



**UNIVERSITI PUTRA MALAYSIA**

***EFFECTS OF INOCULATION TRAINING ON STRESS, ANXIETY, AND  
COPING STRATEGIES AMONG POSTGRADUATE STUDENTS  
OF THE FACULTY OF EDUCATIONAL STUDIES,  
UNIVERSITI PUTRA MALAYSIA***

**TAHEREH MIRHAKAK ESFAHANI**

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UNIVERSITI PUTRA MALAYSIA  
BERILMU BERBAKTI

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By

**TAHEREH MIRHAKAK ESFAHANI**

**Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
partial fulfillment of the requirements for the degree of Doctor of Philosophy**

**June 2014**

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## **DEDICATION**

### *In the Name of God*

This research is dedicated to my wonderful husband who have raised me to be the person I am today. You have provided me with support, emotionally and financially throughout this long and challenging journey. You have been a great source of much more than physical and emotional support. You have been with me every step of the way, through good times and bad. Thank you for your unconditional love, guidance, and support that you have always given me, helping me succeed and instilling in me the confidence that in doing anything I will succeed if I put my mind to it. I am grateful too, to my daughter, who has guided and supported me with excellent suggestions. Finally, this thesis is dedicated to all those who believe in the richness of learning.



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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirements for the Degree of Doctor of Philosophy

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**June 2014**

**Chairman: Tajularipin Sulaiman, PhD.**

**Faculty: Educational Studies**

Anxiety and stress are the main concerns of human being, especially for postgraduate students. Both anxiety and stress disturb life balance and can lead to lower levels of their performance. Stress is the body's reaction to a change that requires a physical, mental or emotional adjustment or response. Stress reflects experience of stressors in postgraduate students, can create psychological and physiological reactions that occur in the face of stressors. Anxiety is a dimension of stress occurring in response to external as well as internal stimuli and can lead to behavioral, cognitive, emotional, and physical symptoms for postgraduate students. High stress levels in postgraduate students lead to anxiety, poor academic performance, attrition, and serious health problems. This study was designed based on the application of Stress Inoculation Training (SIT) program, as developed by Meichenbaum (1977). The SIT method provides an overview for treating and preventing of stress and anxiety among postgraduate students. It provides support and describes the potential role of therapeutic recreation in the development of stress management and anxiety control. The objective of this study is to examine the effectiveness of SIT program on stress, anxiety and coping strategies level of postgraduate students. This research was carried out in the Faculty of educational studies of Universiti Putra Malaysia. The population of the study was all postgraduate students enrolled in this Faculty in the academic year of 2012-2013.

The present study used experimental design to achieve its objectives. Simple random sampling was employed to achieve high level stress and anxiety among postgraduate students in the faculty of education. Sixty four students with high level stress and anxiety

were randomly assigned to each group, 32 of the respondents were participated in experimental group and 32 of them were participated in control group. The instruments of the study were Perceived Stress Scale (PSS14) for measuring the levels of stress, State-Trait Anxiety Inventory (STAI-Y) for measuring the levels of anxiety, and Ways of Coping Scale (WOCS) for coping strategies. SPSS version (20) was the analytical tools used in this study.

The results of repeated measure ANOVA showed that the interaction between group and test was statistically significant for stress, anxiety and eight dimensions of coping strategies. Furthermore, the results of mean comparison between experimental and control groups in pre and posttest using t-test (independent and paired) showed that the level of respondent's stress and anxiety were reduced significantly by SIT program. The results also revealed that SIT program increased significantly six dimensions of coping strategies including confrontive coping, seeking social support, accepting responsibility, self-controlling, planful problem-solving, and positive reappraisal, while, decreased two dimensions of coping strategies including distancing and escape-avoidance. The findings from this research can provide information to those who intend to plan beneficial programs for the university students to improve their academic performance regarding to treatment of anxiety, management of stress, and development their coping strategies.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan Ijazah Doktor Falsafah

**KESAN LATIHAN INOKULASI TERHADAP STRES, KEBIMBANGAN, DAN STRATEGI DAYA TINDAK DALAM KALANGAN PELAJAR PASCASISWAZAH FAKULTI PENGAJIAN PENDIDIKAN, UNIVERSITI PUTRA MALAYSIA**

