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STRESSFUL LIFE EVENTS AND DEPRESSIVE SYMPTOMS AMONG ADOLESCENTS IN MALAYSIA

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

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WONG YI SHAN

November 2019

Chair   **: Nor Sheereen Binti Zulkefly, PhD**
Faculty   **: Medicine and Health Sciences**

Little is known about the etiology of depression and its mechanism underlying the development of depressive symptoms in adolescents, particularly within the Malaysian context. As proposed by Beck's cognitive theory of depression, cognitive vulnerabilities serve as critical components to the rise of depressive symptoms in response to stressors. Given that cognitive vulnerability-stress model consists of effective elements for targeted depression prevention and intervention programs, the present study aimed to provide a fundamental understanding on the mediational role of cognitive vulnerability factor (i.e., maladaptive cognitive schema) in the structural relationships between stressful life events (i.e., negative life events and daily hassles) and depressive symptoms among the adolescents and examine the potential moderation effect of gender on the overall model. A cross-sectional correlational study was conducted to recruit participants across four selected states (i.e., Kedah, Kelantan, Melaka, and Selangor) in Malaysia. The present study involved 1,032 adolescents (38.8% of male and 61.2% of female) with the mean age of 14.97 from 25 government secondary schools, identified using probability proportional to size cluster sampling technique. Data were collected through a self-administered questionnaire, which comprised of the Life Events Checklist-Malay (Baharudin et al., 2016), Adolescent Minor Stress Inventory (Ames et al., 2005), Depression Anxiety Stress Scales Depression subscale (Lovibond & Lovibond, 1995), and Automatic Thought Questionnaire (Hollon & Kendall, 1980). The hypothesized model was tested using structural equation modeling analyses. Findings supported the direct impact of daily hassles on depressive symptoms but found no evidence for negative life events. As for the mediation test, bootstrapping results revealed that maladaptive cognitive schema significantly mediates the relationship between stressful life events (i.e., negative life events and daily hassles) and depressive symptoms. Results reported a full mediation effect of maladaptive cognitive schema between negative life events and depressive symptoms, and a partial mediation effect between daily hassles and depressive symptoms. Moderation analyses showed that the structural relationships between study variables differed across gender. Overall, the present study demonstrated

the direct relationships between stressful life events and depressive symptoms and provides valuable insights on the mediating role of maladaptive cognitive schema in the stress-depression association. Findings advances the understanding of mechanism underlying development of depressive symptoms among adolescents in Malaysia.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

PERISTIWA TEKANAN HIDUP DAN SIMPTOM KEMURUNGAN DALAM KALANGAN REMAJA DI MALAYSIA

Oleh

WONG YI SHAN

November 2019

Pengerusi   : **Nor Sheereen Binti Zulkefly, PhD**
Fakulti   : **Perubatan dan Sains Kesihatan**

Tidak banyak yang diketahui tentang etiologi kemurungan dan mekanismanya yang mendasari perkembangan gejala kemurungan pada remaja, terutamanya dalam konteks Malaysia. Seperti yang dicadangkan oleh teori kognitif kemurungan oleh Beck, kelemahan kognitif berfungsi sebagai komponen kritikal kepada peningkatan gejala kemurungan yang disebabkan oleh tekanan. Memandangkan model tekanan-kelemahan kognitif terdiri daripada elemen-elemen berkesan untuk pencegahan kemurungan dan program intervensi yang disasarkan, kajian ini bertujuan untuk memberikan pemahaman asas mengenai peranan perantaraan faktor kelemahan kognitif (iaitu, skema kognitif maladaptif) dalam hubungan struktur antara peristiwa tekanan hidup (iaitu, peristiwa kehidupan negatif dan gangguan harian) dan gejala kemurungan dalam kalangan remaja dan mengkaji kesan potensi kesederhanaan jantina pada keseluruhan model. Satu kajian korelasional rentas dijalankan untuk merekrut peserta di empat negeri terpilih (iaitu, Kedah, Kelantan, Melaka, dan Selangor) di Malaysia. Kajian ini melibatkan seramai 1,032 remaja (38.8% lelaki dan 61.2% perempuan) dengan purata umur adalah 14.97 dari 25 buah sekolah menengah kerajaan, yang dikenal pasti menggunakan kebarangkalian proporsional dengan teknik persampelan kluster saiz. Data dikumpul melalui soal selidik kendiri termasuk *Life Events Checklist* Versi Bahasa Melayu (Baharudin et al., 2016), *Adolescent Minor Stress Inventory* (Ames et al., 2005), *Depression Anxiety Stress Scales* (Lovibond & Lovibond, 1995) dan *Automatic Thought Questionnaire* (Hollon & Kendall, 1980). Model hipotesis diuji menggunakan analisis model persamaan struktur. Dapatan menyokong kesan langsung gangguan harian terhadap gejala kemurungan tetapi tidak menemui bukti bagi peristiwa kehidupan yang negatif. Keputusan melaporkan kesan perantaraan penuh skema kognitif maladaptif mengantara hubungan antara peristiwa-peristiwa kehidupan yang tertekan (iaitu peristiwa kehidupan negatif dan gangguan harian) dan gejala kemurungan. Hasil melaporkan kesan perantaraan skema kognitif maladaptif antara peristiwa kehidupan negatif dan gejala kemurungan, dan kesan pengantaraan separa antara gangguan harian dan gejala kemurungan. Analisis keseragaman menunjukkan bahawa hubungan struktur

