who the person is, when it takes place (time and setting), what bothers you, how you deal with it, your fear of what will take place if you are assertive, and your goal. Be very specific including as much detail as possible.

Step 4: Write your script for change. A script for change is the working plan for dealing with the problem scene assertively. There are three basic statements that need to be included in an assertive script.

1. Define the problem and state your thoughts about the problematic situation. This is a non-blaming description of the problem as you see it. Stick as closely as possible to the facts, making no inferences about the motives or feelings of others. Be very specific in defining the problem.

2. State your feelings. These are “I statements” about your emotional reaction to the problem. Avoid substituting an opinion for a feeling (I feel we shouldn’t have to take a psychology class). The more accurate statement would be “I don’t like taking a psychology class.” Try to avoid implying that that you’re holding the other person responsible for your feelings.

3. State your wants. Express your request in one or two easy-to-understand sentences. Be specific, firm, and behavioral. For example, don’t ask your tardy friend to be “more considerate.” Rather, request specifically that he or she call if more then 15-minutes late.

Step 5: Develop assertive body language. Remember these five basic concepts:

1. Maintain direct eye contact.
2. Maintain an erect body position.
3. Speak clearly, audibly, and firmly.
4. Don’t whine or use an apologetic tone of voice.
5. Make use of gestures and facial expression for emphasis.
Step 6: Learn how to listen. In listening assertively, you focus your attention on the other person so that you can adequately hear the speaker’s opinions, feelings, and wishes. Practice these three steps:

1. Prepare. Become aware of your own feelings and needs so that you are ready to listen.
2. Listen and clarify. Give your full attention to the other person, listen to the speaker’s perspective, feelings, wants. If you are uncertain about what they are saying, ask the speaker to clarify.
3. Acknowledge. Communicate to the other person that you heard their position. For example, “I hear you’re feeling overwhelmed” or “I’m feeling overwhelmed too and feel terrible about asking you to do something more.”

Step 7: Arrive at a workable compromise. This may require making a list with the other person of alternative solutions. Cross off alternatives that aren’t mutually acceptable and decide on one that you both can live with. If brainstorming for alternatives with the other person doesn’t work, try asking them for a counterproposal and if it isn’t acceptable to you then make a counterproposal of your own.

Step 8: Avoid manipulation. Try the following techniques to overcome being manipulated.

1. Broken record. When you find yourself in front of a person that will not take no for an answer or refuses to grant you a reasonable request, choose a concise statement to use as your broken record and say it over and over again. For example, “I am not going to buy a car today.”
2. Content-to-process shift. Shift the focus of the discussion from the topic to an analysis of what is going on between the two of you. For example, “we’re getting off the point now.”
3. Defusing. Ignore the content of someone’s anger, and put off further discussion until he calms down. For example, “I can see that you are very angry right now, let’s talk about it later this afternoon.”
4. Assertive agreement. Acknowledge criticism with which you agree. You don’t need to give an explanation unless you wish to. For example, “You’re right, that was wrong for me to do that.”
5. Clouding. When someone is putting you down as a person, acknowledge something in the criticism with which you can agree, and ignore the rest. For example, “you’re right, I am often late.”
6. Assertive inquiry. Prompt criticism in order find out what is really bothering the person. For example, “What is it about me that you feel is pushy?”

Homework
- Continue to practice the previously introduced stress management concepts.
• Complete Assertive Behavior Homework Sheet and be prepared to role play the script in small groups the next session.
Session 5 – Handout #1

Interpersonal Styles

**Aggressive Style.** The opinions, feeling, and wants are honestly stated, but at the expense of someone else’s feelings. The underlying massage is “I’m superior and right, and you’re inferior and wrong.” The advantage of aggressive behavior is that people often do what you want them to. The disadvantage is that aggressive behavior often results individuals making enemies.

**Passive Style.** The opinions, feelings, and wants are withheld altogether or expressed indirectly and only in part. The underlying message is “I’m weak and inferior, and you’re powerful and right.” The advantage of passive behavior is that it minimizes responsibility for making decisions and the risk of taking a personal stand on an issue. The disadvantage of passive behavior is a sense of lowered self-esteem and having to live with the decisions of others.

**Assertive Style.** Opinions, feelings, and wants are clearly stated without violating the rights of others. The underlying assumption is “You and I may have our differences, but we are equally entitled to express ourselves to one another.” The major advantages include active participation in decision making, getting what you want without alienating others, emotional and intellectual satisfaction, and high self-esteem.

Practice Exercises:
Instructions: Practice distinguishing interpersonal styles by labeling person A’s behavior in the following scenes as aggressive, passive, or assertive.

**Scene 1**
A: Is that a new dent I see in the car?
B: Look, I got home, it was a wretched day, and I don’t want to talk about it now.
A: This is important to, and we’re going to talk about it now.
B: Have a heart.
A: Let’s decide now who is going to pay to have it fixed, when, and where.
B: I’ll take care of it. Now leave me alone, for heaven’s sake!