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Keresahan dan stres merupakan perkara utama yang membimbangi manusia, terutamanya bagi para pelajar siswazah. Kedua-dua aspek ini, iaitu keresahan dan stres mengganggu keseimbangan kehidupan dan ini akan menyebabkan tahap prestasi yang rendah. Stres merupakan reaksi tubuh badan terhadap perubahan yang memerlukan penyesuaian atau respon fizikal, mental, atau emosi. Stres yang mencerminkan pengalaman stresor dalam kalangan pelajar siswazah akan mewujudkan reaksi psikologi dan fisiologi yang terpancar pada wajah mereka. Keresahan pula merupakan dimensi stres yang wujud sebagai respon terhadap stimuli luaran dan dalaman dan ini akan menyebabkan wujudnya simptom tingkah laku, kognitif, emosi, dan fizikal bagi pelajar siswazah. Tahap stres yang tinggi dalam kalangan pelajar siswazah menyebabkan keresahan, kemerosotan prestasi akademik, keciciran, dan masalah kesihatan yang serius. Kajian ini direka bentuk berdasarkan aplikasi program Latihan Inokulasi Stres (SIT), yang dibangunkan oleh Meichenbaum (1977). Kaedah SIT memberi gambaran menyeluruh tentang rawatan dan pencegahan stres dalam kalangan pelajar siswazah. Kaedah ini menyediakan sokongan dan menerangkan potensi peranan rekreasi terapeutik dalam pembangunan pengurusan stres dan kawalan keresahan. Objektif kajian ini adalah untuk menyelidiki keberkesanan program SIT terhadap stres, keresahan serta tahap strategi pencegahan pelajar siswazah. Kajian ini telah dijalankan di Fakulti Pengajian Pendidikan, Universiti Putra Malaysia.

Kajian ini menggunakan reka bentuk eksperimen bagi mencapai objektif. Dalam kajian ini, persampelan rawak mudah telah digunakan bagi mendapatkan tahap stres dan keresahan tinggi dalam kalangan pelajar siswazah. Seramai enam puluh empat pelajar yang mengalami tahap stres dan keresahan tinggi telah ditentukan secara rawak bagi setiap kumpulan, iaitu 32 responden mengambil bahagian dalam kumpulan eksperimen dan 32 lagi mengambil bahagian dalam kumpulan kawalan. Instrumen kajian ini ialah

Skala Stres Pengamatan (PSS 14) bagi mengukur tahap stres, Inventori Keresahan *State-Trait* (STAI-Y) bagi mengukur tahap keresahan dan Laluan Skala Menangani(WOCS) bagi strategi menangani. SPSSVersi (20) merupakan alat analitikal dalam kajian ini.

Dapatan kajian berdasarkan pengukuran berulang ANOVA menunjukkan bahawa interaksi antara kumpulan dengan ujian adalah signifikan secara statistik bagi stres, keresahan, dan lapan dimensi strategi menangani. Di samping itu, hasil dapatan min perbandingan antara kumpulan eksperimen dan kawalan pada praujian dan pascaujian dengan menggunakan ujian t (tak bersandar dan berpasangan) menunjukkan bahawa tahap stres dan keresahan responden telah menurun secara signifikan melalui program SIT. Dapatan kajian juga menunjukkan bahawa program SIT dapat meningkatkan secara signifikan enam dimensi strategi menangani, iaitu menangani konfrontif, mencari sokongan sosial, menerima tanggungjawab, kawalan sendiri, penyelesaian masalah secara terancang, dan penilaian semula positif, manakala penurunan dua dimensi strategi menangani, iaitu menjarakkan diri dan pengelakan menghindar. Hasil penyelidikan ini dapat memberikan maklumat kepada para penyelidik yang berhasrat untuk melaksanakan program rawatan keresahan, pengurusan stres, dan pembangunan strategi menangani yang berfaedah untuk pelajar universiti bagi memperbaiki prestasi akademik mereka.



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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted in partial as fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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## LIST OF ABBREVIATIONS

ANOVA	Analysis Of Variances
AS	Anxiety Sensitivity
CBM	Cognitive Behavior Modification
CBT	cognitive behavior therapy
CNP	Constructive Narrative Perspective
CT	Cognitive Therapy
EDA	Exploratory Data Analysis
GAS	General Adaptation Syndrome
HRD	Human Resource Development
in vitro	in Treatment Sessions
in vivo	in The Real World
MANOVA	Multivariate Analysis of Variance
MS	Master of Science program
PhD	Doctor of Philosophy program
PSS	Perceived Stress Scale
PTSD	Posttraumatic Stress Disorder
REBT	Rational Emotive Behavior Therapy
RTC	Residential Training Center
SIT	Stress Inoculation Training
SPSS	Statistical Package for Social Sciences
STAI	State Trait Anxiety Inventory
TESL	Teaching of English as a Second Language
UK	United Kingdom
UPM	University Putra Malaysia
US	United States of America
VIVA	Final Examination
WOCS	Ways of Coping Scale