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antara pembolehubah kajian berbeza mengikut jantina. Secara keseluruhannya, kajian ini menyokong hubungan antara peristiwa-peristiwa kehidupan yang tertekan dan gejala kemurungan dan memberikan pandangan yang berharga mengenai peranan perantaraan skema kognitif maladiptif terhadap tekanan-kemurungan. Dapatan meningkatkan pemahaman tentang mekanisme yang mendasari perkembangan gejala kemurungan dalam kalangan remaja di Malaysia.

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I certify that a Thesis Examination Committee has met on (7th November 2019) to conduct the final examination of Wong Yi Shan on her thesis entitled "Stressful Life Events and Depressive Symptoms among Adolescents in Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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This is to confirm that:
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LIST OF ABBREVIATIONS

AMOS	Analysis of moment structure
AMSI	Adolescent minor stress inventory
ATQ	Automatic thoughts questionnaire
AVE	Average variance extracted
CI	Confidence intervals
CFA	Confirmatory factor analyses
CFI	Comparative fit index
CR	Composite reliability
DASS	Depression anxiety stress scales
DEFF	Design effect
EDA	Exploratory data analysis
ESS	Effective sample size
GFI	Goodness-of-fit index
GOF	Goodness-of-fit indices
ICC	Intra-cluster correlation coefficient
LEC	Life events checklist
MCAR	Missing completely at random
MCS	Maladaptive cognitive schema
MGA	Multi-group analysis
NFI	Normed fit index
NLE	Negative life events
PPS	Probability proportional to size
RMSEA	Root mean squared error of approximation
SD	Standard deviation
SE	Standard error
SEM	Structural equation modeling
SIE	Standardised indirect effect
SPSS	Statistical package for the social sciences
VIF	Variance inflation factor

CHAPTER 1

INTRODUCTION

Chapter 1 introduces the background of the present study highlighting issues which range from cognitive vulnerabilities to depressive symptoms in Malaysian adolescents. Upon revealing the issues related to the present topic, a statement of problem is presented, followed by the research questions and a thorough discussion of the theoretical background that guided the present study. A conceptual framework is depicted, and the research objectives that are elaborated in terms of general and specific objectives are described. This chapter is continued with the hypotheses and significance of the present study. Definitions for key terminologies are included with a list of conceptual and operational definition. Lastly, the organization of thesis and a chapter summary are presented towards the end of this chapter.

1.1   Background of the Study

Adolescence is a critical developmental stage with a series of physical, social, and psychological changes. These pronounced changes may strain the adolescents' coping capacities and expose them to stressful environments, which have long been known for their associations with depressive disorders (e.g., Barber, Kohl, Kassam-Adams, & Gold, 2014; Dulaney, Graupmann, Grant, Adam, & Chen, 2018; Ruivo, Matos, & Oliveira, 2015; Vinkers et al., 2014). Specifically, adolescents who fail in adapting to the significant developmental transitions may become vulnerable and at a heightened risk of developing depressive symptoms. Moreover, gender differences in depression have been found to emerge during adolescence. Although male and female share similar trajectories of depressive symptoms during childhood, gender differences are expected to emerge once they reach puberty. Adolescent girls are about twice as likely as boys to develop depressive symptoms starting around age 13 (Girgus & Yang, 2015). In response to the persistent negative influence of depressive problems on the adolescents' psychological well-being, it is essential to understand the functional processes leading to the development of depressive symptoms, particularly on its interaction with stressors, to develop targeted depression intervention and prevention programs for the youth population.

Traditionally, research works were primarily devoted to the stress-depression association, supporting the significant link between stressful life events and the development of depressive symptoms in adolescents (Hammen, 2005, 2015). Yet, limitation of this direct effect has become increasingly patent, and it is noteworthy that stressor alone is not sufficient to account for the remarkable rise of depressive symptoms in adolescents (Grant et al., 2014; Ingram & Luxton, 2005). Among multiple pathways in describing etiology of depression, the combination of cognitive style and stress yields a simple and compelling explanation for the mechanism underlying developing of adolescents' depressive symptoms. The facts that not all individuals who encountered life stress

exhibit depressive symptoms have led to the notion of vulnerability processes that is best conceptualised in the vulnerability-stress model of depression.

