I, Xiaoyin Li, hereby submit this original work as part of the requirements for the degree of Master of Science in Health Education.

It is entitled:
Does Asian American Adolescent Life Time Depression Differ Based on Sex, Age and Parental Involvement?

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Based on Sex, Age and Parental Involvement?

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Abstract

AN ABSTRACT OF THE THESIS FOR THE MASTERS OF SCIENCE DEGREE IN
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TITLE: Does Asian American Adolescent Life Time Depression Differ Based on Sex, Age and Parental Involvement?

MASTERS COMMITTEE MEMBERS: Dr. Keith King, Chair
Dr. Rebecca Vidourek

In effort to fill the research gap of depression among Asian American Adolescents, the purposes of this study were to examine parental involvement and depressive symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents. Other than individual effect of one factor, interactive effects of sex, age group, ethnic group and parental involvement were also examined to get more in-depth views on this topic.

A total of 540 respondents aged 12-17 who considered themselves as Asian American were selected from 2009 NSDUH regarding their perceptions of parental involvement and depression. Descriptive report and multiple logistic regressions were conducted and the results indicated that among Asian American adolescents, female adolescents not only had higher risk for lifetime MDE but also tended to report more depressive symptoms than male adolescents. Controlling for age and gender, adolescents with low parental involvement were at significant higher risk for MDE than adolescents with high parental involvement. These findings went along with previous studies and recommendations have been included for future studies.
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Chapter 1: The Problem

Adolescent depression is a serious public health issue. It has become increasingly recognized that lifelong depression often starts in adolescence (Hankin, 2006). The published review of National Comorbidity Survey-Adolescent Supplement (NCS-A) reported that the prevalence of depression in adolescents by age 18 increased from 8.3% (Birmaher et al., 1996) to 11% (National Institute of Mental Health [NIMH], 2010) during the past decade, which was higher than the prevalence of depression among adults older than age 18. In 2009, feeling depressed was the most common reason for adolescents aged 12-17 to seek treatment from a mental health professional (Substance Abuse and Mental Health Services Administration [SAMHSA], 2010). However, the rate for receiving treatment for depression was much smaller among depressed adolescents than among depressed adults (SAMHSA, 2010). Moreover, due to the controversy over diagnosis criteria and symptom reporting, the extent of adolescent depression tended to be underreported and underestimated (Roberts, Andrews, Lewinsohn, & Hopes, 1990; Zastrow et al., 2008).

Depression in adolescence develops at a time of great personal change—when boys and girls are forming an identity distinct from their parents, grappling with gender issues and emerging sexuality, and making decisions for the first time in their lives (National Institute of Mental Health [NIMH], 2008). Adolescent depression is associated concurrently with high rates of other mental health disorders, such as anxiety; various maladaptive behaviors, such as disruptive behavior, eating disorders, substance abuse and suicide (Ben-Amos, 1992; Birmaher et al., 2004; Weissman et al, 1999); as well as other interpersonal, academic, and psychosocial impairments (Birmaher et al. 1998; Merikangas & Angst 1995; Nolen-Hoeksema et al. 1992), such as poor school performance (Hale, Van Der Valk, Engels, & Meeus, 2005; Saluja et al.,
Moreover, adolescent depression is also reported as a predictor of more severe health problems in adulthood (Hankin, 2006; Kim, Brody, & Murry, 2003). The prevalence and impairment associated with adolescent depressive symptoms clearly highlighted the importance of research about factors that place adolescents at risk.

Depression is a multifaceted syndrome and is most likely caused by a combination of genetic, biochemical, environmental, and psychological factors (Hankin, 2006; NIMH, 2008). These factors interact with each other in leading to adolescent depression. Many processes, mechanisms, and risk factors need to be evaluated to provide a complete understanding of the etiology of depression starting simultaneously in adolescence.

Extensive testing has found some factors, such as age and gender, to bear consistent effects for adolescents. Studies show that depression prevalence increases dramatically from about 3% in early adolescence (younger than 15-years-old) to about 17% in late adolescence (15-18-years-old). According to the most recent Diagnostic and Statistical Manual (American Psychological Association [APA], 2000), depression is twice as common in adolescent and adult females as in adolescent and adult males. Before puberty, boys and girls are equally likely to develop depressive disorders (NIMH, 2008). The differences in depression between the genders can first be traced to early adolescence (around ages 12 and 13) (Angold et al., 2002; Twenge & Nolen-Hoeksema, 2002). Saluja et al. (2004) reported that the prevalence of depression among adolescents increased with age and the increase is more severe for females. Studies are consistent with the finding that the largest increase in this sex difference occurs between the ages of 15 and 18 years (mid to late adolescence) (Hankin et al., 1998).
In addition to age and gender, other factors linked to depression in youth may also play a causal role. However, these effects may not have been fully examined or reported consistently, particularly the importance of the relationship between adolescents and their parents, which is widely accepted as an indicator of adolescent health and well-being. Previous research showed that negative relationships with parents tend to elevate levels of depressive symptoms among adolescents (Hale et al., 2005; Sheeber, Hops, Alpert, Davis, & Andrews, 1997), while positive relationships with parents tend to reduce risks of depression (Essau, 2004; Shochet, Homel, Cockshaw, & Montgomery, 2008; Van Voorhees et al., 2008).

Parental involvement with adolescents is widely defined as the commitment and active participation of parents in their child’s development. The impact of parents on both physical and mental health among adolescent is well documented. The concept of parental involvement is widely used in topics of child wellbeing, health, education and behavior (Copeland-Linder, Lambert, & Lalongo, 2010; Crouter, Head, & McHale, 2004; Fan & Chen, 2001; Kliewer et al., 2006; Pilgrim, Schulenbery, O’Mally, Bachman, & Johnston, 2006). However, the existing research is insufficient in a number of areas. I found that the lack of systematic research on the relationship between parents and adolescents highlights the need to create a multi-faceted definition and measurement for parental involvement. The literature also indicated the need to consider more complex models with multiple moderators about associations between parental involvement and adolescent depression, such as ethnicity, age variations and gender differences.

Asian Americans are rapidly becoming one of the largest minority groups in the U.S. and are normally considered as “model minority” (Lee et al., 2009). Some studies showed that depression is less prevalent (Saluja et al., 2004) among Asian adolescents aged 12-17 (Siegel et al., 1998). However, other researchers have found that Asian American adolescents are at a
higher risk for depression (Greenberger & Chen, 1996; Harker, 2001; Lorenzo, Frost, & Reinherz, 2000; Sharma, 2004).

Although the effect of age group (younger adolescent and older adolescent) and gender (male and female) exists across ethnic groups, including Asian American. Other determinants of depression among Asian American adolescents are distinctive. According to the fourth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), Asian adolescents may report depressive symptoms differently with other ethnic groups (APA, 2000). Cultural differences of parental role and parenting practice have been studied (Russell, Crockett, & Chao, 2010), and researchers have highlighted the specific challenges of late adolescence for Asian Americans and their families (Greenberger & Chen 1996). Previous studies of Asian American adolescents and depression have tended to focus on the average differences between Asians and European Americans (Greenberger & Chen 1996), solely on one sub-group of Asian Americans , or only on the academic outcomes of depression (Chao, 2001). More research is needed to determine whether parental involvement, symptoms of depression differ across adolescent development among Asian Americans. Other than individual effects of certain factor, interactive effects of sex, age group, and parental involvement are also examined to get more in-depth views on depression and depressive symptoms among Asian American adolescents.

If different symptoms emerge between early and late adolescents among Asian Americans, diagnostic criteria could be made to recognize the symptom as early as possible. In addition, if parental involvement interacts with age and gender in determining depression, age-appropriate and gender-appropriate parental practice modifications could be critical to reduce the prevalence of depression among Asian American adolescents. It could also be meaningful for older individuals to predict depression more effectively, and prevent negative outcomes.
ASIAN AMERICAN ADOLESCENT DEPRESSION

Statement of the Problem

The purposes of this study were to examine parental involvement and depressive symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents.

Research Questions

This study examined the following research questions:

1. What percent of Asian American adolescents have experienced depression in their lifetime?

2. What are the most common depressive symptoms among Asian American adolescents who have been depressed?

3. Does perceived parental involvement differ for Asian American adolescents based on gender and age?

4. Does lifetime involvement in depression differ for Asian American adolescent based on sex, age and parental involvement?

5. Does involvement in certain depressive symptom differ for depressed Asian American adolescent based on sex, age and parental involvement?

Hypotheses

Null hypothesis 1. There will be no significant difference in having depression based on sex among Asian American adolescents.
Null hypothesis 2. There will be no significant difference in having depression based on age among Asian American adolescents.

Null hypothesis 3. There will be no significant difference in having depression based on parental involvement among Asian American adolescents.

Null hypothesis 4. There is no interaction between age, gender and parental involvement in predicting depression among Asian American adolescents.

Null hypothesis 5. Among depressed Asian American adolescents, there will be no significant difference in having depressed mode based on sex.

Null hypothesis 6. Among depressed Asian American adolescents, there will be no significant difference in having depressed mode based on age.

Null hypothesis 7. Among depressed Asian American adolescents, there will be no significant difference in having in depressed mode based on parental involvement.

Null hypothesis 8. Among depressed Asian American adolescents, there will be no significant difference in loss of interest or pleasure in daily activities based on sex.

Null hypothesis 9. Among depressed Asian American adolescents, there will be no significant difference in loss of interest or pleasure in daily activities based on age.

Null hypothesis 10. Among depressed Asian American adolescents, there will be no significant difference in loss of interest or pleasure in daily activities based on parental involvement.

Null hypothesis 11. Among depressed Asian American adolescents, there will be no significant difference in weight loss based on sex.
**Null hypothesis 12.** Among depressed Asian American adolescents, there will be no significant difference in weight loss based on age.

**Null hypothesis 13.** Among depressed Asian American adolescents, there will be no significant difference in weight loss based on parental involvement.

**Null hypothesis 14.** Among depressed Asian American adolescents, there will be no significant difference in having insomnia or hypersomnia based on sex.

**Null hypothesis 15.** Among depressed Asian American adolescents, there will be no significant difference in having insomnia or hypersomnia based on age.

**Null hypothesis 16.** Among depressed Asian American adolescents, there will be no significant difference in having insomnia or hypersomnia based on parental involvement.

**Null hypothesis 17.** Among depressed Asian American adolescents, there will be no significant difference in loss of energy based on sex.

**Null hypothesis 18.** Among depressed Asian American adolescents, there will be no significant difference in loss of energy based on age.

**Null hypothesis 19.** Among depressed Asian American adolescents, there will be no significant difference in loss of energy based on parental involvement.

**Null hypothesis 20.** Among depressed Asian American adolescents, there will be no significant difference in having psychomotor agitation or retardation based on sex.

**Null hypothesis 21.** Among depressed Asian American adolescents, there will be no significant difference in having psychomotor agitation or retardation based on age.
Null hypothesis 22. Among depressed Asian American adolescents, there will be no significant difference in having psychomotor agitation or retardation based on parental involvement.

Null hypothesis 23. Among depressed Asian American adolescents, there will be no significant difference in feelings of worthlessness based on sex.

Null hypothesis 24. Among depressed Asian American adolescents, there will be no significant difference in feelings of worthlessness based on age.

Null hypothesis 25. Among depressed Asian American adolescents, there will be no significant difference in feelings of worthlessness based on parental involvement.

Null hypothesis 26. Among depressed Asian American adolescents, there will be no significant difference in having difficulty in thinking, concentrating and decision-making based on sex.

Null hypothesis 27. Among depressed Asian American adolescents, there will be no significant difference in having difficulty in thinking, concentrating and decision-making based on age.

Null hypothesis 28. Among depressed Asian American adolescents, there will be no significant difference in having difficulty in thinking, concentrating and decision-making based on parental involvement.

Null hypothesis 29. Among depressed Asian American adolescents, there will be no significant difference in suicidal ideation and attempts based on sex.

Null hypothesis 30. Among depressed Asian American adolescents, there will be no significant difference in suicidal ideation and attempts based on age.
Null hypothesis 31. Among depressed Asian American adolescents, there will be no significant difference in suicidal ideation and attempts based on parental involvement.

Operational Definitions

1. Lifetime involvement in depression-a person was defined as having had lifetime involvement in depression if their symptoms meet the feature of Major Depression Episodes (MDE). A person should have had at least 1 symptom from the following 2 symptoms: (1) depressed mood; (2) loss of interest/pleasure in daily activities; a person must also experience at least 4 additional symptoms from the following 7 symptoms: (a) appetite and weight change; (b) insomnia or hypersomnia; (c) loss of energy; (d) psychomotor agitation or retardation; (e) feeling of worthlessness; (f) difficulty in concentrating, thinking or deciding; (g) suicidal ideation or attempts. These symptoms must last for most of the day, nearly every day in a period of at least 2 weeks. There must be either clinically significant distress or some interference in social, occupational, or other important areas of functioning caused by the symptoms. Questions were selected from “Adolescent Depression” session of the 2009 National Survey on Drug Use and Health [NSDUH (2009)] questionnaire to determine depressive symptoms. The instrument was adapted from definition of MDE in the diagnostic criteria set forth in DSM-IV (APA, 2000).

2. Asian American adolescent- adolescent aged 12-17 at time of interview who considered themselves as Asian. In this study, Asian American adolescents are those who responded “Asian (For example Asian Indian, Chinese, Filipino, Japanese, Korean, and Vietnamese)” to question “Which of these groups describes you”, and completed both “Youth Experiences” and “Adolescent Depression” sessions of NSDUH (2009).
3. Younger adolescent- adolescent aged 12 to age 14 at time of interview and was in the early stage of adolescence. The question “what is your date of birth” from “Core Demographics” session of NSDUH (2009) was recoded to demonstrate the age of the respondents. If the calculated age was 12, 13, or 14, the respondent of that case was considered as younger adolescent.

