A COMBINED INTERVENTION FOR PREVENTING DEPRESSIVE SYMPTOMS AMONG CHINESE STUDENTS AT ASSUMPTION UNIVERSITY OF THAILAND: THE EFFECTS OF CULTURAL VALUES

Mr. Qiu chao

A Dissertation Submitted in Partial Fulfillment of the Requirements

for the Degree of Doctor of Philosophy Program in Research for Health Development

(Interdisciplinary Program)

Graduate School

Chulalongkorn University

Academic Year 2011

ประสิทธิผลของการบูรณาการด้านคุณค่าทางวัฒนธรรม เพื่อป้องกันอาการซึมเศร้าในนักศึกษาชาวจีนมหาวิทยาลัยอัสสัมชัญ

นายชู เชา

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรดุษฎีบัณฑิต
สาขาวิชาวิจัยเพื่อการพัฒนาสุขภาพ (สหสาขาวิชา)
บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2554

Thesis Title	A COMBINED INTERVENTION FOR PREVENTING DEPRESSIVE SYMPTOMS AMONG CHINESE STUDENTS AT ASSUMPTION UNIVERSITY OF THAILAND: THE EFFECTS OF CULTURAL VALUES
By	Mr. Qiu Chao
Field of Study	Research for Health Development
Thesis Advisor	Assistant Professor Ratana Somrongthong, Ph.D.

Accepted by the Graduate School, Chulalongkorn University in Partial Fulfillment of the Requirements for the Doctoral Degree

…….. Dean of the Graduate School
(Associate Professor Pornpote Piumsomboon, Ph.D.)

THESIS COMMITTEE

…….. Chairman
(Associate Professor Sathirakorn Pongpanich, Ph.D.)

…….……. Thesis Advisor
(Assistant Professor Ratana Somrongthong, Ph.D.)

…….. Examiner
(Naowarat Kanchanakhan, Ph.D.)

…….. Examiner
(Wattasit Siriwong, Ph.D)

…….. External Examiner
(Vorapot Ruckthum, Ph.D.)

ชู เชา: ประสิทธิผลของการบูรณาการด้านคุณค่าทางวัฒนธรรมเพื่อป้องกันอาการซึมเศร้าในนักศึกษาชาวจีน มหาวิทยาลัยอัสสัมชัญ (A COMBINED INTERVENTION FOR PREVENTING DEPRESSIVE SYMPTOMS AMONG CHINESE STUDENTS AT ASSUMPTION UNIVERSITY OF THAILAND: THE EFFECTS OF CULTURAL VALUES) อ. ที่ปรึกษาวิทยานิพนธ์หลัก: ผู้ช่วยศาสตราจารย์ ดร. รัตนา สำโรงทอง, 175 หน้า.

ภาวะซึมเศร้ามักเป็นปัญหาที่พบบ่อยในนักศึกษาต่างชาติที่มาขอรับคำปรึกษาจากศูนย์ให้คำปรึกษาของมหาวิทยาลัยการศึกษาวิจัยครั้งนี้มีวัตถุประสงค์ เพื่อทดสอบประสิทธิภาพของการใช้กิจกรรมรวม เพื่อป้องกันภาวะซึมเศร้าในนักศึกษาชาวจีนที่อาศัยอยู่ในประเทศไทย รวมทั้งเพื่อศึกษาอิทธิพลของค่านิยมทางวัฒนธรรมต่อภาวะซึมเศร้า รูปแบบการวิจัยเป็นการวิจัยกึ่งทดลอง โดยแบ่งนักศึกษาเป็นกลุ่มทดลองและกลุ่มควบคุม มีการวัดผลก่อนการทดลองและติดตามวัดผลหลังการทดลองจำนวนสองครั้ง กลุ่มผู้ร่วมวิจัยเป็นนักศึกษาชาวจีนที่เรียนอยู่ในมหาวิทยาลัยอัสสัมชัญและมีภาวะซึมเศร้าระดับเล็กน้อยถึงปานกลาง ประเมินโดยใช้แบบประเมินภาวะซึมเศร้าของเบ็ค (Beck Depression Inventory II). นักศึกษากลุ่มทดลองจำนวน 51 คน ได้ร่วมกิจกรรม จำนวน 2 ชั่วโมง และมีนักศึกษากลุ่มควบคุมจำนวน 51 คน เป็นกลุ่มที่อยู่มหาวิทยาลัยอื่น ผลการวิจัยพบว่ากลุ่มทดลองมีค่าคะแนนของภาวะซึมเศร้าลดลงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ผลการวิจัยแสดงให้เห็นว่าการใช้กิจกรรมรวมมีประสิทธิผลต่อการลดภาวะซึมเศร้าในกลุ่มนักศึกษาชาวจีน

สาขาวิชาวิจัยเพื่อการพัฒนาสุขภาพ ลายมือชื่อนิสิต.....

ปีการศึกษา 2554 ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก.....

##4989660920 : MAJOR RESEARCH FOR HEALTH DEVELOPMENT
KEYWORDS : INTERVENTION/ DEPRESSIVESYMPTOMS/ CHINESE UNIVERSITY STUDENTS

QIUCHAO: A COMBINED INTERVENTION FOR PREVENTING DEPRESSIVE SYMPTOMS AMONG CHINESE STUDENTS AT ASSUMPTION UNIVERSITY OF THAILAND: THE EFFECTS OF CULTURAL VALUES

ADVISOR: ASST. PROF. RATANA SOMRONGTHONG, Ph.D.175 pages

This study aimed to test the efficacy of a brief combined intervention for preventing depressive symptoms among Chinese college students in Thailand, and also to understand the influences of cultural value on this issue for creating and implementing programs that provide supports to them.

A quasi-experimental design involving two student groups with assessments at baseline and at two follow-up was used. Participants were Chinese students enrolled in Assumption University (AU) with mild to moderate depressive symptoms as indicated by scores of the Beck Depression Inventory II (BDI-II). Students (n=51) in one campus were assigned to a BATD-only as the control group; and students (n=51) at another campus were assigned to a 2-hour BATD plus CVCE program as the intervention group.

The results suggest the efficacy of the combined intervention for preventing depressive symptoms among Chinese international student. The influences of Chinese value on the effects of intervention were supported. The results also showed that students' adherence to Chinese cultural values did not have the moderate effect on the relationship between depressive symptoms and intervention. Gender and stressful life events demonstrated a moderating effect. Both adherence to Chinese cultural values and the application of the Chinese Values Scale can be helpful in a behavioral activation intervention program for Chinese international college students who study at AU. These findings contribute to an awareness of culture factors' influence when applying western psychological intervention with Chinese students.

Field of Study : Research for Health Development Student's Signature .....

Academic Year : 2011 ..... Advisor's Signature .....

ACKNOWLEDGEMENT

I wish to express my deep appreciation to Assistant Professor Dr. Ratana Somrongthong for the valuable suggestions and guidance throughout this study.

I would like to thank the examining committee members: Associate Professor Dr. Sathirakorn Pongpanich, Dr Vorapot Ruckthum, Dr. Kanchanakhan, and Dr. Wattasit Siriwong for their comments and suggestions. In addition, I would like to thank the experts who validated the instruments I used in this research study.

I would like to express my special thanks to Dr. Maria Bella Aurora C. Bamforth for her kind assistance in helping to develop and prepare my final defense presentation as well as for editing my dissertation manuscript.

I gratefully acknowledge all the students at Assumption University who so willingly participated in this study.

Finally, I am deeply indebted to my parents for their support all of my life, for encouraging me throughout my graduate career, and for empowering a major opportunity in my life.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

APA: American Psychiatric Association

BA: Behavioral Activation

BATD: Behavioral Activation Treatment for Depression

BDI-II: The Beck Depression Inventory II

CBT: Cognitive-behavior therapy

CBAS Cognitive Behavioral Avoidance Scale

CVCE: Chinese values clarification exercise

CVS Chinese Value Survey

DAS Dysfunctional Attitude Scale

EROS Environmental Reward Observation Scale

ICSRLE Inventory of College Students' Recent Life Experiences

MDD: Major Depressive Disorder

MDE: Major Depressive Episode

CHAPTER I. Introduction

1.1 Background

From 1978 to 2007, there were 1.27 million Chinese students who went abroad to study in universities outside China (Chinese Education Ministry, 2008). Depression is often regarded as one of the top concerns with Chinese international students (Yi, Lin, & Yuko, 2003). Depressive symptoms affect many aspects of students' life, such as: poor social relationships, increased risk of failure in academic performance, dropout, drug use, health problems, and 30-fold increased risk of suicide (Gillham, Shatté, and Freres, 2000).

In Thailand, Chinese students represent the majority of international students. More than 4,000 of these students study in almost all universities, and the numbers are still growing steadily (Ministry of Higher Education of Thailand, 2007).

Being a Chinese student and a lecturer in Thailand and having had a long period of interaction with Chinese student groups, the current researcher observed that many Chinese students have exhibited some depressive symptoms such as loss of interest and energy, increased fatigue, difficulty in thinking, concentrating, or making decisions, changes in appetite, lack of sleep or oversleep, and feelings of worthlessness or inappropriate guilt (DSM-IV-TR, APA, 2000).

Figure 1: The number of Chinese students in Thailand in the year 2007

Thailand - International Students Study in Thailand Classified by Country

Source: Bureau of International Cooperation Strategy, CHE
Graph: Business-in-Asia.com

No.	Yr. 2005		Yr. 2006		Yr. 2007	
	Country	Total	Country	Total	Country	Total
1	China	1,615	China	2,698	China	4,028
2	Myanmar	489	Myanmar	631	Vietnam	751
3	Laos	436	Vietnam	599	Myanmar	741
4	Vietnam	409	USA	521	Laos	664
5	Japan	307	Laos	493	USA	527
6	USA	290	Japan	449	India	494
7	India	246	India	401	Cambodia	469
8	Taiwan	180	Cambodia	364	Japan	403
9	Cambodia	166	Korea	213	Korea	290
10	Bangladesh	164	Bangladesh	209	Taiwan	237

The population of Chinese students at Assumption University was 1,081 (AU Registrar's Office, 2009) which is the biggest group of Chinese college students in Thailand. Using a general health questionnaire (GHQ-12), a study reported that 37.4% of registered Chinese students in AU had stress and anxiety disorder (Qiu, 2005). Because of the high rate of co-occurring depressive symptoms with anxiety and Chinese students being a significant group among international students in Thailand, the current researcher targeted Chinese students studying in Assumption University of Thailand as the study population.

Accounting for approximately one quarter of the world's population, 1.4 billion Chinese people represent the largest population in the world. Chinese students represent the majority of international students in Thailand and because of the serious consequences of depression as one of the high depressive disorder risk groups within a large population, the concern about preventing depressive symptoms among international Chinese students is fundamental.

Before addressing the empirical work on preventing depressive symptoms among Chinese international college students, it is important to note again the conceptual and historical context in which general research has been defined.

In terms of the global burden of disease, as indicated by both disability and mortality, depression would become the second most important disorder by the year 2020. It was the number one cause of disability in the world and the fourth most important disorder in 1990 (Murray & Lopez, 1996).

Depressive symptoms are a very complex sort of conditions that recall demands to be thought about in a holistic manner. According to major models and theories, depressive symptoms are related with numerous biological, psychological and social factors that interact with one another. The risk factors for depression include: cognitive vulnerabilities; internal and external stress, negative life events, dysfunctional parenting and family interactions, gender, personality, and poor interpersonal relationships (Rashmi Nemade, 2008). Since no one factor causes depression, it is probably unreasonable to expect that only one type of model can describe this problem.

Attempts have been made to prevent depressive symptoms such as reducing negative cognitions because negative views bias the selection, encoding, storing, and recalling of information, theoretically, that increase risk of depression onset (Beck, 1976); increasing the frequency of pleasant activities (Stice, Burton, Bearman, & Rohde, 2006), based on the behavioral theory of withdrawing of pleasant activities,

worsen depressed mood (Lewinsohn, 1974). Other comprehensive approaches enhance protective factors such as social and problem solving skills, self-efficacy, healthy life style to cope with the risk factors including cognitive vulnerabilities, negative life events, dysfunctional family interactions, and poor interpersonal relationships (Barrera, 2007).

The past decade has seen a growing emphasis on depression prevention. On the basis of the populations to whom the interventions are used, prevention programs can be classified into three categories: universal selective and indicated preventive interventions (Mrazek & Haggerty, 1994). Each of these prevention approaches has both advantages and disadvantages. The selective and indicated (targeted) interventions have the benefit of reaching those most in need. A limitation of targeted programs is that the screening steps for eligible participants add time and expense to intervention process.

In contrast, universal programs can reach large numbers of subjects without a time-consuming selection process. A drawback of universal prevention programs is generally produced non-significant results or smaller effect sizes than targeted programs (Merry et al., 2004). In addition, there has been little evidence of long term preventive effects for universal interventions.

A targeted prevention program was conducted in the present study because the aim was to effectively help international Chinese college students a specific group with depressive symptoms.

1.2 Statement of Problem

Previous studies have supported the efficacy of depression interventions, nevertheless, most psychological interventions are typically taught in specialized psychology graduate training programs, and it is difficult for other mental health care professionals to obtain adequate training (Hamilton & Dobson, 2001). Approximately 30% of patients with major depression do not benefit from existing therapies or experience relapse or recurrence within months of acute benefit (Janicak, 2010).

Conventional preventive pharmaceutical and psychological treatment require frequent personal meetings with professionals, making them expensive and impractical for large population, e.g. schools or universities which are often burdened with academic curriculum demands (Essau, 2004). "As a result of limited personnel, and time restrictions, many academic institutions have strict policies on the maximum allowable counseling sessions and have emphasized the need to provide time-limited psychological interventions (Gallagher-Thompson & Coon, 2007)."

A costly, time-consuming, comprehensive intervention is unlikely to be widely adopted, not only due to strained resources but also because recipients do not want to make the necessary commitment (Muñoz & Ying, 1993). The long duration of interventions make them challenging to implement, and potentially unrealistic for use with university students. It is, therefore, imperative to develop easy-to-

implement preventive interventions in brief format for such disorders with large populations of at-risk individuals (e.g., university students).

It was also found that Chinese international students have higher dropout rate during depression intervention, tend to underuse mental health services, ignore, hide even deny their symptoms despite the fact that they experience the same problems as students in general and have an urgent need for psychological assistance (Pedersen, 1991).

Considering the language barrier, homesickness, adjustment difficulties, cultural differences, and misunderstandings of the new and diverse experiences, it is not surprising to see low utilization and high dropout rate among international Chinese students. It is now widely accepted that cultural factors affect the understanding, assessment, and treatment of depressive experience and disorder (Marsella, & Yamada, 2000). This researcher assumed that an intervention combined with Chinese cultural factors would be more acceptable by Chinese students and may help with the obstacles associated with those problems.

Hence, a cultural-sensitive intervention based on a better starting point (i.e., high risk group, cultural factors effects) may be further considered, and a short combined program was developed to test the efficacy of a short-term intervention, and also to deal with the obstacles of accessibility and implementation issues.

1.3 Research Gap and Significance

The present study aimed to test a new approach to the prevention of depression in response to the need for brief, inexpensive, acceptable, cultural-sensitive, time-efficient, and easily implemented intervention. It was also designed based on a new multivariable model of depression with moderator and mediator variables together that significantly differ from other psychological models. Although previous research has examined these variables individually in relation to depressive symptoms, they have not all been combined in the same study.

Despite the fact that depressive symptoms have been widely studied in clinical population and western countries, there is limited number of research that specifically investigates this mood disorder in the group of international college students who study in a non-English speaking country such as Thailand. The present study fulfilled the needs for the notable absence of Asians as research participants making it difficult to be confident about how Western preventive intervention works with Asians (Miranda et al., 2005).

To this researcher's knowledge, this study is the first intervention research that combined western behavioral activation psychotherapy with Chinese values clarification exercise (CVCE) for depressive symptoms prevention. The majority of depression prevention studies compare interventions with a no-intervention control. Only a few studies have compared prevention programs with attention control groups or alternate interventions (Gillham, 2006).

Although some researchers have argued against the use of college students in depression research (Coyne & Gotlib, 1983), Vredenburg and colleagues (1993) reviewed the existing literature and concluded that studies with college samples are worthwhile. College populations are particularly appropriate for investigations into the early development of depression and an important target for intervention efforts (Hart et al., 2001) for several reasons:

First, college years would be one of the best times to implement preventive interventions because the college environment is relatively homogeneous, and students have a high likelihood of encountering multiple stressful life events that tend to predict the onset of depression. Second, depression has a profound impact on disinterest in school life and can lead to impaired academic performance (Heiligenstein, Guenther, 1996); suicide (Beck & Young, 1978). Third, college students typically do not often seek help for depression (Vredenburg& Krames, 1988), regardless the facts that they are actually in need of help.

Specifically, by teaching these young adults appropriate methods of thinking about and dealing with stressors in their lives, there may be a reduction in depressive behaviors and depressive cognitive styles. A challenge to this area of research is the development and implementation of preventive efforts in a cost-effective and simple manner. These elements are necessary to ensure that efficacious prevention strategies are broadly applied.

1.4 Rationale of the Study

The primary purpose of the present study was to test the efficacy of a new prevention program. For an effective, time-efficient, easily implemented intervention, the researcher selected the Behavioral Activation (BA) approach to combine with a values clarification exercise, because brief behavioral activation interventions represent time-efficient and effective strategies to address depression (Cuijpers, van Straten, & Warmerdam, 2007) and may resolve some of the pragmatic problems outlined.

Based on the behavioral model under the Cognitive Behavioral Therapy (CBT) umbrella, BA has existed since the 1970s, in depression intervention studies, BA interventions were found to be comparable in efficacy to anti-depressant medication (ADM) and more efficacious than Cognitive Therapy (Dimidjian et al., 2006).

McLean and Hakstian (1979) also reported that behavior therapies superior to other therapies at immediate follow-up (9 of 10 indices) and marginally superior on follow-up (7 of 10 indices) also had the lowest dropout (5% compared to 26% - 36% for other treatments). To date, research supports two behavioral interventions: Behavioral Activation (BA) (Martell, Addis, & Jacobson, 2001) and the Brief Behavioral Activation Treatment for Depression (BATD) (Hopko & Lejuez, 2007). BATD was selected for the aim of a brief and short intervention.

Although initial outcome studies have generally supported the efficacy of Behavioral Activation (BA) interventions, there still are some important limitations of BA. First, some studies are about two decades old; the efficacies of contemporary behavioral interventions are unknown. Second, it seems no systematic study of a well-designed BA intervention outcome study exist (Lee, 2005). Third, the principles and procedures of this approach remain unanswered; for example, in which manner the risk factors and protective factors can be translated into interventions. Fourth, it would be quite challenging to effectively convey the principles in a brief preventive-intervention format. Finally, the effects of cultural factors on intervention still need further detailed review.

Prior research has indicated that failure to incorporate cultural values into treatment results in higher attrition rates (Sonkin, 1995) and possibly less efficacious treatment (Miranda, Siddique, Der Martirosian, & Belin, 2005). Culturally-adapted interventions are potentially more effective for depressive symptoms (Griner & Smith, 2006). Atkinson (1985) also recommended that researchers investigate within-group variables such as values, attitudes, experiences, expectations, and beliefs related to culture for the studies on psychological issues and processes.

Among these cultural factors, values play a very important role to understand a person's behavior, and influence our attitudes and behavior. According to the Social Work Dictionary (Barker, 1999), values are the customs, standards of conduct, and principles considered to be desirable by a culture, a group of people, or an individual.

It has been generally agreed that the counselor should not consciously attempt to manipulate the patient's choice. Griner (2006) suggested "We must accept the right of the client to refuse to accept any system of ethics, or any philosophy of life. An individual does not develop a system or code of values from one source or in a short interval of time. These are the products of a long period of time and many influences." But it does not mean that the intervention is not concerned about cultural values' influence on the client in these areas. Green (1946) pointed out that therapists must deal with values since they are part of the personality of the client and the source of many of his problems. Understanding clients' values leading toward positive beliefs is essential to give support to designing interventions aimed at prevention of mental disorders (Reiser, 2007).

Some scholars suggest that values are central to the establishment of ongoing behavior patterns. "Values represent strongly-held beliefs about how the world should be, about how people should normally behave, and about preferred conditions of life (Hepworth, Larsen, & Rooney, 2002)." Therefore, values are not simply philosophical views. They are related to behavioral goals and behavioral expectations. These values are, basically, uniquely accepted by an individual and seem to be at the very center of one's existence.

"Once a value is internalized, it becomes either consciously or unconsciously, a standard for guiding actions and making choices. The value then determines behaviors or modes of conduct. Because values are at the basis of choice, the

choices that people make reflect their perception of what is right, just, or what is cherished at a particular time (Popkin & Souznan, 2002).” Internal emotional tension or value incongruence may result if one makes choices that conflict with the individual's value system. Individuals must cognitively and emotionally determine to what degree their conscience will allow them to deviate from their ideal perspective (Sherwood, 1993).

Values clarification is a method of education in morality and ethical principles that occurs by bringing together people to share their opinions and value perspectives. This exposes the participants to different ideals and permits them to appreciate the relative nature of values (Barker, 1999). As the values approach was developed, it was conceptualized as a process that provides a learning experience which leads participants to reflect on life and actions as they examine behavior, ideas, feelings, and personal values (Hall, 1973). This process is more than an educational experience. It is not a didactic process using a teacher to explain to the client what is good and acceptable. Values clarification exercise can be a therapeutic process used to remedy emotional disturbances that are rooted in faulty thinking and other cognitive vulnerabilities.

This study aimed to investigate the impacts of values on depression intervention to see what extent knowledge of the Chinese Values Scale, developed by Bond (1988), can be helpful in understanding the interaction patterns of beliefs, behavior, and mood change to advise future research on these issues. The Chinese integration value has been found to be correlated negatively to Beck Depression

Inventory score (Van Hemert, van de Vijver, & Poortinga, 2002). The researcher hypothesized that values would moderate the relation between the behavioral activation intervention and change in depressive symptoms. Based on a values-centered approach, a Chinese values clarification program could serve as an agent for helping the students explore various value issues and to develop a personal value system that she/he can emotionally embrace (Chong & Liu, 2000; Gao, 2001; Lau, 2000).

"All BA approaches seek to encourage participants to increase pleasant/rewarding activities in order to increase positive reinforcement from the environment. As a basis for psychosocial research on the relationship between environmental rewards and affect, behavioral theories of depression posit that decreased response contingent on positive reinforcement or punishment of non-depressive behaviors and/or reinforcement of depressive behaviors result in increased depressive affect (Lewinsohn, 1974; Dowd, 2002)." According to this model, behavior activation and values clarification techniques decrease avoidance level and increase environmental rewards so that increase in our positive experiences will change our mood (e.g., depressive mood) and thoughts (e.g., cognitive vulnerabilities).

It is therefore reasonable to suspect that a BATD combined with a Chinese values clarification exercise (CVCE) will increase environmental rewards and also reduce depressive symptoms among international Chinese university students.

A major focus of previous depression prevention researches was to identify what are the demographics, situations, and external events influences. It is illuminating to consider research on some of the stable demographic factors that are commonly assumed as the confounding factors such as gender, age, marital status, education, and etcetera. (e.g., Gender may contribute to differential responses to depression interventions). Girls and boys may respond differently to prevention programs, although empirical evidence of such gender differences has been inconsistent (Merry et al., 2004). Clarke et al. (1995) found that a cognitive–behavioral program resulted in short-term improvement in symptoms for boys, but not for girls. Further study with gender effects on the intervention is needed.