Although both stress and cognitive vulnerability are important key factors in psychopathology, the real power in describing the development of psychopathology lies in their interaction. Specifically, the stress-depression association is expected to be less significant without the presence of vulnerability factors (e.g., Cui, Shi, & Oei, 2013; Young, LaMontagne, Dietrich, & Wells, 2012). Given the prominence of vulnerability-stress approach in development of depression, a substantial body of research has been conducted and supported the cognitive vulnerability-stress theories of depression (e.g., Calvete, Orue, & Hankin, 2015b; Stange, Hamilton, Abramson, & Alloy, 2014; Waszczuk, Coulson, Gregory, & Eley, 2016). Yet, most of the research within the adolescent population focused on hopelessness theory of depression by Abramson, Metalsky, and Alloy (1989; e.g., Calvete, Orue, & Hankin, 2013; Waszczuk et al., 2016) and ruminative response style theory by Nolen-Hoeksema (1991; e.g., Calvete et al., 2015b; Stange et al., 2014). Little is known about Beck's (1967) cognitive theory of depression (BT) in adolescents, despite its contribution in the most effective psychological intervention (i.e., cognitive-behavioural therapy; CBT) for depression (Beck, 2005; Powell, Abreu, Oliveira, & Sudak, 2008). Hence, it is particularly important to understand of how Beck's (1967) cognitive vulnerability construct (i.e., maladaptive cognitive schema; MCS) leads to the development of depressive symptoms and obtain substantial information to assure the comprehensiveness as well as appropriateness of depression interventions programs among the adolescents.

According to BT (Beck, 1967), the negative cognitive schema is central to depression. Individuals who are vulnerable to depressive problems are expected to possess MCS that is generated from stressful life experiences (Beck, 2008). According to the vulnerability-stress theory of depression (Beck, 1967), MCS is hypothesised to interact with stressors and dominates one's thinking process with negative views of self, world, and future that give rise to the onset of depressive symptoms. Although research on BT with the adolescent population is rather limited, few possible exceptions generally supported the link between stressful life events, MCS, and subsequent depressive problems in adolescents (e.g., Cui et al., 2013; Dozois & Rnic, 2015; Young et al., 2012). In terms of accessing the underlying schema, it is usually measured through its cognitive products, such as dysfunctional attitudes and automatic thoughts. Given that negative automatic thoughts are known to be the proximal causes of depressive symptoms and play a crucial role in CBT (J. Beck, 2011), it is essential to put more emphasis on these automatic thoughts in the assessment of MCS for a better understanding on the etiology of depression.

In addition, it is long-established that males and females experience distinctive pathways in the development of depression (Girgus & Yang, 2015; Shore, Toumbourou, Lewis, & Kremer, 2017). The psychosocial theories about gender differences in depression among adolescents are fundamentally based on cognitive vulnerability-stress model (Girgus & Yang, 2015). Consistent with the findings from previous studies, female adolescents experience more stressful life events and have greater cognitive vulnerabilities, leading to gender differences in depressive symptoms (e.g., Castelao & Kröner-Herwig, 2013; Hamilton, Stange, Abramson, & Alloy, 2015; Stange et al., 2014). Thus, gender is

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recognised as a potential moderator between stressful life events and depressive symptoms in adolescents. The relationships between stressful life events, MCS, and depressive symptoms in adolescent population should not be examined without taking into considerations the impact of gender differences on the structural relationships.

In sum, adolescence is a critical period to study the mechanism underlying development of depressive symptoms in adolescents for targeted depression intervention and prevention programs. Despite its significance, there is still a paucity of research on the underlying mechanism that gives rise to the onset of depressive symptoms among adolescents, particularly in the Malaysian context. Local research (e.g., Ang et al., 2017; Latiff, Tajik, Ibrahim, Abubakar, & Ali, 2016) tends to focus on the prevalence of depression and its associated factors. Little has been known on the etiology of depression as well as its developmental origins of cognitive vulnerability model (Ang, 2011; Leng, Hutagalung, & Li, 2017). Corresponding to the high prevalence of depression among the adolescents in Malaysia (Institute for Public Health, 2017a), there is a dire need to obtain a better understanding on cognitive vulnerability factor in the relationship between stressful life events and adolescents' depressive symptoms for early intervention before these vulnerabilities turn into long-established depressogenic cognitions and become a greater burden to the Malaysian community.

Taken together, MCS serves as a critical component between the stress-depression association and provides a compelling explanation for the underlying mechanism in the etiology of depression. Despite existing literature providing a strong evidence base for BT (Beck, 1967), the weight of initial supports accumulated thus far is still inconclusive for the mediational role of MCS in the stress-depression association, specifically within the adolescent population. In order to address the research gap, the present study includes MCS as a potential mediator between stressful life events which are operationalised as major (i.e., negative life events; NLE) and minor (i.e., daily hassles) life stressors and depressive symptoms among adolescents in Malaysia. Additionally, the moderating effect of gender is examined to study the impact of gender differences on the structural relationships. The present study hypothesises that MCS is a unique mediator of the relationships between stressful life events and depressive symptoms, and the overall model is expected to differ across gender.

1.2   Statement of Problem

As recommended by Locke, Spirduso, and Silverman (2013), a statement of problem should be developed with the purpose of indicating why the researchers want to do the study and what they intend to accomplish. Both Locke et al. (2013) and Creswell (2014) emphasised that the statement should address the major idea of study, which is built on the identified problems and refined into research questions. In a quantitative study, the statement of problem should also introduce the key study variables and their relationships (Creswell, 2014). Following Creswell's (2014) research design guidebook, the problem statement of the present study is presented according to the following components: 1) major intent, 2) statement of theory, 3) key variables, 4) connection of the key study variables, 5) type of strategy, 6) unit of analysis, and 7) definition of variables (refer to Section 1.9).