# CHAPTER I

## INTRODUCTION

### 1.1 General Overview

Anxiety and stress are main concerns of human beings, especially for postgraduate students (Jungbluth, MacFarlane, McCarthy Veach, & LeRoy, 2011). Both anxiety and stress disturb the life balance and can lead to lower levels of performance for them (Kamarudin, Aris, Mohd, Siong, Mohamed, & Ibrahim, 2009). Stress can be regarded as the body's response to a change requiring an emotional, mental, or physical adjustment or reflection of them. For a deep investigation of stress, psychologists have attempted to consider the effect of stress reactions. While stress reflects experience of stressors, it can create psychological and physiological reactions that occur in the face of stressors. Psychological reactions to stress have been found to increase a person's anxiety, which can lead to mental disorders and may cause a decrease in well-being. The behavioral consequences that occur as a result of this psychological reaction to stress may include reduced academic performance, tardiness, and interpersonal conflict. The physiological reaction to stress may include physical problems such as high blood pressure, abnormal heartbeats, gastric problems, headaches, colds and difficulty sleeping.

Stress may be a major health problem for postgraduate students. Warning signs of stress can be physical, emotional, mental, and behavioral symptoms. Some symptoms of stress are such as lack of appetite for eating and drinking, lack of self-control, absent-mindedness, headache, feel tired, low self-esteem, short temper, insomnia, and upset stomach (Roca, 2010). Stress can have a negative effect on all sides of students' life (Mazzola, Walker, Shockley, & Spector, 2011). Knowing the main causes of stress may help postgraduate student ward off some of the effects and stay healthier both physically and emotionally. Research revealed that stress over a long period of time can affect postgraduate health. Stress has different effects on different student, but in general it can cause disease and have negative effects on their health. According to Pfeiffer (2001), stress appears as negative tension caused via something or someone. Hence, stress is a couple of tension at the same time, and even it can be a blend of unfavorable phenomena causing physical and mental tension (Humphrey, 2003). Observing stress as negative tension prevents postgraduate students to understand that it can produce a positive response as well. Such positive reaction is as a challenge and can motivate them to fulfill their goals.

In the anxiety domain, anxiety is a dimension of stress (Brown, O'Leary, & Barlow, 2001) occurring in response to external as well as internal stimuli and can lead to behavioral, cognitive, emotional, and physical symptoms (Relier, 2001). Anxiety usually comes along with physical symptoms such as abdominal pain diarrhea, dry mouth, dizziness, headaches, muscle tension, problem in breathing, abnormal heart rate, hypertension, and sweating among some other symptoms. (Ahmed & Lemkau, 2007; Larzelere & Jones, 2008). There are similar symptoms between stress and anxiety as they both have a worry component (Misra & McKean, 2000). For example, tension may

be caused by anxiety and stress (Weaver, 2010) that can have physical, emotional, cognitive, and behavioral symptoms. Previous research studies revealed that high degree of anxiety can lead to low academic function among the students (Vitasaria, Abdul Wahab, Herawan, Othman, Kumar Sinnadurai, 2011).

Graduate school can be seen as a critical stage for developing professional as well as personal demands of graduate students (Mazzola, Walker, Shockley, & Spector, 2011). The faculty of educational studies in UPM was involved in the current study. Some reasons contributed to select of faculty of educational studies for sampling of the study. The first reason was availability of all postgraduate students for screening phase due to a good collaboration by Head of faculty and staff. The second reason for selecting faculty of educational studies was related to providing facilities and classes by lecturers for training sessions of Stress Inoculation Training (SIT) program, and the last reason was a perfect cooperation of postgraduate students with the researcher.

University students typically experience stress because of school difficulties and life responsibilities. Attending university can generate remarkable stress and anxiety in students (Dyson & Renk, 2006). University life and struggling with exams and assignments can all create stress for postgraduate students. Moreover, planning for the future, making a decision on a field of study and struggling for emotional and financial independence can be other sources of stress for postgraduate students. These elements can affect the psychological and physical conditions of students as well as their academic function (Ward, Bochner, & Furnham, 2001).

The impact of stressful events can also be reduced by effective coping strategies. Particularly when stress and anxiety are intricate, it can be useful to speculate about the emotions one may experience regarding the stressful condition. The advantages of the coping strategies have been observed in many individuals whose thoughts allow them to bring meaning to the experience of their stressors. Hence, appropriate coping strategies can help promote healthy behavior. Ways for treating stress might be emotional, cognitive, physical, and behavioral. The physical coping strategies can be used to alter the undesirable physical reactions occurring before, during, or after existing stressors. The most common physical coping strategy is some form of drug use (Bernstein, 2008).