Diathesis-stress model of depression suggests an individual's diathesis must interact with stressful life events (of a social, psychological or biological nature) so that to prompt the onset of the depression. Stressful life events have been a major focus of psychiatric epidemiology (Dohrenwend BS, 1984). Numerous investigations have found a correlation between the occurrence of stressful life events and the subsequent onset of an episode of major depression (Paykel ES, 1978). But, it remains unclear to what extent stressful life events cause subsequent onsets of depression and to what extent the occurrence of stressful life events and onsets of depression are correlated for other reasons.

However the relationship between experience of stressful life events and depression is not necessarily simple, with correlation estimates ranging from .22

to .47 (Robinson et al., 1995) showed that the differences among peoples in there responds to the relationship between stressful life events and depression.

Why stressful life events experiences lead to depression in some people but not in others? Why girls and boys respond differently to prevention programs? The present study was tried to find more possible answers for these questions. Therefore, another goal of this study was to examine gender differences and stressful life events as the moderators between intervention effects and depressive symptoms.

1.5 Research Questions

Specifically this study aimed to answer the following question:

1. Is there a significant difference in depressive symptoms among participants who received the combined intervention at two weeks and 6-month post-intervention follow-up, evidenced by between-group differences in scores on the Beck Depression Inventory II (BDI-II)?

2. Is there a significant difference in depressive symptoms between the participants who received the combined intervention and those in control group at two weeks and 6-month post-intervention follow-up, as evidenced by between-group differences in scores on the Beck Depression Inventory II (BDI-II).

3. Will effects of combined intervention influence the adherence to Chinese cultural values, as indicated by Chinese Values Scale (CVS)?

4. Does adherence to Chinese cultural values, as indicated by Chinese Values Scale (CVS), moderates the effects of the combined intervention on depressive symptoms such that participants with lower Chinese value score show the greatest benefit of the intervention?

5. Does the gender difference and stressful life events moderate the effects of the combined intervention on depressive symptoms, such that female with higher stressful life events level show the greatest benefit of the intervention?

1.6 Hypotheses

On the basis of change scores for outcome measures, the following hypothesizes were generalized:

Hypothesis 1 —Outcome:

H1a. There is no significant difference in depressive symptoms among participants who received the combined intervention at two weeks and 6-month follow-up, as evidenced by between-group differences in scores on the Beck Depression Inventory II (BDI-II).

H1b. There is no significant difference in depressive symptoms between the participants who received the combined intervention and those in control group at two weeks and 6-month follow-up, as evidenced by between-group differences in scores on the Beck Depression Inventory II (BDI-II).

Hypothesis 2—Cultural influences

H2: The combined intervention would influence the adherence to Chinese cultural values, as indicated by Chinese Values Scale (CVS).

Hypothesis 3 —Moderator

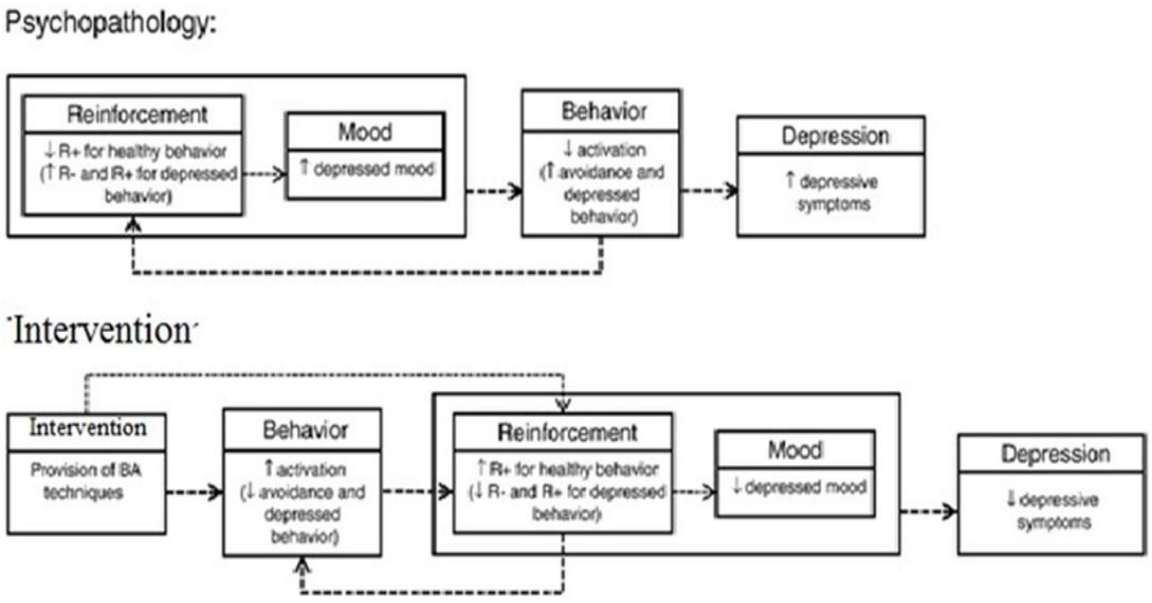
H3a: Adherence to Chinese cultural values, as indicated by Chinese Values Scale (CVS), moderates the effects of the combined intervention on depressive symptoms such that participants with lower Chinese value score show the greatest benefit of the intervention

$H3_b$: Gender difference and Stressful life events moderate the effects of the combined intervention on depressive symptoms, such that female show the greatest benefit of the intervention.

1.7 Conceptual Framework of the Study

The modules' theoretical rationale and contents of the present study include: (1) diathesis stress model of depression: (2) BA's models of psychopathology and mechanism of depression; and (3) Cultural influences on mood change. The underlying theories are summarized in Chapter II.

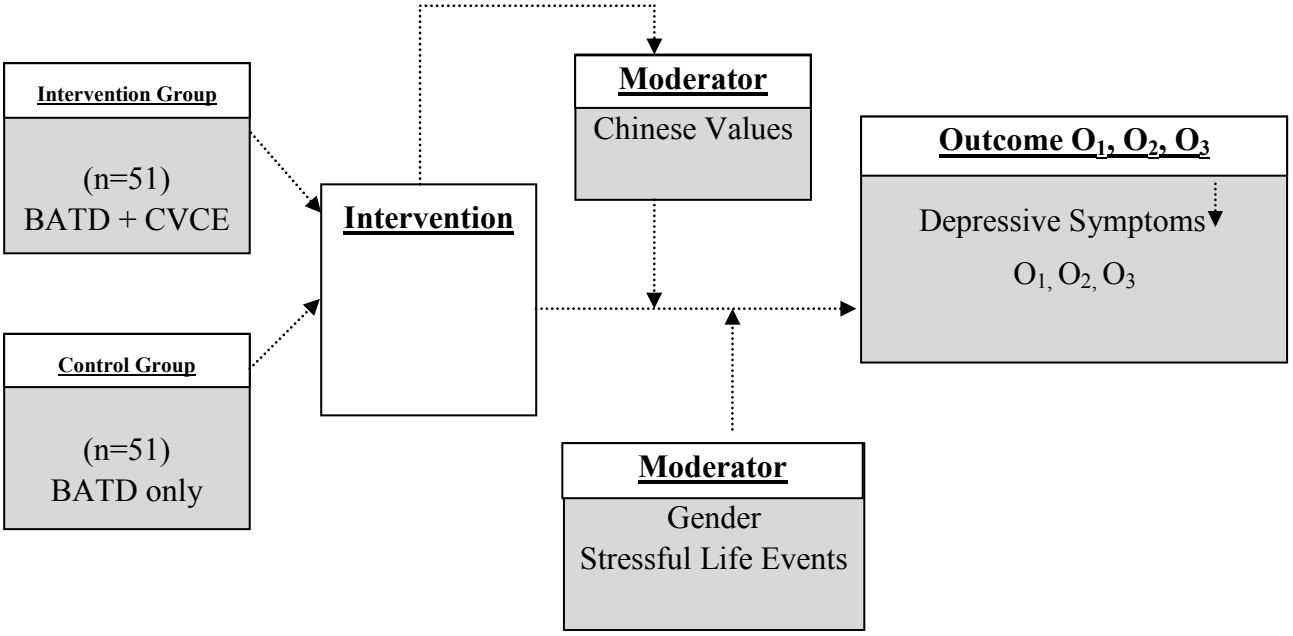
Figure 2: Theoretical model of depressive symptoms



(Lejuez, al, 2001)

Based on previous studies, theories, and reviews, the present study extended the work of Behavioral Activation (Lejuez et al., 2001), Beck's cognitive theory of depression (Beck, 1976), and diathesis model of depression by integrating those factors into a multivariable model and, particularly, put emphasis on the effects of the cultural factor: Chinese values.

Figure.3 Conceptual Framework of the Study



Nonequivalent Comparison Group Design

Intervention group: O_1 X O_2 O_3

Control group: O_1 X O_2 O_3

O_1: Baseline O_2: After two weeks O_3: After six months

BATD+ CVCE= Behavioral Activation Treatment for Depression plus Chinese values clarification exercise

1.8 Definition of Terms

For the purposes of this research, certain key terms are operationally defined as follows

Avoidance.

The construct of 'avoidance' refers to refraining from or escaping from an action, person, or thing (Ferster, 1973). Avoidance models have been applied to many types of psychopathology. For example, Hayes et al. (1996) proposed that

"experiential avoidance–a tendency to avoid contact with certain aspects of private experiences–is characteristic of many forms of psychopathology."

Avoidance behavior.

For the purposes of this study, the construct of 'avoidance' refers to "attempts to prevent, escape, or reduce contact with subjectively aversive or minimally rewarding internal or external stimuli. These stimuli can come in different forms such as thoughts, behaviors, emotions, memories, and social interactions (Hayes et al., 1996; Ottenbreit & Dobson, 2004)." In the current study, 'healthy behaviors' refers to the behavior of Chinese students that are aimed at "escaping or avoiding stimuli, leading to a pattern of passivity and withdrawal that reduces the frequency of positively reinforced behavior which, in turn, produces, sustains, or worsens depressive symptoms such as social isolation, absence from class, giving up solving problems, etcetera."

Chinese students.

This refers to the undergraduate and graduate Chinese international students currently registered at Assumption University of Thailand during the semester 2010-2011, who are 18 to 45 years old, and meet the BDI-II scores of depression from sub-threshold depressive symptoms to moderate depression (14 to 29 points).

Depressive symptoms.

Depressive symptoms include the following: "changes in appetite that result in weight loss or weight gain; lack of sleep or over sleeping; loss of energy or increased fatigue; restlessness or irritability; feelings of worthlessness or inappropriate guilt; difficulty in thinking, concentrating, or making decisions; thoughts of death or suicide; or attempts at suicide (APA, 2007)." among the Chinese students studying at Assumption University.

Stressful life events.

In certain negative life experiences, individuals learn that they have lack of control over their life circumstances, subsequently leading to hopelessness, helplessness, and mental disorders (Seligman, 1975). In the current study, stressful life events refers to the negative environmental contingencies such as the number and severity of negative life events experienced by Chinese students at AU (e.g., severe interpersonal losses, achievement failures, heavy demands from extracurricular activities, social rejection, etc.).

CHAPTER II Literature Review

The efficacy of intervention for preventing depressive symptoms depends on many factors. The current study focused on the depressive symptoms among international Chinese students studying in a non-English-speaking country and subject to the influence of cultural factors; hence, it can be said that this study highlighted cultural diversity.

In the same vein, several prior studies highlighted cultural factors and indicated that failure to incorporate cultural values into treatment results in higher attrition rates (Sonkin, 1995). Griner and Smith (2006) also suggested that culturally adapted interventions are potentially more effective for the treatment of depressive symptoms. Is this cultural approach really more effective? Recent initiative studies have targeted the accessibility and implementation issue through a brief preventive-intervention format (e.g., single session psycho-educational intervention) (Han et al., 2004). But the results from extremely brief interventions are controversial. Would the very brief intervention works?

In Chapter 2, this researcher shifted the focus onto getting some answers and evidence for the above-mentioned issues. Relevant research is reviewed in the subsequent five major sections, as follows: the first section reviews previous studies about depressive symptoms based on various measures and theoretical models; the second section reviews the intervention approaches and strategies; the third section reviews the variables of the present study; the fourth section pertains to literature

with cultural considerations; and the fifth section provides the summary of the literature review.

2.1 Previous Studies on Depressive Symptoms

2.1.1 Definitions.

Before discussing "depressive symptoms", it is important to understand what is meant by "depression", in terms of the literature and as it is used in this study. Depression is a term used to describe a prevailing mood, a syndrome (a constellation of co-occurring symptoms), a diagnosable disorder, and a disease (Nurcombe, 1994). The type of depression under consideration is "unipolar" depression, not the relatively rare "bipolar" or manic depression. The latter has a mean age of onset in the early 20s and affects only 0.4 to 1.6% of the population, according to the American Psychiatric Association (APA) (1994).

To assist psychiatrists and other mental health professionals in diagnosing the type and severity of depression, a number of diagnostic systems have been developed and refined, primarily since the 1970s (Reynolds & Johnston, 1994). The most widely used system in North America is the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders or the DSM-IV-TR (APA, 1994). In Europe, the International Classification of Diseases–Mental and Behavioral Disorders (ICD-10) is more commonly used, according to the World Health Organization (1992).

The DSM-IV-TR and the ICD-10 are both criterion-referenced categorical systems. Within the DSM-IV classificatory system, the depressive disorders most frequently experienced by adolescents are major depressive disorder (MDD) and dysthymia (DD) (Cicchetti & Toth, 1998).

To be diagnosed with MDD, a client must have experienced one or more discrete major depressive episodes; that is, periods of at least two weeks during which significant depressed mood or loss of interest in customary activities is evident. These episodes must be accompanied by at least four additional symptoms of depression (e.g., increase or decrease in appetite, increase or decrease in weight, fatigue or loss of energy, feelings of worthlessness, diminished ability to concentrate irritability, or recurrent suicidal ideation and/or a suicidal attempt). The DSM-IV-TR criteria for MDD are presented in Figure 4. The experience of MDD is associated with high mortality, with up to 15% of individuals committing suicide (APA, 2000).

Figure 4 *DSM- IV-TR Criteria for Major Depressive Disorder (MDD)*

A. Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.

(1) Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g. appears tearful). Note: In children and adolescents, this can be irritable mood.

(2) Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).

(3) Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. Note: In children, consider failure to make expected weight gains.

(4) Insomnia or hypersomnia nearly every day.

(5) Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

(6) Fatigue or loss of energy nearly every day.

(7) Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

(8) Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

(9) Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms do not meet criteria for a mixed episode (i.e. manic episode & major depressive episode).

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

E. The symptoms are not better accounted for by bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

(APA, 2000)

Although the above nine symptoms have been identified as the best indicators for diagnostic purposes, the text of DSM-IV-TR goes on to list many other symptoms that are frequently observed in major depressive disorder (MDD). Examples include anxiety, loss of libido, hopelessness, and so on. The experience of depressed mood, which would seem to be central to any definition of depression, is only one of many symptoms involved in a major depressive episode (MDE) and is not even necessary for a diagnosis to be made.

2.1.2 Measurements for Depressive Symptoms

2.1.2 Measurements.

There are two kinds of rating scales: the observer- and the self-reporting. The former are more objective, including items observable in behavior that the patient may not be able to rate. The latter are more appropriate in measuring the patients' experiences and their own perception about themselves.

2.1.2.1 *Observer instruments.*

The *Hamilton Rating Scale for Depression* (HAM-D) is the most widely used observer reporting scale all over the world, particularly in clinical setting. It requires special observation skills. It is biologically oriented, and somatic symptoms weigh preferentially on the total score. Nonetheless, it rates highly for anxiety symptoms.

The *Montgomery–Asberg Depression Rating Scale* (MADRS) is one of the most user-friendly observer-rating scales. It includes a selected small number of items, considered to be the core and most commonly encountered depressive symptoms in clinical practice. It scores less high than HAM-D on somatic items and its specificity for depression is well established and validated.

2.1.2.2 *Self-report instruments.*

Depression is typically assessed by one or more of three general methods–

clinical interviews, reports from parents/teachers/peers, and self-reports. In clinical settings where the focus is upon making a diagnosis and providing treatment, the psychologist or psychiatrist may well use self-reports and reports by others, but the primary tool is the clinical interview which is often guided by a structured interview schedule tied to one of the diagnostic systems. In educational and community settings, where the focus is on identifying students who are at-risk and in need of further assessment and assistance, self-reports as well as reports from parents, teachers, and/or peers are important tools. In these settings, teachers and counselors use the reports to evaluate symptom depth and severity and communicate their findings to clinicians.

The *Beck Depression Inventory* (BDI-II) (Beck, Steer, Ball, & Ranieri, 1996) is a self-rating scale that detects and rates preferentially cognitive aspects of depression with emphasis on self-esteem. It has been widely and successfully tested for validity.

It should be noted, however, that results from various self-report measures are difficult to compare even though estimates of convergent validity between instruments typically lie within the moderate range. Reynolds and Johnson (1994) reported correlations in the .70 to .75 range between the Reynolds Adolescent Depression Scale (RADS) (Reynolds, 1987) and the Children's Depression Inventory (CDI) (Kovacs, 1991) while Skorikov and Vandervoort (2003) obtained a correlation coefficient of .75 between assessments of their sample using the Center

for Epidemiologic Studies–Depression Scale (CES-D) (Radloff, 1977) and the Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

Table 1

Summary of Relevant Characteristics of Self-Report Measures

Measure	Age Range	Internal Consistency	Test-Retest Reliability	Period
CDI (Kovacs, 1992)	7-17	.86	.63	Past 2 weeks
CES-D (Radloff, 1977)	n.r.	.75	.51	Past week
BDI (Beck et al., 1961)	13-80	.86	.60 - .83	Past week
BDI-II (Beck et al., 1996)	13-80	.93	.93	Past 2 weeks
RADS (Reynolds, 1987)	13-18	.94	.86	Present
RADS-2 (Reynolds, 2002)	11-20	.93	.85	Present

Notes: CDI = Children's Depression Inventory (Kovacs, 1991); CES-D = Center for Epidemiological Studies - Depression Scale (Radloff, 1977); BDI = Beck Depression Inventory (Beck et al., 1961); BDI II = Beck Depression Inventory (2nd ed.) (Beck et al., 1996); RADS = Reynolds Depression Inventory (Reynolds, 1987); RADS-2 = Reynolds Depression Inventory (2nd ed.) (Reynolds, 2002); n. r. = not reported.

Given these factors as well as the focus of the present study on college students, the BDI-II (Beck et al., 1996) was selected for use. A review of the characteristics of widely-used self-report measures in Table 2 reveals that the BDI-II has strong reliability (both internal consistency and test-retest) in concert with appropriate emphasis on self-esteem for the participants in the present study.

However, not all researchers and clinicians believe that the categorical approach to depression best captures the complexity of this heterogeneous condition which likely involves multiple etiological pathways (Gotlib, Kurtzman, & Blehar,

1997). Many regard unipolar depression as a complex bio-psychosocial phenomenon, resulting from transactions among psychological (e.g., cognitive, affective, socio-cognitive, and socio-emotional), social (e.g., interpersonal, familial, and cultural), and biological components (e.g., genetic and neurobiological) which can vary across a spectrum of severity from depressive symptoms to depressive disorders, (Cicchetti, Rogosch, & Toth, 1994; Daleiden, Vasey, & Brown, 1999; Lewinsohn, Solomon, Seeley, & Zeiss, 2000; Petersen et al. , 1993).

Accordingly, these professionals advocate viewing the condition as a multidimensional condition which exists along a continuum (Essau, Petermann, & Reynolds, 2004), an approach that can better account for individual differences (especially in relation to cognitive development, age, and gender) and provide greater assistance in developing interventions or treatment (Cicchetti & Toth, 1998).

2.1.3 Theoretical models Depressive Symptoms.

Depression is a mood disorder. A mood is a relatively long lasting affective state (Thayer, 1989). Moods differ from emotions in that they are less specific, less likely to be triggered by a particular stimulus or event, and longer lasting (Thayer, 1989). Moods generally have either a positive or negative valence. In other words, people often speak of being in a good or bad mood. Unlike acute emotional feelings like fear and surprise, moods generally last for hours or days. Mood also differs from temperament or personality traits in that these are more general and long

lasting.

There are four major theories on what causes depression, namely: biological theory, psychodynamic theory, behavioral theory, and cognitive theory. There are also current models of depression such as the bio-psychosocial model, diathesis-stress model, and evolutionary model of depression. The risk factors for depression include: cognitive vulnerabilities, internal and external stress, negative life events, dysfunctional parenting and family interactions, gender, personality, and poor interpersonal relationships (Rashmi Nemade, 2008).

According to major models and theories, depressive symptoms are related with numerous biological, psychological, and social factors that interact with one another, and with a given individual's unique vulnerabilities. Thus, depressive symptoms are a very complex sort of conditions that recall demands to be thought about in a holistic manner. Since no one factor causes depression, it is probably unreasonable to expect that only one type of model can describe this problem. In view of the multiple biopsychosocial risk factors for depression, research on depressive symptoms would be advanced by integrative, multivariable models that link risk factors with social, cultural, and personal characteristics..

2.2 The Intervention Approaches and Strategies

There are essentially three types of interventions: physical, medication, and psychological interventions. According to national and international guidelines, the first choice is medication and/or psychotherapy (American Psychiatric Association 2000). The previous studies indicate that both pharmacological and psychosocial intervention can be effective in alleviating depression. The present study put emphasis on psychosocial intervention because of its aim of preventing depressive symptoms among college students who are not in the clinical setting.

A number of meta-analyses have examined the efficacy of psychosocial interventions in treating depression. Among the interventions evaluated in these reviews are psycho education, supportive therapy, cognitive-behavior therapy (CBT), relaxation training, problem-solving and social skills training, biofeedback, and hypnosis (Baum & Andersen, 2001).

All of these treatments or interventions have in common a strong theoretical orientation. They have all been written into manuals for dissemination; and they have been or are being tested with randomized trials designs. For a subset of vulnerable individuals, acute interventions using therapeutic approaches such as CBT, interpersonal therapy (IPT Klerman GL, 1984), and Mindfulness-Based Cognitive Therapy (Zindel V. Segal, 2001) have proven to confer enduring protection against the future onset of depression.

To summarize findings, many studies have found interventions effective in reducing symptoms of depression.

2.2.1 The Cognitive Behavior Approach

The most studied form of psychosocial intervention for depression is from cognitive behavior therapy (CBT) approach. CBT includes a number of approaches that share a theoretical basis in behavioral learning theory and cognitive psychology. As found in the depression literature, CBT appears to be more efficacious than no treatment, wait-list control, or attention placebo controls.

Several cognitive–behavioral interventions show promise in preventing depressive symptoms in youths (Horowitz & Garber, 2006). The majority of depression prevention studies compare cognitive–behavioral interventions with a no-intervention control. Only a few studies have compared prevention programs with alternate interventions.

2.2.2 The Behavioral Activation Approach

Excessive avoidance has been found related to various emotional disorders, particularly depressive and anxiety (Ottenbreit & Dobson, 2004).

"In behavioral conceptualizations of depression, behavior aimed at escaping or avoiding stimuli leads to a pattern of passivity and withdrawal that reduces the frequency of positively reinforced behavior which, in turn, produces, sustains, or worsens depressive symptoms. The construct of avoidance can be defined as attempts to prevent, escape, or reduce contact with subjectively aversive or minimally rewarding internal or external stimuli. These stimuli can come in

different forms, including thoughts, behaviors, emotions, memories, and social interactions (Wilson, Gifford, 1996; Ottenbreit & Dobson, 2004)."