A’s behavior is ___Aggressive ___Passive ___Assertive
Scene 2
A: You left me by myself at that party...I really felt abandoned.
B: You were being a party pooper.
C: I didn't know anybody - the least you could have done is introduce me to some of your friends.
D: Listen, you're grown up. You can take care of yourself. I'm tired of your nagging to be taken care of all the time.
A: And I'm tired of your inconsiderateness.
B: Okay, I'll stick to you like glue next time.

A's behavior is ___Aggressive ___Passive ___Assertive

Scene 3
A: Would you mind helping me for a minute with this file? I'm busy with this report. Catch me later.
B: Well, I really hate to bother you, but it's important. Look, I have a four o'clock deadline.
A: Okay, I understand. I know it's hard to be interrupted.

A's behavior is ___Aggressive ___Passive ___Assertive

Scene 4
A: I got a letter from Mom this morning. She wants to come and spend two weeks with us. I'd really like to see her.
B: Oh no, not your mother! And right on the heels of your sister. When do we get a little time to ourselves?
A: Well, I do want her to come, but I know you need to spend some time without my in-laws underfoot. I'd like to invite her to come in a month, and instead of two weeks, I think one week would be enough. What do you say to that?
B: That's a big relief to me.

A's behavior is ___Aggressive ___Passive ___Assertive

Scene 5
A: Boy, you're looking great today!
B: Who do you think you're kidding? My hair is a fright and my clothes aren't fit for the Goodwill box.
A: Have it your way.
B: And I feel just as bad as I look.
A: Right. I've got to run now.

A's behavior is ___Aggressive ___Passive ___Assertive
# Session 5 – Handout #2

**The Assertiveness Questionnaire** (Adapted from Bower & Bower, 1991). Identify the situations in which you want to be more effective.

**Instructions:** Put a check mark in column A by the items that are applicable to you and then rate those items in column B as:

- 1 = Comfortable
- 2 = Mildly Uncomfortable
- 3 = Moderately Uncomfortable
- 4 = Very Uncomfortable
- 5 = Unbearably Threatening

<table>
<thead>
<tr>
<th>When do you behave non-assertively?</th>
<th>A Check if applies to you</th>
<th>B Rate from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asking for help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stating a difference of opinion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving and expressing negative feelings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving and expressing positive feelings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealing with someone who refuses to cooperate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking up about something that annoys you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talking when all eyes are on you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protesting a rip-off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saying &quot;no&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responding to undeserved criticism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making requests of authority figures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiating for something you want</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having to take charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposing an idea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealing with attempts to make you feel guilty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for a date or appointment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking for favors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who are the people with whom you are nonassertive?</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Parents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fellow classmates, workers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strangers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boyfriend, girlfriend, spouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquaintances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales people, clerks, hired help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than two or three people in a group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What do you want that you have been unable to achieve with nonassertive styles?</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval for things you have done well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get help with certain tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More attention, or time with your mate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be listened to and understood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To make boring or frustrating situations more satisfying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To not have to be nice all the time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence in speaking up when something is important to you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater comfort with strangers, store clerks, mechanics, and so on</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confidence in asking for contact with people you find attractive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get a new job, ask for interviews, raises, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfort with people who supervise you or work under you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To not feel angry and bitter a lot of the time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To overcome a feeling of helplessness and the sense that nothing ever really changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To initiate satisfying relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To do something totally different and novel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To have time by yourself</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To do things that are fun and relaxing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Evaluating your responses. Examine your answers, and analyze them for an overall picture of what situations and people threaten you. How does non-assertive behavior contribute to the specific items you checked on the “What” list? In constructing your own assertiveness program, it will be initially useful to focus on items you rated as falling in the 2-3 range. These are the situations that you will find it easiest to change. Items that are very uncontrollable or threatening can be tackled later.
Session 5 – Handout #3

Steps for Assertive Behavior

Step 1: Describing your problem scenes.

Instructions: Select a mildly to moderately uncomfortable situation that suggests itself from items on the Assertiveness Questionnaire. Write out a description of the scene, being certain to include who the person is, when it takes place (time and setting), what bothers you, how you deal with it, your fear of what will take place if you are assertive, and your goal. Be very specific including as much detail as possible.

Step 2: Write your script for change. A script for change is the working plan for dealing with the problem scene assertively. There are three basic statements that need to be included in an assertive script.

1. Define the problem and state your thoughts about the problematic situation. This is a non-blaming description of the problem as you see it. Stick as closely as possible to the facts, making no inferences about the motives or feelings of others. Be very specific in defining the problem.
2. State your feelings. These are “I statements” about your emotional reaction to the problem. Avoid substituting an opinion for a feeling (I feel we shouldn’t have to take a psychology class). The more accurate statement would be “I don’t like taking a psychology class.” Try to avoid implying that that you’re holding the other person responsible for your feelings.
3. State your wants. Express your request in one or two easy-to-understand sentences. Be specific, firm, and behavioral. For example, don’t ask your tardy friend to be “more considerate.” Rather, request specifically that he or she call if more then 15-minutes late.