Cognitive behavioral therapy (CBT) is an intellectual and reasonable structure through principles and a variety of techniques (behavioral-cognitive) that can embody the same principle (O' Donohue & Fisher, 2012). Therefore, the SIT method introduces some of the essential backgrounds to CBT, as cognitive behavior modification including the basic theory and the development of the approach. Thus, SIT as a cognitive behavioral strategy for controlling stress is produced to hinder psychological symptoms related to anxiety and stress. The program aims postgraduate students and tries to train them cognitive-behavioral coping skills and strategies. According to the SIT method, cognitive reframing, emotional release, behavioral exposure, and assertiveness are educated coping strategies for the treatment in the current study.



Cognitive coping strategies refer to changing the ways postgraduate students contemplate. These changes refer to contemplating deeply, reasonably, and constructively while they encounter with stressful situations. For instance, postgraduate students with heavy course loads may experience anxiety, confusion, discouragement, lack of motivation, and the desire to run away from it all. Frightening, catastrophizing thoughts (such as “what if I fail?”) magnify these stress responses. Cognitive coping strategies replace catastrophic thinking with ideas that cast stressor as a challenge, not a threat. This substitution process is called cognitive restructuring (Meichenbaum, 1977). It involves first identifying upsetting thoughts (such as “I will never figure this out!”) and then developing and practicing more constructive thoughts to use when under stress (such as “All I can do is the best I can”). Behavioral coping strategies (behavior change techniques) include changes in behavior for minimizing the negative effects of stressors.

Prevention of stress and dealing with life’s stressful events are fundamental to the success of both academic achievement and life satisfaction for postgraduate students. Therefore, students are always fascinated with the understanding of how one can seek to control their own situation and condition qualities. SIT approach as developed by Donald Meichenbaum (1977), is the theory method that is adopted for the current study. It provides an overview for treating and preventing of stress and anxiety among postgraduate students in this study. It provides support and explains the possible role of therapeutic recreation in the development of stress management and anxiety control. Knowledge of the coping strategies and adaptation in academic life plays a central role within the stressors of events as environmental and psychological process, and immediate psychological and physical responses. It provides aid towards the facilitation of improved coping skills and adaptation. In this manner, postgraduate students were assessed through their perceptions, emotions, and behaviors during the process of stress, anxiety, and adaptation.

The procedure of SIT includes three stages. The first stage is the educational stage, which devotes subjects understanding perception of stressors, stress, anxiety, and coping strategies. In the second stage, the rehearsal stage, the trainers taught postgraduate students to use suitable method for their especial problem. In training sessions postgraduate students learn to make coping self-statements, visualization, exposure therapy, systematic desensitization, and assertiveness training are based on cognitive behavioral therapy that will help them control the degree of their psychological and physical anxiety and stress. There is no probability a negative effect for SIT program for prevention and treatment of anxiety and stress. As literature said the good candidates for SIT therapeutic approach are these issues. Therefore, SIT is not suitable with severe psychosis or organic brain impairment (Bowers, 2013). The third stage gives a chance to postgraduate students to practice coping skills in both low and moderate stress situations and in hierarchy of triggers of their anxiety.

## 1.2 Statement of the Problem

Stress and anxiety are issues that gradually affect postgraduate students. Mazzola, Walker, Shockley, and Spector (2011) have found stress and anxiety in postgraduate students. Mejia and McCarthy (2010) found high levels of stress and anxiety in migrant college students, and with women who report higher grade point averages than male students. Anxiety is a sense of anxiousness, or scare. The source of such problem is unknown. Anxiety can be seen as a physiological and psychological state including behavioral, somatic, cognitive, and emotional components (Seligman, Walker, & Rosenhan, 1996). Anxiety is known as an ordinary reaction to stress. (Reise, 2010, as cited by Tay and Drasgow 2012) found the high level of anxiety within postgraduate students. Furthermore, Ozen, Ercan, Irgil, and Sigirli (2010) explored the high level of anxiety about the future, class of study, preparation for work life, intimate relations, and family's view towards their children among university students. Kordansky (2010) also explored the interrelationship between stress and anxiety among postgraduate students. In a local research, Elias, Siew Ping, and Chong Abdullah (2011) found highest stress level among medical students. Another local research, Gan, Mohd Nasir, Zalilah, & Hazizi (2011) found anxiety and stress among Malaysian university students.

Previous research studies have shown that anxiety and stress put students at risk for their academic goals (Deroma, Leach, & Leverett, 2009; Ratanasiripong, Sverduk, Hayashino, & Prince, 2010; Safree, Yasin, & Dzulkifli, 2011). The pressure for postgraduate students is becoming too great (Presnall, 2008) because many factors or stressors can create stress and over time, stress can add up and cause problems. The mixture of many stressors like planning for the future, academic pressure, doing assignment for challenging professors, time management worries, relationship and family problems can be an intricate experience for postgraduate students (Smith & Renk, 2007). Postgraduate students face a multitude of obstacles that may create stress and anxiety as they attempt to obtain academic achievements. Furthermore, the inability to deal with stress comes along with the onset of anxiety (Sheffield, Spence, Rapee, Kowalenko, Wignall, Davis, & McLoone, 2006).