4. Older adolescent- adolescent aged 15 to age 17 at time of interview and was in the late stage of adolescence. The question “what is your date of birth” from “Core Demographics” session of NSDUH (2009) was recoded to demonstrate the age of the respondents. If the calculated age was 15, 16, or 17, the respondent of that case was considered as older adolescent.

5. Parental Involvement- adolescents’ perception of their parents’ monitoring, supervision and connectedness. 7 questions with 4 point scale were selected from the “Youth Experiences” session of NSDUH (2009) to measure parental involvement. (Cronbach’s Alpha= .706). Scores were summed up and recoded to parental involvement levels: high involvement and low involvement.

6. Depressed mood-described by person as depressed, sad, empty, hopeless, discouraged, or “down in the dumps”. In this study, the respondents were considered having depressive mood if they felt sad, empty, depressed or discouraged, and the feeling lasted most of the day, nearly every day for two weeks or longer.

7. Loss of interest/ pleasure in daily activities- feeling less interested or not caring anymore in all or almost all the things that were previously considered enjoyable, like work, hobbies and personal relationship. In this study, if a participant lost interest and became bored with most things they usually enjoyed most of the day, almost every day for two
weeks or longer, they were defined as having had loss of interest or pleasure in daily activities.

8. Appetite and weight change- in this study, respondents were defined as having had appetite and weight change if during the same period of time of experiencing depressed mood or loss of interests, they felt they cannot help reducing or increasing their appetite or experience significant weight gain or loss; and these changes were not due to growing, pregnancy, sickness or special.

9. Insomnia or hypersomnia- two forms of sleep disturb with insomnia defined as having more trouble than usual in falling or staying asleep and hypersomnia defined as having to take a lot more sleep than usual. In this study, respondents were defined as having had insomnia or hypersomnia if during the same period of time when they were experiencing depressed mood or loss of interest, they also felt they were having the two forms of sleep disturbances addressed above.

10. Loss of energy- decreased energy, tiredness or and fatigue. In this study, respondents were defined as having had loss of energy if during the same period of time when they were experiencing depressed mood or loss of interest, they also felt tied or low in energy nearly every day even if they had not been working hard.

11. Psychomotor agitation or retardation-psychomotor agitation refers to inability to sit still, restless or pacing; psychomotor retardation refers to slower talking, thinking or body movements than normal. In this study, respondents were defined as having had psychomotor agitation or retardation if during the same period of time when they were experiencing depressed mood or loss of interest, they also had the two forms of psychomotor changes addressed above nearly every day.
12. Feeling of worthlessness- unrealistic negative perception of one’s worth. In this study, respondents were defined as having had feelings of worthlessness if during the same period of time when they were experiencing depressed mood or loss of interests; they also felt worthless or not as good as other people nearly every day.

13. Difficulty in concentrating, thinking or decision making- hard to concentrate, think or decide or easy to be distracted and confused. In this study, respondents were defined as having had difficulty in concentrating, thinking or decision making if during the same period of time when they experience depressed mood or loss of interest, they were also having a lot more trouble in thinking, concentrating or decision making nearly every day.

14. Suicidal ideation or attempts- In this study, respondents were defined as having had suicidal ideation or attempts if during the same period of time when they experience depressed mood or loss of interest, they often thought about death or committing suicide or plan.

Delimitations

This study was a secondary data analysis with data from 2009 National Survey on Drug Use and Health. The sample was selected from Asian American Adolescent aged 12-17 who considered themselves as Asian and responded validly to both “Youth Experiences” and “Adolescent Depression” session of the questionnaire.

Limitations

This study was a secondary analysis from a public data set in 2009. The measurement of depressive symptoms and parental involvement were fixed and not specifically adapted to Asian American adolescent. The study is also limited by self-reporting accuracy of the participants and the honesty of individuals’ responses.
Assumptions

For the purpose of this study it was assumed that all participants understood the survey and answered all questions as accurately and honestly as possible.
Chapter 2: Literature Review

The purposes of this study were to examine parental involvement and depressive symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents. Chapter one introduced the problem, the research questions and hypotheses, and provided operational definitions, delimitations, limitations, and assumptions for this study. This chapter will present a review of the literature about the extent, determinants and impacts of both depression and adolescent depression and show the significance of this study.

Introduction to Depression

Depression is one of the most commonly occurring mental illnesses. In Murray and Lopez’s study, Major Depression Disorder (MDD) has been ranked as the 4th leading cause of disability and premature death in the world (Murray & Lopez, 1996). And it is now ranked by World Health Organization (WHO) as one of the most burdensome diseases in the world. Other researchers predicted MDD as three of the most debilitating diseases in the world by the year 2030 (Mathers & Loncar, 2006).

In the United States, from 1990 to 1992, the National Comorbidity Survey focused on people aged from 15 to 54 and estimated that the prevalence of Major Depression Disorder were 8.6% for the past12 month and 14.9% for a lifetime disorder respectively. Center for Disease Control and Prevention [CDC] (2010) analyzed Behavioral Risk Factor Surveillance System (BRFSS) from 2006 and 2008 and reported the prevalence of current depression is 9.0% among adults.

According to result from National Survey on Drug Use and Health, in 2009, the rate of past year MDE is higher among adolescent aged 12 to 17 (8.1%) than among adults 18 years or
older (6.5%). Among adolescents, the percentage of having past year MDE generally increased with from age 12 to 17, however, among adults 18 years or older, the rate was lower among older adults. In 2009, adults aged 50 or older has the lower rate (4.9%) compared with those aged 26 to 49 (7.6%) and young adult aged 18 to 25 (8.0%).

Women are at significantly greater risk than men to develop Major Depressive Episodes. This increased differential risk emerges during adolescence and may coincide with the onset of puberty. Thereafter, a significant proportion of women reported a worsening of the symptoms of a Major Depressive Episode several days before the onset of menses. Studies indicate that depressive episodes occur twice as frequently in women as in men (APA, 2000; SAMHSA, 2010).

Depressed people may feel sad, anxious, empty, hopeless, guilty, worthless, helpless, irritable or restless. Other symptoms are also reported, such as loss of interest or pleasures in activities one used to enjoy; decreased energy, tiredness or fatigue; problems in concentrating, remembering information, or making decisions; sleep problems; eating disorder or digestive problems; suicide attempts; aches, pains, headaches, cramps (NIMH, 2008; APA, 2000). Depressed individual may experience different symptoms of depression with different severity, frequency and duration.

There are several forms of depressive disorders depending on the different severity, frequency and duration of the symptom. The most 2 common forms are major depressive disorder (NIMH, 2008) and Dysthymic Disorder. Major depressive disorder (MDD) or major depression is characterized by one or more Major Depressive Episodes (MDE) with at least 2 weeks combination of symptoms. MDE involves at least one symptom of depressed mood or loss of interest, at least four additional symptoms that disables and prevents a person from
functioning normally in work, sleep, study, eat, and enjoy once-pleasurable activities (APA, 2000). MDE may occur only once in a person’s life, but more often, it recurs throughout the lifetime. However, once having MDE, a person can be diagnosed to have had MDE in his or her lifetime.

Dysthymic disorder, also called dysthymia, is less severe than major depression, but it can still interfere with everyday activities. The symptoms of dysthymia last longer than MDD—two years or more. People with dysthymia may also experience one or more episodes of major depression during their lifetimes (NIMH, 2008).

Although Dysthymia and MDD are different conceptions, and separately examined in some studies, other researches combine them together and broadly focus on depressive symptoms (Hankin, 2006). In this study, the author focused on depressive symptoms and MDE.

Culture can influence the expression and experience of symptoms of depression. “For example, in some cultures depression may be experienced largely in somatic terms, rather than with depressed mood or other disorders. Issues of “nerves” and headaches were generally reported in Latino and Mediterranean cultures, and fatigue or “imbalance” was often expressed as depressive experience. Culture may also impact people’s judgment about the seriousness of experiencing depression or perception of certain symptom (e.g., irritability may provoke greater concern than sadness or withdrawal) (APA, 2000).

Depression is a chronic disorder and commonly associated with other illness or disorders. Untreated depression may last for a long time and interferes with day-to-day activities. The symptoms of depression cause “clinically significant distress or impairment in social, occupational, or other important areas of functioning”. For milder cases, individual may function normally but need remarkably increase effort, which cause stress and burden (APA, 2000). For
extreme cases, depressed people may commit suicide or violence, or loss the ability to maintain normal life (APA, 2000). Illnesses or disorders may precede, co-exist with the depression or be a consequence of depression (NIMH, 2010). Anxiety disorders (Devane et al., 2005) and sleep disorders (Brunello et al., 2000) often co-exist with depression. People with unhealthy behaviors such as alcohol and other substance abuse (Conway et al., 2006) or chronic diseases such as obesity, diabetes, arthritis are more likely to have depressive disorders (Chapman, Perry, & Strine, 2005; Strine et al., 2008). Some clinical illness such as heart disease, stroke and cancer accompany with depression (NIMH, 2008).

According to present research, depression is a recurrent disorder. Most of individuals who experience a first lifetime Major Depressive Episode will incur a second episode. The more episodes they have experienced, the more likely they will have another recurrence, and the short interval from the last episode to the next (APA, 2000; Solomon et al., 2000). Recurrent depression is associated with substantial impairment, comorbidity, poor health, and mortality.

To identify and understand groups at particular risk for developing MDE and to make the treatment feasible and on time are in great need (Young, Fang, & Zisook, 2010). This study was focused on Asian American adolescent aged 12 to 17.

**Depression among Adolescents in the United States**

According to the National Comorbidity Survey-Adolescent Supplement (NCS-A), about 11% of adolescents have a depressive disorder by age 18 (NIMH, 2010). Cross-sectional studies of adolescent self-reported depressive symptoms indicate that 20% to 50% of adolescents reported varying levels of depression (Hankin, 2006; Kessler et al., 2001). The prevalence rates of diagnosed depression likely underestimate the extent of the problem because significant numbers of adolescents who suffer from significant depressive symptoms may not be clinically
diagnosed. According to the official psychiatric classification system (APA, 2000), core symptoms of a Major Depression are the same among adolescents and adults. However, when dealing with adolescent depression the classification might be modified to make effective diagnosis. It is addressed in DSM-IV that certain symptoms such as irritability can be applied symptom along with the typical depressed, sad mood and loss of pleasure in adolescents. The analysis of a national school-based survey indicated that involvement in bullying and using substances are significant predictors for more depressive symptoms among youths. In addition, youths who reported somatic symptoms, tend to report larger number of depressive symptoms, which indicated higher risk to have MDE. In reality, most people considered cranky mood and irritation as typical turmoil among adolescents; youth expressing somatic issue might be more likely to be diagnosed with physical illness other than mental disorder. Most survey and research about adolescent depression used the instrument that is valid for the general population. However, proper modification should have been made to measure all symptoms, including those common symptoms that are unique among adolescents.

Adolescence is a critical time to develop human capital. Adolescent boys and girls have special needs to form an identity distinct from their parents, to deal with gender issues and emerging sexuality, and to make some key decisions for the first time in their lives (Humensky et al., 2010; NIMH, 2008). It is also the critical time for humans in developing depression.

Prospective studies of perceived depressive symptom found that the average level of depressive mood and symptoms is relatively low in childhood and then rises significantly to a much higher level starting in middle adolescence. Hankin (2006) reported a six fold increase in depression from 3% in early adolescence (under age 15) to about 17% in late adolescence (from age 15 to age 18). The elevated rate of depressed symptoms among adolescents may indicate
substantial risk of impaired functioning, interrupted developing and other disorders later in their life (Hankin, 2006; Essau, 2004; Kessler & Walter, 1998).

Before puberty, boys and girls are equally likely to develop depressive disorders and the prevalence rate of depression is very low (1-3%). After adolescence, depression is twice as common in females as in males, and the percentage stays relatively consistent (about 17%) throughout adulthood. Saluja et al. (2004) reported that during adolescence, the increase in rates of depression is more severe for females than for males.

During the past 2 decades, many researches demonstrated that adult Major Depressive Disorder (MDD) has an onset in adolescence (Hankin, 2006; Weissman et al., 1999). Kim-Cohen and colleagues studied diagnostic data of a cohort, and found that 75% of 26 year old depressed adult had already experienced depressive episode when they are children or adolescents; only 25% have the depression onset after age 21 (Kim-Cohen et al., 2003). Longitudinal studies reported that the average age of experiencing first MDE on is approximately 15 years (Lewinsohn, Clarke, Seeley, & Rohde, 1994). Previous studies have also suggested that compared to “adult-onset” MDD, “pre-adult-onset” MDD may have distinct risk factors, such as parent, caregiver or family instability (Jaffe et al., 2002). In addition, “pre-adult onset” MDD may lead to more severe impairment, such as increased rate of substance addiction and social behavioral difficulties. (Parker, Roy, Hadzi-Pavlovic, Mitchell, & Wilhelm, 2003; Zisook et al., 2007)

In conclusion, adolescent depression is serious and common health problem. The prevalence is underestimated and feature is distinctive. It is during adolescence (age 11-18) that not only the prevalence of depression increases dramatically with age, but also gender differences in the occurrence of depression first emerge. Moreover, adolescence is the common
onset time for adult depression and early onset might be associated with certain determinants.