Step 3: Develop assertive body language. Remember these five basic concepts:

1. Maintain direct eye contact.
2. Maintain an erect body position.
3. Speak clearly, audibly, and firmly.
4. Don’t whine or use an apologetic tone of voice.
5. Make use of gestures and facial expression for emphasis.
Step 4: Learn how to listen. In listening assertively, you focus your attention on the other person so that you can adequately hear the speaker’s opinions, feelings, and wishes. Practice these three steps:

1. Prepare. Become aware of your own feelings and needs so that you are ready to listen.
2. Listen and clarify. Give your full attention to the other person, listen to the speaker’s perspective, feelings, wants. If you are uncertain about what they are saying, ask the speaker to clarify.
3. Acknowledge. Communicate to the other person that you heard their position. For example, “I hear you’re feeling overwhelmed” or “I’m feeling overwhelmed too and feel terrible about asking you to do something more.”

Step 5: Arrive at a workable compromise. This may require making a list with the other person of alternative solutions. Cross off alternatives that aren’t mutually acceptable and decide on one that you both can live with. If brainstorming for alternatives with the other person doesn’t work, try asking them for a counterproposal and if it isn’t acceptable to you then make a counterproposal of your own.

Step 6: Avoid manipulation. Try the following techniques to overcome being manipulated.

1. Broken record. When you find yourself in front of a person that will not take no for an answer or refuses to grant you a reasonable request, choose a concise statement to use as your broken record and say it over and over again. For example, “I am not going to buy a car today.”
2. Content-to-process shift. Shift the focus of the discussion from the topic to an analysis of what is going on between the two of you. For example, “we’re getting off the point now.”
3. Defusing. Ignore the content of someone’s anger, and put off further discussion until he calms down. For example, “I can see that you are very angry right now, let’s talk about it later this afternoon.”
4. Assertive agreement. Acknowledge criticism with which you agree. You don’t need to give an explanation unless you wish to. For example, “You’re right, that was wrong for me to do that.”
5. Clouding. When someone is putting you down as a person, acknowledge something in the criticism with which you can agree, and ignore the rest. For example, “you’re right, I am often late.”
6. Assertive inquiry. Prompt criticism in order find out what is really bothering the person. For example, “What is it about me that you feel is pushy?”
Assertive Behavior Homework Sheet

Choose either one of these scenarios and write a script for change. Be prepared to role-play your script for change during the next session.

1) Whenever my friend, Kristen, and I get together on the weekends (when), she often goes on nonstop about her boyfriend problems (what). I just sit there and try to be interested (how). If I interrupt her, I’m afraid she’ll think I don’t care (fear). I’d like to change the subject and talk sometimes about my own life (goal).

2) My English professor, Mr. Smith, has given me D’s (what) on my last two papers (when). I don’t think I deserve that low of grades but haven’t said anything to him (how). I’m afraid if I say something to him about my grades he’ll resent me questioning his grading and then grade my next paper poorly (fear). I’d like to ask him why I did so poorly (goal).
Session 6 (1 Hour Session)

Goals

1. Practice assertive behavior skills.
2. To review all the stress management concepts presented in the Stress Management Program and address questions.
3. To gain feedback from the participants on the Stress Management Program.

Materials Required

- Posttests
- Blood Pressure Charts from Session 1
- Stress Management Activities Likert Scales
- Summary Diagram of Stress Management Handout
- Debriefing Forms

Session Outline

- Complete Stress Management Activities Likert Scales
- Address any questions concerning assertiveness homework
- Divide participants into small groups
- Role play assertive behavior scripts
- Present Summary Diagram
- Feedback session
- Complete Posttests
- Obtain Blood Pressure measures

Small Group Role Play

- Divide participants into pairs.
- Instruct participants to take turns role playing the scripts they prepared as homework. The assertive person will role play his or her script while the other person role plays the character presented in the homework scenario. Then, participants will switch roles.
- As a group, ask the participants to discuss any difficulties they experienced in role playing an assertive style.
Summary Diagram of Stress Management

Figure 2. Summary diagram of stress management strategies. (Adapted from Tolman & Rose, 1985)

- This is a summary diagram of the different stress management strategies introduced in this Stress Management Program. There are other strategies available. As depicted in the diagram, an analysis of each potentially stressful situation can lead to a number of different choices in coping strategies. (Explain diagram in detail.)

Feedback Session

Ask participants to discuss their opinions of the Stress Management Program.
- What did they find useful?
- What was not particularly useful?
- Do they have any recommendations for changes to improve the program?
Summary Diagram of Stress Management

Figure 5. Summary diagram of stress management strategies. (Adapted from Tolman & Rose, 1985)
Appendix B

Demographics
Demographics

The following questions ask you to provide some information about yourself. We ask that you be as honest as possible throughout.