Supporting behavioral theory, several studies demonstrated relationships between pleasant events and mood state, with individuals reporting fewer positive events, decreased environmental reward, and more limited abilities to obtain reinforcement endorsing increased depression severity (Hopko, et al, 2004). Depressed individuals also tend to engage in fewer rewarding interpersonal behaviors, suggesting that insufficient social interaction and decreased social reinforcement may predict negative affect (Lewinsohn, & Seeley, 2002).

"A central goal of BA intervention is to reduce escape and avoidance behavior and associated passivity through recognition of this avoidance pattern and increased participation in alternative healthy and rewarding behaviors; importance is placed not only on behavioral avoidance, but also on cognitive avoidance strategies such as rumination which are all hypothesized to interfere with one's ability to elicit reward from the environment (Martell et al., 2001)." The efficacy of behavioral activation interventions has been well supported and BA is considered an empirically supported intervention (Cuijpers, van Straten, & Warmerdam, 2007; Dimidjian et al., 2006; Ekers, Richards, & Gilbody, 2008; Mazzucchelli, Kane, & Rees, 2009; Sturmey, 2009).

"In targeting avoidance behavior, the central premise of behavioral theory and behavioral activation treatments is that reducing avoidance and escape behavior

will increase exposure to positive reinforcement for healthy behavior (Manos et al., 2010) ."

Lewinsohn et al.(1973) highlighted a low rate of response-contingent positive reinforcement (RCPR) as the critical predictor of clinical depression. RCPR is defined as: "an increase in the frequency or duration of a behavior as a result of positive or pleasurable outcomes; in addition to potentially pleasurable outcomes, RCPR may involve an increased likelihood of behavior due to the experience of self-mastery or achievement following the emission of a behavior (Beck et al., 1979; Lewinsohn, 1974) ."

A low rate of RCPR is a product of the following: "(1) a decreased number of events that are potentially reinforcing for the individual; (2) decreased availability of these potential reinforcers in the environment; (3) inabilities to experience rewarding contingencies due to inadequate instrumental behaviors such as social skill; and (4) increased exposure to aversive stimuli (e.g., punishment) in the form of distressing, upsetting, or unpleasant events (Lewinsohn, 1974; Lewinsohn, Sullivan, & Grosscup, 1980). Reduced RCPR is thought to be sufficient in producing the dysphoria and related symptoms observed in clinical depression (Lewinsohn, 1974; Lewinsohn, Sullivan, & Grosscup, 1980). "

BA interventions largely have been used to treat depressive disorders and symptoms, with three meta-analyses supporting their efficacy, such that behavioral activation is now considered an empirically-validated treatment for depression

(Cuijpers, van Straten, & Warmerdam, 2007). In one of the more compelling studies, behavioral activation was comparable to antidepressant medication and superior to cognitive therapy in treating severe depression (Dimidjian et al., 2006), results that were maintained at 2-year follow-up (Dobson et al., 2008). Behavioral activation also has been effectively used with depressed patients in a variety of settings and among samples with divergent medical and psychiatric problems (Daughters et al., 2008).

The study of Jacobson et al. (1996) inspired the development of two behaviorally-focused treatments for depression: behavioral activation (BA) (Martell et al., 2001) and the brief behavioral activation treatment for depression (BATD; Lejuez, Hopko, & Hopko, 2001). "Both BA and BATD incorporate an acceptance-change model that emphasizes action as opposed to avoidance-based strategies as a means to attenuate depressive symptoms (Hopko, Lejuez, Ruggiero, & Eifert, 2003)."

"Behavioral activation treatment for depression (BATD) emphasizes structured attempts to increase overt behaviors that are likely to increase reinforcing environmental contingencies and corresponding improvements in thoughts, mood, and quality of life (Hopko, Lejuez, Ruggiero, & Eifert, 2003)."

Perhaps most relevant to the current study are two preliminary studies on the efficacy of 8-sessions of behavioral activation with depressed students in a medical school. In the first study, significant treatment gains were evident on

measures of depression, quality of life, and medical functioning, although somatic anxiety symptoms did not improve at post-treatment (Hopko, et al, 2004).

In a second study, the number of treatment sessions remained the same and behavioral activation was administered in its usual format (Hopko et al., 2004). However, brief cognitive therapy, direct exposure, problem solving, and sleep skills training also were administered. Results revealed strong treatment integrity, excellent satisfaction with treatment, and significant treatment gains across outcome measures assessing depression, somatic anxiety, quality of life, and medical outcomes (Hopko et al., 2004). These gains also were associated with strong effect sizes and were maintained at 3-month follow-up.

2.2.3 The Behavioral Activation Treatment for Depression (BATD)

Currently, BA techniques have been elaborated into two variants of Behavioral Activation: Behavioral Activation (BA; Martell, Addis, & Jacobson, 2001) and Behavioral Activation Treatment for Depression (BATD; Hopko & Lejuez, 2004).

However, significant differences exist between the two variants (Hopko et al, 2004). Both emphasize the process of increasing positive reinforcement for non-depressed healthy behavior. BATD is more simple and structured, involving guided activity that is dictated by clients' life goals and values, while BA is more elaborate, including additional techniques such as social skills training and teaching clients to

conduct functional analyses of their own behavior. Also, BATD explicitly encourages assessment of positive reinforcement for depressive behavior (e.g., sympathy from others for being "sick") while BA explicitly encourages assessment of negative reinforcement for depressive behavior (e.g., avoidance behaviors that temporarily decrease negative affect but exacerbate depression in the long run).

BATD (Lejuez et al., 2002) employs a psychopathology model that starts with Lewinsohn's original notion as well but expands it based on matching theory (Hernstein, 1970), which, when applied to depression, emphasizes that positive and negative reinforcement for both depressed and non-depressed behavior must be taken into account. Specifically, matching theory suggests that the frequency of depressed behaviors compared to non-depressed behaviors is proportional to the reinforcement value of depressed versus non-depressed behavior (Lejuez et al., 2001).

"BATD is conducted over an 8- to 15-session protocol; initial sessions consist of assessing the function of depressed behavior, efforts to weaken access to positive reinforcement (e.g., sympathy) and negative reinforcement (e.g., escape from responsibilities) for depressed behavior, establishing patient rapport, and introducing the treatment rationale. A systematic activation approach then is initiated to increase the frequency and subsequent reinforcement of healthy behavior. Patients begin with a weekly self-monitoring exercise that serves as a baseline assessment of daily activities, orients patients to the quality and quantity of their activities, and

generates ideas about activities to target during treatment (Lejuez et al., 2001) ."

"The emphasis then shifts to identifying behavioral goals within major life areas that include relationships, education, employment, hobbies and recreational activities, physical/health issues, spirituality, and anxiety-eliciting situations (Hayes et al.,1999) ." "Such goal setting has long been considered an important component in the behavioral treatment of depression (Rehm, 1977)." After goal selection, an activity hierarchy is constructed in which 15 activities are rated ranging from "easiest" to "most difficult" to accomplish.

"Using weekly behavioral checkouts to monitor progress; for each activity, the therapist and patient collaboratively determine what the weekly and final goals will be in terms of the frequency and duration of activity per week (Lejuez et al., 2001) ."

Modification of the BATD

"Brief Behavioral Activation Treatment for Depression may represent available preventive intervention option as a low-intensity and time efficiency treatment for depressive symptoms (Lejuez & Hopko, 2001)." As the modal number of preventive sessions attended by college students is one or two (Draper et al., 2002), given conditions and in many academic institutions that include high demand for mental health services, limited personnel, and time restrictions, brief

interventions, the current intervention modified the original BATD intervention to a two-session program: one group session with two weeks intervention interval.

This decrease in therapy duration from the typical nine-session format predominantly resulted in fewer weeks of activity scheduling: a non-progressive process to activating, more numbers of behaviors were targeted for activation immediately; and omission of behavioral contracting strategies to decrease rewards for depressive behaviors. Otherwise, all elements of the comprehensive BATD treatment were maintained.

2.2.4 The Intervention Strategies

"Preventive intervention strategies are often implemented as add-ons to ongoing acute-phase treatments; the cost of preventive interventions will always be a factor in terms of feasibility (Draper et al., 2002)." The prevention of depression has to be carefully targeted and applied where it is likely to yield the highest possible health benefit at the lowest possible cost (Smit et al.,). A costly, time-consuming, comprehensive intervention is unlikely to be widely adopted, not only due to strained resources, but also because recipients do not want to make the necessary commitment (Muñoz & Ying, 1993).

"Given the prevalence and impact of depression in university students, there is a pressing need to develop and implement effective interventions. These interventions must be time efficient as counseling centers are experiencing greater

difficulty in effectively treating students because more students are seeking therapy for increased time durations (Kitzrow, 2003; Voelker, 2003) ."

"Obstacles toward meeting these demands include restricted funding, limited resources and providers, and time restrictions–factors that may negatively affect treatment outcome (Gallagher, 2007; Guinee & Ness, 2000)." As a result, many academic institutions have strict policies on the maximum allowable counseling sessions and have emphasized the need to provide time-limited and effective psychological interventions (Gallagher, 2007).

Short-term strategies.

In the context of reviewed support for short-term interventions, increased need for time efficiency and efficacy in university mental health care delivery (Lee, 2005), and the fact that the modal number of therapy sessions attended by college students is one (Draper et al., 2002), these data collectively served as a catalyst toward investigating whether a single session intervention might effectively reduce depressive symptoms in university students.

Several relevant studies of remarkably simple, pithy interventions provide convincing evidence that even a single-session strategy may be helpful in the prevention of depression. Willemse et al. (2004) tested the efficacy of a "minimal-contact" therapeutic intervention for sub-clinically depressed individuals. The main component of the intervention was a self-help manual with instructions on CBT

skills for mood management. The manual also included homework assignments and was augmented by an in-person interview with a specialist and six short telephone calls (maximum 15 minutes each). At a one-year follow-up (Smit et al., 2004), the incidence of major depression among participants who received the intervention was reduced by a third in comparison with the control condition (12% versus 18%).

Han et al. (2006) conducted very brief (5-10 minute) single-session interventions with college students. Interventions were designed to enhance either biological knowledge regarding depression, encourage de-stigmatization of seeking treatment for depression, or a combination of both. All three treatment conditions were associated with significant and beneficial changes in beliefs and attributions regarding depression.

"Short-term intervention strategies can sometimes be equally effective as longer-term strategies (Miller & Barber, 2002)." Lang (2003) evaluated the effectiveness of a four-session cognitive-behavioral intervention for co-occurring anxiety and depression. "Participants in the treatment condition received four weekly sessions for their symptoms. The intervention led to statistically significant reductions in symptoms across multiple measures of depression and functioning. The relief in depressive symptoms in particular was maintained over a one-month follow-up period, indicating that a relatively brief intervention can successfully treat acute depressive suffering."

Although results from these extremely brief interventions are generally not as strong as results from lengthier preventive programs, they do show some promise. There exist many large-scale settings where more costly and intensive interventions are simply not feasible, but the risk of depression is very real–such as the college environment. In this sort of location, a single-session intervention may be one of the few realistic ways to inexpensively but effectively reach many at-risk individuals.

Given data supporting short-term interventions as effective in relieving emotional problems (Basoglu, 2006) of students with depressive symptoms, important limitations must be addressed: it seems pertinent to explore whether such interventions might generalize toward distressed university students, a population in need of such services, and no systematic study of short depression interventions (Lee, 2005). Second, well-designed short-term intervention outcome studies for depressed college students are seemed rare.

2.2.5 The Prevention of Depressive Symptoms

2.2.6 The prevention of depressive symptoms.

Prevention is defined as interventions that occur before the initial onset of a disorder (Institute of Medicine Report, 1994). The focus of 21st century health services is increasingly shifting to the prevention of disorders rather than the treatment of disease. The last ten years has seen a growing emphasis on depressive symptoms prevention but researches in this area still lag far behind (Lee, 2005). An effective intervention is important of all preventive activities in the facing of depression (World Health Organization, 2009).

For some with depressive episodes, periods of depression may resolve in a few weeks or months. However, it has been estimated that, for 30 to 50 percent of adults, depression is recurrent or chronic or fails to resolve completely (Solomon et al., 2000). Ironically, depression is perhaps one of the most effectively treated psychiatric disorders and, if recognized early, it can be prevented.

Prevention of depression is worthy of greater study among investigators concerned with this mood disorder. The World Health Organization (WHO) reported that major depression was the number one cause of disability in the world (Murray & Lopez, 1996). The WHO also reported that major depression was the fourth most important disorder in 1990 and would become the second most important by the year 2020, in terms of the global burden of disease as indicated by both disability and mortality (Murray & Lopez, 1996).

To reduce the prevalence of major depression, we must reduce its incidence, duration, or both. Treatment interventions are focused on reducing duration of episodes, that is, terminating a current clinical episode as soon as possible. Preventive interventions are focused on reducing incidence–the number of new episodes of major depression. Prevention advocates have long pointed out that when the prevalence of a disorder is very high, treatment approaches are not sufficient (Albee, 1985). It is, therefore, imperative to develop effective preventive interventions for such disorders.

There are many forms of prevention. A brief history of the concept and definitions of relevant terms are presented here. The Commission on Chronic Illness (1957) developed the original public health classification system of disease prevention. Three types of preventive interventions were identified: primary, secondary, and tertiary. Although these prevention terms were widely used in various public health domains, there are clear problems in attempting to apply this classification system for prevention efforts to mental health associations which have often diminished the effectiveness of these efforts. As more has been learned about etiology, it has become clear that physical and mental health events and outcomes cannot be explained by simple causal relationships. Rather, they are the result of the complex interplay of biological, social, environmental, and intrapersonal risk and protective factors. Thus, the original definitions of prevention break down when applied to adolescent mental health.

An alternative to the Commission on Chronic Illness (1957) definitions of prevention was proposed by Robert Gordon. This new system was based on the empirical relationships found in practically oriented disease prevention and health promotion programs (Gordon, 1983). These included programs designed for universal, selective, and indicated prevention.

During the last 40 years the definitions of these types of prevention have expanded to include an array of nuanced but related meanings. The IOM report chose to resolve the confusion in terminology by using the term prevention to refer

only to interventions that occur before the initial onset of a disorder. In this system, prevention included all three elements of Gordon's system (1983, 1987). See figure 5 for these types of prevention:

Figure 5 Types of preventive interventions

The Commission on Chronic Illness (1957)	**Gordon's system (1987).**
Primary prevention The reduction of the incidence of a disease or disorder through the prevention of the occurrence of new cases of a disease or disorder before they occur. Widespread vaccination is an example of primary prevention.	***Universal prevention*** Included all interventions targeted to the general public or to an entire population group not selected on the basis of risk (Gordon, 1987). This would include interventions such as use of seat belts and immunization programs that are desirable for everyone in the eligible population.
Secondary prevention The reduction in the prevalence in the general population of recurrences or exacerbations of a disease or disorder that already has been diagnosed. This includes early detection and intervention to reverse, halt, or at least retard the progress of a condition (Rieger, 1990). An example of secondary prevention is the use of antihypertensive medications among those with high blood pressure to reduce the risk of cardiovascular complications such as stroke.	***Selective prevention*** Interventions that target individuals, or a specific subgroup of the population, whose risk of developing a disorder is higher than average (Gordon, 1987). For example, the condom use programs among sexually active adolescents are a selective prevention effort.
Tertiary prevention Efforts do not seek to reduce the prevalence of a disease or disorder. Tertiary prevention is only concerned with the reduction of the disability associated with an existing disease or disorder. For those with allergies, removal from exposure to the allergen would be a tertiary prevention approach.	***Indicated prevention*** Once an individual in a high-risk group exhibits the early signs or symptoms of a disorder, indicated prevention efforts would apply (Gordon, 1987).

The prevention of depressive symptoms has been widely studied in clinical populations in western countries, but there is quite little research that specifically

investigates among international students studying in a non-US, non-English speaking country, for example: Thailand. To meet the aims of the current study, the researcher explored the effects of a targeted prevention program for a high-risk group–international Chinese college student.

2.3 The Present Study

The aim of this study is to test the efficacy of a combined intervention on preventing depressive symptoms among at-risk (international Chinese) college students. Given that a major focus it is important to review our current understanding of depressive symptoms and the factors related to college students.

2.3.1 College Students

"Depressive symptoms, even at the sub-threshold level, also are a substantial concern in youth, as they have been found to be associated with a range of problems, including drug and alcohol use, academic failure, school dropout, and teen pregnancy (Gillham, 2006)." "Subclinical levels of depressive symptoms constitute one of the most significant risk factors for the subsequent onset of depressive disorders (Clarke et al., 1995)." Thus, prevention of depressive symptoms, even at a subclinical level, is a worth-while goal with important clinical implications.

Consistent with community samples, depression is found in about 15%–20% of university students, with increasing incidence in the past two decades (Voelker, 2003). An association has been shown between depressive symptoms and developing a major depressive disorder (Cuijpers & Smit, 2004). Depressive symptoms have considerable effects on well-being and psychosocial functioning (Lewinsohn et al. 1998). "In fact, persons suffering from sub-threshold depression are rather similar to those with a diagnosis of major depression with regard to their psychosocial functioning; furthermore, persons suffering from depressive symptoms experience almost the same degree of impairment of health status, functional status, and disability as those diagnosed with major depression (Gotlib et al. 1997)."

As indications of the research focus upon identification of stressors which predict anxiety and/or depression among university students, several papers have reported on sets of a few stressors as antecedents of depression. For example, low self-esteem and self-efficacy (Oliver & Paul, 1995), poor time management and leisure satisfaction (Misra & McKean, 2000), irrational beliefs and alcohol use (Camatta & Nagoshi, 2006), parental or partner abuse (Silvern et al., 1995), self-concealment, and avoidance (Moulds, 2006) have all been shown to significantly predict anxiety and/or depression among university students.

2.3.2 Avoidance

Much of the evidence linking avoidance and depression comes from the coping literature. Avoidance coping consists of focusing attention away from internal or external stimuli to manage, reduce, or eliminate stress, and can be either a cognitive or behavioral process (Cronkite & Moos, 1995).

"Cognitive avoidance coping involves denying, minimizing, ruminating, or passive decisions that stressful or unpleasant situations are unchangeable; behavioral avoidance coping occurs when a problem is avoided through participation in alternative activities, engagement in temporarily satisfying, albeit maladaptive behaviors such as substance use, gambling, or binge eating, or through overtly displaying behavioral manifestations of unpleasant emotions (e.g., yelling or shouting at others) (Cronkite & Moos, 1995)." Individuals with increased depression are more likely to use escape and avoidance coping strategies when stressed (Connor-Smith & Compas, 2002).

Longitudinal investigations also causally indicate that avoidance coping directly contributes to the etiology and maintenance of depression symptoms (Cronkite, Moos, Twohey, Cohen, & Swindle, 1998).

The pioneering theoretical work of Ferster (1973) highlighted "avoidant behavior as a determinant of depressive behaviors and symptoms, stressing the need to analyze relationships between environmental contexts and behavior to understand and treat depression." While this theory was elaborated by other theorists, "Purely

behavioral conceptualizations and treatments of depression became overshadowed by more integrative cognitive behavioral models (Beck et al, 1996)."

Simply put, there is a relationship between avoidance and depression that is largely explained by the mediating role of reduced positive reinforcement (Ferster, 1973; Lewinsohn, 1974; Manos, Kanter, & Busch, 2010; Martell et al., 2001). Although a largely referenced model of depression to date, this theory has received minimal empirical scrutiny. In particular, while significant evidence links depression to avoidance and reduced response-contingent positive reinforcement, no study to date has directly investigated the proposed mediating role of environmental rewards. The current study was designed to specifically test this model.

"In chronic depression, the avoidance is often more subtle in nature. It can take three interrelated forms: behavioral avoidance of certain external circumstances, cognitive avoidance of certain mental ideas or images and emotional avoidance through the direct suppression of emotional experiences. Each of these forms of avoidance can obscure the distressing feelings and thoughts that are crucial in constructing a cognitive formulation of the mood problem (Cuijpers, 2007)."

A non-clinical sample (N=104) of undergraduate students completed self-report measures of depression, anxiety, rumination and avoidance. Avoidance and depression was all significantly correlated (Cuijpers, et al, 2007) The construct of avoidance can be defined as attempts to prevent, escape, or reduce contact with subjectively aversive or minimally rewarding internal or external stimuli.

These stimuli can come in different forms, including thoughts, behaviors, emotions, memories, and social interactions (Ottenbreit & Dobson, 2004). In the current study, the unhealthy behaviors of Chinese students included escaping or avoiding stimuli, leading to a pattern of passivity and withdrawal that reduces the frequency of positively reinforced behavior which, in turn, produces, sustains, or worsens depressive symptoms such as social isolation, absence from class, giving up solving problems, etcetera.

Much of the evidence linking avoidance and depression comes from the coping literature. Avoidance coping consists of focusing attention away from internal or external stimuli to manage, reduce, or eliminate stress, and can be either a cognitive or behavioral process (Cronkite & Moos, 1995). "Behavioral avoidance coping occurs when a problem is avoided through participation in alternative activities, engagement in temporarily satisfying albeit maladaptive behaviors such as substance use, gambling, or binge eating, or through overtly displaying behavioral manifestations of unpleasant emotions (e.g., yelling or shouting at others) (Cronkite & Moos, 1995)." Individuals with increased depression are more likely to use escape and avoidance coping strategies when stressed

2.3.2 Stressful Life Events

Stressful life events refer to stressful stimuli or situations to which everyone is exposed to a greater or lesser extent in the natural course of life (Dohrenwend & Dohrenwend, 1974). The diathesis-stress model of depression suggests that an individual's diathesis must interact with stressful life events (of a social, psychological, or biological nature) in order to prompt the onset of the depression. Since first studied over 30 years ago by Holmes and Rahe (Holmes, 1967), stressful life events have been a major focus of psychiatric epidemiology (Dohrenwend & Dohrenwend, 1984). Stressful life events have a potent relationship with the risk of depression, an association that has been one of the most widely studied environmental factors for a range of mental disorders (Brown, 1987).

In particular, numerous investigations have found a correlation between the occurrence of stressful life events and the subsequent onset of an episode of major depression (Paykel, 1978). Less certain, however, is the nature of the relationship between major depression and stressful life events. But, it remains unclear to what extent stressful life events cause subsequent onsets of depression and to what extent the occurrence of stressful life events and onsets of depression are correlated for other reasons.

It is also important to note that the timing of stressful life events appears to condition their influence on emotional distress. Most previous studies have found a significant association between recent but not distant life events and depressive

symptoms when earlier symptom levels were controlled (Compas, Ey, & Grant, 1993). It appears that more recent life events, not those occurring in the distant past, tend to have a significant impact on adolescent functioning (Hammen, Mayol, deMayo, & Marks, 1986).

Prospective empirical studies have yielded considerable support for the contribution of stressful life events to the development and maintenance of depression in adolescents (Petersen et al, 1991). However the relationship between experience of stressful life events and depression is not necessarily simple, with correlation estimates ranging from .22 to .47 (Robinson et al., 2000).

"Stressful life events, even for those at the peak of mental health, erode quality of life and place people at risk for symptoms and signs of mental disorders. There is an ever-expanding list of formal and informal interventions to aid individuals coping with adversity. Sources of informal interventions include family and friends, education, community services, self-help groups, social support networks, religious and spiritual endeavors, complementary healers, and physical activities." (Misra, R, 2000).