**Impact and Impairment of Adolescent Depression**

Depression in adolescence can cause impairment to development. Adolescent depression is associated with increased risk for various maladaptive behaviors such as eating disorders (Rawana, Morgan, Nguyen, & Craig, 2010), substance abuse (Birmaher et al., 2004) and suicidal behavior (Rao, Weissman, Martin, & Hammond, 1993, NIMH, 2008); as well as interpersonal problems and academic difficulties, such as poor school performance (Hale, Van Der Valk, Engels, & Meeus, 2005; Saluja et al., 2004). Moreover, adolescent depression is predictive of a wide range of long-term psychosocial impairments. Lewinsohn et al. (2003) studied 917 individuals who completed 3 waves of survey and interviews about their psychiatric history and psychosocial functioning during their transmission from adolescence to young adulthood. They found that adolescent MDD is significantly associated with low functioning, low quality of relations with family, small social network, major adversity, low life satisfaction and low mental health treatment in young adulthood. Studies also indicated that adolescent depression was closely related to higher risk for diseases that may impact peoples’ health and quality of life, such as anxiety and obesity (McElroy et al., 2004).

Although most depressed children do not grow up to become adults with depression, early onset depression also tends to be a predictor of more severe illnesses in adulthood (Weissman et al., 1999). Early onset depression during adolescence has been consistently found to be more severe, chronic and disabling form of depression than adult onset MDD and is associated with increased risk of suicide (Zisook et al., 2007, 2009).

Depression is treatable but could be recurrent. In general, most MDE end within 6 to 15 months (Lewinsohn, Rohde, Klein, & Seeley, 1999; Essau, 2004), and some studies reported that
if treated by professional methods, almost all adolescents with MDE will recover 1 year after
treatment onset (Curry et al., 2011). However, most depressed adolescents were not treated or not
properly treated. In 2009, only 34.7% of depressed adolescents aged 12-17 had utilized mental
health services for depression. The percentage was much smaller than depressed adult under
treatment depression (64.4%) (SAMHSA, 2010). Other well reported issue about adolescent
depression is that it, especially if untreated, often “persists, recurs and continues” into adulthood
(Hankin, 2006; Kim, Brody, & Murry, 2003). Even if adolescents had received effective
treatment and recovered from MDE, studies showed that about 30%-50% of them would suffer at
least one recurrence later in their life (Curry et al., 2011). Of those adolescents with no treatment
for depressive disorders, the rate of recurrence could be slightly higher.

Determinants of Adolescent Depression

Since depression is a multifactorial problem, it likely results from a combination of
genetic, biochemical, environmental, and psychological factors (Hankin, 2006; NIMH, 2008).
Cumulative adverse experiences, including negative life events and early childhood adversity,
together with parental depression and/or non-supportive school or familial environments, place
young people at risk for developing depression (Burns, Andres, & Szabo, 2002). Many
processes, mechanisms, and risk factors need to be evaluated simultaneously to provide a
complete understanding of the etiology of depression starting in adolescence.

Age and gender. Studies show that older adolescents are more likely than younger ones
to experience depression, while girls are at higher risk than boys to experience depression (Saluja
et al., 2004, NIMH, 2010). Depression prevalence increases dramatically from early adolescence
(younger than 15 year old) to late adolescent (15-18 year old). Saluja et al. (2004) reported that
the increase in rates of depression is more severe for females than for males. Before puberty boys
and girls have equal risk for having depression and the rate was about 3% for both genders, however, by the end of adolescence the prevalence of depression is twice higher among girls than among boys.

**Adolescent depression and age group.** Age group is not only critical to estimate prevalence of depression, it could also predict certain types of symptoms and impairments among adolescent. Symptoms of depression may differ as a function of age and development given the cognitive, social, emotional, and biological changes that transpire over time throughout childhood and adolescence. It appears that very young children, especially preschoolers, tend not to report depressed mood or hopelessness and younger children are more likely to describe somatic symptoms or irritation or cranky turmoil of depression (APA, 2000; Kovacs, 1996). Somatic complaints, irritability, and social withdrawal are particularly common in children, whereas psychomotor retardation, hypersomnia, and delusions are less common in pre-puberty than in adolescence and adulthood (APA, 2000; Hankin, 2006). In pre-pubertal children, Major Depressive Episodes occur more frequently in conjunction with other mental disorders than in isolation. In adolescents, Major Depressive Episodes are frequently associated with disruptive behavior disorders, attention-deficit disorders, anxiety disorders, substance-related disorders, and eating disorders (APA, 2000).

**Adolescent depression and gender.** Females have higher risk to get the MDD (Hasin et al., 2005). According to the most recent Diagnostic and Statistical Manual (APA, 2000), depression is twice as common in adolescent and adult females as in adolescent and adult males. Before puberty, boys and girls are equally likely to develop depressive disorders (NIMH, 2008). The differences in depression between the genders can first be traced to early adolescence (around ages 12 and 13) (Angold et al., 2002; Twenge & Nolen-Hoeksema, 2002). Saluja et al.
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reported that the prevalence of depression among adolescents increased with age and the increase is more severe for females. In light of findings that female sensitivity to negative interpersonal interactions and the differences between boys’ and girls’ depression rates, several studies had indicated that the links between parental negative attributions and adolescent depression were stronger for females than for males (Gamble & Roberts, 2005; Hale et al, 2005; Chen, Johnston, Sheeber, & Leve, 2009).

Adolescent Depression and Parental Involvement

One factor that has been consistently linked to depression in youth, and may play a causal role, is the quality of relationships between adolescents and their parents. The impact of parents on both physical and mental health among adolescent is well documented. Studies on adolescent depression showed that parents influence their children in many different ways, and could be the causal factor of adolescent mental health issues. It is well documented that parents with depressive symptoms tend to have negative parenting behaviors and less effective practices (Kim & Ge, 2000; Chen et al., 2009). Adolescents tend to experience elevated levels of depressive symptoms when they have negative relationships with parents.

Ongoing psychological and sociological research examined the indicators of relationships between adolescents and their parents. Existing indicators in studies of adolescent depression include shared activities/ time (Betts, Gullone, & Allen, 2009; Hamza & Willoughby, 2011; Rohner, 2004; Yu, Clemens, Yang, & Li, 2006; Young et al., 2005); perceived parental rejection (adolescent’s belief that his or her parent is not concerned or interested in him or her as a person (Ryan, Huebner, Diza, & Sanchez, 2009); parental warmth (Kim & Cain, 2008); parenting style (the extent of parents’ responsiveness and demandingness); parental bonding; parental attribution; communication; parental control/ monitoring; parent-adolescent closeness (King, 2006); and
parental availability (Sweeney, 2007; Young, Berenson, Cohen, & Garcia, 2005). Previous research has shown that adolescents tend to experience elevated levels of depressive symptoms when they have negative relationships with parents, perceive their parents to be low in warmth but high in control (Hale et al., 2005; Rapee, 1997), and when they experience more frequent conflicts with their parents (Sheeber, Hops, Alpert, Davis, & Andrews, 1997). Perceived parental rejection which is defined as an adolescent’s belief that “his or her parent is not concerned or interested in him or her as a person” is strongly associated with adolescent depression (Hale et al., 2005). Attachment to parents, family connectedness, shared activities, and warmth reduce risk of depression (Essau, 2004; Shochet et al., 2008; Van Voorhees et al., 2008).

The concept of parental involvement is widely used in topics of child wellbeing, health, education and behavior. It has been reported as a salient predictor for better school performance (Fan & Chen, 2001), decreased use of drugs and alcohol (Pilgrim et al., 2006), fewer instances of violent behavior (Crouter et al., 2004), increased motivation, and higher self-esteem (Copeland-Linder et al., 2010; Kliewer et al., 2006).

Parental involvement has been linked to depression in youth, and may play a causal role. It has been viewed as critical to the outcome of mental health treatment for adolescents as well (Sanford et al., 2006). However, the indicators of parental involvement are not consistent in studies, which lead to varieties of reported association between parental involvement and adolescent depression. The author summarized most commonly used indicators of parental involvement and examined their association with adolescent depression.

**Shared activities and time.** McHale, Crouter, and Tucker (2001) researched middle-school adolescents and found the amount of time children spent with their parents was negatively
associated with depressive symptoms. Other research showed that time spent with parents is indirectly linked with the severity of depressive symptoms via adolescents’ perceptions of how accepting their parents are of them (Desha, Nicholson, & Ziviani, 2011). Crouter et al. (2004) examined five specific categories of family time: meals, watching TV, active leisure, religious activities, and housework and found that interaction between family time and parent’s education was significant in predicting adolescent depression. With more educated parents, adolescents report fewer depressive symptom if they have more family time. Negative relation was also found between family time and father’s depressive symptoms.

**Parental monitoring and supervision.** Parental monitoring involves soliciting information from adolescents and supervising adolescents’ activities (Frojd, Kaltiala-Neino, & Rimpela, 2007). Research showed parental monitoring reduces risk of adolescent depression. The results regarding the associations between parental monitoring and adolescent depressive symptoms was consistent across gender, age group (early adolescent and late adolescent), informant groups (parent reported or adolescent reported) in both cross-sectional and longitudinal research. (Jacobson & Crockett 2000; Kim & Ge 2000; Sagrestano, Holmbeck, Paikoff, & Fendrich, 2003). Parental monitoring has been regarded by researchers as an important predictor of positive adolescent adjustment (Frojd et al., 2007; Kim & Ge, 2000; Sagrestano et al., 2003). The higher the level of parental monitoring, the lower the level of adolescent depressive symptoms; in addition, higher adolescent depressive symptoms could predict lower parental monitoring.

Hamza and Willoughby (2011) argued that parental knowledge about their adolescent’s activities and whereabouts is a better predictor than monitoring and supervision. Parental knowledge has been negatively related to adolescent depression over time. However, unskillful
monitoring could result in adjustment problems, because monitoring or supervising doesn’t necessarily lead to showing care to adolescent, or communication with adolescents.

**Communication and warmth.** Communication and warmth were reported as significant predictors for positive relationships between parent and adolescents. Parental warmth refers to the acceptance, love affection, support, care, comfort, and nurturance that parents provide. A positive atmosphere, characterized by warmth and communication among family members, protects against risk-taking behavior and depression (Kliewer & Murrelle, 2007). Poor communication among family members and harsh discipline can discourage the internalization of positive moral and prosocial values (Hoffman, 2000).

Yu et al. (2006) reported that adolescent depression, especially among adolescent with past risk behaviors, was related to levels of impaired communication and differences in perceptions of open communication with their parents.

**Parental control.** Parents are key stakeholders for their adolescents’ mental health and they will set boundaries or enforce rules for their adolescent children. One study indicated that if adolescents interpret their parents’ monitoring and caring as intrusive or controlling, they will have higher risks for psychological problems (Kerr, Stattin, & Burk, 2010). It is also widely reported that depressed adolescents perceive their parents to be low in warmth but high in control (Hale et al., 2005). However, parental control could be beneficial to reduce risk of adolescent depression.

Kakahara, Tilton-Weaver, Kerr and Stattin’s (2010) summarized the theories about both psychological control (“parenting behaviors that attempt to control youths by taking advantage of their emotional and psychological needs”) and behavioral control (“parenting behaviors that
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encompasses behaviors such as supervision, setting limits, and enforcing household rules and curfews”). Theoretically, psychological control often produces negative outcomes on depression but if parents avoid exerting psychological control, the severity of adolescent depression could be reduced (Desha et al., 2010). According to Kakihara et al (2010), however, behavioral control helps adolescent to adjust and improve their mental health. Kakihara et al (2010) studied perceived parental control among 1022 Swedish adolescents, aged from 12 to 17. Their results suggested that parental control did affect adolescents’ ability to adjust. However, when adolescents’ feelings were involved, the line between behavioral control and psychological control is not obvious. Different ages of adolescents perceive parental control. Parental restrictions and rejection can make adolescents, especially older adolescents (8th and 9th grade), feel over-controlled and be at higher risk of depression.

Chao and Auqe (2009) reported the cultural difference in the effect of parental control on adolescent psychological adjustment. Interpretation and feelings of both behavior control and psychological control are different among European American and Asian immigrant adolescents. Compared to European American adolescents, Asian immigrant adolescents have higher levels of perceived parental control; however, they are less angry with parental control. For adolescents, although anger may result in defensive reaction to control, it could also serve as the driving force to have more effective control. As the anger feeling increased among European American adolescent, the benefits of behavioral control decreased, and the benefits of psychological control increased. However, for Asian immigrant youth, feeling angry does not significantly affect associations between parental control and depression.

Attachment and connectedness. It is widely accepted that people who have insecure attachment or untied connections to their environment are most vulnerable to depression. For
adolescents, perceived that attachment to parents are negatively associated to their levels of depression (Essau, 2004). Most research reported the attachment and connectedness is indirectly associated with adolescent depression or mediates the direct relationship between depression and other factors such as cultural differences and perceptions of control and family conflict (Constantine, 2006). In addition, depressed adolescents with lower levels of perceived attachment and connectedness have higher risks of suicide compared to depressed adolescents who is better attached or connected to their parents (Needham & Austin, 2010).

**Support and rejection.** Evidence indicates that parental support is a significant factor to predict better psychological well-being and less risky behaviors (Needham & Austin, 2010). In Sheeber et al’s study of adolescents and their mothers, higher risks for depressive symptoms were linked to less supportive family environments (Sheeber et al., 1997). Moreover, parental support could act to moderate relationships between peer support and depression among adolescents. Peer support is beneficial for adolescents with high parental support, but may act as a risk factor for adolescents with low parental support (Young et al., 2005).

On the other hand, higher perceived criticism, negative attribution and perceived rejection from parents directly contributed to higher levels of adolescent depression, and indirectly related to antisocial behavior (Hale et al., 2005; Lue, Wu, & Yen, 2010). The overall pattern of results emphasizes that the adolescents’ perceptions of parental criticism, rather than actual levels, is more important in understanding the relationship between parental emotional attitudes and adolescent depressive symptoms (Bolton, 2009). It is suggested that parents should decrease overly critical parenting styles to promote adolescent mental health (Lue et al., 2010).
**Parenting style.** Parenting style has been defined as a multi-faceted construct that reflects the “overall emotional tone” of the parent-child relationship. It involves several factors mentioned above such as how parents monitor and control adolescent’s activities, and how much support parents offer to adolescents. Moreover, it is also an independent factor to measure parental involvement because it is related to the overall quality of parent-adolescent relationships, for example how parents and adolescents settle conflicts, how they respond to each other and in mutual activities. There are 3 parenting styles summarized by Cripps and Zyromski (2009) from Santrock (2004) and Steiberg (2001)’s studies: Authoritative/Democratic parenting style (involves warm relationship, nurturing communication, firm and consistent guidelines, limitations and expectations); Authoritarian/ Autocratic parenting style (involves strict boundaries, little compromise, as well as confining, demanding, and punishing parent behavior); Permissive/ Laissez-Faire parenting style (involves miniscule amount of control and in unhelpful aid for children throughout decision making processes).