1. Age: ______________________

2. Gender: male____ female____

3. Marital Status: __________ Single
   ______ Married
   ______ Separated
   ______ Divorced
   ______ Widowed

4. Which of the following categories best describes your race or ethnic origin?
   ______ American Indian/Alaskan
   ______ Asian/Pacific Island
   ______ Black/non-Hispanic
   ______ Hispanic
   ______ White, non-Hispanic

5. Religion: _______ Baptist _______ Lutheran
   _______ Buddhist _______ Methodist
   _______ Catholic _______ Moslem
   _______ Episcopalian _______ Presbyterian
   _______ Hindu _______ None
   _______ Jewish _______ Other

6. What is your current grade level?
   _______ Freshman
   _______ Sophomore
   _______ Junior
   _______ Senior
   _______ Post bachelor degree
   _______ Non-degree seeking

7. What is your employment status at the present time?
   _______ Employed full-time
   _______ Employed part-time
   _______ Not employed

8. Do you have any major medical condition? yes____ no____
   If yes, please list ____________________________________________

9. Are you currently pregnant? yes____ no____
Appendix C

Stress Management Program Evaluation
Stress Management Program Evaluation

1. Student classification:
   a. on-campus
   b. off-campus
   c. non-traditional
   d. graduate
   e. other, please list ________________________________

2. How did you learn of this program? ________________________________

3. What made you interested in attending this program? ________________________________

4. The information presented was personally useful.
   (a) strongly agree (b) agree (c) undecided (d) disagree (e) strongly disagree

5. The information was presented in a clear manner that was easy to comprehend.
   (a) strongly agree (b) agree (c) undecided (d) disagree (e) strongly disagree

6. I felt comfortable asking for help or for more information.
   (a) strongly agree (b) agree (c) undecided (d) disagree (e) strongly disagree

7. The program was worth my time to attend.
   (a) strongly agree (b) agree (c) undecided (d) disagree (e) strongly disagree

8. I would recommend this program to a friend.
   (a) strongly agree (b) agree (c) undecided (d) disagree (e) strongly disagree

9. I view the presenter as a credible source of information.
   (a) strongly agree (b) agree (c) undecided (d) disagree (e) strongly disagree

10. What did you like best about this program? ________________________________

Comments: Please make comments concerning this program including things you liked or disliked and any suggestions you may have. Please make your comments on the back of this sheet.
Appendix D

Instructor Checklists
Instructor Checklist – Session 1

During this session I covered:

_____ Distribute Consent Forms and give Introduction to Stress Management Program

_____ Distribute Pretests and obtain blood pressure measures

_____ Briefly review Over 35 Ways Exercise Could Enrich Your Life Handout

_____ Overview of biological basis of stress and stress management using diagram to illustrate

_____ Introduction to time management

_____ Discuss Principles of Time Management

_____ Motivate students to be receptive of change using three steps:

   1. reinstate stress associated with the previous semester

   2. examine the semester schedule

   3. examine the stress of the semester

_____ Illustrate to the participants how much of their time is already committed to different activities and potential conflicts in managing new responsibilities using the 168 Hours a Week Exercise

_____ Explain Homework

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Instructor Checklist – Session 2

During this session I covered:

_____ Complete Stress Management Activities Sheet

_____ Review time management homework

_____ Introduce deep breathing as relaxation technique

_____ Deep breathing exercise

_____ Introduce progressive muscle relaxation

_____ Progressive muscle relaxation exercise

_____ Introduce thematic imagery as relaxation technique

_____ Thematic imagery exercise

_____ Discuss reactions, questions, and concerns of using techniques introduced

_____ Distribute Beliefs Inventory

_____ Explain Homework
Instructor Checklist — Session 3

During this session I covered:

_____ Complete Stress Management Activities Sheet
_____ Review relaxation homework
_____ Progressive muscle relaxation exercise
_____ Introduce concepts of cognitive restructuring
_____ Beliefs Inventory to identify irrational thought patterns
_____ Cognitive restructuring exercise
_____ Explain homework
Instructor Checklist – Session 4

During this session I covered:

_____ Complete Stress Management Activities Sheet

_____ Review cognitive restructuring homework

_____ Introduction of Problem Solving

_____ Introduce and discuss Five Steps of Problem Solving

_____ Explain Homework
Instructor Checklist – Session 5

During this session I covered:

_____ Complete Stress Management Activities Sheet

_____ Review problem solving homework

_____ Introduction of Assertiveness Training

_____ Assertiveness Training Exercise

_____ Explain Homework
Instructor Checklist – Session 6

During this session I covered:

_____ Address any questions concerning assertiveness homework
_____ Divide participants into small groups
_____ Role play assertive behavior scripts
_____ Present Summary Diagram
_____ Feedback session
_____ Complete Posttests
_____ Obtain Blood Pressure measures
Appendix E

Symptoms of Stress Inventory
SYMPTOMS OF STRESS INVENTORY

A SELF ASSESSMENT

This questionnaire measures different ways people respond to stressful situations. Included are sets of questions regarding typical physical, psychological and behavioral responses. We are interested in the frequency with which you may have experienced these stress-related symptoms during the past week.