According to the model, the greater a person's inherent vulnerability for developing depression, the less environmental stress will be required to cause him or her to become depressed. In contrast, if someone has a smaller amount of vulnerability for becoming depressed, it will take greater levels of environmental stress in order to produce the disorder. Until this critical amount of stress has been

reached, people will generally function normally, and their vulnerabilities are considered to be "latent" or hidden.

Stressful life events and international college students

College students are twice as likely to have depressive symptoms compared to people of similar ages and backgrounds in the workforce (Dixon & Reid, 2000). Symptoms of depression are highly prevalent among undergraduates (Smedley et al., 1993). For individuals who attend college, symptoms of depression are higher than for those who do not attend college (Hirsch & Ellis, 1996). Reasons for this include greater demands on time, financial troubles, relationship problems, and competition.

One survey focused on students' life and conducted on students seeking help from the counseling service showed: "16% of students were mildly depressed, 43% were moderately depressed, 41% were severely depressed, and the academic work of 92% was impaired. Financial trouble and romantic relationships are two important stressors for undergraduates and young adults. The relationship between depressive symptoms and economic hardship decreases with age." (Liu, M. 2009).

Increasingly, over the past 50 years, and especially in response to globalization and internationalization, post-secondary institutions are expanding to include more and more international students.

Paige (1990) defined international students as individuals who temporarily reside in a country other than their country of citizenship in order to participate in

international educational exchange as students. There are quite a substantial number of students engaging in international education. Bohm et al. (2002) estimated that in the year 2000, there were 1.8 million international students enrolled in institutions of higher education around the world and they predicted that there would be a fourfold increase in this number by 2025.

The international students who were moving away from home, their family, and their childhood friends to an unfamiliar place and culture constitutes an additional challenge. They may not be familiar with the new higher education institutions or the demands of the advanced study, and may feel isolated from the majority of students and alienated from both the institution's culture and the families and communities from which they came.

In a review of literature on international students, Church (1982) identified the following areas as potential areas of difficulty: "monetary problems, language difficulties, adjustment to a new educational system, and social adjustment to the new milieu. Some predictors of adjustment that have been identified are cultural distance, acculturation, language difficulties, and coping strategies. These students are potent ingredients for depression, distress, and psychiatric disturbance (Church, 1982)."

Moving to another country can pose numerous challenges for international students, and research has indicated that moving to a new culture can have potentially detrimental effects on people's mental health (Sodowsky & Lai, 1997).

For example, international students often have high expectations of what their life will be like when they move overseas, and they may experience psychological crises or social dysfunctions such as interpersonal stress, low self-esteem, racial or ethnic discrimination, disappointment, resentment, anger, sadness, physical illness, and other symptoms of culture shock when their expectations are unmet (Winkelman, 1994). Some studies in the recent past have identified depression and anxiety as a concomitant of cross-cultural adjustment (Ward & Kennedy, 1992, 1994).

As cited by Yeh and Inose (2003), "international student populations often report personal as well as mental concerns." "Personal concerns include language barriers, academic difficulties, financial difficulties, racial/ethnic discrimination, and loss of social support, while mental distress is comprised of depression, homesickness, alienation, and loneliness (Leong, 1989)." These adjustment problems, in turn, can affect international students' academic performance, psychological and physical health, level of satisfaction with their cross-cultural experiences, and attitudes toward individuals of the host country (Wan, Chapman, & Biggs, 1992). This process can be very stressful for international students because they have fewer resources such as income, education, and English proficiency to assist them in adapting to their new life situation (Casado & Leung, 2001).

2.4 The Cultural Considerations

2.4.1 Cultural influence

Defining depression is culturally bound, making behavior change efforts particularly challenging in depression prevention. The complex nature of depression requires multidimensional strategies for prevention. Particularly in resource-constrained settings, public health prevention efforts need to be based on a better understanding of the socio-cultural dimensions of depression.

"Intervention programs should address the particular context-specific key issues of prevention and be expressed within the cultural framework rather than rely on more conventional information, education, and communication (IEC) as the predominant methods for prevention; these conventional methods have failed to elicit behavior change largely because they are performed at the social and cultural periphery. Although people may hear the messages and understand them, they fail to truly comprehend these messages and incorporate them meaningfully into their lives and behaviors (Daryl B, 2003) ."

Culture is a pattern of learned beliefs, values, and behavior that are shared within a group; it includes language, styles of communication, practices, customs, and views on roles and relationships. We all belong to more than one culture, which may, for example, be social, professional, or religious; the concept goes beyond race, ethnic background, and country of origin.

It is now widely accepted that culture influences our understanding, assessment, and treatment of depressive experience and disorder. Failure to accept this reality can lead to serious errors in clinical judgment and practice that could harm to the patient. In addition, failure to accept this reality can lead to violation in emerging professional and scientific guidelines and ethics, and this could result in legal action and professional censure (e.g., American Psychological Association, 1993). Thus, clinicians and researchers must develop an appreciation and awareness of this important topic.

This paper seeks to establish culture as a determinant of health-relevant behavior and focuses on the use of culture in core values as a means to encourage behavior change for depression prevention. Culture should be understood as a resource to strengthen communication and a vehicle for both empowerment and change. The primary focus of this part of literature review is to define the cultural approach and to highlight studies and best practices from the field.

2.4.2 Cultural approach.

The cultural approach utilizes local knowledge for sustainable and appropriate health programs and prevention efforts. “Culture is one of many factors influencing human behavior; it is a determinant of socially accepted behavior, value systems, beliefs, and practical knowledge. Means of expression or communication, such as music, dance, theatre, and art are those creative aspects of culture that we

often define narrowly as culture itself. However, culture in the broader sense, also includes traditions and local practices, taboos, religious affiliations, gender roles, marriage and kinship patterns, and so forth. Therefore, culture is deeply rooted in all aspects of a society, including local perceptions of health and illness and health-seeking behaviors(Daryl B, 2003). ”

“The benefits of employing a cultural approach are threefold. First, the cultural approach utilizes and often revitalizes local cultural forms of expression and channels of communication (e.g., storytelling, traditional healing, etc.) and, therewith, can build enthusiasm, solidarity, and empowerment within the community, both for local culture and against the health problem. Secondly, the cultural approach encourages self-reflection among the various actors and within communities, allowing community members to re-evaluate local practices and behaviors; generates questions and formulates answers; and thirdly, the cultural approach makes public health knowledge and messages more readily accessible and sustainable at the local level (Daryl B, 2003).”

2.4.3 Apply Cultural Approach to International Chinese students.

Appropriate adaptation for Asian clients is complicated by the magnitude of diversity represented. Chinese students, come from multiple regions of China, and speak a variety of dialects (Hwang, Wood, Lin, & Cheung, 2006). “Such diversity requires therapists to consider and discuss with the students for a number of unique

cultural factors, including individual history, generational status, language proficiency, personal core values and beliefs, level of ethnic identity, acculturation and cultural orientation (Hwang et al., 2006).”

Some studies in the recent past have used this concept of college adjustment to compare international and domestic students. For example, on comparing adjustment difficulties between U.S. and international students, using the SACQ, .Kaczmarek et al. (1994) found that the international group had a more difficult transition to college than U.S. students. The study indicates that the concept of college adjustment difficulties may lend itself fairly well to cross-cultural comparisons. “With the number of international students on the rise, their issues with adjustment and transition are getting increased attention. International students and their adjustment issues must be studied and addressed as it is in the best interest of all involved to ensure their successful transition to the host country and institution (Kaczmarek et al. 1994) .”

2.4.4 Cultural values.

Cultural values refer to desirable, trans-situational goals, varying in importance, that serve as guiding principles in people’s lives” (Schwartz, 1996). Cultural values can be defined in numerous ways but their essence remains as crucial elements of a culture that influences one’s dynamic behavior. Researchers from various disciplines have been interested in the construct of values: sociologists

(e.g., Williams, 1968); anthropologists (e.g., Kluckhohn, 1951); and psychologists (e.g., Rokeach, 1973, Schwartz, 1992).

The work from across disciplines has made important contributions to our understanding of values not only through the conceptualization of the construct, but also with regard to the measures that have been developed to operationalize values. Researchers have designed ways in which one can quantitatively assess values so we can critically and scientifically examine the role this construct plays in the lives of people.

Past research noted the differences between Asian cultural values and Western cultural values. For example, Asian values focus on collectivity and interdependence while Western values focus on individuality and independence (Hu & Chen, 1999). Other values such as harmony, keeping of family honor, and modesty are also found within the Asian cultural heritage. It has been said that much of the Asian cultural values were influenced by the teaching of Confucius (Robertson & Hoffman, 2000). Confucius's teachings were predominantly exposed to groups such as the Chinese, Vietnamese, and Korean. Furthermore, influences of Confucius's teachings can be found in religious beliefs of Buddhism, Taoism, and Shintoism–religions that are common in the cultures of East Asians, inclusive of the Chinese (Kim, 1997). In brief, Confucius (551-479 BC) taught that the universe and all living things are a manifestation of the unifying force of Tao (Truth, Unity, or the Way) and the essence of life perpetuates order, goodness, and righteousness.

2.4.5 Chinese Values

The cultural competence such as: core values, beliefs are also useful in in designing the preventive intervention sessions. Harmony and face-saving are two important communication characteristics among Chinese people. "In order to maintain harmony and face-saving, Chinese people prefer indirectness, implicitness, and non-verbal expressions instead of aggressive, argumentative and confrontational modes of communication (Liu, M. 2009) ."

Most Chinese people believe that they are controlled by external forces such as fate, luck, or chance; hence they tend to de-emphasize themselves in the group. Unfamiliarity with psychotherapy Chinese people seldom go to counselors to handle their mental problems. As pointed out by Lin (1981) "most, if not all, of Chinese health beliefs regarding mental illness are deeply rooted in the Chinese core culture and have evolved along with the historical development of that culture. Their content cannot be comprehended without adequate understanding of this cultural background." (p. 107).

Traditional Chinese concepts of mental health, therefore, facilitate a form of passive egocentric preservation (Sue & Sue, 1997). Chinese people are encouraged to restrain emotion and suppress individual rights to maintain harmony with other people and the law of nature. Under this influence, Chinese people typically choose self-control, self-discipline, and self-transcendence, rather than attempting to change the social environment. These tendencies may heavily

influence the likelihood that individuals with problems will seek mental health services, as well as their responsiveness to services.

2.4.6 Chinese International Students in Thailand

Most Chinese students who study in Thailand are enrolled in an international program in which the medium of instruction is English. In mainland China, English language education emphasizes reading and writing, rather than listening and speaking (Lee, 2001; Wan, 1999). Moreover, Thai language study is not popular in China and without enough training; it does not guarantee sufficient language ability for living and studying in Thailand. Chinese people ranked language as their most serious problem in cross-cultural adaptation (Huntely, 1993). Language inefficiency could trigger a series of inconvenience and, even more, acculturative stress.

Considering the language barriers, homesickness, cultural differences and misunderstandings of the new and diverse experiences, it is not surprising that international students often experience feelings of estrangement, anxiety, and stress as a part of their adjustment process (Adler, 1975).

Mori (2000) reported that these experiences can cause students to feel hopeless as well as higher prevalence rate and degree of depressive symptoms. Students from collectivist cultural orientations such as Asian had lower levels of adaptation and satisfaction with life and higher levels of depression as compared

with students from individualist cultures (Kinoshita & Bowman, 1998; Sam, 2001).

Due to the different teaching and learning styles between China and Thailand and also because of the language inability, Chinese students have a tough time in academic adaptation. Take 'APA style' for example; Sun and Chen (1997) found that Chinese students were confused when they first heard of APA style in class. Since language inefficiency is the greatest barrier to classroom participation (Yum, 1998), Chinese students in Sun's interview (2002) never felt full-fledged participation in class. Likewise, Wang (2001) pointed out that it is the lack of communication and a restrictive cultural notion of propriety that causes the major obstacles to professor-student interactions for Chinese students.

"Due to the lack of social involvement, Chinese students find it difficult to fit in to the host society. Moreover, separated from family and friends, depression and loneliness bring overwhelming negative impacts to Chinese students (Sun & Chen, 1997)." Ditommaso, Brannen, and Burgess (2005) found that "Chinese students scored higher in family and social loneliness, and lower in attachment security for both peer and romantic relationships." Asians are reserved about expressing their personal problems and that they tend to deny symptoms of depression (Chong, 2002). Carver et al, (1989) indicated that "denial is related to greater psychological distress. However, denial is destined to be maladaptive because students are unable to withdraw completely from the dominant culture."

Chinese students typically choose self-control, self-discipline, and self-transcendence rather than attempt to change the social environment. Their introverted nature may help explain why Chinese international students tend to underuse mental health services, ignore, hide, and even deny their symptoms, despite the fact that they experience more problems than students in general and have an urgent need for psychological assistance (Pedersen, 1991).

The values theories define values as desirable, trans-situational goals, varying in importance that serves as guiding principles in people's lives. Values are the determinants of human behavior. Herein, the researcher proposed an intervention combined with BATD and CVCE program for Chinese college students, schools, as well as training institutions.

2.5 Summary of the Review of Literature

In this chapter, the present researcher summarized recent advances and studies on intervention from major perspectives of psychological intervention approaches such as CBT, BA, etcetera. These techniques not only furnish new means to prevent depressive symptoms with short-term strategy but also produce support for a cultural approach. In addition, after values influences are supported, the values may be further applied and combined with other interventions. The model provides new opportunities for the study of the relation between cultural influences

and psychological intervention in the rational design of preventive intervention for different populations.

Supported values influences have many applications. It has been suggested that values are central to the establishment of ongoing behavior patterns but have rarely been used to support psychological intervention for depression. The knowledge on the use of cultural factors as support for western intervention approach is still quite limited. Previous work prompted us to raise further questions. Considering that there are numerous cultural factors, is it possible to use values, beliefs, or any other issues? Are these factors in tune with traditional approaches? In addition, considering that Chinese students typically choose self-control, self-discipline, and self-transcendence rather than attempt to change the social environment, is it desirable or acceptable to use group session in regard to their introverted nature? These questions leave the matter of further optimization of research design for further research.

A number of short-term interventions were used for depressive symptom prevention. The short-term strategy was studied. Interestingly, short-term interventions can sometimes be equally effective as longer-term strategies (Miller & Barber, 2002). A single session intervention may be useful for many other reactions to be explored in the future. In addition, single session intervention may provide new opportunities for the counseling center at university because schools are in need of time-limited and effective psychological interventions (Gallagher et al, 2007).

To put the information in perspective, it should be mentioned that many methods introduced above were not specially invented by this researcher but rather have their origins in other contexts. Although previous research has examined these techniques individually, they have not all been combined together in one study. Therefore, the model of this study can be used as a reference for learning about Chinese international students and their depression in a non-Western culture or country. Likewise, the results of this study will help researchers who are interested in related fields. The methods expounded here may also be extended to the preparation of further research.

One valid question is whether culturally adapted intervention with single session is really more effective and better than conventional methods. The answer to that question is certainly ambiguous. On one hand, modern cultural approach can indeed help with improving the performance of intervention by using conventional methods. One pitfall may be that the notable absence of Asians as research participants make it difficult to be confident about how do Western preventive interventions work with Asian (Huey & Polo, 2008; Miranda et al., 2005).

These issues, if not sufficiently studied, may fail to use classical interventions with different cultural groups. Prior research has indicated that failure to incorporate cultural values into treatment results in higher attrition rates (Sonkin, 1995) and possibly less efficacious treatment (Miranda et al, 2005). This point had, at times, been overlooked, thus undermining the real performance of advanced,

gold-standard interventions such as CBT or BA. How to properly deal with these issues is a challenge. Even if this challenge is overcome, many factors still have to be considered before there can be large-scale utilization in diverse groups of people.

In the future, it is important to study the culturally-sensitive, feasible, realistic, inexpensively time-efficient, and easily implemented intervention. Researchers may want to systematically examine how an intervention differs across gender, religion, etcetera, to confirm the efficacy and effectiveness of culture-based, values-centered interventions. Another idea is to systematically build up support for single session intervention. Close cooperation between Western values and Oriental values is needed for better understanding.

Finally, it should be mentioned here that, due to the emphasis of this review, the researcher mainly focused on the use of the BA approach, rather than on other perspectives. So far, CBT is the most frequently used and largest evidence-based intervention. However, in the near future, it is expected that researchers in this area will pay more attention to the application of cultural values as a moderator for intervention. This factor is more complex and more demanding than schemas, and is certainly more interesting from a cultural perspective. Currently, most interventions are prepared using common methods and simple components. With the rapid development of the BA approach, it is expected that a single BTAD combined with the values clarification component will play a significant role in the area of psychological intervention in the near future.

CHAPTER III. Research Methodology

The purpose of this study was to test hypotheses related to the effects of a combined intervention which include the brief behavioral activation treatment for depression (BATD) and a Chinese values clarification exercise (CVCE) on preventing depressive symptoms of Chinese students in Thailand. This chapter on methodology is divided into five sections. The first section describes the experimental design. The second section describes the participants and ethical considerations. The third reports the study variables, the data gathering instruments, and the validation and revision of the questionnaires used in this study. The fourth section describes reports on the procedures and intervention of this study. The fifth section presents the details of the data analysis employed as well as the scope and limitations of the present study.

3.1 The Research Design

The present study was about the efficacy of intervention for preventing depressive symptoms among Chinese university students. It was a quantitative research with a quasi-experimental, pretest-posttest comparison group design. Quasi-experiments are generally of a smaller scale and less expensive than experimental studies. However, the investigator has less control over the influence of extraneous risk factors due to the lack of randomization (Kleinbaum et al., 1982). This is a single-blind, cluster randomized controlled trial of a school-based target

intervention to prevent depressive symptoms among international Chinese college students at the Assumption University of Thailand, Bangkok.

3.2 Participants

The participants were recruited from every faculty unit of Assumption University. Participants were recruited from academic classes upon their instructor's approval. Screening criteria included age between 18 and 45 years, ability to read, not currently in therapy, not currently on medication for mood disorder, and meet the BDI-II scores of 14 to 29 points–indicative of mild to moderate depression.

The sample is limited to volunteers 18-45 years old for two reasons. Firstly, the scientific literature suggests that the first episode of major depressive disorder (MDD) usually happens when individuals are 19 to 44 years of age (Kessler et al., 2005). Secondly, individuals in their 20s to 40s have the highest visit rates to psychiatrists, and the reason for their visits is mainly for mood disorders (Wang et al., 2005). Thus, this age criterion is set to ensure the selection of a sample from the population most affected by depressive symptoms. Actually, the age of participants was not over 26 years old during the intervention.

For ethical reasons, individuals with severe depression were excluded from this study unless they have written permission to take part in this study from their physician or other health care professional, although no students with severe depression actually participated in this study. Some underlying medical problems,

such as anorexia nervosa, heart disease, or diabetes affect depressive symptoms. For instance, individuals with heart disease have been shown to have four times higher prevalence rate of depression than individuals without heart disease (Forrester et al., 1992). Therefore, individuals with those problems were excluded from the current study.

Participants also could not take medication for depression or have psychotherapy or other therapies for treating depression while the study is in progress since these therapies would have confounded the effect of the current intervention on depressive symptoms. Participants, however, were instructed to maintain normal contact with their physician and report to the primary investigator any change in antidepressant medication or medication dosage during the course of the study.

3.3 Sampling Method

The population in this study consisted of Chinese students studying at the Assumption University of Thailand and who have mild to moderate depressive symptoms during the sampling time–academic year 2010-2011.

A cluster sampling method was employed in this study. A total of 366 participants were screened. The selection of participants of this study was made clustered-randomly. Each faculty unit of the targeted university was regarded as a primary sampling unit. Of 366 students, 263 participants met the selection criteria;

hence, they were potential subjects for the study. One hundred sixty one were excluded because they were not willing to participate; 102 students decided to participate and were included in the study.

Sample size.

For the number required of the targeted intervention program, the sample size needed in each group for this study was based on the results of previous meta-analyses on behavioral activation interventions for depression (Craft & Landers, 1998; Lawlor & Hopker, 2001). The standard deviation was 8.2 points, and a difference in means of 6 points was used, as such a decrease would be likely to result in the level of depression falling by one category (e.g., moderate to mild). For a power of 90% (1-β) and at two-tailed significance level of 5%, and for the same sample size for each group, 76 participants were needed. To allow for attrition of 15%, it was initially intended to recruit 86 participants with 43 for each group.

Formula:

$$n_1 = n_2 = \left[\frac{(Z_\alpha + Z_\beta)\sigma}{\delta}\right]^2 \times 2$$ （Julious，2004)

α=0.05 β=*0.10* *Zα*=1.96 Z_β =1.28

σ =8.2，δ=6

So n≈38 N=76 for the Attrition rate of 15%

N= 86 n=43 for each group

Attrition of 15%= 0.15 Type I error (α) = 0.05 Type II error (β) = 0.10 Power = (1 - *β*) = 0.90

According to literature review from Craft and Landers (1998), Lawlor and Hopker (2001): Clinically significant diff (δ) = 6 points Measure of variation (SD) =8.2points Treatment effect size, large Cohen's d =0.8 or medium (d =0.5) small (d=0.2)

3.4 Ethical Considerations

Before any component of the program commenced, informed consent was obtained from the students. Participants were informed that their participation was voluntary and that they have the right to withdraw from the program at any time. Participants were also informed that the information they provide is confidential. This allowed participants to provide honest information.

The aim of early intervention programs was to identify and help students who showed signs of depressive symptom. However, it was possible that students would be identified as needing immediate professional help. Identification of such individuals may have arisen from extreme scores on screening instruments or from information provided by the students in an interview or during group sessions. This was most commonly achieved through screening materials. Using the cut-offs provided in the manuals, it was necessary to determine a score which must be obtained in order to consider a student 'at risk'.

Consent and confidentiality.

Participants were given debriefing forms at the beginning of the study with information about the purpose of the study. The study protocol was sent to the Research Ethics Committee of Assumption University for reviewing and had to be approved for data collection. All activities relevant to the data gathering process involved careful consideration of maximizing possible benefits and good for the subjects, while minimizing the amount of possible harm and risks resulting from the research.

3.5 Instrumentation

In this study, the researcher applied a set of measurements for the participants to respond to, as follows:

3.5.1 Demographics questionnaire.

A demographic variables questionnaire prepared by the researcher was used in order to determine certain independent variables, namely: age, gender, length of residence in Thailand, level of language proficiency, marital status, educational background, mental disorder history, etc.

3.5.2 Beck Depression Inventory II (BDI-II).

Depression levels were assessed by the Beck Depression Inventory II or BDI-II, the most commonly used self-report measure of depression. it was based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM IV) of the American Psychiatric Association. It includes 21 items in a 4-point scale. the following symptoms and attitude items are include: "1=mood, 2=pessimism, 3=sense of failure, 4=self-dissatisfaction, 5=guilt, 6=punishment, 7=self-dislike, 8=self-accusations, 9=suicidal ideas, 10=crying, 11=irritability, 12=social withdrawal, 13=indecisiveness, 14=body image changes, 15=work difficulty, 16=insomnia, 17=fatigability, 18=loss of appetite, 19=weight loss, 20=somatic preoccupation, and 21=loss of libido" (Beck & Steer, 1987).