An extensive body of research shows that, compared to children raised by authoritarian or permissive parents, young children and adolescents raised by authoritative parents report higher self-esteem, better self-control, better coping mechanisms for stress and less depression and anxiety (Santrock, 2004; Steinberg, 2001).

**Parental conflict and divorce.** It is well documented that adolescent depression is related to the quality of their family relationships. Parent marital conflict has been identified as one of the more significant factors (Stutzman et al., 2011). More severe marital conflict predicts greater depressive symptoms, and this association is significant across different ages, genders, and ethnic groups among adolescents. Overt conflict was more significant in predicting depression than covert conflict (Sheeber et al., 1997; Stutzman et al., 2011). Parental marital
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Conflict is also reported as the risk factor for bad treatment response in depressed adolescents, which lead to ineffective treatment and more severe depressive symptoms (Amaya, Reinecke, Silva, & March, 2011).

Divorce may protect adolescents from exposure to parental conflict, it could nonetheless indicate other causal factors of adolescent depression, such as previous exposure to severe parent conflict, lower family income in single parent homes, lack of attachment to one biological parent or lack of shared time with both parents; which means that divorce could be an indirect cause of adolescent depression (Carlson, 2006).

Other findings. By examining different indicators of parental involvement, conclusions and findings can also be drawn from literature. Gender difference was widely reported on interaction between parental involvement and adolescent health; the association between parental involvement and adolescent well-being is stronger in early adolescence than in late adolescence; parental involvement was positively related to effectiveness of treatment; and since the indicators of parental involvement are not consistent in studies, the no uniform or widely used measurement of parental involvement exists to evaluate all aspects of parental involvement.

Most theoretical and empirical, studies argue that links between parental involvement and adolescent depression are stronger for females than for males (Gamble & Robers, 2005; Hale et al., 2005; Chen et al., 2009) and girls are more sensitive to relationship stressors and aggression than are boys (Wagner & Compas 1990). Research showed that for male adolescents, high levels of exposure to community violence (both as victims and witnesses), and low levels of parental monitoring predict a higher involvement in antisocial behavior. For female adolescents, being a victim and low levels of parental monitoring predict symptoms of anxiety/depression (Bacchini,
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Miranda, & Affuso, 2011). However, one study reported that “boys hold more negative perceptions of psychological control than do girls” (Kakihara & Tilton-Weaver, 2009) and the effects of psychological control was reported to be more influential for boys than for girls. In all, gender differences produce different reaction to feelings of being controlled and levels of parental involvement, which produces variations in depression levels. More research should be conducted into these inconsistencies.

Greenberger and Chen (1996) examined perceived parent-adolescent relationships and depressed mood among seventh and eighth graders (Mean age=13.1) who is in early adolescence stage and college students (Mean age=20) who is in late adolescence stage. They reported that the link between perceived parent-adolescent relationship level and depressed mood was weaker for older adolescents than for younger adolescents.

Parents are not only associated with causal factors for adolescent depression but also are key stakeholders for their children’s mental health problems. Parental involvement in problem recognition, decisions to seek help, and service selection (Cauce et al., 2002) is shown to be crucial in service usage, facilitating improvements during treatment, and maintaining changes after treatment for children and adolescents is complete (Bagner & Eyberg, 2007).

Gray (2000) explored the measurement of parental involvement and created an ideal framework to provide a comprehensive picture. He argued that in order to measure parental involvement, the following data need to be collected: quantitative demographic measurements providing descriptive analysis of parenting, such as gender, age, ethnicity; subjective measures of parenting (how people perceive parenting practice) such as connectedness, shared time; objective measures of parenting (what and how long parent are involved), and parental styles
(authoritative, authoritarian, or permissive). Data of parental involvement can be obtained from 3 major sources: perceptions of children, perceptions of parents, and observations or assessments from third party observers such as neighbors, schools, or community. It is an ideal to include as many factors as possible to determine parental involvement. However, no research project has yet created an evidenced model or structure for parental involvement. From the review of literature on parental involvement and adolescent depression, I found the majority of the studies obtain data through self-reporting from adolescents on perceptions of parental involvement. For example, Essau (2004) used Inventory of Parent and Peer Attachment to study associations between perceived parental involvement and depressive disorders in adolescents. However, measurement and information from other sources or informants were rarely used in previous studies.

Although different aspects of parental involvement was covered by different research, trends can still be tracked to estimate effects of parental involvement on adolescent depression: the more parental involvement such as shared activities, the lower the risk for depression or depressive symptom; negative parental involvement (such as parental rejection, lack of parental warmth, or more frequent conflicts with their parents) produces elevated levels of depression (Hale et al., 2005; Sheeber et al., 1997); positive parental involvement reduces risks of depression (Essau, 2004; Van Voorhees et al., 2008). Parental rejection is strongly associated with adolescent depression (Hale et al., 2005). Attachment to parents and family connectedness indirectly reduce risks of depression among adolescents (Essau, 2004; Shochet et al., 2008; Van Voorhees et al., 2008).
Asian American Adolescent Depression and Parental Involvement

Despite the knowledge that depression and other disorders often originate in childhood or adolescence, relatively little research has been conducted with immigrant youth, particularly Asian American youth. According to the 2010 U.S. Census, the estimated number of Asian American is 17.3 million (5.6% of the total population). The percentage of Asian grew from 3.6% in 2000 to 5.6% in 2009 (46% increase). The growth was faster than any other minority groups in the U.S. As of 2009, 23.6% of Asian population was under 18.

Asian American is considered as “model minority” by some researchers due to the low crime rate and overall academic achievement in this population (Sue & Okazaki, 1990). Some studies showed that depression is less prevalent among Asian adolescents aged 12-17 (Saluja et al., 2004; Siegel et al., 1998). Saluja et al. (2004) reported the prevalence of depression for Native Americans is highest (29%), followed by Hispanic (22%), Whites (18%), Asian American (17%) and African Americans (15%). Among minorities, Asian Americans have significantly lower depression level than Hispanic and Black American (Gore & Aseltine, 2003). However other researchers have found that Asian American adolescents are at a high risk for depression (Greenberger & Chen, 1996; Harker, 2001; Lorenzo et al., 2000; Sharma, 2004).

As for the change of depression during adolescence, reports about elevated depressive level vary for younger and older adolescents. Research showed that during early adolescent, elevated depression is more prevalent for Asian Americans (47%) and Hispanic Americans (40%) than for White (30%) (Kubik, Lytle, Birnbaum, Murray, & Perry, 2003). However, other studies indicated that the average level of depressed mood among Asian Americans and White Americans decreased during transition to adulthood, while Blacks and Hispanics depressed mood elevated (Gore & Aseltine, 2003); which means that during the late adolescence, many Asian
Americans, no matter depressed or not, improved their psychological well-being to some extent, while depression level among other minority groups was getting serious.

Previous studies also indicated that Asian American adolescent tend to report more depressive symptoms than European American adolescents (Greenberge & Chen, 1996) and the way they express depression was distinctive from other ethnic groups. In addition, while the rate of depression among Asian American is lower than among other ethnic groups, utilization of mental health service for depression among Asian American was less often and the quality was less effective (Kalibatseva & Leong, 2011).

The inconsistent report on depression among Asian American adolescent and the observed health disparities treatment highlighted that a closer and deeper examination on Asian American adolescent is needed. The literature review also provided information that is helpful to understand the unique expression of depressive symptom, the proper assessment for depression and determinants that may increase or reduce the risk of depression among Asian American adolescents. In this study, the author focused on parental involvement and relationship between parent and adolescents as determinants of depression among Asian American adolescents.

In order to better understand the manifestation and experience of depression among Asian Americans, we need to take culture difference into consideration. The notion of Western medicine and health were rooted in the assumption that mind and the body are separate entities. Psychology and psychiatry are dealing with mental and emotional problems while somatic medicine and surgery treats the physical problems (Angel & Williams, 2000). In the West, major depression is mainly expressed as sadness, depressed mood or affective issues, and is widely perceived to have association with individualism, decision-making, and self-control (APA, 2000).
In contrast, Asian culture values conformity and integration of body and mind (Choi, 2002). Compared with Westerners, Asians emphasize more on somatic symptoms or express “imbalance” as depression instead of differentiating symptoms of mind from body (Ryder, Yang, & Heine, 2002; Kalibatseva & Leong, 2011; Lu, Bond, Friedman, & Chan, 2010). Moreover, Asian culture upholds harmony for both inner-person and inter-person relationship, and expressing sad or depressed feeling is considered as breaking the harmony. Most Asian people will try their best to keep “well” by avoid verbal expression of depressive feelings. Instead of complaining sadness, depressed Asian American might be more comfortable with talking about somatic symptoms, appetite change, insomnia or fatigue - symptoms that is not directly about mind and feeling (Kleinman, 1996). Another cultural factor that is reported to be related to depressive experience and disorder is the concept of personhood held by a particular cultural tradition. In Western cultures, individuals were focused on individualism, self-structure. When they are expressing depression they tend to experience every aspect of depression and report them objectively. Losing personal control might lead to helpless or sad feeling and can be categorized as a typical depressive symptom. However, in Eastern cultures, people are more affected by collectivism and what other people think. They may express predominantly symptoms and often experience or report depression that is encouraged by society. Feeling of losing personal control in Eastern culture will not be as negative and upsetting as in Western culture and will not be a critical symptom for depression diagnosis (Marsella, 2003).

As for Asian American adolescents, instead of verbally expressing their feelings, they may often report somatic depression or withdrawn complaints about feelings. In a nationally representative sample, Asian adolescents reported the highest somatic symptom scores (Rhee, 2001). Somatic symptoms that are commonly reported depression among adolescents include
headache, abdominal pain, muscular-skeletal pain, weight loss and decreased appetite. Since Asian Americans tend not to complain about sadness or mood, the reported depressive symptoms may cluster in a different way and fewer factors or dimensions of depressive symptoms may emerge among Asian Americans. There are 4 domains of depression can be assessed by CES-D: negative/depressed affect, positive affect, interpersonal problems, and somatic symptom. Edman et al. (1999) tested CES-D using a sample of Filipino American adolescents and found that two factors are good enough to show all dimensions of depression: the first one included depressed affect, somatic complaints, and interpersonal problems and the second one consisted of the positive affect items.

Not only the experience and expression of symptoms are different, the threshold of normal and abnormal may also vary from one culture to another. For instance, one behavior with certain the frequency and duration might be considered more seriously in one culture than in another (Kalibatseva & Leong, 2011).

Although the most accepted criteria for depression, such as DSM and Center for Epidemiological Studies Depression Scale (CES-D), included both psychological and somatic symptoms and minimized the role of culture, the chief symptoms for diagnosis are depressive mood or sadness. As addressed above, Asian people tend to report somatic symptoms or tend not to distinct depressed mood from somatic symptoms. If Asian patient failed to express the depressed mood or affective issue when they are experiencing depressive episode, they may be less likely to be diagnosed with a mental disorder.

Other researchers argued that the data collection method and the assessment type are related to the type and frequency of the symptoms that the patient reported. Ryder et al. (2002)
examined whether spontaneous problem report, symptom self-report questionnaire, or structured clinical interview influence the reported depressive symptoms among Chinese and European outpatients lived in North America. They concluded that Chinese outpatients reported more depressive somatic symptoms in spontaneous report and structured interviews while European outpatients reported significantly more affective symptoms such as depressed mood, worthlessness and guilt no matter which assessment type is used.

Self-report measures were used by most current research related depression among Asians and Asian Americans. Although some researcher argued that the existing Western depression measures are adequate to assess depression in general population, further studies on reliability and validity of the Western questionnaires in Asian immigrant population are still in need. When used to other racial and ethnic groups and cultures, existing Western depression measures may fail to show depressive expression that are culture specific and unique to Asians.

In the United States, research about parenting and parent-child relationship was based on middle class European American behaviors. As addressed previously in parental involvement session, 3 parenting styles - Authoritative/Democratic parenting style, Authoritarian/ Autocratic parenting style, Permissive/ Laissez-Faire parenting style were summarized (Cripps, & Zyromski, 2009; Santrock, 2004; Steiberg, 2001). The Authoritative parenting style involving displays of warmth and closeness balanced with monitoring and control was accepted as the best. It was widely believed that compared to children raised by authoritarian or permissive parents, young children and adolescents raised by authoritative parents report higher self-esteem, better self-control, better coping mechanisms for stress and less depression and anxiety (Santrock, 2004; Steinberg, 2001). However, recently researchers started to argue the significance of culture in shaping parenting behaviors, beliefs, expectations and communication, as well as influencing
association between parental involvement and adolescent depression. A book edited by Dr. Stephen T. Russell and his colleagues discussed and highlighted the role of Asian American culture in parenting and parent-adolescent relationships, the meaning of parent-adolescent relationship quality among Asian American, the measurement issue and parental factors that is unique in Asian American families. These discussions are not only helpful to understand cultural influence on family structure, but also provided the potential evidence for association between parental involvement and depression among Asian American adolescents.

Compared to parents from other ethnic groups, typical Asian American parents tend to show less warmth, low support and to be more controlling of their children (Padmawidjaja & Chao, 2010). According to research from Western culture, Asian parenting style can be categorized as authoritarian style and can be harmful to adolescents’ well-being. However, Asian American adolescents often do just as well as European American or even do better especially in academic performances.