As American Psychological Association (American Psychological Association, 2014) state, educational psychology provides a collegial environment for psychologists with interest in research, teaching or practice in educational settings at all levels to present their work that is concerned with theory, methodology and applications to a broad spectrum of teaching, training and learning issues. Hence, postgraduate students need to manage stress and anxiety early before burnout occurs. Coping with stress and anxiety is necessary for health promotion, health education, and disease prevention. Coping is a dynamic process involving a broad array of cognitive and behavioral efforts as individuals respond to changing environmental or internal requests that are viewed as taxing their sources (Lazarus & Folkman, 1991). This study intends to provide information regarding the efficacy of a structured program in Stress Inoculation Training (SIT) for postgraduate students coping with stress, anxiety, and guidelines of content and process for future programs. For this reason, SIT is defined through the lens of

cognitive behavioral therapy, which includes the principles of self-talk and its effects on emotional release and behavioral exposure.

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

The general objective of this experimental study was to determine the effects of Stress Inoculation Training (SIT) program on postgraduate students' stress, anxiety levels, and eight subscales of coping strategies levels among postgraduate students of faculty of educational studies in Universiti Putra Malaysia (UPM).

#### **1.3.2 Specific Objectives**

The specific objectives of this study are as follow:

- 1- To determine the effect of SIT program on postgraduate students' stress level.
- 2- To determine the effect of SIT program on postgraduate students' state-anxiety level.
- 3- To determine the effect of SIT program on postgraduate students' trait-anxiety level.
- 4- To determine the effect of SIT program on postgraduate students' total-anxiety level.
- 5- To determine the effect of SIT program on postgraduate students' confrontive coping level.
- 6- To determine the effect of SIT program on postgraduate students' distancing level.
- 7- To determine the effect of SIT program on postgraduate students' self-controlling level.
- 8- To determine the effect of SIT program on postgraduate students' seeking social support level.
- 9- To determine the effect of SIT program on postgraduate students' accepting responsibility level.
- 10- To determine the effect of SIT program on postgraduate students' escape-avoidance level.
- 11- To determine the effect of SIT program on postgraduate students' planful problem-solving level.
- 12- To determine the effect of SIT program on postgraduate students' positive reappraisal level.

### **1.4 Research Hypotheses**

All hypotheses of the current study were corrected as directional hypotheses because according to the literature review SIT can reduce the level of stress, anxiety, and improve the level of dimensions of coping strategies. Thus, hypotheses of this study were formulated based on literature reviews and Stress Inoculation Training theories as follows:



### **H1: Stress**

H1-1: The score of stress in the experimental group is significantly lower than score of control group after SIT program among postgraduate students.

H1-2: The score of stress in posttest of experimental group is significantly lower than score of pretest of experimental group after SIT program among postgraduate students.

### **H2: State Anxiety**

H2-1: The score of state anxiety in the experimental group is significantly lower than score of control group after SIT program among postgraduate students.

H2-2: The score of state anxiety in posttest of experimental group is significantly lower than score of pretest of experimental group after SIT program among postgraduate students.

### **H2: Trait Anxiety**

H2-3: The score of trait anxiety in the experimental group is significantly lower than score of control group after SIT program among postgraduate students.

H2-4: The score of trait anxiety in posttest of experimental group is significantly lower than score of pretest of experimental group after SIT program among postgraduate students.

### **H2: Total Anxiety**

H2-5: The score of total anxiety in the experimental group is significantly lower than score of control group after SIT program among postgraduate students.

H2-6: The score of total anxiety in posttest of experimental group is significantly lower than score of pretest of experimental group after SIT program among postgraduate students.

### **H3: Coping Strategies**

H3-1: The score of confrontive coping in the experimental group is significantly higher than score of control group after SIT program among postgraduate students.

H3-2: The score of confrontive coping in posttest of experimental group is significantly higher than score of pretest of experimental group after SIT program among postgraduate students.

H3-3: The score of distancing in the experimental group is significantly lower than score of control group after SIT program among postgraduate students.

H3-4: The score of distancing in posttest of experimental group is significantly lower than score of pretest of experimental group after SIT program among postgraduate students.

H3-5: The score of self-controlling in the experimental group is significantly higher than score of control group after SIT program among postgraduate students.

H3-6: The score of self-controlling in posttest of experimental group is significantly higher than score of pretest of experimental group after SIT program among postgraduate students.

H3-7: The score of seeking social support in the experimental group is significantly higher than score of control group after SIT program among postgraduate students.