Scores are classified as follows: 0-13: minimal depression; 14-19: mild depression; 20-28: moderate depression; and 29-63: severe depression (Beck, Steer, & Brown, 1996). The BDI-II is a widely used measure of depressive symptoms with robust reliability and validity (Beck, Steer, & Brown, 1996). Additionally, the instructions remained as in the previous version (respondents are asked to rate how they have been feeling for the past two weeks). According to the test developers Beck, Steer, and Brown (1996), the BDI-II has been found to demonstrate high internal consistency, adequate validity, and diagnostic discrimination.

3.5.3 Inventory of College Students' Recent Life Experiences (ICSRLE).

The Inventory of College Students' Recent Life Experiences or ICSRLE, designed by Kohn, Lafreniere, and Gurevich (1990), was used to determine the degree to which one experiences hassles in one's life. The ICSRLE is an instrument that measures stressful life events experiences, specifically targeted to the college population. It consists of 49 items. The range is from 49 to 196 points, where 49-98 points indicate an only slightly stressed of life experiences and low risk to depression; 99 to 147 points indicate moderate level of stressful of life experiences and somewhat risk to depression; and 148-196 points indicate most stressful level of life experiences and higher risk to depression (Dwyer, 2001).

"The factor structure and psychometric properties of the ICSRLE were investigated in a sample of 216 college undergraduates. The ICSRLE confirmatory factor analyses supported the generalizability of the 49-item one-factor and 37-item seven-factor solutions to undergraduate samples. Forty-nine items correlated significantly with the PSS, ranging individually from .17 ($P < .05$) to .48 ($p < .0005$). The alpha reliability of the ICSRLE was .89 in an initial item selection sample These findings support the reliability and validity of the ICSRLE. The Cronbach's alpha coefficient for the ICSRLE of this study was .80." (Kohn, Lafreniere, & Gurevich, 1990).

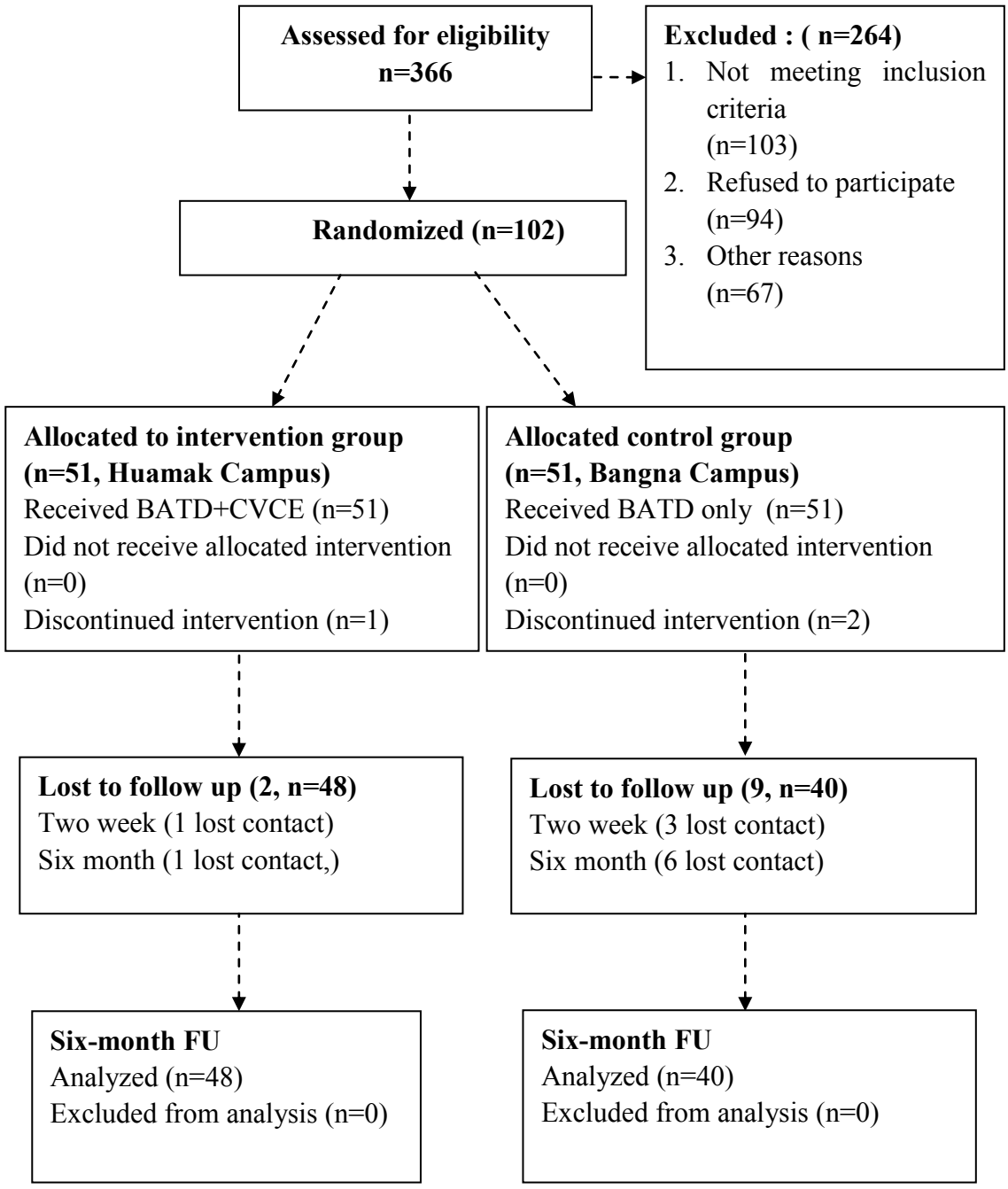
3.5.4 Chinese Value Survey (CVS).

The Chinese Value Survey or CVS was developed by Michael Harris Bond (1988) and his colleagues in Hong Kong as a complement to survey instruments constructed by research workers such as Rokeach (1973) and Schwartz (1992). It was designed to be used with people living in geographical regions where Eastern life values are pre-eminent. Preliminary studies have been carried out using this instrument with university students from ethnically Chinese backgrounds studying in three Australian universities. Data were examined using principal components analysis rotated to orthogonal structure. This analysis makes interpretation of the values held by students from an ethnically Chinese background more accessible.

3.6 Intervention Procedures

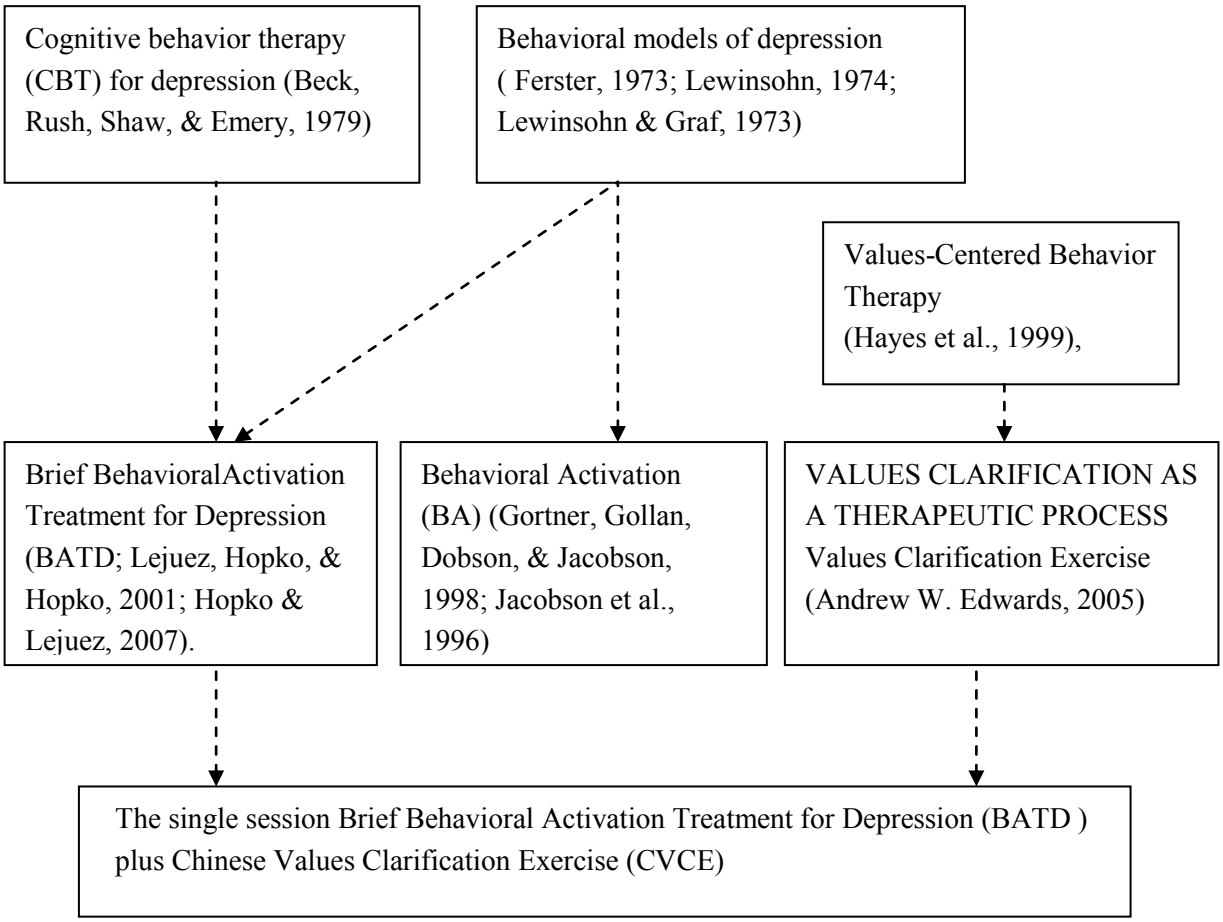
The procedural steps undertaken in the present study are as follows (see Figure 6 below):

Figure 6. Intervention flow.



In this study, the intervention used was adapted from several sources (theories and manuals), as depicted in Figure 5 below:

Figure 7. Theories and intervention manuals.



According to van der Klink et al. (1986), interventions designed to reduce depression, stress, and their health effects can be categorized according to their focus, content, method, and duration. The researcher designed a therapy course consisting of one session of intergraded intervention. The program combined with a BATD and CVCE consisted of an integrated package comprising theory and practice session.

Based on behavioral theory, depression persists because: (a) reinforcement for non-depressed (healthy) behavior is low; (b) depressed behavior is reinforced; (c) exposure to aversive or unpleasant life experiences is significant; or (d) some combination of these factors (Lewinsohn, 1974). Behavioral activation for depression (BATD) focuses on increasing overt behaviors to bring patients into contact with reinforcing environmental contingencies and corresponding improvements in thoughts, mood, and quality of life (Hopko et al., 2004). Within the BATD model (Hopko & Lejuez, 2007; Lejuez, Hopko, Acierno, Daughters, & Pagoto, 2011), the process of increasing response-contingent reinforcement follows the basic principles of extinction, shaping, fading, and in vivo exposure (Hopko et al., 2004). Initial sessions involved assessing the function of depressed behavior, establishing patient rapport, motivational exercises, depression psycho-education, and understanding the treatment rationale.

The current intervention represented a major modification of the original BATD intervention in that it was reduced to a one-session treatment. This decrease in therapy duration from the typical nine-session format predominantly resulted in five fewer weeks of activity scheduling (i.e., BA); a non-progressive approach to activating, in which a much greater number of behaviors were targeted for activation immediately, as opposed to the traditional graded approach to activity scheduling; and omission of behavioral contracting strategies to decrease rewards for depressive behaviors. Otherwise, all elements of the comprehensive BATD treatment were maintained.

Within the BATD model, systematically increased activity was a necessary precursor toward the reduction of overt and covert depressed behavior. Students began by engaging in a self-monitoring (or daily diary) exercise to examine already occurring daily activities to provide a baseline measurement and provide ideas with regard to identifying activities to target during treatment. Students were asked to keep a daily diary during four days of the week and to monitor their primary overt behaviors at half-hour intervals (from 8:00 a.m. to 2:00 a.m.)

Phases.

1. Group session: short BATD and CVCE.

During the 90-minute intervention session, participants were first provided with the treatment rationale as extracted from the BATD protocol. This rationale involved an explanation of the theory underlying BATD, with specific emphasis on the relevance of engaging in values-based activities that elicit a sense of pleasure and accomplishment as a way to combat feelings of depression and low self-esteem. Participants were then educated about depression and possible etiological factors associated with its onset and were prompted through motivational exercises to enhance readiness for change.

Guided by the researcher, each participant in the intervention condition then completed the life values assessment. This component of the intervention was aimed at the identification of important life areas by which specific activities could be

targeted for change. Consistent with the comprehensive manual, values and goals were assessed within the following life areas: family, peer, and intimate relationships; education; employment/career; hobbies/recreation; volunteer work and charity; physical and health issues; and spirituality.

Following this exercise, an activity hierarchy was constructed in which values-based behaviors were selected for change (range 5–13). Each participant and the researcher collaboratively established structured behavioral goals (frequency and duration). Each participant used a behavioral checkout form to monitor progress during the treatment interval. The researcher and participant discussed how to monitor progress toward completing desired goals and activities on the behavioral checkout, identified particular contexts (e.g., day, time, place) in which behavioral change might more likely elicit environmental reinforcement, and problem solved around obstacles to change.

Intervention materials (See Appendices for details):

Break for 15 minutes.

CVCE: The utilization of values clarification as a therapeutic intervention include guiding the client through three phases: (a) the discovery/awareness phase, (b) the claiming/reclaiming phase, and (c) the acceptance phase with the following parts:

Part 1. Personal Values Ranking Part 2. Values Clarification Reflection (See Appendices for details)

2. Two weeks intervention interval.

The participant needed to complete the intervention during the 2-week intervention interval. Practicing with those selected values-based behaviors for change, and applying the techniques in their life, each participant used a behavioral checkout form to monitor progress during the treatment interval. If they need help, they may contact clinicians and discuss how to monitor progress toward completing desired goals and activities on the behavioral checkout, identify particular contexts (e.g., day, time, and place) in which behavioral change might more likely elicit environmental reinforcement, and problem solve around obstacles to change. The intervention materials included booklets and homework assignments.

Upon completion of the intervention, participants submitted the exercise form. This was reviewed by the researcher or research assistant, after which a coupon for a meal was given to each participant. The subjects were required to fill the adherence checklist during the individual session and follow-up period. The checklists were then submitted to this researcher and the research assistants checked whether the participants performed all parts of the activities. A reward (meal coupon) was given to each participating student accordingly.

Follow-up assessments.

Upon conclusion of the evaluation, participants were assigned to either the intervention group or control group. Participants were invited to participate in a one

120-minute group session and two-week individual session. With the given requirement, students returned in 2 weeks to complete the BATD. Participants were notified that they could contact the researcher if they encountered problems, although no participants found this necessary.

The control group participants were provided with and encouraged to use the same referral sources given to the intervention group participants. The same handouts on BATD and all materials were given to the control group participants. At both follow-ups, participants were re-administered the BDI-II, and other questionnaires. If for any reason participants were unable to come in for the six-month follow-up in person, they were mailed the BDI-II and other questionnaires and were asked to return these in a prepaid envelope.

3.7 Statistical Analysis Plan

In this research, Statistical analyses were performed using SPSS Version 17.0. Before presenting outcome results, tests for condition equivalence on pre-therapy as well as demographic and dependent variables needed to be reported in order to ensure the absence of potentially confounding differences between conditions prior to the beginning of intervention.

After the researcher has ensured that groups did not differ on pre-intervention variables, all outcome variables were examined with a 2 (intervention, comparison) X 3 (Time: pre-intervention, 2-week post-intervention, 6-month follow

up) repeated-measures analysis of variance. Study participants in the intervention group were compared with those who were assessed in the comparison group. At baseline, independent t-tests for continuous variables and chi-square for categorical variables were used. Descriptive analysis of the study variables were expressed as the mean and standard deviation (SD) scores of each measurement.

Cultural influences analyses were done by paired sample T-test to see the influences of Chinese values on the effect of the combined intervention.

Moderator analyses: Maxwell (2000, p. 454, Table 5) used Monte Carlo simulation data to show that to achieve power at a level of 0.80 with 2 continuous predictors and an alpha level of .05 for moderator analyses a sample size of 102 would be required; thus, the current study likely had power slightly below 0.80 for detecting interactions.

Thus, this study also had sufficient power for detecting at least medium moderate effects. When predicting depressive symptoms using a continuous variable, two-way ANOVA with repeated measures was used.

The methods to minimize biases

The researcher implemented several innovative strategies to minimize biases, from drop-out to follow-up. Inasmuch as incomplete follow-up could bias the results of a trial when subjects who drop out are different from those who complete follow-up,

This study's exclusion criteria and consent process were designed to minimize losses. Research assistants involved in this study were carefully trained in communication and negotiation with students. Additionally, using paired t-tests with a Bonferroni correction to control for Type I error, power analyses were conducted in order to verify a low probability of Type II error (Cohen, 1988). Treatment effect sizes were calculated using Cohen's d statistic (Cohen, 1988). Effect size results were described according to Cohen's categorization of small effect (d = .3), medium effect (d = .5), and large effect (d = .8).

CHAPTER IV. RESULTS

This chapter focuses on the results of the study. The results are represented in the following six sections: (1) subjects' characteristics; (2) impact of the BATD-CVCE on outcome measures within each condition group; (3) efficacy of intervention versus control condition; (4) cultural influences analysis; (5) moderators analysis;; and (6) intervention implementation results.

4.1 Subjects' Characteristics

4.1.1 Attrition

Of the 102 participants assessed at pre-intervention and were randomized to the intervention or control group, 95 completed the post-intervention evaluation after two weeks and 88 completed the six-month follow-up. A total of 88 participants completed all assessments at all three points. Additionally, three participants from the intervention group and eleven participants from the control group were excluded from analyses as they declined to continue the group session or had lost contact on follow up. Those who did not complete assessments at the post-intervention evaluation and the six-month follow-up did not differ from the intervention group.

4.1.2 Outcome data.

All variables were initially examined with repeated-model ANOVA's [between subjects: intervention and control condition; within subjects (time): pre-intervention, post-intervention]. Based on general guidelines (Hollis & Campbell, 1999), data on all students randomly assigned to receive BATD plus CVCE or BATD only were analyzed on an intention-to-treat basis (ITT). For the 102 participants in the study, available data were as follows: post-intervention (n =95: i.e., 7 students lost to attrition), 6-month follow-up (n = 88). Fishers exact tests indicated that frequency of follow-up data at all assessment intervals did not differ as a function of intervention group.

Given missing values, data were first subjected to a missing values analysis using SPSS Version 17.0. Data considered missing completely at random (MCAR) Analyses are then pooled according to Rubin's (1987) rules for combining estimates and standard errors from multiple data sets and a final complete database is generated based on all available data.

Significant pre-post intervention improvement was observed on the following measures: BDI-II (to measure self-reported depression levels); ICSRLE (to determine the degree to which one experiences hassles in one's life); and the CVS (to assess the Chinese student's values).

4.1.3 Subjects' baseline characteristics

The subjects in baseline of this study consisted of Chinese students with mild depression to moderate (N=102), including the intervention group (n=51) and the control group (n=51). The mean age of the 102 student participants was 21.48(SD = 1.4, min = 18, max = 25). The majority of participants were undergraduate students (n = 99) in the business administration program (n = 67). Most students lived alone (n = 71). Baseline characteristics of students in the two study groups are summarized in Table 2. Students in the intervention and control groups were similar with regards to age, time of stay in Thailand, level of education, faculties of study, English language proficiency, living arrangement ($p > 0.05$).

Table 2 Subjects' demographic characteristics at baseline

Categorical Variables	Numbers (%)			P-Value
	Total (N = 102)	Intervention Group (n = 51)	Control group (n = 51)	
Gender				.672
Male	33(32.4)	15(29.4)	18(35.3)	
female	69(67.6)	36(70.6)	33(64.7)	
Age				
18-20	16 (15.7)	11 (21.6)	5 (9.8)	.428
≥ 21	86 (84.3)	40 (78.4)	46 (91.2)	
Level of Education				.500
Undergraduate	99 (97.1)	49 (96.1)	50 (98)	
Graduate	3(2.9)	2(3.9)	1(2.0)	
Faculty				
BBA	67(65.7)	32(62.7)	35(68.6)	
Architecture	6(5.9)	3(5.9)	3(5.9)	
Arts	7(6.9)	5(9.8)	2(3.9)	
Biotechnology	2(2.0)	0(0.0)	2(3.9)	
Communication arts	2(2.0)	1(2.0)	1(2.0)	
Engineering	2(2.0)	0(0.0)	2(3.9)	
Music	1(1.0)	1(2.0)	1(2.0)	
Nursing science	11(10.8)	8(15.7)	3(5.9)	
Science & Technology	1(1.0)	0(0.0)	1(2.0)	
MBA	2(2.0)	1(2.0)	1(2.0)	
MTA	1(1.0)	0(0.0)	1(2.0)	

Table 2(continued)

Categorical Variables	Numbers (%)			
	Total (N = 102)	**Intervention Group (n = 51)**	**Control Group (n = 51)**	**P-Value**
English language proficiency				.435
Not proficient	13(12.7)	5 (9.8)	8(15.7)	
Limited proficiency	54 (52.9)	25(49.0)	29(56.9)	
Somewhat proficient	28(27.5)	17(33.3)	11(21.6)	
Extremely proficient	7 (6.9)	4 (7.8)	3(5.9)	
Years of stayed in Thailand				.398
<4	92(90.1)	46 (90.2)	46 (90.2)	
≥4	10 (9.9)	5 (9.8)	5 (9.8)	
Employment status				.439
Full-time	5(4.9)	2(3.9)	3(5.9)	
Part-time	37(36.3)	14(27.5)	23(45.1)	
Temporary	1(1.0)	1(2.0)	0(0.0)	
Others	59(57.8)	34(66.7)	25(49.0)	
The Living Arragement				.794
Living Alone	71(69.6)	36(70.6)	35(68.6)	
With Roomate	21(26.5)	13(25.5)	14(27.5)	
With Parents	4(3.9)	2(3.9)	2(3.9)	
Financial Need				.810
Sufficient	80(78.4)	37(72.5)	41(80.4)	
Not Sufficient	22(21.6)	14(27.5)	10(19.6)	

Table 2 (continued)

Variables	Mean(SD)				
	Total (N = 102)	**Control Group (n = 51)**	**Intervention Group (n = 51)**	**T-Value**	**P-value**
Baseline Outcome Measures:					
BDI-II scores	20.84(4.43)	20.73 (4.35)	20.96 (4.55)	-.267	0.790
ICSRLE scores	118.31(22.36)	119.00 (21.21)	117.63 (23.65)	.309	0.758
CVS scores	249.87(15.14)	248.13 (13.76)	251.61 (16.36)	-1.159	0.249

Note. BDI-II: Beck Depression Inventory CBAS: Cognitive Behavioral Avoidance Scale DAS: The Dysfunctional Attitude Scale ICSRLE: The Inventory of College Students' Recent Life Experiences; CVS: The Chinese Value Survey. EROS: The Environmental Reward Observation Scale.