The contradiction can be explained by cultural difference of attitude, belief and perception on parental role. In Asian tradition, both parents and children believe that control, authority and strictness are protective feature of parental role. Parental goals focused the importance of perseverance, working hard, being obedient to parent and being subordinate to the environment (Padmawidjaja & Chao, 2010). Interacted with Asian culture, the 3 parenting styles will have different outcomes among Asian American adolescents.

Another explanation for the difference between Asian American and European American is that the dimensions of parental involvement among Asian American are distinctive. Other than parental warmth, parental support, and parental control, elements such as parental sacrifice (Chao & Kaeochinda, 2010), gender difference on perception of parent-adolescent relationship
or parental involvement; conflict of acculturation level between older and younger generations (Crane, Ngai, Larson, & Hafen, 2005; Kim, Chen, Li, Huang, & Moon, 2009; Kim & Cain, 2008; Nguyen, 2008; Park, Kim, Cheung, & Kim, 2010) are reported as determinants for parent-adolescent relationship among Asian American.

In Asian cultures, parents often show their love by silently sacrificing their personal time and opportunity, as well as by trying their best to offer better education to their children. Most Asian immigrant parents considered parental sacrifice as an important way to show support to their children. A survey study on how parents showed acceptance and care was conducted and examined. Researchers found that most Asian American adolescent perceived that their parents do “instrumental” support, which is sacrifice, to support them rather than have verbal or physical expression (Chao & Kaeochinda, 2010).

Researchers indicated that Asian American girls are more likely to have better relationship with parents than Asian American boys by reporting good parent-daughter communication, parents’ emotional closeness with daughters, and instrumental support. However, compared to European Adolescents, both male and female Asian American adolescents reported lower score on perceptions of maternal warmth and understanding but higher score (Greenberger & Chen 1996) on maternal sacrifice (Russell, Chu, Crockett, & Doan, 2010).

A large number of studies examined acculturation level both among Asian American adolescents and Asian parents in the U. S. Most Asian American adolescents reported that their parents are not acculturated to American culture. Consistent conclusion was drawn from several studies among Asian American adolescent that high level of discrepancy of acculturation level between Asian American adolescents and older generation especially their father is a significantly predictor for more adolescent depressive symptoms. Different acculturation rate
between adolescents and their father is often associated with family conflicts and unsupportive parenting practices (Crane et al., 2005; Kim, Chen, Li, Huang, & Moon, 2009; Kim & Cain, 2008; Nguyen, 2008; Park, Kim, Cheung, & Kim, 2010).

Researchers have also highlighted the specific challenges of late adolescence for Asian Americans and their families (Greenberger & Chen 1996). Although depressed mood was not significantly different between Asian American and European American controlling the quality of parent-adolescent relationship, and the association between parent-adolescent relationships was similar at the same phase of adolescence, older Asian American adolescents tended to report more depressed mood than their European counterparts.

Summary

According to findings from current literature, compared to White American and other minority groups, Asian American adolescents who was influenced by Asian culture, the immigrant experience and acculturation process, tend to express depression and react to parental involvement in their special way. As Asian American became the fastest growing minority in the United States, it is important to look deep into this population. However, previous studies of Asian American adolescents and depression have tended to focus on the average differences between Asians and European Americans, solely on one sub-group of Asian Americans, or only on the academic outcomes of depression. More research is needed to determine whether parental involvement, symptoms and structure of depression differ across adolescent development among Asian Americans. If differences emerge between early and late adolescents among Asian Americans, diagnostic criteria could be made to recognize the symptom as early as possible. In addition, parenting changes or age-appropriate modifications could be critical to reducing the
prevalence of depression among older individuals, manage depression more effectively, and prevent negative outcomes.

The purposes of this study are to examine parental involvement and depressive symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents.

As a health educator and researcher, information from this study could be very helpful to better understand determinants of adolescent depression. If we can conclude that more positive involvement and certain parental style reduces risks of adolescent depression at certain phase of adolescence among certain gender or if we find a significant trend for association between parental involvement and depressive symptoms reported by Asian American adolescents, how to educate, motivate and facilitate parents to apply parental involvement to reduce the risk of adolescent depression will be another question for future study.
Chapter 3: Methods

Adolescent depression is a serious health problem. The prevalence and influence of adolescent depression on development and health call for prompt action in increasing our understanding of its risky factors, protective factors, diagnosis criteria, assessment and treatment (Kalibatseva & Leong, 2011). For the past decades, among all minority groups, the growth of Asian Americans is the fastest in the United States. The inconsistent report on depression and lack of study on cultural influence in determinants for depression among Asian American adolescent highlighted that a closer and deeper examination on Asian American adolescent is needed. The purposes of this study are to examine parental involvement and depressive symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents.

Chapter one discussed the research questions, hypotheses, delimitations, limitations, assumptions, and operational definitions. Chapter two provided a comprehensive review of the literature. This chapter describes the methods used in this study.

Sample

The participants of this study were 540 adolescent between the age of 12 and 17 years (Mean age =14.64) who responded to the 2009 National Survey on Drug Use and Health (NSDUH, 2009), who indicated that they were Asian, and who completed selected questions used in the present study, including questions in “Core demographics”, “Youth experiences” and “Adolescent depression” session. The sample included 268 boys (49.6%) and 272 girls (50.4%). With respect to age group, 245 (45.4%) of the participants are younger adolescent (12 to 14 year old), and 295 (54.6%) are older adolescent (15 to 17 year old).
Design

The National Survey on Drug Use and Health (NSDUH) series are primarily designed to measure and estimate the use of substance and the substance abuse treatment among population aged 12 years or older in the United States. The survey includes modules of questions from Diagnostic and Statistical Manual (DSM) that focus on mental health issues. This survey also includes 3 sessions only responded by youth aged 12 to 17. The sessions are “Youth experiences”, “Youth Mental Health Service Utilization” and “Adolescent depression”. Items in these sessions covered mental health issues among adolescent and a variety of social determinants of adolescent behavior, such as perceived parental involvement, neighborhood environment and perceived parental attitude toward drug use. Since depression is widely considered as sensitive issue, an audio computer-assisted self-interviewing (ACASI) system is used to provide the respondent with a highly private and confidential environment and to collect honest answers.

Instrumentation

Questions were selected from 3 sessions of the 2009 National Survey on Drug Use and Health [NSDUH (2009)] questionnaire. Demographic information was either drawn or recalculated from “Core Demographics” session. “Adolescent Depression” session has all the questions that determine MDE and depressive symptoms. “Youth Experiences” session include questions that evaluate adolescent’s perceived parental involvement level.

Demographic information

Gender. Females were coded as (1) and males were coded as (0).
**Age group.** Age group was coded into two categories – younger adolescent (0) and older adolescent (1). Younger adolescent were respondent whose age was 12, 13 or 14, and older adolescent was respondent whose age was 15, 16, or 17 at time of interview. The respondent’s age was determined using two age variables - one in the beginning and the other at the end of the questionnaire, in addition to the age calculated from the raw birthdate and the final edited interview date, the age entered in the questionnaire roster (if it exists), and the pre-interview screener age.

Lifetime involvement in depression. Lifetime involvement in depression was coded as “have not involved in depression” (0) and “have involved in depression” (1) on the basis of depressive symptoms. A participant were categorized as “have not involved in depression” if they have had at least 1 symptom from the following 2 symptoms: (1) depressed mood; (2) loss of interest/pleasure in daily activities; and also experienced at least 4 additional symptoms from the following 7 symptoms: (a) appetite and weight change; (b) insomnia or hypersomnia; (c) loss of energy; (d) psychomotor agitation or retardation; (e) feeling of worthlessness; (f) difficulty in concentrating, thinking or deciding; (g) suicidal ideation or attempts; and there were either clinically significant distress or some interference in social, occupational, or other important areas of functioning caused by the symptoms. The instrument for adolescent depression was adapted and modified from the depression section of the National Comorbidity Survey Adolescent (NCS-A; Harvard School of Medicine, 2005). Reliability statistics were tested and reported by SAMHSA.

**Depressed Symptoms**

**Depressed mood.** Depressed mood was coded as no depressed mood (code 0) or having depressed mood (code 1). Participants were asked questions refer to the worst or most recent
period of time when the respondent experienced any or all of the following: sadness, discouragement, or lack of interest in most things. If participants answered “yes” to any of the following two questions, they are coded as 1; otherwise, if they answered “no” to both of the following questions, they are coded as 0.

Questions for depressed mood: “during that [worst/most recent] period of time … did you feel sad, empty, or depressed most of the day nearly every day?/… did you feel discouraged about how things were going in your life most of the day nearly every day?” The kappa value for measurement of depressed mood variable is .82, which indicated perfect response consistency.

*Loss of interest/pleasure in daily activities.* Loss of interest/pleasure in daily activities was coded as no had loss of interest/pleasure in daily activities (code 0), or having had loss of interest/pleasure in daily activities (code 1). Participants were asked questions refer to the worst or most recent period of time when the respondent was experience depressed mood or lack of interest in most things. If participants answered “yes” to any of the following two questions, they are coded 1; otherwise, if they answered “no” to both of the following questions, they are coded as 0.

Questions for loss of interest/pleasure in daily activities: “during that [worst/most recent] period of time … did you lose interest in almost all things like work and hobbies and things you like to do for fun?/… did you lose the ability to take pleasure in having good things happen to you, like winning something or being praised or complimented?” The kappa value for measurement for loss of interest variable is .85, which indicated perfect response consistency.

*Appetite and Weight Change.* Appetite and weight change was coded as no appetite and weight change (code 0), or having had appetite and weight change (code 1). Participants were asked questions refer to the worst or most recent period of time when the respondent was
experience depressed mood or lack of interest in most things. In order to get code 1, one of the answers to the following two questions should be “yes”: “did you have a much larger appetite than usual nearly every day? / did you gain weight without trying to during that [worst/most recent] period of time?”; meanwhile, answer “no” should have been given to all of the following questions: “did you gain weight without trying to … because you were growing? / …because you were pregnant?”; “did you lose weight without trying to because you were sick or on a diet?” Otherwise the code will be 0. The kappa value for measurement of appetite and weight change is .53, which indicated moderate response consistency.

**Insomnia or hypersomnia.** Insomnia or hypersomnia was coded as no insomnia or hypersomnia (code 0), or having had insomnia or hypersomnia (code 1). Participants were asked questions refer to the worst or most recent period of time when the respondent was experience depressed mood or lack of interest in most things. If participants answered “yes” to any of the following two questions, they are coded as 1; otherwise, if they answered “no” to both of the following questions, they are coded as 0.

Questions for insomnia or hypersomnia: “during that [worst/most recent] period of time … did you have a lot more trouble than usual falling asleep, staying asleep, or waking too early nearly every night during that [worst/most recent] period of time? / …did you sleep a lot more than usual nearly every night?” The kappa value for measurement of insomnia or hypersomnia variable is .94 which indicate perfect response consistency.

**Psychomotor agitation or retardation.** If participants answered “yes” to any of the following two questions, they are coded as having psychomotor agitation or retardation (1); otherwise, if they answered “no” to both of the following questions, they are coded as no insomnia or hypersomnia (0). The two questions are: “did you talk or move more slowly than is
normal for you nearly every day? / were you so restless or jittery nearly every day that you paced up and down or couldn't sit still?” The kappa value for measurement of psychomotor agitation or retardation variable is .37, which indicate fair response consistency.

**Fatigue or loss of energy.** If participants answered “yes” to question “…did you feel tired or low in energy nearly every day even when you had not been working very hard?” they are coded as fatigue or loss of energy (1); otherwise, if they answered “no” to both of the following questions, they are coded as no fatigue or loss of energy (0). The kappa value for fatigue or loss of energy variable is .02 which indicated slight response consistency of the measure.

**Feelings of worthlessness.** Feelings of worthlessness was coded as no feelings of worthlessness (code 0), or having feelings of worthlessness (code 1). Participants were asked questions refer to the worst or most recent period of time when the respondent was experience depressed mood or lack of interest in most things. If participants answered “yes” to any of the following two questions, they are coded as 1; otherwise, if they answered “no” to both of the following questions, they are coded as 0.

Questions for feelings of worthlessness: “did you feel totally worthless nearly every day?/ did you feel that you were not as good as other people nearly every day?” The kappa value for depressed mood variable is .82 which indicate perfect response consistency.

**Difficulty in concentrating, thinking and decision-making.** Difficulty in concentrating, thinking and decision-making was coded as no difficulty in concentrating, thinking and decision-making (code 0), or having had difficulty in concentrating, thinking and decision-making (code 1). Participants were asked questions refer to the worst or most recent period of time when the respondent was experience depressed mood or lack of interest in most things. If participants
answered “yes” to any of the following three questions, they are coded as 1; otherwise, if they answered “no” to all of the following questions, they are coded as 0.

Questions for difficulty in concentrating, thinking and decision-making: “during that [worst/most recent] period of time … did your thoughts come much more slowly than usual or seem confused nearly every day? / …did you have a lot more trouble concentrating than usual nearly every day? / were you unable to make decisions about things you ordinarily had no trouble deciding about?” The kappa value for fatigue or loss of energy variable is .35 which indicated fair response consistency of the measure.

**Suicidal ideation and attempts.** Suicidal ideation and attempts was coded as no suicidal ideation and attempts (code 0), or having had suicidal ideation and attempts (code 1).

Participants were asked questions refer to the worst or most recent period of time when the respondent was experience depressed mood or lack of interest in most things. If participants answered “yes” to any of the following three questions, they are coded as 1; otherwise, if they answered “no” to all of the following questions, they are coded as 0.