CHECK ONE:
( ) Screen  ( ) Exit  ( ) 6 Month  ( ) 1 Year FU

STRESS MANAGEMENT CLINIC
DEPARTMENT OF PSYCHOSOCIAL AND COMMUNITY HEALTH
UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195-7263

10/98
# Symptoms of Stress Interview

**Please circle the most appropriate response to each question.**

**Use this scale:**

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0</strong></td>
<td>Never</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Have you noticed your body doing any of these things during the past week when you were not exercising?**

- 1. Flushing of your face
- 2. Sweating excessively even in cold weather
- 3. Severe itching
- 4. Skin rashes
- 5. Breaking out in cold sweats
- 6. Cold hands or feet
- 7. Hot or cold spells

**Have you noticed any of the following symptoms when not exercising?**

- 8. Pains in your heart or chest
- 9. Thumping of your heart
- 10. Rapid or racing heart beats
- 11. Irregular heart beats
- 12. Rapid breathing
- 13. Difficult breathing
- 14. A dry mouth

**Have you experienced:**

- 15. Having to clear your throat
- 16. A choking lump in your throat
- 17. Hoarseness
- 18. Nasal stuffiness
- 19. Colds
- 20. Colds with complications (e.g. bronchitis)
- 21. Increased asthma attacks
- 22. Sinus headaches
- 23. Spells of severe dizziness

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
# Use This Scale:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RARELY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 OR 2 TIMES PER WEEK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 OR 4 TIMES PER WEEK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALMOST EVERY DAY DURING THE WEEK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALMOST ALL THE TIME SEVERAL TIMES/WK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Have You Experienced:

24. Feeling faint 0 1 2 3 4
25. Blurring of your vision 0 1 2 3 4
26. Migraine headaches 0 1 2 3 4
27. Increased seizures (convulsions) 0 1 2 3 4

# Have You Been Bothered By:

28. Indigestion 0 1 2 3 4
29. Nausea 0 1 2 3 4
30. Severe pains in your stomach 0 1 2 3 4
31. Increased appetite 0 1 2 3 4
32. Poor appetite 0 1 2 3 4
33. Loose bowel movements or diarrhea 0 1 2 3 4
34. Heartburn 0 1 2 3 4
35. Constipation 0 1 2 3 4

# Muscle Tension is a Common Way to Experience Stress.

Have you noticed excessive tension, stiffness, soreness or cramping of the muscles in your:

36. Abdomen or stomach 0 1 2 3 4
37. Neck 0 1 2 3 4
38. Jaw 0 1 2 3 4
39. Forehead 0 1 2 3 4
40. Eyes 0 1 2 3 4
41. Back 0 1 2 3 4
42. Shoulders 0 1 2 3 4
43. Hands or arms 0 1 2 3 4
44. Legs 0 1 2 3 4
45. Tension headaches 0 1 2 3 4
46. Fidgeting with your hands 0 1 2 3 4
47. Pacing 0 1 2 3 4
48. Chewing on your lips 0 1 2 3 4

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
### Restlessness or Anxiety Symptoms

In your day-to-day activities, have you noticed symptoms of restlessness or anxiety such as:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>48. Difficulty sitting still</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>49. Increased eating</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>50. Increased smoking</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>51. Biting your nails</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>52. Having to urinate frequently</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>53. Having to get up at night to urinate</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>54. Difficulty in falling asleep</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>55. Difficulty in staying asleep at night</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>56. Early morning awakening</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>57. Changes in your sexual relationship</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>58. Working tires you out completely</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>59. Severe aches and pain make it difficult for you to do your work</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

### Stress Emotional Symptoms

During the past week have you felt:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>61. Alone and sad</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>62. Unhappy and depressed</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>63. Like crying easily</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>64. Like life is entirely hopeless</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>65. That you wished you were dead</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>66. That worrying gets you down</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>67. You get up tired and exhausted in the morning even with your usual amount of sleep</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>68. You suffer from severe nervous exhaustion</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>69. Worrying about your health</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>70. Stuttering or stammering</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>71. Shaking or trembling</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>72. Being keyed up or jittery</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>73. Feeling weak or faint</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>74. Frightening dreams</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>NEVER</td>
<td>RARELY</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALMOST ALL</td>
</tr>
<tr>
<td>---</td>
<td>-------</td>
<td>--------</td>
<td>-----------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>NOT AT ALL</td>
<td>1 OR 2 TIMES</td>
<td>3 OR 4 TIMES</td>
<td>ALMOST EVERY DAY</td>
<td>THE TIME</td>
</tr>
<tr>
<td><strong>HAVE YOU NOTICED:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75.</td>
<td>Being uneasy or apprehensive</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>76.</td>
<td>You get nervous or shaky when approached by a superior</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>77.</td>
<td>You become so afraid you can't move</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>78.</td>
<td>You are fearful of strangers and/or strange places make you afraid</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>79.</td>
<td>Sudden noises make you jump or shake</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>DOES IT SEEMS:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80.</td>
<td>That little things get on your nerves</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>81.</td>
<td>You are easily annoyed and irritated</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>82.</td>
<td>When you feel angry, you act angrily toward most everything</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>83.</td>
<td>Angry thoughts about an irritating event keep bothering you</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>84.</td>
<td>You become angry or mad easily</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>85.</td>
<td>Your anger is so great that you want to strike something</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>86.</td>
<td>You let little annoyances build up until you must explode</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>87.</td>
<td>You become so upset that you hit something</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>IN YOUR DAY TO DAY LIVING DO YOU FIND:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>88.</td>
<td>Your thinking gets completely mixed up when you have to do things quickly</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>89.</td>
<td>You must do things very slowly to do them without mistakes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>90.</td>
<td>You get directions and orders wrong</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>91.</td>
<td>You are unable to keep thoughts from running through your mind</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>92.</td>
<td>Frightening thoughts keep coming back</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>93.</td>
<td>You become suddenly frightened for no good reason</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>94.</td>
<td>You have difficulty in concentrating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>95.</td>
<td>What other ways do you experience stress, tension or anxiety? (Write responses below).</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
THE FOLLOWING IS FOR WOMEN ONLY