4.2 Impact of the BATD-CVCE on Outcome Measures within Each Condition Group

Mean baseline BDI-II, ICSRLE, and CVS scores are summarized in the following Table 3 for students in the intervention and control group, respectively. Mean baseline BDI-II scores were almost the same for students in the intervention group compared with those in the control group (mean ± SD: 20.96 ± 4.55vs. 20.73 ± 4.35, df=100, $p > 0.05$). Mean BDI-II scores of two-week post-intervention in the intervention group were lower than baseline (mean ± SD: 14.22 ±4.24 vs. 20.96 ±4.55, 100 df, $p < 0.05$). The mean BDI-II scores of six-month follow-up were also lower than baseline (mean ± SD: 12.33 ± 4.91 vs. 20.96 ±4.55, $p < 0.05$)

Table 3 shows the mean baseline, two-week post-intervention and six-month follow-up BDI-II scores for the two study groups. Students in the intervention group

had more reduction in their mean BDI-II scores at two-week and six-month post-intervention compared with the control group (two-week post-intervention 14.22±4.24 vs. 14.83 ±5.01; six-month post-intervention mean 12.33±4.91 vs. 15.28 ±4.16, $p < 0.001$).

Table 3. Outcomes comparison within intervention and control group

Variables	Post-intervention Mean (SD)					
	Intervention group			Control group		
	Baseline	2 weeks	6 months	Baseline	2 weeks	6 months
BDI-II	20.96 (4.55)	14.22 (4.24)	12.33 (4.91)	20.73 (4.35)	14.83 (5.01)	15.28 (4.16)
ICSRLE	117.63 (23.65)	104.96 (16.69)	99.63 (17.39)	119.00 (21.21)	107.33 (19.13)	110.80 (16.28)
CVS	251.61 (16.36)	260.31 (20.75)	261.04 (18.01)	248.14 (13.76)	262.50 (24.44)	256.55 (15.73)

Note. BDI-II: Beck Depression Inventory ICSRLE: The Inventory of College Students' Recent Life Experiences; CVS: The Chinese Value Survey.

As can be gleaned from the following Table 4, the proportion of students in the intervention group with mild depression BDI-II scores at baseline were 49.2% and subsequently reduced to 35.7 % at two-week post-intervention, and 31.3% at six-month follow up.

Table 4 Depressive symptoms levels based on BDI-II scores within intervention and control groups

BDI-II Score	Numbers (%)					
	Intervention group			control group		
	Baseline	2 weeks	6 months	Baseline	2 weeks	6 months
Minimal depression (Score 0-13)	0(0.0)	27(55.1)[a]	30(62.5)[b]	0(0)	19(41.3)[a]	15(37.5)[b]
Mild depression (Score 14-19)	20(49.2)	17(35.7)	15(31.3)[b]	18(35.3)	17(37)[a]	19(47.5)[b]
Moderate depression (Score 20-28)	31(51.8)	5(9.2)[a]	3(6.2)[b]	33(64.7)	10(21.7)[a]	6(15.0)[b]
Severe depression (Score 29-63)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)

Note. BDI-II: Beck Depression Inventory II a = Baseline to two weeks; b = Baseline to six months.

4.3 Efficacy of the BATD-CVC versus Control Group

ANOVA (GLM) results (Table5) indicated that BDI-II scores at all post-intervention time points were significantly lower for students in the intervention group compared with the control group, a significant group and time interaction was observed during each phase of three variables, including baseline to two weeks, $p < 0.001$; baseline to six months, $p < 0.001$ was observed. There were no significant interactions in the ANOVA, indicating that the BDI-II scores did decrease significantly at all post- intervention time points. The efficacy of the intervention program was found in this study.

Table 5 Depressive symptoms comparisons in different intervention conditions

Pairwise-Comparisons

Measure: Group effects

(I) BDI-II	(J) BDI-II	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
Baseline	2weeks	6.085*	.439	.000	5.213	6.958
	6months	6.915*	.486	.000	5.948	7.881
2 weeks	Baseline	-6.085*	.439	.000	-6.958	-5.213
	6 months	.829	.495	.097	-.155	1.813
6 months	Basline	-6.915*	.486	.000	-7.881	-5.948
	2 weeks	-.829	.495	.097	-1.813	.155

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Note. BDI-II: Beck Depression Inventory II， $p < 0.001$

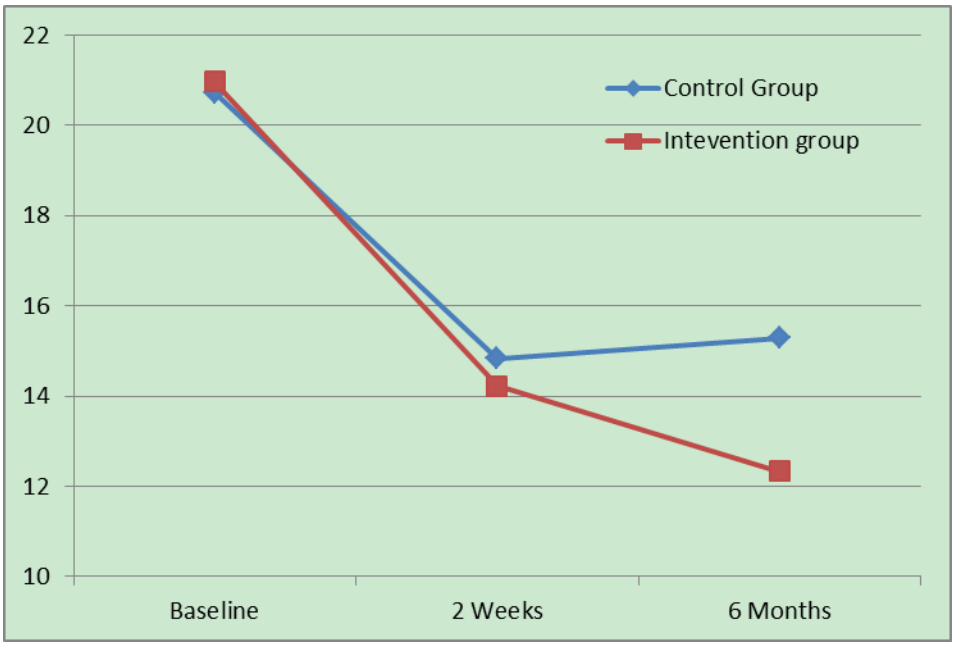
Table 6 Depressive symptoms comparisons in different intervention conditions between groups

	Intevention Group	**Control group**	**△BDI**	**T Value**	**P Value**
Baseline	20.96	20.73	-0.24	-0.267	0.790
2 Weeks	14.22	14.83	0.60	0.633	0.529
6 Months	12.33	15.28	-2.94	3.00**	0.004

*. The mean difference is significant at the .05 level.

**. The mean difference is significant at the .01 level.

Figure 8 Mean scores of outcome measures from baseline to six months follow-up



Note. BDI-II: Beck Depression Inventory II

4.4 Cultural Influences Analysis

The paired sample T-test analyses we conducted to determine if the effects of combined intervention influenced Chinese values (CVS). As can be seen in Table 8 the correlations of Chinese Values at baseline, two weeks and six months post intervention are above 0.80 indicated that consistency of values with each group. The p-values from table 9 showed marginal significantly influence of combined intervention on Chinese values at two weeks post- intervention and significant influence at six months follow up, on the other hand there is no significant different between two weeks and six month in CVS scores for control group.

Table 7 Paired Samples Statistics of Different Groups

Groups	Pare		Mean	N	Std.	Std. error of Mean
Intervention Group	Pare1	CVS	251.625	48	16.605	2.397
		CVS2	253.875	48	14.182	2.047
	Pare2	CVS	251.625	48	16.605	2.397
		CVS6	253.583	48	15.268	2.204
Control Group	Pare1	CVS	246.650	40	12.913	2.042
		CVS2	247.700	40	13.323	2.107
	Pare2	CVS	246.650	40	12.913	2.042
		CVS6	248.050	40	11.795	1.865

Note. CVS: The Chinese Values at baseline CVS2: The Chinese Values at two weeks CVS2: The Chinese Values at six months

Table 8 Paired Samples Correlations

Paired Samples Correlations					
			N	Correlation	Sig.
Intervention Group	pair 1	CVS & CVS2	48	.894	.000
	pair 2	CVS & CVS6	48	.888	.000
Control Group	pair 1	CVS & CVS2	40	.870	.000
	pair 2	CVS & CVS6	40	.846	.000

Note. CVS: The Chinese Values at baseline CVS2: The Chinese Values at two weeks CVS2: The Chinese Values at six months

Table 9 Paired Samples Test for Chinese Values Influence in Different Groups

Groups	Pair	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig.
					lower	upper			
Intervention Group	CVS - CVS2	-2.250	7.482	1.080	-4.423	-.078	-2.083	47	.043
	CVS – CVS6	-1.958	7.666	1.106	-4.184	.268	-1.770	47	0.083
Control Group	CVS - CVS2	-1.050	6.698	1.059	-3.192	1.092	-.991	39	.328
	CVS – CVS6	-1.400	6.931	1.096	-3.617	.817	-1.277	39	.209

4.5 Moderator analysis

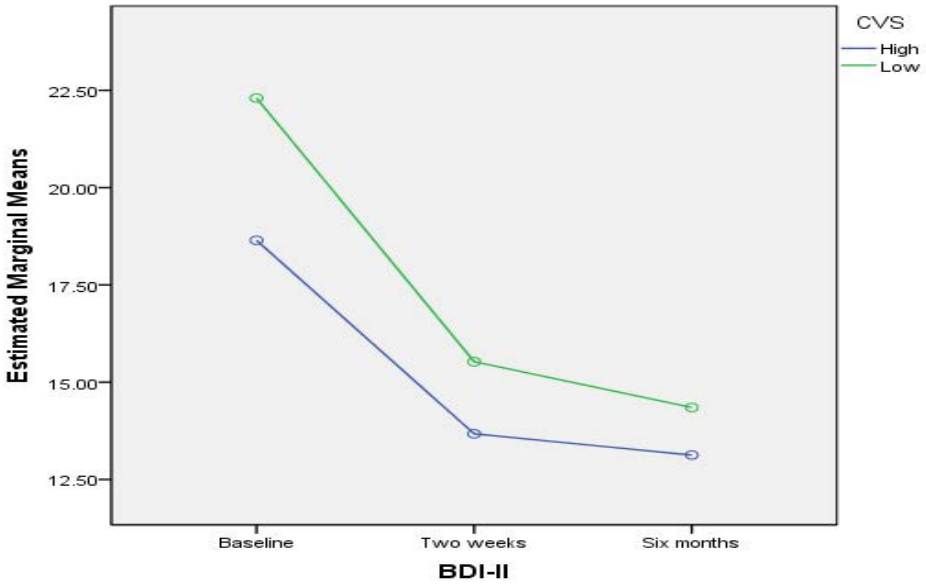
Chinese values. To examine whether the Chinese values had an effect for intervention, the researcher used ANOVA models of repeated measures to test Chinese value effect on interactions of interventions and depressive symptoms levels. CVS scores were not significantly moderated the effects of intervention on depressive symptoms. The moderate effects of Chinese value at either high levels or low levels were not significant, $p > 0.05$.

Table 10 Moderate effects of Chinese values on Intervention

	Type III Sum of Squares	Mean Square	F	Sig.
Dep	2224.599	1112.210	116.322	.000
Dep * values	65.987	32.993	3.450	.034
Dep * group	126.115	63.058	6.594	.002
Dep * value*group	14.470	7.235	.757	.471
Error (dep)	1606.458	9.821		

Note. Dep: depressive symptoms Dep * values: the interaction between depressive symptoms and values; Dep * group：the interaction between depressive symptoms and group; Dep * values*group: the interaction between depressive symptoms, values and group

Figure 9 Moderate effects of Chinese values on Intervention



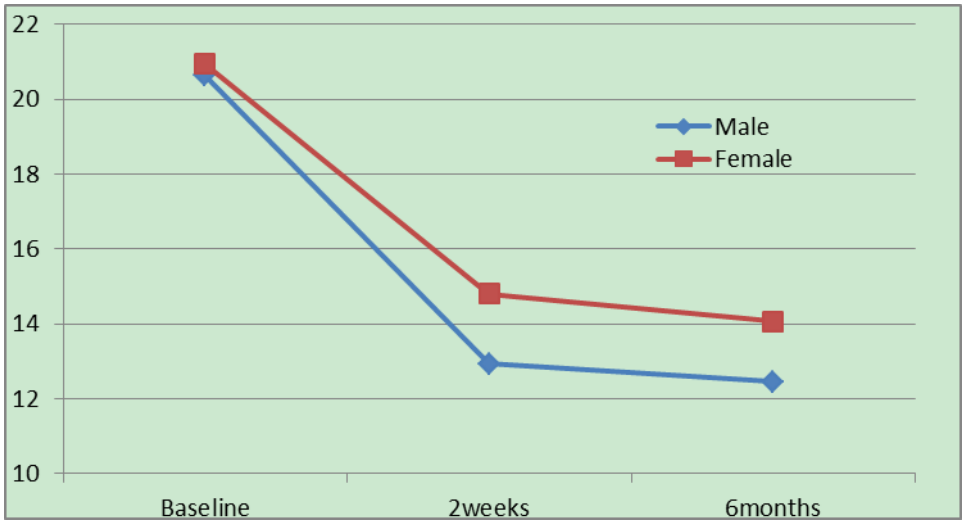
Gender. The researcher used ANOVA models of repeated measures to test gender effect on interactions of interventions and depressive symptoms levels. There main interaction effect for gender was detected for both the BATD-CVCE and BATD ($p<0.05$), but gender by intervention condition interactions was not significant. Genders do not moderate the effect of the interventions on depressive symptoms.

Table 11 Moderate effects of Gender on Intervention

	Type III Sum of Squares	Mean Square	F	Sig.
Dep	2250.812	1125.406	114.903	.000
Dep * gender	19.385	9.693	3.020	.024
Dep * group	98.148	49.074	5.010	.008
Dep * gender*group	21.769	10.885	1.111	.332
Error (dep)	1645.462	9.794		

Note. Dep: depressive symptoms Dep * gender: the interaction between depressive symptoms and gender; Dep * group：the interaction between depressive symptoms and group; Dep * gender*group: the interaction between depressive symptoms, gender and group

Figure 10 Moderate effects of Gender on Intervention



Stressful Life Events.

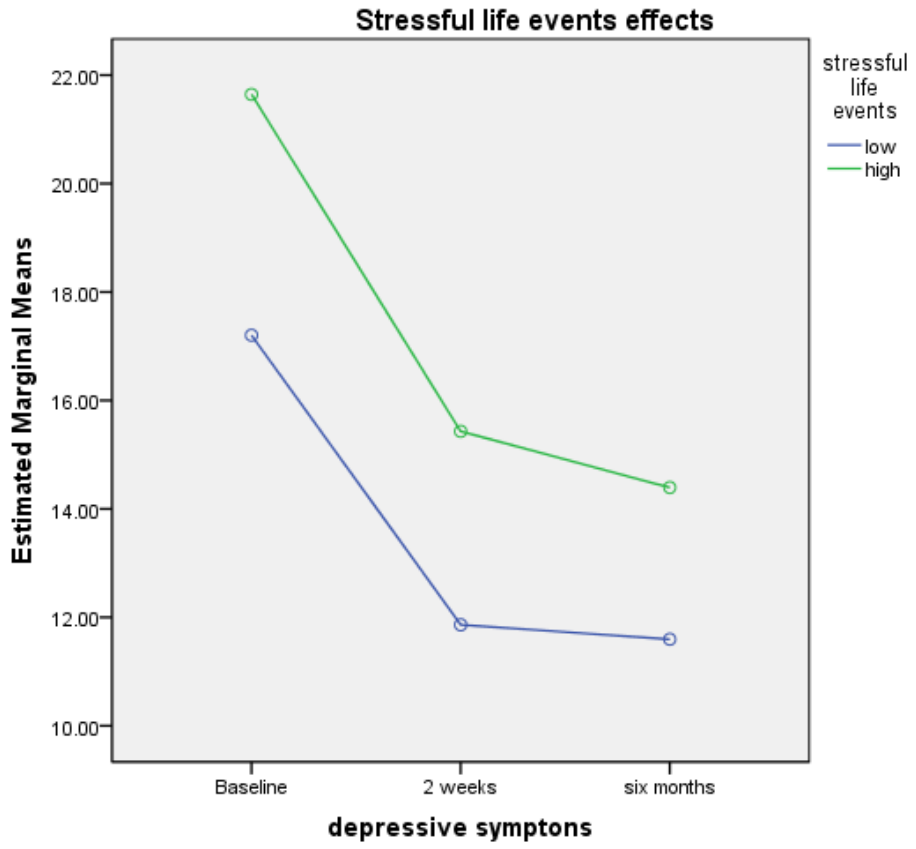
ANOVA models of repeated measures analyses were also used to explore whether stressful life events moderated the interactions between intervention and depressive symptoms. The stressful life events as indicated by ICSRLE score didn't show significant moderate effects on the relationship between intervention and depressive symptoms. But the depressive symptoms were significant different between students with high levels and low levels of stressful life events ($p < 0.05$). Such that lower levels of stressful life events predicted lower levels of depressive symptoms.

Table 12 Moderate effects of stressful life events on Intervention

	Type III Sum of Squares	Mean Square	F	Sig.
Dep	1163.245	1163.245	112.505	.000
Dep * stress	19.018	19.018	1.839	.019
Dep * group	83.602	83.602	8.086	.006
Dep * stress*group	.806	.806	.078	.781
Error (dep)	868.519	10.340		

Note. Dep: depressive symptoms Dep * stress: the interaction between depressive symptoms and stressful life events; Dep * group: the interaction between depressive symptoms and group; Dep * stress*group: the interaction between depressive symptoms, stressful life events and group

Figure11 Moderate effects of stressful life events on Intervention



4.6 Intervention Implementation Results

Intervention implementation consisted of three components–intervention delivery, treatment receipt, and treatment enactment. Intervention implementation results are presented in figure 12. Intervention implementation results revealed that difficulties with intervention receipt and enactment prevented a fair test of the intervention. Thus, the results are considered reflective of practical difficulties in implementing the intervention rather than evidence of a true lack of effect of intervention.

Intervention delivery.

Intervention delivery included ratings of both the therapist's competence in delivering the intervention and adherence to the intervention protocol. Both competence and adherence were excellent, with ratings of 87% and 89%, respectively.

Intervention receipt.

Intervention participants attended a group session. All of them from the intervention group completed a BATD Knowledge and Chinese Values Quiz. Students who left the study early or did not attend any group did not complete this measure.

Intervention enactment.

Intervention enactment was conceptualized as the percentage of engagement in planned activities. This percentage was below expectation. Participants had a mean enactment score of 68%.

Figure 12. Implementation percentages.

Implementation Percentages

Treatment Implementation	Results
Receipt	
Attendance	86%
BATD Knowledge	82.5%
Enactment	68%
Therapist Delivery	
Adherence	89%
Competency	87%

CHAPTER V. DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

This study provides the first evidence that the combined group intervention which based on BATD and cultural values clarification exercise is acceptable and can be effective in preventing depressive symptoms of nonclinical adults. The results also provide some evidence that gains can be maintained over time. The combination of BATD and a cultural values clarification exercise intervention may provide a useful framework for further research with nonclinical populations who wish to enhance their environmental rewards and learn skills that may protect them against depressive symptoms or other related problems.

This chapter provides discussions, summary of the present study, and recommendations. The discussions include: (1) subjects' characteristics; (2) results of BATD only intervention group; (3) efficacy of a combined intervention program: BATD plus a Chinese values clarification exercise (BATD-CVCE); (4) effects of CVCE; (5) effects of single session intervention; and (6) other factors that might have some effects on the efficacy of BATD-CVCE. The summary focuses on the strengths and limitations of this study. Finally, the last part presents the recommendations of this study.

5.1 DISCUSSION

5.1.1 Subjects' characteristics.

All subjects were Chinese students aged 18 to 25 years attending university in both undergraduate and graduate studies. The mean age of the 102 participants was 21.48. In this study, group comparisons were computed using independent t-tests and chi square analyses. The results showed no significant differences in the variables of age, time of stay in Thailand, level of education, faculty of study, English language proficiency, living arrangement ($p > 0.05$).

Majority of the 102 students in this study were enrolled in the BBA program ($n = 67$), stayed less than four years ($n = 92$) in Thailand, and most of them had experienced mild to moderate depressive symptoms in the past six months ($n = 102$).

5.1.2 The results of BATD-only intervention group.

ANOVA (GLM) results indicated that the BDI-II scores did decrease significantly at all post-intervention time points. A moderate effect size of the intervention program was found in this study.

The outcomes of participants in the BATD-only condition of this study add to a growing literature supporting the efficacy of BATD intervention (Allen et al., 2004). The results of this study provided evidence that BA interventions can decrease depressive symptoms.

A number of studies permitted comparisons between BA interventions and other psychological interventions. These comparisons indicated that BATD and other interventions are equally effective in decreasing depressive symptoms, but that BA/BATD and CT/CBT interventions may be more successful than other psychological interventions at maintaining increases in positive reinforcement at follow-up periods of up to three months.

BATD teaches participants the idea that activity leads to more activity and an improvement in mood. Participants are taught to conduct a functional analysis of their behavior, looking closely at antecedents and consequences of their behavior. This approach employs the strategy of breaking tasks into their component parts so that subjects can achieve success in a graduated process. By encouraging individuals to act towards valued goals regardless of how they are feeling, rather than trying to feel a certain way prior to acting, individuals learn to accept their feelings and move forward in life in spite of them. Martell et al. (2004) have suggested that participants may have been taught to follow a new rule, namely, "When feeling sad, get active" instead of, "When feeling sad, shut down." This may permit more immediate reinforcement of discrete actions.

The problem with depression, from a BA perspective, is the downward spiral in behavior toward less productive activity (Martell et al., 2004). BATD emphasizes the importance of individuals finding alternative ways of coping with uncomfortable emotional responses to environmental triggers other than engaging in avoidance

behavior. In this study, BA individuals were told that the aim of the intervention was to improve mood, and that it is normal to experience a variety of feelings as part of life.

In summary, BATD from the BA approach appears to be comprised of a number of components. Preliminary evidence indicates that both elements shared with other therapies and elements specific to BATD may account for therapeutic change. Further analyses of these and other potential mechanisms of change are required in order to better understand how BATD works and to potentially make BATD more efficient and effective.

5.1.3 The efficacy of the combined intervention (BATD -CVCE).

In this study, the specific cultural combined intervention program was developed as a precursor to BATD and as a way to enhance accessibility to BATD for the Chinese group. This pilot study investigated whether this single-session group program could provide symptom relief (including a reduction in negative cognitions) and enhance preparedness for short-term BATD, as indicated by increased knowledge of behavior activation approach's concepts and skills. Results of this pilot study revealed significant symptom reduction on measures of depression following higher completion rate of the intervention group.

The BATD-CVCE was designed to: (1) increase the awareness of risks associated with depressive symptoms, (2) enhance students' motivation to change

their cognitive or behavioral avoidance, and (3) encourage depressive attitude reduction strategies during episodes of depression. This intervention model was intended to set up the stage of change. It was assumed that change is likely to occur when the received environmental reward and response-contingent positive reinforcement were effective in reducing depressive affect (Lewinsohn, 1974).

BDI-II scores were used as the outcomes of impact of the BATD-CVCE in this study. The BATD-CVCE was significantly more efficacious than the BATD only in preventing depressive symptom and its adverse consequences in students. Among the major findings, BATD-CVCE and BATD were both effective in decreasing depression symptoms as well as increasing environmental reward.

Intervention gains were associated with strong effect sizes, and the reliable change, response and remission, and number-needed-to-treat criteria suggested that approximately two-thirds of students exhibited clinically significant improvement. Further research would be helpful to replicate the finding that BATD was associated with a greater likelihood of post-treatment improvement on several outcomes, particularly increased dysfunctional attitudes. Regarding hypotheses, the BATD-CVCE intervention tested in this study was successful at alleviating depressive symptoms over and above the effects of BATD only.