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The present study aims to examine the relationships between stressful life events (i.e., NLE and daily hassles), MCS, and depressive symptoms in order to obtain a better understanding on the mechanism underlying development of depressive symptoms in adolescents. As described earlier, adolescence is a critical developmental stage that immerses the young persons in a stressful environment with a series of physical, social, and psychological changes. Of the various types of stressors, stressful life events in the interpersonal (i.e. stressful episodes with another person that may contain conflict, break-ups and uncomfortable atmosphere) and achievement (i.e., disappointment and failure in relation to a goal) domains are two of the most common stress experienced by adolescents (Girgus & Yang, 2015). The abundance of developmental changes and stressful transitions may strain the adolescents' coping capacities that render adolescence a vulnerable period for the development of depressive symptoms. In Malaysia, depression has become more prevalent among the nation's young generation with around one in five adolescents (18.3%) was suffering from depression (Institute for Public Health, 2017a). According to the National Health and Morbidity Survey (NHMS) on adolescents' mental health, the prevalence of depression among the Malaysian secondary school-going adolescents (i.e., 13-17 years) was highest in the state of Selangor with 22.6% and in the urban schools with 19.2% (Institute for Public Health, 2017a). The major health concern has received growing attention from the society due to its persistent negative impact on the youths' physical and psychological health. Although local research (e.g., Ang et al., 2017; Latiff et al., 2016) has documented the prevalence of adolescents' depression and its associated factors, scarce research has been done on the etiology of depression and its functional processes leading to the development of depressive symptoms, particularly in the Malaysian context (Ang, 2011). Recognising the prominence of vulnerability-stress approach in delineating the developmental trajectories of adolescents' depressive symptoms (e.g., Calvete et al., 2015b; Stange et al., 2014; Waszczuk et al., 2016), the present study is constructed within Beck's (1967) cognitive vulnerability-stress model of depression to unveil the mediational role of MCS in the stress-depression association among the adolescent population.

Cognitive vulnerability-stress model has been recognised as a major model in cognitive approach that characterises stressors as one of the general factors to the development of psychopathology (Ingram & Luxton, 2005). The cognitive model proposes that the likelihood of developing psychopathology is based on individual differences in their cognitive style (i.e., cognitive vulnerability), which is significantly linked with the ways in which one attends or construes the stressful life events. One of the most influential vulnerability-stress theories of depression, BT (Beck, 1967) suggests that individuals who are prone to depression possess MCS that arises from dysfunctional attitudes generated by stressful life experiences over the long developmental course (Beck, 2008). Upon activation by stressors, MCS gives rise to cognitive distortions that dominates one's thinking process with negative views of self, world, and future (i.e., negative cognitive triad), which are subsequently expressed through negative automatic thoughts, leading to the onset of depression. Based on the theoretical background, it is apparent that there exists a significant relationship between stressful life events, MCS, and depressive symptoms. A more thoroughly discussion of the theoretical concept is presented in the following section, theoretical background (refer to Section 1.4).

There are four key variables in the present study, which include stressful life events, MCS, depressive symptoms, and gender. In order to examine the broad range of stressful life events, both major (i.e., NLE) and minor (i.e., daily hassles) life stressors are included to access adolescents' stressful life experiences. Past studies revealed that experiencing either or both major and minor stressful life events are significantly linked with the increased risk of developing depressive symptoms (e.g., Barber et al., 2014; Vinkers et al., 2014). Meanwhile, referring to BT (Beck, 1967), MCS is characterised as a prominent cognitive vulnerability factor to depressive symptoms and is assumed to lie dormant until it is activated by stressors. As youths progress through adolescence, male and female experience distinctive trajectories of depressive symptoms with varying levels of stress and cognitive vulnerability (Girgus & Yang, 2015; Shore et al., 2017). Thus, it is essential to examine the impact of gender differences on the hypothesised model.

In terms of the connection between variables, stressful life events serve as a cause factor (i.e., independent variable), while depressive symptoms among the adolescents serve as an effect factor (i.e., dependent variable). MCS is included as a cognitive vulnerability factor that serves as a mediator in the relationships between stressors and depressive symptoms, while gender serves as a moderator to account for the impact of gender differences on the overall model. Although the stress-depression link has long been documented, it is noteworthy that stressor alone is not sufficient to account for the rise of depressive problems in adolescents (Grant et al., 2014). The interaction of cognitive vulnerability and stress clearly articulate the functional processes leading to the development of adolescents' depressive symptoms (Ingram & Luxton, 2005). A vast amount of research has offered insight into the underlying mechanism and supported the relationship between stressful life events, cognitive vulnerabilities, and depressive symptoms (e.g., Calvete et al., 2013; Stange et al., 2014; Waszczuk et al., 2016). Yet, it is still inconclusive for the mediational role of negative cognitive schema in stress-depression association, particularly among the adolescent population (Lakdawalla et al., 2007). Therefore, the present study is designed to examine the mediating effect of MCS in the relationships between stressful life events and adolescents' depressive symptoms, and the moderating effect of gender in such relationships.