USE THIS SCALE:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RARELY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOMETIMES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFTEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALMOST ALL THE TIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AROUND THE TIME OF YOUR PERIOD, DO YOU FEEL:

96. Tense or jumpy  
97. Mildly depressed  
98. Moderately depressed  
99. Severely depressed  

100. Have you been pregnant during the past year?  
101. Did you experience any complications during the pregnancy?  
102. Did you experience any complications during or after delivery?  
103. Have you had a hysterectomy?  
104. Have you had both ovaries removed?  
105. In the last year, have you experienced symptoms as the result of this surgery?  
106. Have you experienced menopause?  
107. In the last year, have you experienced any symptoms related to menopause?

This questionnaire is adapted in part from the Cornell Medical Index, 1949. It may not be copied or reproduced without permission from Elaine Adams Thompson, PhD or Helen Kogan Budzynski, PhD. For permission write to Elaine Adams Thompson, PhD, Department of Psychosocial and Community Health, University of Washington, Box 357263, Seattle, Washington 98195-7263

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Appendix F

The Derogatis Stress Profile
Derogatis Stress Profile

Below are a series of statements that describe the way some people feel about themselves. Please read each statement carefully and select one of the numbered descriptors below to indicate the extent to which the statement is true of you. Consider yourself as you typically behave or feel, and place the descriptor number in the open block to the right of the statement.

Descriptors: 0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

1. I feel there is never enough time to get things done
2. I rarely exercise
3. I get great pleasure from the people I work with
4. When I eat, I usually take my time
5. I sometimes have feelings of worthlessness
6. I get easily annoyed or irritated
Appendix G

Stress Management Activities Likert Scales
Stress Management Activities

Name ___________________ Date ___________________

Group # ___________________

Using the scale below, indicate how frequently you engaged in these stress management activities during the past week. Please answer as accurately as possible. Circle your answer.

<table>
<thead>
<tr>
<th></th>
<th>NEVER (0)</th>
<th>RARELY (1)</th>
<th>SOMETIMES (2)</th>
<th>OFTEN (3)</th>
<th>ONCE A DAY (4)</th>
<th>SEVERAL TIMES A DAY (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>NOT AT ALL</td>
<td>MAYBE ONCE</td>
<td>2 OR 3 TIMES</td>
<td>LAST WEEK</td>
<td>LAST WEEK</td>
<td>LAST WEEK</td>
</tr>
<tr>
<td>1</td>
<td>ONCE A DAY</td>
<td>A DAY</td>
<td>TIMES A DAY</td>
<td>RELAXATION</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 1. Progressive muscle relaxation | 0 1 2 3 4 5 |
| 2. Deep breathing exercises | 0 1 2 3 4 5 |
| 3. Thematic imagery exercises | 0 1 2 3 4 5 |

AEROBIC EXERCISE including any of the following:

- Aerobics
- Walking briskly
- Running
- Stair climbing
- Racquetball
- Bicycling
- Skating
- Skating

How many minutes total did you exercise last week? ________

PROBLEM SOLVING

| 1. Identifying and clarifying exact problem | 0 1 2 3 4 5 |
| 2. Specifying goals | 0 1 2 3 4 5 |
| 3. Brainstorming alternative solutions | 0 1 2 3 4 5 |
| 4. Evaluating alternatives | 0 1 2 3 4 5 |
| 5. Making decisions and verifying effectiveness | 0 1 2 3 4 5 |
| 6. Using all of the steps above, together, to solve a problem. | 0 1 2 3 4 5 |
### TIME MANAGEMENT

1. Setting priorities and deadlines 0 1 2 3 4 5
2. Setting short and long-term goals 0 1 2 3 4 5
3. Reviewing goals 0 1 2 3 4 5
4. Keeping a daily/weekly appointment book 0 1 2 3 4 5
5. Keeping a daily log 0 1 2 3 4 5
6. Making a list of things to do for the day 0 1 2 3 4 5
7. Evaluating your daily schedule 0 1 2 3 4 5
8. Other, Please list: ________________________________ 0 1 2 3 4 5

### ASSERTIVE BEHAVIOR

1. Using assertive language that states your feelings and wants confidently but not aggressively. 0 1 2 3 4 5
2. Coming to compromises with others that consider both yours and the other persons’ interests. 0 1 2 3 4 5
3. Avoiding manipulation by others. 0 1 2 3 4 5
4. Listening to others carefully acknowledging and clarifying what they’re saying. 0 1 2 3 4 5