To be certain, there are fundamental differences in the way BATD-CVCE and BATD are administered. In BATD-CVCE, depression was treated through behavioral activation skills, value assessment, a Chinese values clarification exercise,

and structured activity scheduling. In contrast, BATD largely was based on behavioral activation skills, value assessment, and structured activity scheduling. Applied to Chinese students, BATD-CVCE has perhaps been more focused on cultural influences.

As a fundamental determinant of human behavior, culture is a powerful resource for communication and education in order to foster self-reflection and behavior change toward the reduction depressive symptoms. The current research also support the prior research findings, to wit: failure to incorporate cultural values into treatment results in higher attrition rates (Sonkin, 1995) and possibly less efficacious treatment (Miranda, Siddique, Der Martirosian, & Belin, 2005).

There is also evidence that BATD-CVCE is not only effective in treating depressive symptoms but also in increasing positive behaviors and improving the intervention adherence. This has potentially important implications for increasing individuals' mental health and preventing the incidence of depression and other related health problems.

5.1.4 The effects of CVCE.

This present study used cultural techniques with all Chinese students who are from the same cultural background. Administration was facilitated by creating groups of students who were well acquainted with each other and thus comfortable with engaging in values clarification exercises. Some students reported that it is

much easier for them to undervalue assessment and structured activity scheduling after the Chinese values clarification exercise.

Improvements in outcome measures were observed after the BA component which then continued through the cultural component of the intervention. There was also evidence of maintenance at six-month follow-up. Half of the participants reported a clinically significant improvement in the amount of time they felt happy after the intervention and a quarter of participants at follow-up. The intervention also demonstrated a high level of acceptability as indicated by the good ratings on the satisfaction questionnaires. The intervention demonstrated a high level of acceptability as indicated by the good ratings on the students' satisfaction with exercise form in Chinese language during CVCE. These results are important since they are consistent with the notion that BATD-CVCE may not only be effective in treating depression but also have utility as a strategy for Chinese students to understand BATD.

In addition, students also perceived that intervention combined with Chinese cultural factors would be more acceptable by Chinese students because there are less language barriers and misunderstandings of intervention. "It is now widely accepted that cultural factors affect our understanding, assessment, and treatment of depressive experience and disorder and that a cultural sensitive approach to preventing mood disorder is more effective than traditional approaches to prevention (Sun,1997)."

Without this collaborating intervention process, students in the control group had higher levels of BDI-II. However, they did show a reduction in adverse consequences over time. The researchers also found that students in the BATD-only group had higher attrition rates at two-week (0.09) and six-month post-intervention (0.22), whereas students in intervention group at two-week (0.03) and six-month post-intervention (0.058). The finding that the BATD-only group was significantly related to early dropout is interesting. BATD does not specifically equip individuals with skills to specific values related activities. If a rationale had been provided for the relevance of BATD-CVCE for acceptability and understanding, these participants may not have been a loss to the intervention.

Although the present research indicates that BATD-CVCE is an efficacious intervention for depressive symptoms, existing research is not sufficient enough to confirm that the BATD plus cultural component model does prevent depressive symptoms.

It is noteworthy that cultural values effects were greater after the BATD-CVCE. This is consistent with the hypothesis that participants' cultural acceptability enhances the impact of BATD. However, other explanations are also possible. For instance, it is possible that the cultural values component added nothing and that the BATD-CVCE effects were greater because of the accumulated benefit over time from the BATD component or even that the good results after BATD-CVCE was

due to the BATD alone. It is also possible that both BATD-CVCE and BATD-only are effective because they operate on common mechanisms.

The different components of this intervention are suited to different individuals. In the present study, one participant verbally reported that he did not find the values useful. Another participant dropped out because he was seeking "inner power of himself" .In any case, the notion that cultural values is the only reason for the efficacy cannot be ruled out.

Interestingly, students reported that they reminded themselves to arrange their life by using the Chinese values scale and the activities checklist before making a decision to do something. This finding highlights the importance of individualized-cultural formulations when selecting appropriate interventions.

5.1.5 The effects of single session intervention.

There are good reasons to suppose that BATD represents a comparatively simple psychotherapy which is easy to understand for depressed people and does not require difficult or complex skills from patients and therapists (Lejuez, Hopko & Hopko, 2001).

Several authors have proposed that BATD may be a simpler intervention to learn and implement than other therapies that show comparable efficacy (Jacobson et al., 1996). This would seem to be a reasonable assumption when one considers the relative simplicity of the behavioral model and that the BA condition in Jacobson

and colleagues' (1996) component analysis consisted of a subset of the full CBT treatment.

It is clear that BATD itself is comprised of a number of ingredients and that there is potential for it to be further dismantled in order to understand how BATD is effective and to potentially further simplified it. Parsimony is the goal being pursued by Allen et al, (2004) who have suggested: "the possibility of distilling a set of psychological procedures that might be effective for any emotional disorder."

Numerous studies have shown that a single-session group behavioral activation intervention can change behavior and be an efficient and effective means of reducing depressive symptoms among both male and female college students in short-term measures with 2-week, 10-week, and six-month post-intervention periods (Dimidjianet al., 2006).

In the context of reviewed support for single-session interventions, increased need for time efficiency and efficacy in university mental health care delivery (Kitzrow, 2003) and the fact that the modal number of therapy sessions attended by college students is one (Draper et al., 2002), these data collectively served as a catalyst towards investigating whether a parsimonious single-session BA intervention might effectively reduce depression in university students.

The study findings also showed that the delivered group single-session intervention produced a significant reduction in depressive symptoms that continued

for six months. Moreover, the BATD-CVC significantly decreased ICSRLE scores over time compared to the control group after adjusting for baseline difference.

5.1.6 The effects of other factors.

Most students perceived that they were satisfied with the BATD-CVCE. They gave many reasons regarding their satisfaction. First, this intervention is a new technique where all group members are given space to share knowledge, experiences, and feelings. Second, it does not look down on students with depressive symptoms. Third, the students are the ones who create the stages for changing their life activities. Fourth, they weigh the advantages/benefits and disadvantages/costs concerning their avoidance and its adverse consequences by themselves. Fifth, they acquire values to make their life meaningful. Finally, this intervention is not time-consuming and is only for one session.

Additionally, there was effect of gender difference on change in depressive symptoms for participants in the intervention group. Thus, the hypothesis for gender difference as a moderator was supported. Results of this study confirmed findings from previous studies of individual BATD in inpatient settings. Hopko et al. (2003) found that female within the BATD protocol demonstrated the greatest benefit of the intervention.

The examination of the effectiveness of the BATD-CVCE intervention as demonstrated in this study is encouraging with significant and large decreases in

depressive symptoms and increases in environmental rewards. There was also evidence of maintenance at six-month follow-up. More than half of the participants reported a clinically significant improvement in the amount of time they felt less depressed after the intervention, and a quarter of participants at follow-up.

The success of the BATD-CVCE in reducing depressive symptoms and their associated adverse consequences can be explained by the stages of change (Prochaska, DiClemente, & Norcross, 1992; Prochaska and DiClemente, 1986, as cited in Beckham, 2003). First, students alter behavior by passing the pre-contemplation stage, in which they are unaware of difficulties arising from depression. The reward by positive reinforcements such as social integrity and stress reduction are the few benefits they get from continuing to do the activities they enjoyed. They gradually begin to see more clearly what kind of life they would like to lead.

Second, in the contemplation stage, students are typically ambivalent about their behavior. In this stage, students may see reasons for change but will tend to avoid doing anything to change their behavior. In the third stage, or the preparation stage, students tend to begin making preparations for moving from a state of contemplating change towards actually implementing change. They have more clearly defined their personal values and activities. They have developed the commitment to change their life.

Fourth, students tend to begin implementing changes in avoidance patterns during the action stage. These changes are reinforced by a plan of activities chosen by them. The final stage, the maintenance stage, describes students who have continued through the change process and have likely begun achieving personal and group goals. Referring back to the transtheoretical model (TTM) and stages of change, the students in the present study were able to pass the pre-contemplation stage, the contemplation stage, the preparation stage, and stay in the maintenance stage at the six-month period after intervention. These results provided evidence of efficacy of the intervention in support of the model.

This study found marginal moderate effect sizes were represented by a medium magnitude of change in Chinese values. Students in the intervention group had significant reductions in their mean BDI-II scores at two-week and six-month post intervention, respectively. They also had a significant improvement in their mean ICSRLE scores at two-week and six-month post-intervention.

While gains were maintained at six-month follow-up, the comparison group was not maintained at the same (higher) level as they were in the two-week post-intervention. This is not unexpected, given that measures of process also declined indicating a return of (particularly) positive activity to pre-intervention levels.

The present intervention included suggestions to maintain therapeutic behavior such as holding regular reviews of progress, refining goals, anticipating times of high stress, and planning ahead as to how to maintain behaviors during

these times. The outcome of this study suggests that further emphasis should be put into this area.

5.2 Conclusions

This study was the first randomized trial study of behavioral activation (BA) intervention with Chinese international students in Thailand. This study confirmed the assumption that BATD-CVCE would be more effective than BATD-only in preventing depressive symptoms. The combination of BATD and CVCE is a new culturally-sensitive, feasible, realistic, inexpensively short-term intervention for preventing depressive symptoms.

Research conducted in the past three decades showed that the BA approach is a well-established intervention for depression that may have advantages over alternative interventions. In this study, the new cognitive-behavioral-cultural model provided a new perspective of understanding the mechanism of preventing depressive symptoms.

With regard to the cultural sensitive strategies (CVS scores), students in the intervention group improved with attendance and implementation rate. Thus, as hypothesized, the findings support the idea that BATD-CVCE is effective in preventing depressive symptoms and increasing attendance and implementation rate as well as decreasing the dropout rate among Chinese students. These results

provide preliminary evidence of the effective BATD-CVCE for preventing depressive symptoms among Chinese international college students.

As this was a trial, it cannot be concluded that the improvements seen were not a function of other uncontrolled variables such as peer contact or merely the passage of time. However, the changes produced on measures of depressive symptoms and positive activity changes suggest some degree of specificity of this intervention.

5.2.1 Strengths.

The strengths of the present study include the complete follow-up rates in both conditions. This study clarifies that 94% of participants enrolled in the intervention group were successfully followed-up through to the last assessment. The researcher believes that the following strategies that were used in the study allowed for this complete follow-up. In the intervention group, there were three steps. First, students chose a peer to remind them about their appointments. This student received financial incentive for transportation reimbursement (approximately USD 5.00). Second, the student who was assigned to remind his/her peer was given a reminder by the researcher in person or by telephone, two days before the appointment. Third, if students failed to attend their scheduled appointment, the researcher immediately contacted them to reschedule as soon as possible.

Another strong point of this study pertains to the intervention delivery by a researcher from the same cultural background. A combination of Chinese cultural factors is generally perceived as acceptable by Chinese students. This situation, therefore, helped to avoid obstacles such as language barrier, misunderstanding, and cultural differences when applying the Western intervention to other cultural orientation groups.

BATD-CVCE would appear to be well-suited as a simple target preventive intervention option within a stepped care model of service delivery. Future research should investigate specific processes of change. BATD-CVCE has potential utility and could be offered as a 'pre-therapy' for individuals presenting with depressive symptoms. The combined intervention recognizes demonstrated symptom relief and skill acquisition after only one group session compared to 10 sessions in a previous study. The participants would putatively benefit in terms of reduced depressive symptoms, enhanced positive reinforcement, and shortened wait-time prior to more intensive individual therapy.

Furthermore, using a group format to teach BATD-CVCE skills may further enhance homework adherence and vicarious learning, thus, making participants better situated to actively engage in more intensive individual therapy.

Finally, utilization of the BATD-CVCE can facilitate student training as well as multidisciplinary training opportunities in the BA approach. Having more health

care professionals well-trained in BA skill provision would further enhance accessibility to BA.

5.2.2 Limitations.

Although BATD plus CVCE is well-established as an efficacious intervention for depressive symptoms, the current study is limited by the following issues:

First, this study focused specifically on Chinese students in Thailand. Participants were recruited from different faculties of Assumption University. Therefore, the study results may not be generalized beyond this specific group. Although this limits the ability to generalize results to the broader population, those who enrolled in the program were likely representative of those who would be interested in such an intervention. This lends external validity to the study (Chambless & Hollon, 1998).

Second, this investigation was limited to a six-month post-intervention follow-up. While this follow-up period was suitable to the academic term for undergraduate students, additional trials are needed to determine its stability and to test strategies to strengthen and maintain the long-term benefits of the intervention. Moreover, longer periods of follow-up are needed to determine the extent to which, if at all, booster sessions are required to help sustain the benefits of the intervention.

Third, although results support BATD plus CVCE and BATD-only for attenuating depression, only the BA approach was assessed and there was no assessment of interventions from the different approaches.

Fourth, the quasi-experimental approach did not succeed in creating equivalence between study groups. This important limitation hinders causal inferences.

Fifth, this study was limited to self-report measures with varying degrees of validation and did not include objective measures. To mitigate the impact of recall bias and increase response validity, this researcher provided students with assurances of anonymity and confidentiality. The researchers also stressed the importance of truthful responses and used multiple validated data collection measurement to assess students' depressive symptoms.

Sixth, the study design could have been strengthened via inclusion of a no-treatment control group. This would have allowed for strengthened conclusions on intervention effects as well as the assessment of mortality as a function of psychotherapy–an area of research yielding equivocal findings.

Additionally, there was differential attrition across the two conditions. There was significant attrition–6% for the BATD-CVCE module and 22% for the BATD-only module. Only one participant reported the reason for dropping out of the intervention. It is more likely that attendance at group sessions for a voluntary intervention served as a disincentive for those who experienced very busy lives.

However, the high rate of attrition in the context of the small sample size is a limitation. Project staff members were not blinded to intervention conditions. Thus, this differential attrition likely reflected random chance.

5.3 Recommendations

The recommendations of the study are presented in two parts. The first part discusses implications for practice. The second part focuses on implications for research.

5.3.1 Implications for practice.

The implications of this research for the practitioner are that clients who do not meet the criteria for a mental disorder will benefit from exposure to BATD-CVCE techniques such as setting personal life goals, scheduling activities, monitoring activity and mood, identifying and understanding patterns of avoidance, and developing strategies to overcome this avoidance. Training in values clarification exercise may further enhance these benefits.

Thus, practitioners are encouraged to incorporate these techniques into their clinical work. Practitioners may wish to deliver such interventions in a group format, as was done in this study; however, clients may also benefit from receiving these ideas individually, perhaps as a relapse prevention strategy or to boost positive activities after recovering from a depressed condition.

Trained university staff is easily able to provide this intervention for students in any academic term. The intervention does not demand additional resources and is effective in preventing depressive symptoms. The BATD-CVCE is easily applied within the Chinese context and, thus, is translatable for use in different cultures. If the results are confirmed in larger study populations, public health and health care providers should consider implementing programs such as this one as part of an overall mood disorder reduction strategy.

In summary, results of the study suggest that the BATD-CVCE program has utility in reducing depressive symptoms, shifting negative cognitions, and teaching fundamental BA skills. The BATD-CVCE could be incorporated into the mental health center of colleges offering psychotherapy or interventions to enhance treatment accessibility. It also could promote structured training in BATD which could further enhance accessibility by making more psychotherapy-trained health care professionals available.

5.3.2 Implications for research.

5.3.2.1 Research Design.

The results justify further research using randomized, controlled trials with larger sample sizes and longer follow-up. Comparison conditions comparing the different intervention components or counterbalancing the order of the intervention components would clarify the relative effectiveness of the two components.

In considering the limitations of the present study, more research is needed to evaluate the full efficacy of a culturally-sensitive, feasible, realistic, inexpensively time-efficient, and easily implemented intervention. Future research in this area should also examine how an intervention differs across gender, religion, and culture. Furthermore, following these results, a longitudinal research design is another way to confirm the efficacy and effectiveness of this intervention.

Since the present study was an evaluation of a single intervention made up of two discrete phases, it is not possible to conclude which of these possibilities explains the present results. A study which compares these two modules or in which some participants receive CVCE first and then BATD, or, alternatively, other participants receive these components in the reverse order would clarify the issue.

Future directions for the depressive prevention program should aim to assess the program's utility in: (1) decreasing intervention wait-time; (2) decreasing overall duration of therapy; and (3) increasing accessibility to treatment, enhance participant commitment to change, and maximize cost-effectiveness of treatment. Finally, the use of the BATD-CVCE model will need to be evaluated by multidisciplinary mental health professionals as a prevention strategy.

5.3.2.2 Assessments.

Future efforts should aim to determine whether the short assessment timeframe adopted in this study is sufficient to capture changes in pleasure that may

be slower to occur than overt behavior change as well as include the additional assessment of actual activity engagement which is likely to change more quickly than pleasure derived from activities.

5.3.2.3 Analysis of moderators and mediators.

As noted previously, we do not yet fully understand the processes through which BATD is deemed effective. Such an understanding is necessary to improve our prospects for addressing impediments in treatment, effectively train practitioners, and permit the further refinement of BATD. Consequently, more studies are needed in which proposed mediators are identified and carefully measured on a repeated basis to demonstrate that they change before and predict changes in depression.

While measures of processes hypothesized to be involved in the therapeutic impact of BA have been developed such as environmental reward, goal-directed activation, and avoidance, the discussion presented earlier in this chapter indicates the importance of investigating possible mediators BA shares with other therapies as well. Potential moderators and mediators of intervention effects such as preference for intervention component, pre-intervention activity level, and avoidance also need to be investigated.

5.3.2.4 Component analyses.

It has already been noted that some of the variants of BATD such as Jacobson and colleagues' (1996) contextual approach comprise a variety of intervention procedures, but without a clear picture as to which procedures are causally active. If it is true that all variants of the approach produce effects of similar magnitude, this would suggest that some of the intervention components incorporated in some variants are unnecessary for good outcomes, while the expanded BATD-CVCE program's efficacy as an adjunct treatment of BA is currently under investigation.

5.3.2.5 Cost-effectiveness analyses.

Future research is required to determine the group's potential for reducing overall time in therapy (thus reducing costs of intervention). Interventions for depression must not only demonstrate their clinical effectiveness, but also their relative cost-effectiveness. A preliminary economic analysis by Dobson et al. (2008) suggested that the cost of BA, like BATD, is less than paroxetine. However, this analysis was incomplete as it did not consider many variables that are commonly included in more sophisticated analyses (e.g., Antonuccio, Thomas, & Danton, 1997).

In particular, this analysis did not consider the differential costs incurred from delivering the intervention. If it is true that BATD is less complicated than

other interventions and may require less therapist training or achieve the same outcomes with a lesser dose of intervention, this would suggest that BATD may have a comparative advantage over other interventions. Cost-effectiveness analyses are needed to determine whether this is the case (Barrera, Torres, & Munoz, 2007).

5.3.3 Implications for the prevention of depressive symptoms.

The present study's finding that BATD-CVCE interventions can increase Chinese values indicates that BATD-CVCE should be added to the growing number of viable interventions in the field of indigenous psychology. This is important since there is converging evidence that such interventions might not only result in many desirable life outcomes, but also act as a cultural preventive strategy, effectively protecting individuals against mental disorders (Fava & Ruini, 2003).

The approach would also appear to be suitable for self-help applications with several protocols having already been developed. In summary, BATD plus CVCE appears to be a good candidate as a simple first-line intervention and has the potential for deriving the greatest benefit from available therapeutic resources.

REFERENCES

Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy, 35,* 205-230.

American College Health Association. (2007). The American College Health Association National College Health Assessment (ACHANCHA), Spring 2006, reference group data report (abridged). *Journal of American College Health, 53,* 195–206.

Andersen, B. L. (1992). Psychological interventions for cancer patients to enhance the quality of life. *Journal of Consulting and Clinical Psychology*, 60, 552-568.

Andrew W. Edwards. (2005). A Vital Christian Presence in Social Work, *NACSW Convention*, 2005

Antonuccio, D. O., Thomas, M., & Danton, W. G. (1997). A cost-effectiveness analysis of cognitive behavior therapy and fluoxetine (Prozac) in the treatment of depression. *Behavior Therapy*, 28, 187–210.

Atkinson, D. R. (1985). A meta-review of research on cross-cultural counseling and psychotherapy. *Journal of Multicultural Counseling and Development*, 13, 138-153.

Basoglu M (2006) Rehabilitation of traumatised refugees and survivors of torture – After almost two decades we still do not use evidence based treatments. *British Medical Journal*, 333:1230-1231.

Barker, R. L. (Ed.). (1999). *The social work dictionary (4th Ed.)*. Washington, DC: NASW Press.

Barrera, A. Z.**,** Torres, L. D., & Muñoz, R. F (2007). Prevention of depression: The state of the science at the beginning of the 21st Century, *International Review of Psychiatry*, *19,* Issue 6, December 2007, pp. 655–670.

Baum, A., & Andersen, B. L. (2001). *Psychosocial interventions for cancer.* Washington, DC: American Psychological Association.

Beck, A.T. (1967) *Cognitive Therapy and the Emotional Disorders*. New York:International Universities Press.

Beck A.T., Steer, R. A., Ball, R., & Ranieri, W. (December 1996). Comparison of Beck Depression Inventories -IA and -II in psychiatric outpatients. *Journal of Personality Assessment*, *67*(3), 588–97.

Beekman, A. T., Copeland, J. R., & Prince, M. J. (1999). Review of community prevalence of depression in later life. *British Journal of Psychiatry*, *174*, 307–311.

Benton, S. A., Robertson, J. M., Tseng, W., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice*, *34,* 66–72.

Bond, M. H. (1988). Finding dimensions of individual variation in multicultural studies of values: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology, 55*(6), 1009-1115.

Brown, G. W. (1987). Social factors and the development and course of depressive disorders in women: A review of a research programme. *British Journal of Social Work*, *17,* 615–634.

Camatta, C. D., & Nagoshi, C. T. (2006). Stress, depression, irrational beliefs, and alcohol use and problems in a college student sample. *Alcoholism: Clinical and Experimental Research, 19,* 142-146.

Carver, C. S., Scheier, M. F., & Weintraub, I. K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 56, 267-283.

Casado, B. L., & Leung, P. (2001). Migratory grief and depression among elderly Chinese American immigrants. *Journal of Gerontological Social Work, 36,* 5-26.

Clarke, G. N., Lewinsohn, P. M., & Hops, H. (1990). *Adolescent coping with depression course.* Eugene, OR: Castalia Publishing.

Chambless, D. L., & Hollon, S. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology, 66,*7-18

Chawla, N., & Ostafin, B. (2007). Experiential avoidance as a functional dimensional approach to psychopathology: an empirical review. *Journal of Clinical Psychology,* 63(9), 871e890.

Chong, F., & Liu, H.-Y. (2002). Indigenous counselling in the Chinese context: Experience transformed model. *Asian Journal of Counselling, 9*(1&2), 49.

Church, A. T. (1982). Sojourner adjustment. *Psychological Bulletin, 91*(3), 540-572.

Cicchetti, D., & Toth, S. L. (1998). The development of depression in children and adolescents. *American Psychologist, 53*(2), 221-241.

Cicchetti, D., Rogosch, F. A., Toth, S. L. (1994). A developmental psychopathology perspective on depression in children and adolescents. In: Reynolds W.M., Johnston, H. F., (Eds.). *Handbook of depression in children and adolescents Issues in clinical child psychology*. New York, NY: Plenum; pp. 123–141.