Questions for insomnia or hypersomnia: “did you often think about death, either your own, someone else's, or death in general?/ did you ever think it would be better if you were dead?/ did you think about committing suicide?” The kappa value for fatigue or loss of energy variable is .19 which indicated slight response consistency of the measure.

**Parental involvement**

Seven questions were selected from “Youth Experiences” session to evaluate Adolescents’ perception of their parents’ monitoring, supervision and connectedness. Questions include: during the past 12 months, how often did your parents…check on whether you have done your homework?/ …provide help with your homework when you needed it?/ …make you do chores
around the house?/ …limit the amount of time you watched TV/? …limit the amount of time you went out with friends on school nights/? …let you know you’d done a good job/? …tell you they are proud of you? All of these are 4-point-scale questions (4= Always, 3= Sometimes, 2= Seldom, 1= Never). For this study, scores were summed up and the total ranged from 7 to 28. Then the parental involvement score was recoded to parental involvement level. If the total score was between 15 and 28, the parental involvement level was coded 1 (High Involvement), and if the total score was between 7 and 14, the parental involvement level was coded 0 (Low Involvement). Instrument Testing for parental involvement indicated acceptable internal consistency of those 7 questions (Cronbach’s Alpha= .706).

**Procedures**

The 2009 NSDUH used the audio computer-assisted self-interviewing (ACASI) system to provide highly private and confidential mode and to increase the level of honest reporting for mental health issues.

The secondary data analysis study proposal, survey instrument, cover letters, and informal and formal consent forms were approved by the researcher’s thesis committee and submitted to the University of Cincinnati Institutional Review Board (IRB). Since this is a study with public accessed data, the IRB exempted from review for research involving human subject.

**Data Analysis**

All data was analyzed using the Statistical Package for the Social Sciences (SPSS). An alpha level of .05 was established for determining significance. Analyses were conducted with descriptive report and multiple logistic regressions controlling for gender and age groups.
Chapter 4: Results and Discussion

The purposes of this study were to examine parental involvement and depression symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents. Chapter one discussed the significance of research questions, as well as listed the hypotheses, delimitations, limitations, assumptions, and operational definitions of this study. Chapter one also addressed the problem and determinants of depression among Asian American adolescents. Chapter two provided a comprehensive review of the literature with introduction to adolescent depression, effects of parental involvement on depression, and the need for deeper research on Asian American adolescents. Chapter three provided information of the original data set and discussed the methods used in this secondary data study. This chapter discusses the results of the research.

Participation

Asian American adolescents aged 12 to 17 ($n = 540$) who took part in the 2009 National Survey on Drug Use and Health (NSDUH, 2009) and provided valid responses to all selected survey questions served as the participants of this study. Initially, a total of 616 cases were located and 76 were dropped due to missing or invalid data, resulting in a total sample size of 540 and a total participation rate of 87.7%.

Demographic and Background Characteristics

Participants were evenly distributed by gender, and the percentage was 49.6% for males and 50.4% for females. The number of older adolescents (54.6%) was slightly larger than younger adolescents (45.4%) (Table 4.1). Ages ranged from 12 to 17 ($M = 14.64$, $SD = 1.703$). Among each age group and gender group, the distribution of sample was fairly even (Table 4.2).
All of them considered themselves as “Non-Hispanic Asian” in their answers on demographic questions.

Participants were also asked about depressive symptom and parental involvement questions, and all of them had provided valid answers to these questions, which means that all participants had perceived parental involvement to some level.

Table 4.1

Demographic of Participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>268</td>
<td>49.6%</td>
</tr>
<tr>
<td>Female</td>
<td>272</td>
<td>50.4%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger</td>
<td>245</td>
<td>45.4%</td>
</tr>
<tr>
<td>Older</td>
<td>295</td>
<td>54.6%</td>
</tr>
</tbody>
</table>

*Note.* N=540. Percents refer to valid percents. Missing values excluded.

Table 4.2

Distribution by Age Group and Gender

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>% Within Age</th>
<th>% Within Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>126</td>
<td>51.4%</td>
<td>47.0%</td>
</tr>
<tr>
<td>Female</td>
<td>119</td>
<td>48.6%</td>
<td>43.8%</td>
</tr>
<tr>
<td>Older</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>142</td>
<td>48.1%</td>
<td>53.0%</td>
</tr>
<tr>
<td>Female</td>
<td>153</td>
<td>51.9%</td>
<td>56.3%</td>
</tr>
</tbody>
</table>

*Note.* Subset of Gender and Age group categories did not differ significantly from each other at the .05 level. “% Within Age” indicates the percentage of a gender group within an age group, for example the percentage of male adolescents within younger adolescents was 51.4%; “% Within Gender” indicates the percentage of an age group within a gender group, for example the percentage of younger adolescents within male adolescents was 47.0%.
Involvement in Lifetime Major Depressive Episode

As addressed in chapter 3, participants were asked questions about the depressive symptoms and the frequency and length of experienced symptoms. All these questions were categorized according to the definition of Major Depressive Episode (MDE) addressed in DSM-IV, and then computed to a new variable “YMDELT” with 0 indicating no Lifetime Major Depressive Episode and 1 indicating occurrence of Lifetime Major Depressive Episode (Table 4.2). Among 540 participants, 64 (11.9%) meet the criteria of MDE (Table 4.3). Female adolescents were more than twice as likely to had lifetime MDE (16.9%) compared to male adolescents (6.7%), $\chi^2=13.431$, $p<.001$. A higher proportion (14.2%) of older adolescents had lifetime MDE compared with younger adolescents (9.0%), however the difference was not significant. Lifetime MDE was more prevalent among adolescents who had low perceived parental involvement (27.9%) than among adolescents who had high perceived parental involvement ($\chi^2=11.527$, $p=.001$). In addition older female adolescents were at the highest risk (19.6%) for depression followed by younger female adolescents (13.4%), older male adolescents (8.6%) and younger male adolescents (4.8%) (Table 4.4).
**Table 4.3**

*Lifetime Involvement in MDE by Gender and Age Group*

<table>
<thead>
<tr>
<th>Gender*</th>
<th>n</th>
<th>% Within Group</th>
<th>% of All Depressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (N=268)</td>
<td>18</td>
<td>6.7%</td>
<td>28.1%</td>
</tr>
<tr>
<td>Female (N=272)</td>
<td>46</td>
<td>16.9%</td>
<td>71.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>% Within Group</th>
<th>% of All Depressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger (N=245)</td>
<td>22</td>
<td>9.0%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Older (N=295)</td>
<td>42</td>
<td>14.2%</td>
<td>65.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parental Involvement*</th>
<th>n</th>
<th>% Within Group</th>
<th>% of All Depressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (N=43)</td>
<td>12</td>
<td>27.9%</td>
<td>18.8%</td>
</tr>
<tr>
<td>High (N=497)</td>
<td>52</td>
<td>10.5%</td>
<td>81.3%</td>
</tr>
</tbody>
</table>

*Note.* Number of depressed adolescent was 64. Column “% Within Group” indicate the prevalence of Lifetime MDE within the specific group, for example the prevalence of MDE among adolescents with low perceived parental involvement (N=43) was 27.9%. * significant link to lifetime Involvement in MDE.

**Table 4.4**

*Distribution of Lifetime Involvement in MDE*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>% Within Group</th>
<th>% Within Age</th>
<th>% Within Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger Male (N=126)</td>
<td>6</td>
<td>4.8%</td>
<td>27.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Female (N=119)</td>
<td>16</td>
<td>13.4%</td>
<td>72.7%</td>
<td>34.8%</td>
</tr>
</tbody>
</table>

| Older Male (N=142)   | 12 | 8.5%           | 28.6%        | 66.7%           |
| Female (N=153)       | 30 | 19.6%          | 71.4%        | 65.2%           |

*Note.* Number of depressed adolescent was 64. Column “% Within Group” indicates the prevalence of Lifetime MDE within the specific group, for example the prevalence of MDE among Younger female adolescents was 4.8%; “% Within Age” indicates the percentage of a gender group within a depressed age group, for example the percentage of male adolescents within depressed younger adolescents was 27.3%; “% Within Gender” indicates the percentage of an age group within a depressed gender group, for example the percentage of younger adolescents within depressed male adolescents was 33.3%.
Involvement in Depressive Symptoms among Depressed Adolescents

Seventy eight participants had reported at least one depressive symptom and 64 of them (82.1%) were categorized as having lifetime involvement in MDE. The average number of reported depressed symptoms was 6.24 for all Asian American adolescents. Descriptive analysis with \( \chi^2 \) test was conducted to examine each depressive symptom among depressed adolescents (Table 4.5). “Difficulty in concentrating thinking and decision-making” was the most popular depressive symptoms, and almost all depressed adolescents had this symptom (95.3%). Although “feeling of worthlessness” (48.4%) and “psychomotor agitation and retardation” (59.4%) were not as popular as the other symptoms, they were significant associated with the lifetime involvement MDE. Adolescents with “feeling of worthlessness” were more likely to had lifetime involvement in MDE (100%) compared with adolescent without “feeling of worthless” (80.5%), \( \chi^2=6.805, p<.05 \). Moreover, if adolescents reported “psychomotor agitation and retardation”, they were more likely to have lifetime involvement in MDE (97.4%) compared with adolescent without “psychomotor agitation and retardation” (78.8%), \( \chi^2=6.805, p<.05 \) (Table 4.6).

Among all Asian American adolescents, the prevalence of appetite and weight change and sleep problems was significantly higher among females than among males (89.4% V.S. 54.2%, \( \chi^2= 11.273, p=.001 \) for appetite and weight change; 73.3% V.S. 26.7%, \( \chi^2= 8.814, p=.003 \) for sleep problem). Chi square analyses also showed that for those who had lifetime MDE, females were more likely to report appetite or weight change (91.1%) compared with males (61.1%), \( \chi^2=8.029, p<.05 \). There were no significant gender differences in reporting other symptoms. Report of each depressive symptom was similar between younger adolescents and older adolescents.
### Table 4.5

**Depressive Symptoms among Depressed Adolescents**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed Mood</td>
<td>56</td>
<td>87.5</td>
</tr>
<tr>
<td>Loss of Interest or Pleasure in Daily Activities</td>
<td>58</td>
<td>90.6</td>
</tr>
<tr>
<td>Appetite and Weight Change</td>
<td>52</td>
<td>81.3</td>
</tr>
<tr>
<td>Insomnia or Hypersomnia</td>
<td>55</td>
<td>90.6</td>
</tr>
<tr>
<td>Psychomotor Agitation or Retardation</td>
<td>39</td>
<td>59.4</td>
</tr>
<tr>
<td>Fatigue or Loss of Energy</td>
<td>57</td>
<td>89.1</td>
</tr>
<tr>
<td>Feeling of Worthlessness</td>
<td>31</td>
<td>48.4</td>
</tr>
<tr>
<td>Difficulty in Concentrating Thinking and Decision-Making</td>
<td>61</td>
<td>95.3</td>
</tr>
<tr>
<td>Suicidal Ideation and Attempts</td>
<td>43</td>
<td>67.2</td>
</tr>
</tbody>
</table>

*Note. N=64*

### Table 4.6

**Link between each Symptom and Involvement in Lifetime DME**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>$\chi^2$</th>
<th>p</th>
<th>% of LT MDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed Mood</td>
<td>26.062</td>
<td>&lt;.001</td>
<td>36.4</td>
</tr>
<tr>
<td>Loss of Interest or Pleasure in Daily Activities</td>
<td>30.962</td>
<td>&lt;.001</td>
<td>23.8</td>
</tr>
<tr>
<td>Appetite and Weight Change</td>
<td>8.249</td>
<td>.004</td>
<td>68.8</td>
</tr>
<tr>
<td>Insomnia or Hypersomnia</td>
<td>24.385</td>
<td>&lt;.001</td>
<td>45.5</td>
</tr>
<tr>
<td>Psychomotor Agitation or Retardation</td>
<td>6.294</td>
<td>.012</td>
<td>78.7</td>
</tr>
<tr>
<td>Fatigue or Loss of Energy</td>
<td>26.612</td>
<td>&lt;.001</td>
<td>50.0</td>
</tr>
<tr>
<td>Feeling of Worthlessness</td>
<td>6.805</td>
<td>.009</td>
<td>80.5</td>
</tr>
<tr>
<td>Difficulty in Concentrating Thinking and Decision-Making</td>
<td>.827</td>
<td>.363</td>
<td>75.0</td>
</tr>
<tr>
<td>Suicidal Ideation and Attempts</td>
<td>.927</td>
<td>.336</td>
<td>84.0</td>
</tr>
</tbody>
</table>

*Note. % of LT MDE=Prevalence of Life Time MDE; WO=Without the symptom; With=With the symptom.*
Table 4.7

*Prevalence of Depressive Symptoms among Depressed Adolescents in Age-Gender-Interactive Groups*

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Younger Male</th>
<th>Younger Female</th>
<th>Older Male</th>
<th>Older Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed Mood</td>
<td>100.00%</td>
<td>87.50%</td>
<td>91.67%</td>
<td>83.33%</td>
</tr>
<tr>
<td>Loss of Interest or Pleasure in Daily Activities</td>
<td>100.00%</td>
<td>87.50%</td>
<td>100.00%</td>
<td>86.67%</td>
</tr>
<tr>
<td>Appetite and Weight Change</td>
<td>66.67%</td>
<td>81.25%</td>
<td>58.33%</td>
<td>93.33%</td>
</tr>
<tr>
<td>Insomnia or Hypersomnia</td>
<td>100.00%</td>
<td>100.00%</td>
<td>75.00%</td>
<td>90.00%</td>
</tr>
<tr>
<td>Psychomotor Agitation or Retardation</td>
<td>66.67%</td>
<td>43.75%</td>
<td>66.67%</td>
<td>63.33%</td>
</tr>
<tr>
<td>Fatigue or Loss of Energy</td>
<td>66.67%</td>
<td>87.50%</td>
<td>83.33%</td>
<td>96.67%</td>
</tr>
<tr>
<td>Feeling of Worthlessness</td>
<td>33.33%</td>
<td>37.50%</td>
<td>50.00%</td>
<td>56.67%</td>
</tr>
<tr>
<td>Difficulty in Concentrating Thinking and Decision-Making</td>
<td>100.00%</td>
<td>93.75%</td>
<td>100.00%</td>
<td>93.33%</td>
</tr>
<tr>
<td>Suicidal Ideation and Attempts</td>
<td>66.67%</td>
<td>68.75%</td>
<td>58.33%</td>
<td>70.00%</td>
</tr>
</tbody>
</table>

*Note. N=64*

**Perceived Parental Involvement by Age Group and Gender**

Question YE06ca to YE06g in Youth Experience session of 2009 NSDUH asked participants to report the frequency of parental involvement from a 1-4. Reported scores were summed and then categorized into two levels: low perceived parental involvement, reflecting adolescent’s belief that their parents never or seldom involved in their life; and high perceived parental involvement reflecting adolescent’s belief that their parents sometimes or always involved in their life.