### COGNITIVE RESTRUCTURING (re-thinking your thinking)

1. Identifying thoughts that may be irrational or illogical. 0 1 2 3 4 5
2. Challenging thoughts that may be irrational or illogical. 0 1 2 3 4 5
3. Replacing irrational or illogical thoughts with more rational and logical thoughts. 0 1 2 3 4 5
4. Using all of the steps above, together, to solve a problem. 0 1 2 3 4 5
Appendix H

Blood Pressure Charts
<table>
<thead>
<tr>
<th>Name</th>
<th>Pre-Systolic/Diastolic</th>
<th>Post-Systolic/Diastolic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Your Blood Pressure was recorded as:  

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
*This test is not a substitute for a medical exam.

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
* This test is not a substitute for a medical exam.

Your Blood Pressure was recorded as:  

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
*This test is not a substitute for a medical exam.

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
* This test is not a substitute for a medical exam.

Your Blood Pressure was recorded as:  

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
*This test is not a substitute for a medical exam.

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
* This test is not a substitute for a medical exam.

Your Blood Pressure was recorded as:  

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
*This test is not a substitute for a medical exam.

The usual pressure is 90/140, if your pressure varies significantly you should see a physician before participating.  
* This test is not a substitute for a medical exam.
Appendix I

Stress Management Program Advertisement
Stress Management Program

Sponsored by the University Wellness Team

Learn skills to help manage and cope effectively with academic, personal, and work related stress.

- 6 week comprehensive program
- Tuesday evenings, March 16th to April 20th
- 1st session: March 16th 6pm – 8pm
  2nd – 6th sessions: 6pm – 7pm
- Room 224 Alter Hall
- Call 745–1042 to sign-up before March 15th

Chance to win 1 of 2 cash prizes of $100.00.

Co-sponsored by the Psychological Services Center
Appendix J

Control Group Advertisement
Win a $50.00 cash prize

- Participate in a survey of stress experienced by Xavier students and receive a chance to win $50.00.
- Must attend two sessions to receive chance to win $50.00 cash prize:
  
  Tuesday, March 16th at 6pm
  and
  Tuesday, April 20th at 6pm

- Blood pressure will be taken at each session.
- Room 217 Alter Hall
Appendix K

Stress Management Group Consent to Participate
Consent to Participate

You are being asked to participate in a project conducted at Xavier University.

After hearing the description of the Stress Management Program and reading the description below of the purpose, the procedures to be used, and the potential benefits and risks of participation, you may ask the instructor any questions you may have to help you understand the project. Please read this explanation and discuss with the instructor any questions you may have.

1. **Nature and Purpose of the Project:** The purpose of this project is to design, implement, and evaluate a Stress Management Program that promotes the Wellness of Xavier University students by teaching the students some stress management techniques and encouraging their practice of these techniques.

2. **Explanation of Procedures:** Once you read and sign the consent form, you will return it to the instructor. Then, you will begin completing the questionnaire packet provided to you by the instructor. The questionnaire includes questions about your experiences of stress and emotional and physical responses to stress. Once you have completed the questionnaire packet, you will place it in the manila envelope at the collection point. Following, you will begin the first session of a six-session Stress Management Program. You will be asked to attend every week of the six-week program. Each week, you will be introduced to a new stress management concept. You will be given the opportunity to practice the stress management techniques in class and will be asked to complete out-of-class assignments.

3. **Discomfort and Risks:** The nature of some of the questions asked on the questionnaires and in some of the practice exercises may be uncomfortable to answer. Additionally, you will be asked to participate in aerobic exercise, therefore, if you have a major health condition or are pregnant you will be referred for exercise advisement. Additionally, if you have or are suspected of having a major health condition, contact your medical doctor before participating in this program.

4. **Benefits:** The techniques introduced in the program will aid in effective management and coping of the stresses that students are confronted with. Some of the participants are receiving extra credit toward their course. This is provided at the discretion of the course instructor. Additionally, the evaluation of this program will aid in making improvements to the Stress Management Program thus, increasing its’ effectiveness in promoting the wellness of the Xavier University students who participate. Those students who participate in all six sessions of the program will receive an opportunity to win one of two cash prizes of $100.00.

5. **Confidentiality:** Questionnaires will be assigned a group number and all the data will be reported in group format; at no time will responses be reported individually.
6. **Refusal/Withdraw:** You are under no obligation to participate and you should feel free to not participate in the Stress Management Program. If at any point during the Stress Management Program, you decide you no longer want to participate, you may stop. Refusal to participate in this project will have no effect on future services you may be entitled to from the University. Anyone who agrees to participate in this project is free to withdraw from the project at any time with no penalty.

After hearing the explanation, reading this explanation, and having your questions answered, you may agree to participate by signing this form or decline to sign and be excused. If you agree, please fill out the questionnaire that is attached. Take a copy of this form found at the end of the questionnaire packet. Return the completed questionnaire by placing it in the manila envelope at the collection point.