H3-8: The score of seeking social support in posttest of experimental group is significantly higher than score of pretest of experimental group after SIT program among postgraduate students.

H3-9: The score of accepting responsibility in the experimental group is significantly higher than score of control group after SIT program among postgraduate students.

H3-10: The score of accepting responsibility in posttest of experimental group is significantly higher than score of pretest of experimental group after SIT program among postgraduate students.

H3-11: The score of escape-avoidance in the experimental group is significantly lower than score of control group after SIT program among postgraduate students.

H3-12: The score of escape-avoidance in posttest of experimental group is significantly lower than score of pretest of experimental group after SIT program among postgraduate students.

H3-13: The score of planful problem-solving in the experimental group is significantly higher than score of control group after SIT program among postgraduate students.

H3-14: The score of planful problem-solving in posttest of experimental group is significantly higher than score of pretest of experimental group after SIT program among postgraduate students.

H3-15: The score of positive reappraisal in the experimental group is significantly higher than score of control group after SIT program among postgraduate students.

H3-16: The score of positive reappraisal in posttest of experimental group is significantly higher than score of pretest of experimental group after SIT program among postgraduate students.

### **1.5 Significance of the Study**

This research examined the Stress Inoculation Training (SIT) approach in a university setting on every day stress, state-trait anxiety level of postgraduate students, and their coping strategies for managing with stress and anxiety. Stress can be physiologically and psychologically disruptive. Therefore, this research is very important for preventive basis from stress and anxiety. The clinical basis for stress and anxiety is useful as well. By conducting this study, there is a better understanding of the differences in coping styles to stress, and anxiety among postgraduate students. The findings of this research help postgraduate students obtain precious information about their thoughts, behaviors, affective responses, sensory reactions, images, and self-awareness. They can clearly recognize stress that can create diseases and stressors as causes of stress, and how to deal with them.

Knowledge of SIT approach can help to understand the academic life better. The first stage of SIT, the education stage, gives postgraduate students a clear understanding of how stress takes place. In the second stage, the rehearsal stage, they learn to utilize appropriate coping skills for their especial issues. The importance of this study is managing stress and controlling anxiety, and in this stage, postgraduate students learn the techniques for this stage. The third stage, the application stage gives them a chance to practice coping skills in low or moderate stress and anxiety conditions.

Findings of this study can hopefully contribute to the SIT approach. However, the reciprocal relationship between thinking (cognition), feeling (affective), and action (behavior) are the most significant current discussions in psychology. The findings can also help to develop cognitive behavioral therapy procedures that originally were

developed by Donald Meichenbaum, and have been studied extensively by psychologists in the areas of instructional, clinical, and counseling psychology. Moreover, this research helps scholars to obtain a deeper understanding of SIT approach, and the outcomes of this study can assist subjects and professionals in the path of stress, and anxiety management.

The significance of the present research is to generate essential information regarding the impacts of Stress Inoculation Training (SIT) on postgraduate students. Information retrieved from this study will represent university systems the chance to deal with the advantages of providing SIT program to their graduate students. This attempt aids the postgraduate students' degree completion and improves coping skills for other aspects of life. Another importance of the present research will be the identification of model Stress Inoculation Training components that can be used with future postgraduate students.

Postgraduate students and professionals will be able to benefit from the results of this study as this study benefits the field of psychology and counseling extension. The present research can help to facilitate the progress of adaptation for postgraduate students. Coping strategies can be incorporated appropriately. It will introduce the psychology program to postgraduate students in other fields of knowledge. It can help postgraduate students to recognize and utilize the psychological programs of this research. This study will enlighten heads of universities on how their postgraduate students cope with stress and anxiety if the program needs to assist in the development of positive and healthy coping styles. Some psychological program directors may need to implement stress management strategies, or emphasize stress management techniques and how the postgraduate students can use the techniques on themselves. This study enables postgraduate students to analyze their own coping style and recognize if it is useful or not; as a result, they may become more aware of how they are coping with their stressors. This may emphasize that the students need to utilize the techniques of Stress Inoculation Training program as an educational plan in self-control, not as a kind of psychotherapy they are learning to use with their families and friends.

This research fills the gap in the research by specifically investigating the variables of stress, anxiety, coping strategies, and the role of SIT on improving daily life and academic performance. Postgraduate students may be more aware of professionals in the field of psychology and counseling and may be more knowledgeable of their coping styles. However, this study can enlighten professionals on how postgraduate students are helping themselves deal with stress, anxiety, and improving coping strategies. On the other hand, this may make professionals aware of their training on stress management.