In order to assess MCS that is hardly possible to measure through a self-administered scale, the underlying schema in the present study is examined using the accessible self-reporting automatic thoughts. Despite scarce research on negative automatic thoughts, several past studies supported the mediational role of automatic thoughts between stress or cognitive schema and depressive symptoms (e.g., Cui et al., 2013; Ruiz & Odriozola-González, 2016). The automatic thoughts are known to be the proximal causes of depressive symptoms and play a crucial role as the most superficial level of cognitions that may directly influence one's behaviours and emotional states (J. Beck, 2011). Furthermore, the substantially less research on the etiology of depression, especially in the Asian context (Girgus & Yang, 2015; Grant et al., 2014), raises the concern about the information relevant to effective elements for adolescents' depression prevention and intervention program. Given the pressing need to advance our current knowledge on the underlying mechanism between stress and depression in adolescents, the present study attempts to test the hypothetical model by taking the nation's young generation as the unit of analysis and generalise findings from a large sample to the adolescent population

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in a Malaysian context. Respondents are recruited from the large-scale national research project (Zulkefly, Baharudin & Tan, 2018) using probability proportional to size (PPS) cluster sampling technique. As it was a cross-sectional study, data was collected at a single point in time. To test the hypothesised model, structural equation modeling (SEM) is applied to reveal the causal relationships between variables and test for both mediation and moderation effect. SEM is a relatively novel analysing technique in the field that provides simultaneous overall tests of model fit and individual parameter estimate test while incorporating the measurement errors to improve its statistical estimation (Baron & Kenny, 1986).

In summary, the present study aims to examine the stress-depression association within a mediation model, which includes MCS as a mediator between stressful life event (i.e., NLE and daily hassles) and depressive symptoms among the adolescents in Malaysia, and gender as a moderator between the structural relationships. A detailed list of conceptual and operational definition of terminology is presented in the latter section (refer to Section 1.9), and a more thorough review of these variables is presented in the following chapter.

1.3   Research Questions

The following research questions are aimed to be answered in the present study:

1. What are the relationships between stressful life events (i.e., NLE and daily hassles) and depressive symptoms?
2. What are the relationships between stressful life events (i.e., NLE and daily hassles) and MCS?
3. What are the relationships between MCS and depressive symptoms?
4. Does MCS mediate the relationships between stressful life events (i.e., NLE and daily hassles) and depressive symptoms?
5. Does gender moderate the structural relationships between stressful life events (i.e., NLE and daily hassles), MCS, and depressive symptoms?

1.4   Theoretical Background

1.4.1   Cognitive Vulnerability-Stress Model

Cognitive vulnerability-stress model has been recognised as a significant model of cognitive approach that characterises stressors (e.g., loss of an important source of love) as one of the general factors to the development of psychopathology (Ingram & Luxton, 2005). According to the vulnerability-stress framework, the likelihood of developing psychopathology is based on individual differences in their cognitive style (i.e., cognitive vulnerability) and the ways in which one attends or construes the stressful life events (Ingram & Luxton, 2005). In other words, the cognitive vulnerabilities influence the amount of damage created by the aversive experiences. The vulnerability-stress model proposes that everyone possess certain level of vulnerabilities to any given mental disorder (Monroe & Hadjiyannakis, 2002). As shown in Figure 1.1, development of a specific disorder depends on the interaction between the degree of predisposition or

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vulnerabilities and environmental stressors. In general, despite both stress and vulnerability being important key factors, the real power in describing the development of psychopathology lies in the interaction between stress and vulnerability rather than separately.
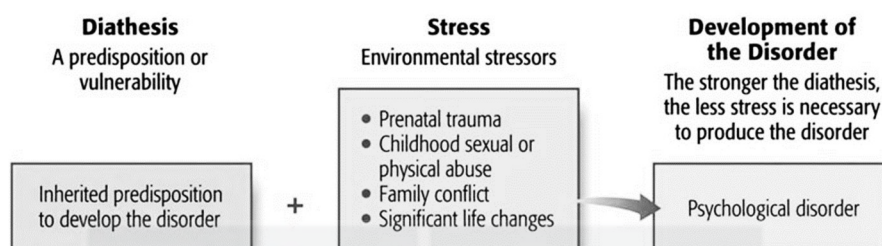
Figure 1.1: The vulnerability-stress model
Source: Adapted from Nevid, Rathus, and Greene (2003)

Date back to 1960s, the concept of bringing both stressors and vulnerability constructs together was initially developed by Rosenthal (1963) and Bleuler (1963) to account for the origins of schizophrenia. Given its prominence in explaining development of psychopathology, the interaction between stress and vulnerability has later been adapted for the etiology of depression (e.g., Abramson et al., 1989; Beck, 1967). Vulnerability-stress theories of depression clearly articulate the functional processes leading to the development of depressive symptoms. Furthermore, these theories may account for the fact that not all individuals who encountered life stress become clinically depressed or exhibit depressive symptoms. Indeed, it is well-recognised that cognitive vulnerabilities interact with stressful life events to serve as a risk factor for depressive symptoms (Girgus & Yang, 2015; Lakdawalla et al., 2007).