I understand that it is not possible to identify all potential risks in an experimental procedure, and I believe that reasonable safeguards have been taken to minimize both the known and unknown risks.

Name (Please Print)  

________________________________________  

Signature (Please Sign)  

________________________________________

Phone Number  

________________________________________

Date  

________________________________________

SheaLynne A. Baus, M.A.  
Researcher

________________________________________

Janet R. Schultz, Ph.D.  
Clinical Psychologist
Appendix L

Health Screening Questionnaire
Name__________________________________________

Phone #__________________________________________

Physical Activity Questionnaire

Please read the following questions carefully and check the appropriate answers as it applies to you.

___Yes  ___No  1. Has your doctor ever said you have heart trouble?

___Yes  ___No  2. Do you frequently have pains in your heart and chest?

___Yes  ___No  3. Do you often feel faint or have spells of severe dizziness?

___Yes  ___No  4. Has a doctor ever said your blood pressure was too high?

___Yes  ___No  5. Has your doctor ever told you that you have a bone or joint problem such as arthritis that has been aggravated by exercise, or might be made worse with exercise?

___Yes  ___No  6. Is there a good physical reason not mentioned here why you should not follow an activity program even if you wanted to?

___Yes  ___No  7. Are you over age 65 and not accustomed to vigorous exercise?
Appendix M

Subject Debriefing
Participant Debriefing

The purpose of the project you just completed was to design a stress management program for the students of Xavier University, implement it, and evaluate its effectiveness in increasing participants' stress management behaviors and decreasing the symptoms participants experience that are related to stress. Previous studies of college campus stress management programs that have incorporated the various stress management concepts covered in this Stress Management Program have reported effectiveness in changing certain aspects of students' lives including physical activity, cognitive processes, problem solving, relationships, and lifestyle choices. As a result, the participants of these programs have reported decreases in depression, anxiety, and stress.

The results of the evaluation of this Stress Management Program in increasing stress management behaviors and decreasing stress-related symptoms will provide researchers with additional information about the effectiveness of college campus stress management programs and the effectiveness of these stress management behaviors in reducing stress-related symptoms. Additionally, participation in this program has provided the participants with the opportunity to identify sources of stress and means of coping with the stresses that confront them. Finally, the evaluation of this program will provide the researcher with the information needed to address any limitations of the program and to make any needed changes to increase its' effectiveness.

If you have any questions or concerns regarding your participation in this project, please contact Janet R. Schultz, Ph.D. (Dissertation Advisor) at 745-3248. If you would like to talk with a professional in regard to any experiences or issues you may have in response to your experiences with this Stress Management Program, please contact Xavier University Psychological Services Center at 745-3531.

Thank you for your participation.

SheaLynne A. Baus, M.A.
Researcher

Janet R. Schultz, Ph. D.
Clinical Psychologist
Appendix N

Control Group Consent to Participate
Consent to Participate

You are being asked to participate in a project conducted at Xavier University.

The investigator will explain to you the purpose of the project, the procedures to be used, and the potential benefits and risks of participation. You may ask the investigator any questions you may have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

1. **Nature and Purpose of the Project:** The purpose of this project is to investigate the experiences of stress, responses to stress, and the stress management behaviors among the Xavier University students.

2. **Explanation of Procedures:** Once you read and sign the consent form, you will begin completing the questionnaire packet attached. The questionnaire includes questions about your experiences of stress and emotional and physical responses to stress. Once you have completed the questionnaire packet, you are to put it in the manila envelope at the collection point. You will then return in six weeks to complete this questionnaire again.

3. **Discomfort and Risks:** The nature of some of the questions asked on the questionnaires may be uncomfortable to answer.

4. **Benefits:** Research in this area will aid scientists and practitioners in better understanding stress management among the college population. Additionally, the information obtained from this project will aid Xavier University in promoting the wellness of the students. Some students will receive extra credit toward their course. This is provided at the discretion of the course instructor. Those students who attend both sessions of this project will receive an opportunity to win a $50.00 cash prize.

5. **Confidentiality:** The consent form will be detached from the questionnaire packet. Questionnaires will be assigned a group number and all the data will be reported in a group format; at no time will responses be reported individually.

6. **Refusal/Withdraw:** You are under no obligation to participate and you should feel free not to fill out the questionnaire packet. If at any point while filling out the questionnaire packet, you decide you no longer want to participate, you may stop. Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this project is free to withdraw from the project at any time with no penalty.
Page 2 Consent

After hearing the explanation, reading this explanation, and having your questions answered, you may agree to participate by signing this form or decline to sign and be excused. If you agree, please fill out the questionnaire that is attached. Take a copy of this form found at the end of the questionnaire packet. Return the completed questionnaire by placing it in the manila envelope at the collection point.

I understand that it is not possible to identify all potential risks in an experimental procedure, and I believe that reasonable safeguards have been taken to minimize both the known and unknown risks.

Name (Please Print) __________________________  Signature (Please Sign) __________________________

Phone Number

Date __________________________

SheaLynne A. Baus, M.A.
Researcher

Janet R. Schultz, Ph.D.
Clinical Psychologist