Clarke, G. N., Hawkins, W., Murphy, M., Sheeber, L. B., Lewinsohn, P. M., & Seeley, J. R. (1995). Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: A randomized trial of a group cognitive intervention. *Journal of the American Academy of Child and Adolescent Psychiatry, 34,* 312–321.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences.* (2nd ed.). New Jersey: Lawrence Erlbaum Associates, Inc.

Compas, B. E., Ey, S., & Grant, K. E. (1993). Taxonomy, assessment, and diagnosis of depression during adolescence. *Psychological Bulletin, 114* (2), 323-344.

Connor-Smith, J. K., & Compas, B. E. (2002). Vulnerability to social stress: coping as a mediator or moderator of sociotropy and symptoms of anxiety and depression. *Cognitive Therapy and Research*, 26(1), 39e55.

Coyne, J. C., & Gotlib, I. H. (1983). The role of cognition in depression: A critical appraisal. *Psychological Bulletin*, *94*, 472-505.

Craft, L. L. & Landers, D. M. (1998) The effects of exercise on clinical depression and depression resulting from mental illness: A meta-analysis. *Journal of Sport & Exercise Psychology,* 20*,* 339–357.

Cronkite, R. C., & Moos, R. H. (1995). Life context, coping processes, and depression. In E. E. Beckham, & W. R. Leber (Eds.), *Handbook of depression* (2nd ed.). NewYork: Guilford Press.

Cronkite, R. C., Moos, R. H., Twohey, J., Cohen, C., & Swindle, R. (1998). Life circumstances and personal resources as predictors of the ten-year course of depression. *American Journal of Community Psychology*, 26(2), 255e280.

Cuijpers, P., De Graaf, R., & Van Dorsselaer, S. (2004). Minor depression: Risk profiles, functional disability, health care use and risk of developing major depression. *Journal of Affective Disorders*, *79,* 71-79.

Cuijpers, P., van Straten, A., & Warmerdam, L. (2007). Behavioral activation treatments of depression: A meta-analysis. *Clinical Psychology Review*, 27, 318-326.

Daryl B. Somma. (2003). The Cultural Approach to HIV/AIDS Prevention. Paper commissioned. *Swiss Agency for Development and Cooperation (SDC)*.2003

Dimidjian, S., Hollon, S. D., Dobson, K. S., Schmaling, K. B., Kohlenberg, R. J., & Addis, M. E. (2006). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the acute treatment of adults with major depression. *Journal of Consulting and Clinical Psychology*, *74,* 658-670.

DiTommaso, E., Brannen, C. & Burgess, M. (2005). The universality of relationship characteristics: A crosscultural comparison of dıfferent types of attachment and loneliness in Canadian And Visiting Chinese Students. *Social Behavior & Personality,* 33(1); 57 - 67.

Dobson, K. S., Hollon, S. D., Dimidjian, S., Schmaling, K. B., Kohlenberg, R. J., Gallop, R. J.,… Gollan, J. K. (2008). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. *Journal of Consulting and Clinical Psychology, 76*, 468-477.

Dohrenwend, B. P., & Dohrenwend, B. S. (1974). Sex differences and psychiatric disorders, *American Journal of Sociology, 81,* 1447–1454

Dohrenwend, B. S., & Dohrenwend, B. P. (1984). *Stressful life events: Their nature and effect*. New York: Wiley.

Dowd, E. T. (2002). Behavioral therapy of depression. In M. R. Davison, & M. A. Reinecke (Eds.), *Comparative treatments of depression*. New York: Springer.

Draper, M. R., Jennings, J., Baron, A., Erdur, O., & Shankar, L. (2002).Time-limited counseling outcome in a nationwide college counseling center sample. *Journal of College Counseling, 3,* 26–38.

Essau, C. A. (2004). Primary prevention of depression. In D. J. A. Dozois & K. S. Dobson (Eds.), *The prevention of anxiety and depression* (pp. 185-204). Washington D.C.: American Psychological Association.

Evans, D. L., Charney, D. S., Lewis, L., Golden, R. N., Gorman, J. M., Krishnan, K. R. et al. (2005). Mood disorders in the medically ill: Review and recommendations. *Biological Psychiatry*, 58, 175-189.

Fann, J. R., Thomas-Rich, A. M., Katon, W. J., Cowley, D., Pepping, M., McGregor, B. A., & Gralow, J.(2008). Major depression after breast cancer: A review of epidemiology and treatment. *General Hospital Psychiatry*, 30, 112-126.

Ferster, C. B. (1973). A functional analysis of depression. *American Psychologist, 28,* 857–870.

Forrester, W., Stutz, F., Rosbash, M. and Wickens, M. (1992). Defects in RNA 3¢-end formation, transcription initiation, and mRNA transport associated with the yeast mutation *prp20*: Possible coupling of mRNA processing and chromatin structure. *Genes Dev.* **6**, 1914-1926.

Gallagher-Thompson, D., & Coon, D. W. (2007). Evidence-based psychological treatments for distress in family caregivers of older adults. *Psychology of Aging, 22*(1), 37–51.

Gao, Y. (2001). Directive approach to telephone counselling in the People's Republic of China: Underlying cultural traditions and transitions. *The Counseling Psychologist, 29,* 435–453.

Gillham, J. E. (2006) Preventing co-occurring depression symptoms in adolescents with conduct problems. *Annals of the New York Academy of Science, 1094,* 282–286.

Gillham, J. E., Shatte´, A. J., & Freres, D. R. (2000). Depression prevention: A review of cognitive–behavioral and family interventions. *Applied & Preventive Psychology, 9,* 63–88.

Gordon, R. (1983). An operational classification of disease prevention. *Public Health Reports, 98,* 107–109.

Gordon, R. (1987). An operational classification of disease prevention. In J. A. Steinberg & M. M. Silverman (Eds.), *Preventing mental disorders* (pp. 20–26). Rockville, MD: Department of Health and Human Services.

Gotlib, I. H., Kurtzman, H. S., & Blehar, M. C. (1997). Cognition and depression: Issues and future directions. *Cognition and Emotion, 5*(6), 663-673.

Green, A. W. (1946). Social values and psychotherapy. *Journal of Personality, 14:*199-228.

Griner, D., & Smith, T. (2006) Culturally adapted mental health intervention: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, *43*(4), 531-548.

Hall, B. (1973) *Values clarification as a learning process: A guidebook*. New York: Paulist Press.

Hammen, C., Mayol, A., deMayo, R., Marks, T. (1986), "Initial Symptom Levels and the Life Event- Depression Relationship", *Journal of Abnormal Psychology*, *95,* 114-122.

Hamilton, K. E., & Dobson, K. S. (2001). Empirically supported treatments in psychology: Implications for international dissemination. *International Journal of Clinical and Health Psychology*, *1,* 35-51.

Han, C., Li, X., Luo, H., Zhao, X., & Li, X. (2004). Clinical study on electro-acupuncture treatment for 30 cases of mental depression. *Journal of Traditional Chinese Medicine,* 172-6.

Hanassab, S., & Tidwell, R. (2002). International students in higher education: Identification of needs and implications for policy and practice. *Journal of Studies in International Education, 6*(4), 305-322.

Hart BA et al. (1998) The relationship between perfectionism and self-efficacy. *Personality and Individual Differences*. 24:109-113.

Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*(6), 1152e1168

Heiligenstein, E., & Guenther, G. (1996). Depression and academic impairment in college students. *Journal of American College Health*, 45. 1-9

Hepworth, D. H., Larsen, J. A., & Rooney, R. H. (2002). *Direct social work practice*. Canada: Brooks/Cole.

Herrnstein, R. J. (1970). On the law of effect. *Journal of the Experimental Analysis of Behavior, 13,* 243–266.

Hirsch, J. K., & Ellis, J. B. (1996). Differences in life stress and reasons for living among college suicide ideators and non-Ideators. *College Student Journal, 30*, 377-384.

Hollis S, Campbell F. What is meant by intention to treat analysis? Survey of published randomised controlled trials. *BMJ* 1999; 319: 670-674

Hopko, D. R., Lejuez, C. W., & Hopko, S. D. (2004). Behavioral activation as an intervention for coexistent depressive and anxiety symptoms. *Clinical Case Studies*, *3,* 37-48.

Hopko, D. R., Hopko, S. D., & Lejuez, C. W. (2007). *Mood Disorders.* In P. Sturmey (Ed.), The Handbook of Functional Analysis and Clinical Psychology (pp. 307-334). New York: Elsevier Press.

Horowitz, J. L., & Garber, J. (2006). The prevention of depressive symptoms in children and adolescents: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 74,* 401–415.

Huey, S. J., Jr., & Polo, A. J. (2008). Evidence-based psychosocial treatments for ethnic minority youth. *Journal of Clinical Child and Adolescent Psychology*, *37,* 262–301.

Huntley, H. S. (1993). *Adult international students: problems of adjustment*. Retrieved March 23, 2006 from http://www.eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/25/aa/cf.pdf. (ERIC Document Reproduction Service No.ED355886)

Hwang, W., Wood, J. J., Lin, K., & Cheung, F. (2006). Cognitive-Behavioral Therapy with Chinese Americans: Research, theory, and clinical practice. *Cognitive and Behavioral Practice, 13*, 293-303.

Ingram, R. E., Trenary, L., Odom, M., Berry, L., & Nelson, T. (2007). Cognitive, affective and social mechanisms in depression risk: cognition, hostility, and coping style.*Cognition & Emotion*, 21(1), 78e94.

Jacobson, N. S., Dobson, K. S., Truax, P. A., Addis, M. E., Koerner, K., Gollan, J. K., Gortner, E., & Prince, S. E.(1996). A component analysis of cognitive–behavioral treatment for depression. *Journal of Consulting and Clinical Psychology*, 64, 295–304.

Janicak, P. G. (2010). Durability of clinical benefit with transcranial magnetic stimulation (TMS) in the treatment of pharmaco-resistant major depression: Assessment of relapse during a 6-month, multisite, open-label study. *Brain Stimulation*, 2010.

Kaczmarek, P.G., Matlock, G., Merta, R., Ames, M.H., & Ross, M. (1994). An assessment of international college student adjustment. *International Journal for the Advancement of Counseling*, 17, 241-247

Kessler RC, Mickelson KD, Barber C, Wang P: *The effects of chronic medical conditions on work impairment, in Caring and Doing for Others: Social Responsibility in the Domains of Family, Work, and Community*. Edited by Rossi AS. Chicago, University of Chicago Press.2005

Kitzrow, M. A. (2003). The mental health needs of today's college students: Challenges and recommendations. *NASPA Journal*, *41*, 167–181.

Klerman, G. L., Weissman, M. M., Rounsaville, B., J., & Chevron, E. S. (1984). *Interpersonal Psychotherapy of Depression*: Basic Books.

Kleinbaum, D.G., Kupper L.L. and Morgenstern, H. (1982), *Epidemiologic Research, Principles and Quantitative Methods*, Belmont, CA: Lifetime Learning Publications.

Lang, C., Field, T., Pickens, J., Martinez, A., Bendell, D., Yando, R., & Routh, D. (1996). Preschoolers of dysphoric mothers. *Journal of Child Psychology and Psychiatry, 37(*2), 221-224.

Lau, P. S. Y. (2000). Practicing counselling in Chinese communities: Some reflections on cultural competence and indigenisation. *Asian Journal of* Counselling, 7(1), 43–52.

Lawler, D. A., & Hopker, S. W. (2001). The effectiveness of exercise as an intervention in the management of depression: systematic review and meta-regression analysis of randomised controlled trials. BMJ, 322, 763

Lee, C. (2005). Evidence-based treatment of depression in the college population. *Journal of College Student Psychotherapy, 20,* 23–31.

Leong, F. T., & Sedlacek, W. E. (1989). Academic and career needs of international and United States college students. *Journal of College Student Development, 30*, 106–111.

Lejuez, C. W., Hopko, D. R., LePage, J. P., Hopko, S. D., & McNeil, D. W. (2001). A brief behavioral activation treatment for depression. *Cognitive and Behavioral Practice, 8*, 164-175.

Lewinsohn, P. M. (1974). A behavioral approach to depression. In R. J. Friedman, & M. M. Katz (Eds.), *The psychology of depression: Contemporary theory and research* (pp. 157e178). New York: John Wiley & Sons.

Lewinsohn, P. M., & Graf, M. (1973). Pleasant activities and depression. J*ournal of Consulting and Clinical Psychology*, 41, 261–268.

Lewinsohn, P., Rohde, P; Seeley**,** J. (1998). Major depressive disorder in older adolescents: Prevalence, risk factors, and clinical implications. *Clinical Psychology Review, 18*, 765-794.

Lewinsohn, P. M., Sullivan, J. M., & Grosscup, S. J. (1980). Changing reinforcing events: An approach to the treatment of depression. *Psychotherapy: Theory, Research and Practice,* 47, 322–334.

Liu, M. (2009). Addressing the mental health problems of Chinese international college students in the United States. *Advances in Social Work, 10* (1), 69-86.

Martell, C. R., Addis, M. E., & Jacobson, N. S. (2001). *Depression in context: Strategies for guided action*. New York: Norton.

Marsella, A. J., & Yamada, A. (2000). Culture and mental health: An introduction and overview of foundations, concepts, and issues. In I. Cuellar & Paniagua, F. (Eds.). *The handbook of multicultural mental health: Assessment and treatment of diverse populations*. New York, NY: Academic Press.

McLean, P. D., & Hakstian, A. R. (1979). Clinical depression: Comparative efficacy of outpatient treatments. *Journal of Consulting and Clinical Psychology, 47,* 818–836.

Merry, S., McDowell, H., Hetrick, S., Bir, J., & Muller, N. (2004). Psychological and/or educational interventions for the prevention of depression in children and adolescents.

Cochrane Database of Systematic Reviews, 2, Article CD003380. Retrieved June 16, 2004 from The Cochrane Library Database.

Merry, S., McDowell, H., Wild, C. J., Bir, J., & Cunliffe, R. (2004). A randomized placebo-controlled trial of a school-based depression prevention program. *Journal of the American Academy of Child and Adolescent Psychiatry, 43,* 538–547.

Ministry of Higher Education of Thailand (2007). international students reports, online resources http://www.mua.go.th/

Misra, R., McKean, M. (2000) College students' academic stress and its relation to anxiety, time management, and leisure satisfaction. *American Journal of Health Studies, 16*(1).

Miranda, J. Siddique, J., Der-Martirosian, C., & Belin, T. R. (2005). Depression among Latina immigrant mothers separated from their children. *Psychiatric Services, 56,* 717-720.

Mrazek, P. J., & Haggerty, R. J. (Eds). (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research.* Committee on Prevention of Mental Disorders, Institute of Medicine. Washington DC: National Academy Press.

Munoz, R. F., & Ying, Y. W. (Eds.). (1993). *The prevention of depression: Research and practice.* Baltimore, MD: The Johns Hopkins University Press.

Murray, C., & Lopez, A. (1996). *The global burden of disease*. Cambridge, MA: Harvard University Press.

Nilsson, J. E., Berkel, L. A., Flores, L. Y., & Lucas, M. S. (2004). Utilization rate and presenting concerns of international students at a university counselling center:

Implications for outreach programming. *Journal of College Student Psychotherapy*,*19,* 49-59.

Nurcombe, B. (1994). The validity of the diagnosis of major depression in childhood and adolescence. In W. M. Reynolds and H. F. Johnston (Eds.), *Handbook of Depression in Children and Adolescents*. New York: Plenum Press.

National Institute of Mental Health (2006). *Depression*. Retrieved February 1, 2006 from http://www.nimh.nih.gov.

Oatley, K., & Jenkins, J. (1996). *Understanding emotions.* Cambridge, United Kingdom: Blackwell Publishers.

Oliver, J. M., & Paul, J. C. (1995). Self-esteem and self-efficacy; perceived parenting and family climate, depression in university students. *Journal of Clinical Psychology*, *51*, 467-481.

Ottenbreit, N. D., & Dobson, K. S. (2004). Avoidance and depression: the construction of the cognitive-behavioral avoidance scale. *Behaviour Research and Therapy*, 42, 293e313

Paige, R. M. (1990). International students: Cross-cultural psychological perspectives. *Applied Cross-Cultural Psychology: Cross-Cultural Research and Methodology Series, 14,* 367-382.

Paykel, E. S. (1978). Contribution of life events to causation of psychiatric illness. *Psychological Medicine*, 8, 245-253.

Pederson, P. B. (1991). Counseling international students. *Counseling Psychologist*, *19,* 10-58.

Penland, E. A., Masten, W. G., Zelhart, P., Fournet, G. P., & Callahan, T. A. (2000).

Possible selves, depression and coping skills in university students. P*ersonality and Individual Differences*, 29(5), 963e969.

Popkin, M., & Souznan, R. (2002). Getting through to your kids: Talking to children about sex, drugs & alcohol, safety, violence, death, smoking, self-esteem, and other critical issues of today. Retrieved from www.etr.org/recap/colum/index htm.

Prochaska, J. O., Di Clemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist 47*(9): 1102-1114.

Rashmi Nemade, P. N. (2007, 20 July). *Depression: Major Depression & Unipolar Varieties*. Retrieved May 8, 2008, from Lifestyle Factors and Environmental Causes of Major Depression: http://www.mentalhelp.net/poc/view_doc.php?type=doc&id=13012&cn=5

Rehm, L. P. (1977). A self-control model for depression. *Behavior Therapy*, 8, 787–804

Reiser, L. M. (2007). Cost-effectiveness of alternative approaches for motivating activity in sedentary adults: Results of Project STRIDE. *Preventive Medicine, 45*, 54–61.

Reynolds, W., & Johnson H. F. (Eds.) (1994). *Handbook of depression in children and adolescents.* New York: Plenum.

Robertson, C. J., & Hoffman, J. J. (2000). How different are we? An investigation of Confucian values in the United States. *Journal of Managerial Issues, 12*(1), 34-47.

Rosenberg, E. (1998). Levels of analysis and the organization of affect. *Review of General Psychology, 2,* 247-270.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In Zouma, M. (Ed). *Advances in Experimental Social Psychology, 25,* 1-65. Orlando: Academic Press.

Segal, Z. V. (2001). *Mindfulness-Based Cognitive Therapy for Depression: A New Approach to Preventing Relaps*e. The Guilford Press, 1st edition.

Seligman, M. E. P. (1975). *Helplessness: on depression, development, and death*. New York: Freeman.

Sherwood, D. A. (1993). Doing the right thing: Ethical practice in contemporary society. *Social work and Christianity*, *20,* 2, 140-159.

Silvern, L., Karyl, J., Waelde, L., Hodges, W. F., Starek, J., & Heldt, E. (1995). Retrospective reports or parental partner abuse: Relationships to depression, trauma symptoms and self-esteem among college students. *Journal of Family Violence*, *10,* 177-202

Skinner, B. F. (1953). *Science and human behavior*. New York: The Free Press.

Skorikov, V. B. & Vandervoort, D.J. (2003). Relationships between the underlying constructs of the Beck Depression Inventory and the Center for Epidemiological Studies Depression Scale. *Educational and Psychological Measurement*, 63, 319-335.

Smedley, B. D., Meyers, H. F., & Harrell, S. P. (1993). Minority-status stresses and thecollege adjustment of ethnic minority freshman. *Journal of Higher Education, 64,*434–452.

Smit, F, Beekman, A. T. F., Cuijpers, P., de Graaf, R., & Vollebergh, W. (2004). Selecting key variables for depression prevention: Results from a population-based prospective epidemiological study. *Journal of Affective Disorders, 81*, 241–249.

Sodowsky, G. R., & Lai, E. W. M. (1997). Asian immigrant variables and structural models of cross-cultural distress. In A. Booth (Ed.), *International migration and family change: The experience of U.S. immigrants* (pp. 211–237). Mahwah, NJ: Erlbaum.

Solomon, D. A., Keller, M. B., Leon, A. C., Mueller, T. I., Lavori, P. W., Shea, M. T., et al. (2000). Multiple recurrences of major depressive disorder. *American Journal of Psychiatry,* 157, 229–233.

Sonkin, D. J. (1995). *A counselor's guide to learning to live without violence*. San Francisco: Volcano Press.

Spangenberg, J. J., & Campbell, M. E. (1999). Anxiety, depression, and coping strategies in recently detoxified alcoholics. *Alcoholism Treatment Quarterly*, 17 (3), 55e65.

Spurrell, M. T., & McFarlane, A. C. (1995). Life-events and psychiatric symptoms in a general psychiatry clinic: the role of intrusion and avoidance. *British Journal of Medical Psychology*, 68(4), 333e340.

Stice E., Burton, E., Bearman, S. K., & Rohde, P. (2006). Randomized trial of a brief depression prevention program: An elusive search for a psychosocial placebo control condition. *Behaviour Research and Therapy*, 45, 863–87.

Sun, W., & Chen, G. M. (1997). *Dimensions of difficulties mainland Chinese students encounter in the United States*. Paper presented at the 1997 International

Conference in Cross-Cultural Communication. Retrieved March 23, 2006 from http://www.eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/26/a7/7d.pdf. (ERIC Document Reproduction Service No. ED 408635)

Thayer, R. E. (1989). *The Biopsychology of Mood and Arousal*. New York: Oxford University Press.

Turner, R. A., King, P. R., & Tremblay, P. F. (1992). Coping styles and depression among psychiatric outpatients. *Personality and Individual Differences,* 13(10),1145e1147.

Twenge, J. M., & Nolen-Hoeksema, S. (2002). Age, gender, race, socioeconomic status, and birth cohort differences on the Children's Depression Inventory: A meta-analysis. *Journal of Abnormal Psychology, 111,* 578-588.

Van Hemert, D. A., van de Vijver, F. J. R, & Poortinga, Y. H. (2002). The Beck Depression Inventory in 28 Countries: A Meta-Analysis, *Journal of Happiness Studies, 3*(3), 257-286.

Voelker, R. (2003). Mounting student depression taxing campus mental health services. *Journal of the American Medical Association, 289,* 2055–2056.

Vredenburg, K., Flett, G. L., & Krames, L. (1993). Analogue versus clinical depression: A critical reappraisal. *Psychological Bulletin, 113,* 327-344.

Wan, T., Chapman, D. W., & Biggs, D. A. (1992). Academic Stress of InternationalStudents Attending U.S. University.*Research in Higher Education, 33*(5), 607-6-22.

Wang, Z. Z., Cornell, R., & Ku, H. Y. (2001). *East meets west times 2: Impact of cultural change at two universities on Asian students*. Paper presented at the National Convention of the Association for Educational Communications and Technology. Retrieved March 23, 2006.

Willemse, G., F. Smit, et al. (2004). "Minimal contact psychotherapy for sub-threshold depression in primary care: randomised trial." *British Journal of Psychiatry* 185: 416-421.

Williams, S., & Dale, J. (2006). The effectiveness of treatment for depression/depressive symptoms in adults with cancer: A systematic review. *British Journal of Cancer*, 94, 372-390.

Winkelman, M. (1994). Cultural shock and adaptation. *Journal of Counseling and Development, 73,* 121–126.

Yi, J. K., Lin, G. J.-C., & Yuko, K. (2003). Utilization of counselling services by international students. *Journal of Instructional Psychology, 30,* 333–342.

Zahn-Waxler, C., Klimes-Dougan, B., & Slattery, M. J. (2000). Internalizing problems of childhood and adolescence: Prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Development & Psychopathology, 12*(3), 443-466.

Zimmerman, S. (1995). Perceptions of intercultural communication competence and international student adaptation to an American campus. *Communication Education, 44*(4), 321-335.