### **1.6 Scope and Limitations of the Study**

According to Bakar (2009), the scope of study refers to the depth and width of the study. Even though the problems related to prevention of stress and controlling anxiety are numerous, this study restricted the investigation to only one area of cognitive-behavioral

therapy that was the preventive and clinical forms in connection with stress management. One limitation of the study is the time constraints under which the study was carried out. This constraint will not permit a study of a bigger scope and ruled out a study that involved therapy design, a bigger sample and a more in-depth investigation of the selected therapy forms.

In order to increase honesty of responses, the researcher was provided clear written and oral directions to the subjects before they were required to complete the instruments. Subjects were convinced that there is no right or wrong answer and it is important for them to answer the questions honestly. Furthermore, the research is not interested in them as individuals, only in the average or norms. They are also assured that their responses will be confidential and would only be seen by the researcher. But the respondents may not have expressed their true thoughts and feelings in answering the questionnaires. Hence, it can be another limitation of the study.

Another scope of this study needs to be recognized and acknowledged. In order to gain an in- depth knowledge of the topic under investigation and easy accessibility, the current study was conducted on postgraduate university students in Faculty of educational studies of a large research university of Malaysia. Therefore, the conclusion of this study was based on the data collected from postgraduate students, and not to generalize to other student population such as undergraduate students. Additionally, this study is sought to take a sample from only a Faculty in one of the research universities in Malaysia. There are four research universities in all geographical areas in Malaysia. Thus, it would be better samples from all of research universities in Malaysia.

### **1.7 Definition of Key Terms**

Every key term used in the present study is defined conceptually as well as operationally. Clearly defined key terms direct the researcher in data collection, data analysis, and generalizability of the results of the study.

**Stress** is the mental or physical tension or reaction to phenomena threatening or challenging us (Feldman, 2008). According to Lazarus and Folkman (1984), stress is a situation or feeling experienced when individuals perceive “demands go over the individual as well as social sources the person is able to mobilize.” Lazarus could develop psychological stress theory that sees stress as a bridge, or transaction, between people and their environment. Also, it can be said that stress is a feeling of being that is rooted in individuals’ assessment that a especial stressor presents challenge, harm, threat, and loss(Lazarus & Folkman, 1984). In this research, stress is examined based on how challenging the experience is for a postgraduate student and self-reported perceived stress is measured through the perceived stress scale (Cohen, Kamarck, & Mermelstein, 1983).

**Anxiety** the subjective and physiological concerns of future threaten current behavior (JaeDuk, 2009). As Spielberger (1983b) observes, anxiety is known as subjective



feelings of tension, a state of understanding, uncertainty, anxiousness, and worry activating and arousing the autonomic nervous system, and fear emerging from prediction of a realistic or fantasized dangerous phenomena or condition, usually impairing psychological and physical functioning. Anxiety is a physiological and psychological situation including different factors (behavioral, emotional, cognitive, and genetic/somatic) emerging and resulting in feelings like nervousness, discomfort, and panic (Spinello, 2011 ). Anxiety is classified by various disorders that have various symptoms, but all these symptoms cluster around excessive, irrational fear and dread (National Institute of Mental Health, 2009).

Also, anxiety can be classified as a “state” or a "trait," based on its duration (Spielberger, 1983b). State anxiety is an undesired emotional stimulation taking place when a person faces with a scary stressor or a danger. Trait anxiety shows an individual’s continual tendency to show reaction with state anxiety, as they persistently expect bad conditions to transpire. Trait anxiety shows the existence of stable individual distinctions in the tendency to react with state anxiety in the prediction of threatening conditions. Generally, trait anxiety is comes along with individuals who suffer from an anxiety disorder (Spinello, 2011 ). In this study, anxiety refers to the scores of students’ worries on the State-Trait Anxiety Inventory that is the operational definition of anxiety for this study.

**State anxiety** is an individual’s transitory level of anxiety at a special time and condition. According to Spielberger (1983a), state anxiety is “a palpable reaction or process occurring at a particular time and degree of intensity”. It is a temporary emotional state that is varied in intensity and changes with the passage of time. State anxiety also is an undesirable emotional state that can be comparable to the conception of fear (Spielberger, Ritterband, Sydeman, Reheiser, & Unger, 1995). State anxiety measures the intensity of feelings of anxiety as something emotional at a special time (Spielberger & Reheiser, 2009). It can also be regarded as acute anxiety when it is too high or maladjusted (Maxmen & Ward, 1995). Individuals who have high state anxiety experience intense feelings of tension at the time state anxiety occurs. If state anxiety is elevated, feelings are affected by situational factors interpreted as showing present or anticipated threat, or by ideas considering traumatic past phenomena associated with the present condition (Spielberger & Reheiser, 2009).