1.4.2 Beck's Cognitive Theory of Depression

According to Beck's cognitive theory of depression (BT; Beck, 1967), the negative cognitive schema and its cognitive products (e.g., dysfunctional attitudes and automatic thoughts) are central to depression. Cognitive vulnerabilities for depression are constituted by MCS, which arises from dysfunctional attitudes that involve a broad theme of worthlessness, inadequacy, loss, and failure (Auerbach, Webb, & Stewart, 2016). These cognitive schemata consist of stored bodies of knowledge about oneself and previous experiences that gradually elaborated over life (Beck, 2008). During the long course of development, individuals who encounter highly negative life stressors are more likely to develop MCS, which influences one's information processing and associate with cognitive bias that contributes to the negative views of self, world, and future (i.e., negative cognitive triad). These cognitive distortions dominate one's thinking process with negative cognitive triad, and subsequently lead to the onset of depressive symptoms.

Central to Beck's (1967) assumptions, development of depression is primarily characterised by negative cognitive triad, which consists of three negative cognitive

patterns: (1) negative views of self, in which individuals revolve around the themes of deficiency, worthlessness and inadequacy of the self; (2) negative views of the world, individuals think that they are dealing with an overly demanding world and interpret their life as traumatic and full of burdens; and (3) negative views of future, individuals suffer from pessimism and constantly living in negative expectancies. According to Beck's assumptions, these negative self-relevant beliefs are the central features to all aspects of depression, such as motivational and somatic disturbances (Beck, 1991). Beck (1967) proposed that the assessment of depressogenic cognitions is not only limited to the content but also in the processes. The rise of depression can be attributed to the inferences derived from schema-driven processes with distorted cognitions, while those non-depressed individuals are making inferences based on relevant-situational information (Lakdawalla et al., 2007).

Given that BT (Beck, 1967) is a vulnerability-stress model, MCS is hypothesised to lie dormant until it is activated by stressful life events. Depression-prone individuals with latent cognitive structure are still capable to make inferences according to relevant information as their cognitive processing is not affected in the absence of life stressors (Lakdawalla et al., 2007). However, when they encounter stressful life experiences, these maladaptive schemas are activated and generate negative automatic thoughts that trigger the onset of depressive symptoms. Although there is only limited work on BT (Beck, 1967) with the youth populations, studies provide substantial support to the relationship between stressful life events, MCS, and depressive symptoms among the adolescents (e.g., Dozois & Rnic, 2015; Meiser & Esser, 2017; Morris, Kouros, Fox, Rao, & Garber, 2014). Recognising the significance of MCS as a fundamental component of BT (Beck, 1967), the present study is constructed within its theoretical framework to examine the mediation model of MCS on the relationship between stressful life events and depressive symptoms.

1.5   Conceptual Framework

Based on the theoretical background, both stressful life events and MCS are supported in shaping the development of depressive symptoms. The present study aims to examine MCS as a potential mediator between stressful life events, which are operationalised as major (i.e., NLE) and minor (i.e., daily hassles) life stressors and depressive symptoms among the adolescents. Additionally, gender is included as a moderator to account for the impact of gender differences on the overall model. The conceptual model of the current study is presented in Figure 1.2.
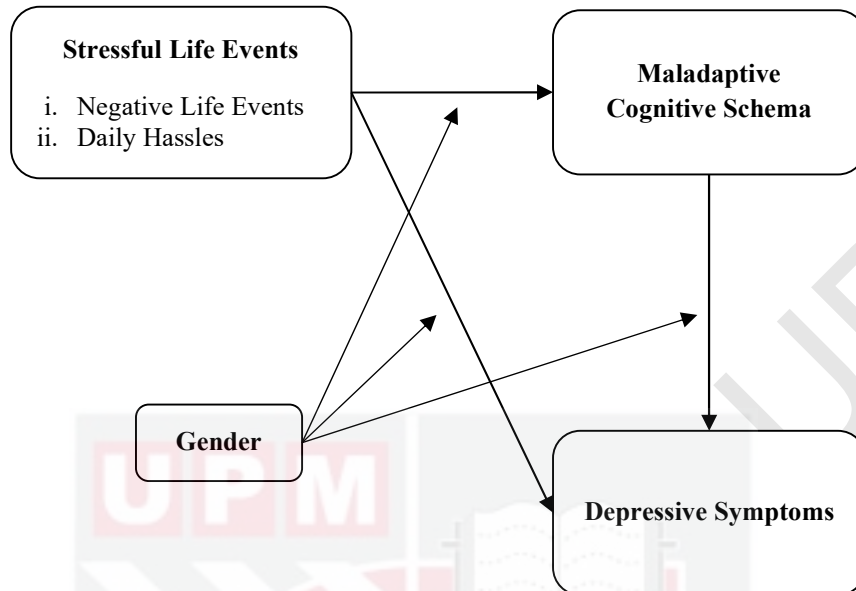
Figure 1.2: Conceptual framework of the study

Both direct and indirect effects among the variables are evaluated through the examination of the structural models. Direct effect is a linear relationship between predictors (i.e., stressful life events and MCS) and endogenous variables (i.e., MCS and depressive symptoms) that is not intervened by mediator and by holding constant of all other factors among the variables. Whereas, indirect effect is the change in the effect of stressful life events on depressive symptoms when MCS comes into play as an intervening variable. The rationale of studying these structural relationships are further discussed in Chapter 2.