Age group was a significant predictor for Perceived Parental Involvement. Controlling for gender, the odds of high perceived parental involvement for older adolescents were \( \exp(-2.236) = .11 \) times the odds for younger adolescents, which also means that compared to older adolescents the odds of high perceived parental involvement for younger adolescents were \( 1/.107=9.09 \) times higher \( (p<.001) \). Controlling for age group, the odds of high perceived parental involvement for females were \( \exp(-2.236)= .529 \) times the odds for males, which can be
interpreted as that odds of perceiving high parental involvement for males were $1/.529= 1.89$ times the odds of females.

Table 4.8

SPSS Output of Logistic Regression in Predicting Perceived Parental Involvement with Age Group and Gender

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>AgeGroup*</td>
<td>-2.208</td>
<td>.533</td>
<td>17.134</td>
<td>1</td>
<td>.001</td>
<td>.110</td>
<td>.039</td>
</tr>
<tr>
<td>Gender</td>
<td>-.637</td>
<td>.339</td>
<td>3.519</td>
<td>1</td>
<td>.061</td>
<td>.529</td>
<td>.272</td>
</tr>
<tr>
<td>Constant*</td>
<td>4.456</td>
<td>.549</td>
<td>65.934</td>
<td>1</td>
<td>.001</td>
<td>86.170</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p< .05.

Testing Hypotheses

Null hypothesis 1- 3. There will be no significant difference in having depression based on gender, age group and parental involvement level among Asian American adolescents.

A logistic regression was conducted to determine whether age group, gender and perceived parental involvement level was significant predictor for lifetime MDE. The first step was entering all the predictors and the second step was drop age group because it was not a significant variable in predicting Lifetime Involvement in MDE. From the output of logistic regression, 2 significant predictors for Lifetime Involvement in MDE were gender and perceived parental involvement level with exp (.985) = 2.678, p=.001<.05; and exp (-.1084) =.338 respectively. In conclusion, holding constant the parental involvement level, the odds of lifetime involvement in MDE among female adolescents were 2.678 times the odds among males, p<.05; while in same gender group, the odds of lifetime involvement in MDE for adolescents with high parental involvement were 33.8% of odds for adolescents with low parental involvement (p<.05). In other words, adolescents with low parental involvement were at higher risk for MDE than
adolescents with high parental involvement, and the odds of lifetime involvement in MDE for low parental involvement were as $1/0.338 = 2.96$ times high as odds for high parental involvement.

Table 4.9

SPSS Output of Logistic Regression in predicting Lifetime Involvement in MDE with Age Group, Gender and Perceived Parental Involvement Level

<table>
<thead>
<tr>
<th>Step 1a</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% C.I.for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgeGroup</td>
<td>.346</td>
<td>.293</td>
<td>1.391</td>
<td>1</td>
<td>.238</td>
<td>1.413</td>
<td>.795 to 2.511</td>
</tr>
<tr>
<td>Gender</td>
<td>.982</td>
<td>.296</td>
<td>11.025</td>
<td>1</td>
<td>.001</td>
<td>2.669</td>
<td>1.495 to 4.763</td>
</tr>
<tr>
<td>PareInvLev</td>
<td>-.956</td>
<td>.391</td>
<td>5.977</td>
<td>1</td>
<td>.014</td>
<td>.384</td>
<td>.179 to .827</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.957</td>
<td>.494</td>
<td>15.703</td>
<td>1</td>
<td>&lt;.001</td>
<td>.141</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% C.I.for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.985</td>
<td>.295</td>
<td>11.126</td>
<td>1</td>
<td>.001</td>
<td>2.678</td>
<td>1.501 to 4.776</td>
</tr>
<tr>
<td>PareInvLev</td>
<td>-1.084</td>
<td>.377</td>
<td>8.250</td>
<td>1</td>
<td>.004</td>
<td>.338</td>
<td>.161 to .709</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.641</td>
<td>.412</td>
<td>15.870</td>
<td>1</td>
<td>&lt;.001</td>
<td>.194</td>
<td></td>
</tr>
</tbody>
</table>

**Null hypothesis 4.** There is no interaction between age, gender and parental involvement in predicting depression among Asian American adolescents.

Logistic regressions with age group, gender, parental involvement and interaction between two of these 3 predictors were conducted and the interactions fall short of significance.

**Null hypothesis 5-7.** Among depressed Asian American adolescents, there will be no significant difference in having depression based on gender, age group and parental involvement level.
Logistic regression was conducted with depressed mood as the dependent variable, gender, age group and parental involvement level as independent variables. No significant predictor was found in this test.

*Null hypothesis 8-10.* Among depressed Asian American adolescents, there will be no significant difference in loss of interest or pleasure in daily activities based on gender, age group and parental involvement level.

Logistic regression was conducted with loss of interest or pleasure in daily activities as the dependent variable, and gender, age group and parental involvement level as the independent variables. No significant predictor was found in this test.

*Null hypothesis 11-13.* Among depressed Asian American adolescents, there will be no significant difference in appetite or weight change based gender, age group and parental involvement level.

Logistic regression was conducted with appetite or weight change as the dependent variable, and gender, age group and parental involvement level as independent variables. Controlling for all other variables gender was a significant predictor for appetite or weight change. The odds of reporting appetite or weight change for female were \( \exp(1.93) = 6.889 \) times as high as the odds for males \((p=.012 < .05)\). Other predictors were not significant in this test. A descriptive analysis was conducted to further examine the association between appetite or weight change and gender difference among depressed Asian American adolescents. As addressed in results about Involvement in Lifetime Major Depressive Episode, females were at significant higher risk in reporting appetite and weight change \((89.4\%)\) than males \((54.2\%)\), \(\chi^2 = 11.273, p<.001\).
Null hypothesis 14-16. Among depressed Asian American adolescents, there will be no significant difference in having insomnia or hypersonnia based on gender, age group and parental involvement level.

Logistic regression was conducted with insomnia or hypersonnia as the dependent variable, gender, age group and parental involvement level as the independent variables. No significant predictor was found in this test.

Null hypothesis 17-19. Among depressed Asian American adolescents, there will be no significant difference in loss of energy based on gender, age group and parental involvement level.

Logistic regression was conducted with loss of energy as dependent variable, gender, age group and parental involvement level as independent variables. No significant predictor was found in this test.

Null hypothesis 20-22. Among depressed Asian American adolescents, there will be no significant difference in having psychomotor agitation or retardation based on gender, age group and parental involvement level.

Logistic regression was conducted with psychomotor agitation or retardation as dependent variable, gender, age group and parental involvement level as independent variables. No significant predictor was found in this test.

Null hypothesis 23-25. Among depressed Asian American adolescents, there will be no significant difference in feelings of worthlessness based on gender, age group and parental involvement level.
Logistic regression was conducted with feelings of worthlessness as the dependent variable, gender, age group and parental involvement level as the independent variables. Parental involvement was detected as a significant predictor for reporting feelings of worthlessness as dependent variable. Other predictors were not significant. In order to better interpret the association between worthlessness feelings and perceived parental involvement among Asian American adolescents a descriptive analysis with χ² test was conducted. 62.5% of Asian American adolescents with low perceived parental involvement level reported worthlessness feelings compared with 23.6% of those with high perceived parental involvement level.

Null hypothesis 26-28. Among depressed Asian American adolescents, there will be no significant difference in having difficulty in thinking, concentrating and decision-making based on gender, age group and parental involvement level.

Logistic regression was conducted with difficulty in thinking, concentrating and decision-making as the dependent variable, gender, age group and parental involvement level as the independent variables. No significant predictor was found in this test.

Null hypothesis 29-31. Among depressed Asian American adolescents, there will be no significant difference in suicidal ideation and attempts based on gender, age group and parental involvement level.

Logistic regression was conducted with suicidal ideation and attempts as the dependent variable, gender, age group and parental involvement level as the independent variables. No significant predictor was found in this test.
Discussion

A total of 540 Asian American adolescent between the age of 12 and 17 years (Mean age =14.64) completed all selected questions used in the present study. Participants of this study were drawn from 2009 National Survey on Drug Use and Health (NSDUH, 2009), and questions were selected from “Core demographics”, “Youth experiences” and “Adolescent depression” sessions. All participants were aged 12-17 when they responded to the survey, and considered themselves as “Non-Hispanic Asian” as their ethnicity. Participants were evenly distributed by gender, and the percentage was 49.6% for males and 50.4% for females. The number of older adolescents (54.6%) was slightly larger than younger adolescents (45.4%).

When examining the extent of depression, analysis was conducted based on valid responds to all the questions regarding different type, frequency and persistence of depressive symptoms. 11.9% of Asian American adolescents (n=64) had met the diagnosis criteria for lifetime involvement in MDE which was slightly lower than prevalence of depression among all adolescents aged 12-17 (13.3%). The average number of reported depressive symptoms among Asian American adolescent was 6.

Most (92%) of Asian American Adolescent had high perceived parental involvement and only 8% had low perceived parental involvement. Age group was a significant predictor for perceived parental involvement across gender among Asian American adolescents. Older adolescents (13.2%) were more likely to report low perceived parental involvement, and the rate of low perceived parental involvement was 1.6% for younger Asian American adolescents. Although the gender difference was not significant enough in perceiving parental involvement (p=.061), a distinctive trend can be seen from the rates of perceived low parental involvement differences among four age-gender groups (younger male, younger female, older male and older
female). In early adolescence, only 1.7% of younger female and 1.6% of younger male reported low perceived parental involvement, however, in late adolescence, 17% of females aged 15-17 had low perceived parental involvement compared to 9.2% among males. Boys and girls had similar perceived parental involvement levels in early adolescents, and gender difference in reporting parental involvement emerged in late adolescents (15-17 year old). Older female adolescents were the most likely to report low perceived parental involvement.

Among Asian American adolescents, reporting low parental involvement was also related to lifetime MDE, 18.8% of the adolescents with lifetime MDE reported low parental involvement while 6.5% of the MDE free adolescents reported low parental involvement. The association between low parental involvement and lifetime depression was significant among older adolescents and female adolescents.

Gender and parental involvement were significant predictors for lifetime involvement in MDE. Female adolescents not only had higher risk for lifetime MDE (16.9%) but also tended to report more depressive symptoms (M=7.11, SD=1.418) than male adolescents (6.7%, M=6, SD=2.022). Among older adolescents, female were at the higher risk (19.6%) for depression than male adolescents (8.6%). Younger male Asian American adolescents (4.8%) had the lowest prevalence of lifetime depression among all age-gender groups. In addition, lifetime MDE was more prevalent among adolescents who had low perceived parental involvement (27.9%) than among adolescents who had high perceived parental involvement (10.5%). Controlling for other predictors, adolescents with low parental involvement were at significant higher risk for MDE than adolescents with high parental involvement. Older adolescents were more likely to had lifetime MDE (14.2%) and involved in more depressive symptoms compared to younger adolescents (9.0%), however the age group difference was not significant enough.
As for specific symptom, the 2 most reported depressive symptoms among adolescent with lifetime depression were difficulty in concentrating, thinking and decision making (95.3%) and sleep problems (90.6%), and the 2 least reported symptom was feeling of worthlessness (48.4%) and agitation or retardation (59.4%).

Logistic regressions were conducted for each depressive symptom among depressed Asian American adolescents to test the predicting role of gender, age group and perceived parental involvement. For most of the symptoms, there were no differences between male and female or between younger adolescent and older adolescent. However, we did find that among all adolescents, female Asian Adolescent adolescents were more likely to report appetite or weight change and sleeping problems as depressive symptoms than males; and among depressed adolescents, gender difference was significant only for appetite or weight change (91.1% V.S. 61.1%). Depressed Asian American adolescents with low perceived parental involvement level were more likely to report worthlessness feelings (62.5%) compared those with high perceived parental involvement level (23.6%).
Chapter 5: Conclusions and Recommendations

Depression has been considered as one of the leading causes of mortality and morbidity in modern society. Adolescent depression occurs at a time that was critical for physical and mental development; it often co-occurs with other psychological or behavioral disorder, which put adolescents’ health at higher risk; and it was very likely to reoccur as adulthood depression which will cause social, functional or academic impairment to their later lives. Female adolescents were at higher risk for depression than male adolescents, and the prevalence of depression increased dramatically from early adolescence to late adolescence.

Despite previous studies that showed that depression was a significant health issue and the depression often has its onset in adolescence, relatively little research had been conducted with immigrant adolescents, particularly Asian American adolescents.

Asian American adolescents were the fastest growing minority group. Compared with other groups, Asian American adolescent tended to report more depressive symptoms (Greenberge & Chen, 1996) and the way they express depression was distinctive, which might cause inconsistency of existing reports on depression among Asian American adolescent. In addition, the utilization of mental health service for depression among Asian American was less often and the quality was less effective. A deeper study was in need to understand the inconsistent result and health disparity in depression among Asian American adolescents.