**Trait anxiety** is an individual’s general or characteristic range of anxiety which is relatively fixed. According to Spielberger (1983a), trait anxiety is “relatively stable individual differences in anxiety-proneness, which are distinctions between individuals in the tendency to understand stressful situations as threatening and to respond to these conditions with elevations in the intensity of their state anxiety reactions” (p. 5). It is defined as a stable tendency to understand stressful conditions as threatening (Spielberger, 1983a). Trait anxiety is conceptualized regarding relatively stable individual distinctions in liability to anxiety (Spielberger et al., 1995). Trait anxiety considers individual distinctions in anxiety liability as a personality trait as shown by how often feelings of state anxiety are experienced over time (Spielberger & Reheiser, 2009). An individual who has high trait anxiety experiences more intense feelings of

state anxiety in conditions understood as threatening, or when feelings inadequate in interpersonal relations (Spielberger & Reheiser, 2009).

**Coping strategies** involve the execution of cognitive and behavioral responses to handle environmental needs (Lazarus & Folkman, 1991). These responses are directed at diminishing and/or overcoming the physical, emotional, psychological, and situational effects produced by stressors. Coping can be explained as the cognitive and behavioral struggles that individuals use to handle particular demands or stressors (Dressler, 1991). Also, coping strategies can be seen as what individuals actually think and do in especial stressful situations (Folkman & Lazarus, 1980). The initial notion of SIT aims to prepare people to treat potential stressors. Meichenbaum (1985) states that the best approach to treat stressors is to continue the offensive and attempt to pre-empt them. Individuals should attempt to predict sources of stress and employ influential coping strategies ready to locate in place.

The SIT approach uses a transactional perspective of stress and coping (Meichenbaum, 2007) as supported by Lazarus and Folkman (1984). This relational process-oriented perspective of stress considers the critical function of cognitive affective appraisal processes and coping activities. Based on the transactional view, coping is defined as a behavioral or emotional response to internal or external stressors or demands. This definition is encompassed by what is known as the transactional model of coping. This model highlights a process that includes cognitive appraisal, emotional response, and an attempt or attempts to cope with the stressor (Raffety, Smith, & Ptacek, 1997). In this study, the cognitive-behavioral perspective of coping strategies is introduced. It provides a general overview of the treatment process that follows from this perspective for dealing with stress and control anxiety of postgraduate students. Based on the objectives of the present research, coping strategies are measured with the questionnaire of Ways of Coping Strategies (Lazarus & Folkman, 1984). It is also applied to assess the ways of coping strategies that postgraduate students experience in everyday and academic life.

**Stress Inoculation Training (SIT)** falls under the field of clinical psychology and is a psychological treatment or psychotherapy that involves behavior, cognition and emotion. As a field of clinical psychology, SIT uses theories of learning in psychology. SIT has been defined as a cognitive-behavioral method for stress management teaching individuals different kinds of skills for relieving their stress responses and anxiety. Clinicians seeking to represent treatment and assist to stressed people, either for posttraumatic stress disorder (PTSD) and anxiety disorder, or treatment for a preventive basis of stress and anxiety can apply the SIT approach (Meichenbaum, 2007). The focus of this study is a preventive basis of SIT approach on stress and anxiety of postgraduate students. The aspects of this study focus on Stress Inoculation Training with technology of cognitive behavior modification of Meichenbaum (1977). In this study, SIT is known as a cognitive behavioral approach in which the primary objective is to help individuals obtain confidence in their capability to treat stress and anxiety. Thus, individuals can treat anxiety and stress before it goes out of control (Matthew, 2009).

SIT can be described as analogous to the idea of medical inoculation opposed to infectious illness. It makes 'psychological antibodies' or coping skills, and enhances resistance by exposure to strong stimuli that arouses defenses without being so strong as to overcome them (Meichenbaum, 1985). In order to measure SIT in this study, after organizing the groups the training takes place in three phases at training sessions. During the primary conceptualization stage, the postgraduate students are suggested a conceptual model, according to their symptoms, which emphasizes the interactive role that hyper vigilance about bodily cues, their "catastrophic" misinterpretations of their physiological arousal, and their hyper ventilation have in exacerbating and eliciting their anxiety and stress reactions. The specific coping techniques are introduced during the second phase to assist participants in acquiring a set of individually relevant skills. During the third phase, the application phase directs participants to gain mastery of these skills, first within the training sessions and then in the real life. During treatment, participants are encouraged to practice at home as well. At last, participants are transitioned in a systematic way from in session practice to real life practice. At the end of treatment again questionnaires distributed for posttest to evaluate the SIT program then the researcher calculate the scores of stress, anxiety, and coping strategies for this study.

**Postgraduate students** who came to the university to study in the degree programs at Malaysia's higher education institution, such as the University Putra Malaysia are enrolled in the Master of Science (MS) program, or Doctor of Philosophy (Ph.D.) or in a related area from universities recognized by University Putra Malaysia.

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