1.6   Research Objectives

1.6.1   General Objective

The present study aims to examine the relationship between stressful life events (i.e., NLE and daily hassles) and depressive symptoms, as well as the potential mediating effect of MCS and moderating effect of gender on the structural relationships among the adolescents in Malaysia.

1.6.2   Specific Objectives

Specific objectives of the present study are as follows:

1. To examine the relationships between stressful life events (i.e., NLE and daily hassles), MCS and depressive symptoms.
2. To examine the mediation of MCS on the relationships between stressful life events (i.e., NLE and daily hassles) and depressive symptoms.

3. To determine the role of gender as a moderator in the structural relationships between stressful life events (i.e., NLE and daily hassles), MCS, and depressive symptoms.

1.7   Hypotheses

Based on the research objectives and research questions, the present study raises the study hypotheses that are presented in Table 1.1.

<div align="center">Table 1.1: Hypotheses of the study</div>

	Research Questions		Hypotheses
RQ1	What are the relationships between stressful life events (i.e., NLE and daily hassles) and depressive symptoms?	H1a	Adolescents who experienced more negative life events are expected to have higher level of depressive symptoms.
		H1b	Adolescents who experienced more daily hassles are expected to have higher level of depressive symptoms.
RQ2	What are the relationships between stressful life events (i.e., NLE and daily hassles) and MCS?	H2a	Adolescents who experienced more negative life events are expected to have higher level of maladaptive cognitive schema.
		H2b	Adolescents who experienced more daily hassles are expected to have higher level of maladaptive cognitive schema.
RQ3	What are the relationships between MCS and depressive symptoms?	H3	Adolescents with greater maladaptive cognitive schema are expected to have higher level of depressive symptoms.
RQ4	Does MCS mediate the relationships between stressful life events (i.e., NLE and daily hassles) and depressive symptoms?	H4a	Maladaptive cognitive schema mediates the relationship between negative life events and depressive symptoms
		H4b	Maladaptive cognitive schema mediates the relationship between daily hassles and depressive symptoms
RQ5	Does gender moderate the structural relationships between stressful life events (i.e., NLE and daily hassles), MCS and depressive symptoms?	H5	Structural relationships between stressful life events (i.e., negative life events and daily hassles), maladaptive cognitive schema and depressive symptoms differed across gender.

1.8 Significance of the Study

As a developing country, Malaysia is undergoing rapid urbanisation and socio-economic development leading to modernity related changes in lifestyle that could give rise to high stress level and depression rate among the population (Barlow, 2001; Sarris et al., 2014). Indeed, a national survey project done by Institute for Public Health (2017a) found that depression is much more prevalent in the urban areas, and the highest prevalence of adolescents' depression and highest stress level were reported in the state of Selangor, which comprises 91.4% of urbanisation (Department of Statistics Malaysia, 2010). Depression has become more prevalent in Malaysia, and it is expected to affect up to 2.3 million people at certain point in their lives (Mukhtar & Oei, 2011). In the youth population, more than 18% of them were clinically depressed (Institute for Public Health, 2017a) and around 42.5% of the secondary school students were suffering from moderate to extremely severe depression in Malaysia (Latiff et al., 2016). This major health concern among the nation's young generation has received considerable attention from academics and local healthcare industry. However, there is still a paucity of research on the etiology of depression in the Malaysian context (Ang, 2011), and it is still inconclusive for the mediational role of negative schema in stress-depression association, specifically within the youth population. With the aim of protecting the young generation as a valuable asset for our future society, the current findings are essential in addressing the existing research gaps and to advance current knowledge on depression vulnerabilities as well as their developmental origins among adolescents.

In the clinical practice, better understanding on the cognitive vulnerability-stress model of depression and the functional processes leading to the rise of depressive symptoms among adolescents may contribute to designing and implementing depression prevention and intervention programs. Early interventions (e.g., modification of latent schema) that specifically addresses high risk groups (i.e., high levels of stress or vulnerability) may prevent the consolidation of these vulnerabilities by later adolescence and affect the youths' psychological well-being throughout their adolescence and adulthood (Hankin, 2008). Moreover, cognitive-behavioural therapy, which is a BT (Beck, 1967) based psychological intervention, is among the most efficient treatment in reducing depressive symptomatology (Beck, 2005; Powell et al., 2008). An improved knowledge pertaining to the construct of BT in depression developmental trajectories is essential to better inform interventions. Hence, findings from the present study may contribute to the clinical practice by designing and implementing prevention and intervention programs, to reduce adolescents' depressive problems and improve their quality of life.