The cultural differences on determinants of depression had been analyzed. Other than the expression of depressive symptoms, the relationship between parent and adolescents parental involvement were perceived differently in different culture. The level of parental involvement was closely related to depression among adolescents across life stage. However, the existing
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research was insufficient in examining the effects of parental involvement in Asian American adolescent depression in the United States. Previous studies of association between parental involvement and depression among Asian American adolescents had tended to focus on the average differences between Asians and European Americans (Greenberger & Chen 1996), solely on one sub-group of Asian Americans, or only on the academic outcomes of depression (Chao, 2001).

In effort to fill this research gap, the purposes of this study were to examine parental involvement and depressive symptoms among Asian American adolescents. Analyses were conducted to determine the relation of age, gender, and parental involvement with occurrence of depression and depressive symptoms among Asian American adolescents. Other than individual effect of one factor, interactive effects of sex, age group, ethnic group and parental involvement were also examined to get more in-depth views on this topic. Chapter one discussed the research questions, hypotheses, delimitations, limitations, assumptions, and operational definitions.

Chapter two provided a comprehensive review of the literature; and Chapter three discussed the participants, instrumentation, procedures, and data analysis. Chapter four provided the results of this study. This chapter presents the conclusions, discusses the findings, and provides recommendations for the field and for future research.

Conclusions

A total of 540 respondents were selected from 2009 NSDUH regarding their perceptions of parental involvement and depression. All participants were Asian American adolescent between the age of 12 and 17 years (Mean age =14.64) who completed all selected questions used in the present study. Questions for this study were selected from the “Core demographics”, the “Youth experiences” and the “Adolescent depression” sessions. About half of the participants
Asian American Adolescent Depression

were males and half of them were females. The percentage of older adolescents (54.6%) was slightly larger than younger adolescents (45.4%).

About 11.9% of participants had met the diagnosis criteria for lifetime involvement in MDE. The author also analyzed the data of all adolescents in 2009 NSDUH and found that 13.3% of adolescents aged 12-17 had lifetime depression. The prevalence of lifetime depression was lower among Asian Adolescents. Although diagnosis of lifetime depression requires at least 5 reported symptoms, the average number of reported depressive symptoms among Asian American adolescent was 6.24.

Among Asian American adolescents, gender and parental involvement were significant predictors for lifetime involvement in MDE. Female adolescents not only had higher risk for lifetime MDE (16.9%) but also tended to report more depressive symptoms than male adolescents. Older females were at the higher risk (19.6%) for depression, while Younger male Asian American adolescents (4.8%) had the lowest prevalence of lifetime depression among all age-gender groups. In addition, lifetime MDE was more prevalent among adolescents who had low perceived parental involvement (27.9%) than among adolescents who had high perceived parental involvement (10.5%). Controlling for other predictors, adolescents with low parental involvement were at significant higher risk for MDE than adolescents with high parental involvement. Older adolescents were more likely to had lifetime MDE (14.2%) and had more depressive symptoms compared to younger adolescents (9.0%), however the age group difference was not significant in this study.

The present study also examined the participants’ perceived parental involvement. The majority of Asian American Adolescent (92%) had high perceived parental involvement and only a small percentage (8%) had low perceived parental involvement. Reporting low parental
involvement was also related to lifetime involvement in MDE, 18.8% of the adolescents with lifetime MDE reported low parental involvement, while 6.5% of the MDE free adolescents reported low parental involvement. The association between low parental involvement and lifetime depression was stronger among older adolescents and female adolescents. Age group was a significant predictor for perceived parental involvement across gender among Asian American adolescents. Older adolescents (13.2%) were more likely to report low perceived parental involvement, and the rate of low perceived parental involvement was 1.6% for younger Asian American adolescents. Although the gender difference was not significant enough in perceiving parental involvement (p=.061), a distinctive trend can be seen from the different rates of perceived low parental involvement among four age-gender groups (younger male, younger female, older male and older female). In early adolescence, only 1.7% of younger female and 1.6% of younger male reported low perceived parental involvement, however, in late adolescence, 17% of females aged 15-17 had low perceived parental involvement compared to 9.2% among males. Boys and girls had similar perceive parental involvement in early adolescents, and gender difference in reporting parental involvement emerged only in late adolescents (15-17 year old). Therefore, older female adolescents were at the highest risk for low perceived parental involvement.

The present study also examined the reporting of each depressive symptom among Asian American adolescents. The 2 most reported symptoms were difficulty in concentrating, thinking and decision making (95.3%) and sleep problems (90.6%), and the 2 least reported symptom was feeling of worthlessness (48.4%) and agitation or retardation (59.4%).

Finally, logistic regressions were conducted for each depressive symptom among depressed Asian American adolescents to test the predicting role of gender, age group and
perceived parental involvement. For most of the symptoms, there were no differences between male and female or between younger adolescent and older adolescent. However, we did find that among all adolescents, female Asian Adolescent adolescents were more likely to report appetite or weight change and sleeping problems as depressive symptoms than males; and among depressed adolescents, gender difference was significant only for appetite or weight change (91.1% V.S. 61.1%). Depressed Asian American adolescents with low perceived parental involvement level were more likely to report worthlessness feelings (62.5%) compared those with high perceived parental involvement level (23.6%).

Discussion

Adolescent depression was a common but serious problem in the United States. Reports on depression among minority groups, especially among Asian American adolescents, were insufficient. The present study found that of the Asian American adolescents that participated in 2009 NSDUH, 11.9% had experienced major depressive episode in their lifetime. This was consistent with Saluja et al. (2004), the finding indicated that the prevalence of depression among Asian adolescents was lower than all adolescents aged 12-17.

Results also showed that female adolescents were more than twice likely to have lifetime MDE (16.9%) compared to male adolescents (6.7%). Female adolescents not only had higher risk for lifetime MDE (16.9%) but also tended to report more depressive symptoms (M=7.11, SD=1.418) than male adolescents (6.7%, M=6, SD=2.022). Among older adolescents, females were at the higher risk (19.6%) for depression than male adolescents (8.6%). Younger male Asian American adolescents (4.8%) had the lowest prevalence of lifetime depression among all age-gender groups. The gender difference on depression among Asian American adolescents was consistent with previous studies (APA, 2000; Hankin, 2006; Saluja et al., 2004).
Among Asian American adolescents, reporting low parental involvement was also related to lifetime MDE. Controlling for other predictors, adolescents with low parental involvement were at significant higher risk for MDE than adolescents with high parental involvement. 18.8% of the adolescents with lifetime MDE reported low parental involvement while 6.5% of the MDE free adolescents reported low parental involvement. The association between low parental involvement and lifetime depression was significant among older adolescents and female adolescents.

As for age group difference, although older adolescents had been found to have higher proportion (14.2%) of lifetime involvement in MDE compared with younger adolescents (9.0%), the difference was not as critical as addressed in other study reports (Hankin, 2006). Unlike the general population of adolescents, different stage of adolescence did not lead to significantly different rate of lifetime depression in Asian Americans. The following argument can be considered as reasons for the different prevalence of depression among Asian American adolescents and adolescents in other ethnic groups or the general population: Asian American adolescents experience and express depressive symptoms in different ways (Ryder et al., 2002; Kalibatseva & Leong, 2011; Lu et al., 2010); determinants of depression effect Asian American adolescents differently.

In examining the way Asian American report depressive symptoms, the present study found that 82.1% of participants who had reported at least one depressive symptom were categorized as having lifetime involvement in MDE. The average number of reported depressed symptoms was 6.24 for all Asian American adolescents. Existing research indicated that Asian American tend report somatic symptoms, appetite change, insomnia or fatigue - symptoms that were not directly about mind and feeling (Kleinman, 1996). In this study most of the depressed
adolescents reported somatic symptoms, 81.3% for appetite or weight change, 90.6% for sleeping problem and 81.9% for fatigue respectively. However, the most popular symptom was “Difficulty in concentrating thinking and decision-making” and almost all depressed adolescents had this symptom (95.3%) while “feeling of worthless” (48.4%) was the least reported symptom. These findings indicated that although Asian culture values conformity and integration of body and mind (Choi, 2002), Asian American adolescents were sensitive to disturbances in thinking caused by depression and didn’t have problems in reporting it and distinguishing it from somatic symptoms. On the other hand, affected by Asian culture and collectivism, most Asian American adolescents withdrawn complaints about feelings, especially the feelings of worthlessness that reflects the relationship between individual and the environment. If Asian American adolescents had reported depressive feeling, they were much more likely to be involved in lifetime depression. Prevalence of appetite and weight change and sleep problems were significantly higher among females than among males. There were no significant gender differences in reporting other symptoms among depressed Asian American adolescents. Report of each depressive symptom was similar between younger adolescents and older adolescents.

The present study also examined effect and determinant of parental involvement. Most (92%) of Asian American Adolescent had high perceived parental involvement and only 8% had low perceived parental involvement. Older adolescents (13.2%) were more likely to report low perceived parental involvement, and the rate of low perceived parental involvement was 1.6% for younger Asian American adolescents. Age group was a significant predictor for perceived parental involvement across gender among Asian American adolescents. Russell et al. (2010) stated that Asian American girls were more likely to have better relationship with parents than Asian American boys by reporting good parent-daughter communication, parents’ emotional
closeness with daughters, and instrumental support. Since good parent-adolescent relationship was considered as protective factor for depression, it was contradictory for female Asian American adolescent to have both better relationships with parents and higher rates of depression. However, the result of present study showed that gender difference was not significant enough in perceiving parental involvement (p=.061). By observing the prevalence of low perceived parental involvement in the following 4 groups: younger male, younger female, older male and older female Asian American adolescents, we can conclude that boys and girls had similar perceive parental involvement in early adolescents, and gender difference in reporting parental involvement emerged in late adolescents (15-17 year old). Females aged 15-17 were most likely to perceive low parental involvement, which was consistent with previous studies on gender difference and age group difference in adolescent depression (Hankin, 2006).

While the existing research lacks systematic information on parental involvement, the present study examined parental involvement with effects of sex, age group, parental involvement on adolescent depression and association between perceived parental involvement and adolescent depression among Asian Adolescent depression. Although the present study showed difference with Russell et al. (2010) by reporting low perceived parental involvement among older female adolescents, it was more reasonable in explaining the gender effect on the association between parental involvement and adolescent depression.

Recommendations

Recommendations for practice. This review of existing research focuses on perceived parental involvement as determinants of adolescent depression among Asian American. When defining or diagnosing adolescent depression understand determinants of adolescent depression, health care providers, parents, and health educators should consider the findings of this study.
Since lifetime depression and specific depressive behaviors differ based on gender, age group among different ethnic groups, diagnostic criteria could be made to recognize the symptom as early as possible. In addition, parenting changes or sex-appropriate modifications could be used to reduce the prevalence of depression among older individuals, to manage depression more effectively, and to prevent negative outcomes.

This study indicated that high parental involvement reduces risks of adolescent depression. Older adolescents, especially female adolescents were more likely to report low parental involvement. Furthermore, compared with male counterparts, female adolescents, especially older female adolescents, were at more than twice higher risk for lifetime depression and were more likely to report appetite or weight change or sleep problems. In addition, almost all depressed Asian American adolescents had difficulty in concentrating; thinking and making decisions, while feeling of worthlessness were not commonly reported.

These findings indicated a significant trend for association between perceived parental involvement and depressive symptoms reported by Asian American adolescents. How to educate, motivate and facilitate parents to apply parental involvement, and how to minimize the gap between parenting behavior and adolescents’ perception on parental involvement were critical to improve parent adolescent relationship and to reduce the risk of adolescent depression will be another question for future study. When defining, diagnosing and treating depression among older female adolescents, more attention was need to evaluate their perceived parental involvement as a reference, and to work on their appetite and sleep problem in case they had an eating or sleeping disorder. Depressed Asian American adolescents were very likely to had problem in concentrating, thinking or making decisions. Special intervention or educational
program on consciousness activities need to be developed in order to minimize the impairment of this symptom and maximize the effect of treatment for depression.

**Recommendations for improving research.** The present study was a secondary data analysis using existing survey questions. The measurement of parental involvement and depression was fixed, which indicates the potential of improvement. Take the parental involvement for example, self-reporting provided limited connection between parents and adolescents, which may lead to biased data. Method beyond self-report data would make results accurate and stronger. Second, the number of measurements was noted as insufficient. As addressed in literature review, there are different aspects of parental involvement, such as behavioral control, psychological control, warmth, communication. Researcher may create and test a structural model with as many indicators as possible.

The main statistic method was logistic regression with age, gender, and parental involvement as predictors for depression. However, instead of simple equation, those variables can be examined in a complex model with interactive effects and more in-depth views on depression and depressive symptoms among Asian American adolescents.

**Recommendations for future research.** This preliminary research on parental involvement and adolescent depression provides important information for future studies. More studies need to be conducted on association between parental involvement and adolescent depression among Asian American adolescents. This study obtained data from a national survey on drug and substance use, which may limit the ability to examine depression and parental involvement across different ethnic groups. Even within Asian American, ethnic groups often differ. For example, Chinese and Filipino Americans, the two largest Asian American subgroups in the United States, had very distinct identities and histories (Campen & Russell, 2010). Future
replicating studies across various diverse cultures would be beneficial.

Future research could examine the role of parents in intervention programs. For example, we could compare the effects of parental involvement on using different treatment of mental health to improve results of mental health services among adolescents. We could also study role of parental involvement on adolescent healthy and risky behavior and examine on which mental health issue parental involvement is more influential or beneficial.

Finally, if we could find an effective way to measure parental involvement, as well as examine the protective role of parental involvement among different ethnic groups, more potential determinants such as school involvement and community involvement in adolescent healthy behavior or risky behavior could be added to future research.
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