1.9 Definitions of the Terminology

Adolescents

Conceptual: A young person between 10 to 19 years old, who undergoes developmental transitions that are occurred in the period between the onset of puberty and adulthood (WHO, 2019).

Operational:	Refers to the government secondary school students aged 13, 14, and 16 years (i.e., Form 1, 2 & 4) from the selected states in Malaysia (i.e., Kedah, Kelantan, Melaka, and Selangor).

Stressful Life Events

Conceptual:	A series of events that involve interactions between individual and the environment that are appraised by the individual as taxing or exceeding his or her resources and endangering his or her psychological well-being (Lazarus & Foldman, 1984).
Operational:	Respondent's score on the 23-item Malay version of Life Events Checklist developed by Baharudin, Zulkefly, and Arshat (2016), in which higher scores indicate greater negative experience of life, and the 22-item of Adolescent Minor Stress Inventory (Ames et al., 2005), in which higher scores indicate higher rate of daily hassles experienced by the adolescents.

Depressive Symptoms

Conceptual:	Severe symptoms and signs, such as persistent sad or "empty" mood, having difficulty in concentrating and sleeping, loss of interest in hobbies or activities, constantly feeling helplessness and hopelessness, decreased energy, weight changes and etc., that is presented almost every day for at least two weeks and influence how individuals think, feel and handle daily activities (WHO, 2017).
Operational:	Respondent's score on the 7-item depression subscale of Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995). Higher scores indicate greater depressive symptoms.

Maladaptive Cognitive Schema

Conceptual:	Negative cognitive structure that guide an individual to process self-relevant information negatively and trigger the onset of depressive symptoms. It arises from dysfunctional attitudes that involve a broad theme of worthlessness, inadequacy, loss and failure (Beck, 1967).
Operational:	Respondent's score on the 30-item Automatic Thought Questionnaire (Hollon & Kendall, 1980) that measures the frequency of self-relevant automatic negative statements in adolescents. Higher scores indicate more preconceive patterns of negative thoughts for depression.

1.10   Organization of Thesis

The present thesis comprises five chapters with major and sub sections accordingly. A brief description of each chapter is as follow:

Chapter 1: Introduction
The introductory chapter provides an overview of the present study through the background of research, statement of problem, theoretical background as well as a conceptual framework that steered the present study. This chapter also presents the research objectives, hypotheses, significance of the study, and a list of definitions for key terminologies.

Chapter 2: Literature Review
This chapter presents a critical and comprehensive review of literature related to the topic of interest in the present study. The review is analysed to provide the gist of related findings of previous studies that impact the current research.

Chapter 3: Methodology
This chapter demonstrates a comprehensive methodology that is employed in the present study. It comprises of the descriptions of research design, data source, sampling procedure, data collection, measurements of study variables, validity and reliability of the measurements and a data analysis plan.

Chapter 4: Results
This chapter presents the results of data analyses and discusses the descriptive statistics, bivariate relationships as well as the findings from structural equation modeling analysis.

Chapter 5: Discussion
This chapter discusses the findings of the present study in relation to their corresponding hypotheses, followed by description of implications of the main findings.

Chapter 6: Summary, Conclusion and Recommendations for Future Research
This chapter summarises the findings, draws conclusion, and discusses possible study limitations as well as some recommendations for future research.

1.11   Chapter Summary

The current chapter introduced the background of the present study on cognitive vulnerabilities to depression among the Malaysian adolescents. Upon revealing the issues related to the present topic, a statement of problem was presented, followed by the research questions, and a thorough discussion of the theoretical background that guided the present study. The present study is constructed based on the cognitive vulnerability-stress model and Beck's (1967) theory of depression. Subsequently, a conceptual framework was presented, followed by the research objectives that were elaborated in terms of general and specific objectives. This chapter was continued with the hypotheses and significance of the present study. A list of definitions for key terminologies was included and the organization of thesis as well as a chapter summary were presented towards the end of this chapter.

REFERENCES

Abela, J. R., & D'Alessandro, D. U. (2002). Beck's cognitive theory of depression: A test of the diathesis‐stress and causal mediation components. *British Journal of Clinical Psychology, 41*(2), 111-128.

Abela, J. R. Z., & Hankin, B. L. (2008). Cognitive vulnerability to depression in children and adolescents: A developmental psychopathology perspective. In J. R. Z. Abela & B. L. Hankin (Eds.), *Handbook of depression in children and adolescents* (pp. 35-78). New York: Guilford Press.

Abela, J. R., Stolow, D., Mineka, S., Yao, S., Zhu, X. Z., & Hankin, B. L. (2011). Cognitive vulnerability to depressive symptoms in adolescents in urban and rural Hunan, China: A multiwave longitudinal study. *Journal of Abnormal Psychology, 120*(4), 765.

Abramson, L. Y., Alloy, L. B., Hankin, B. L., Haeffel, G. J., MacCoon, D. G., & Gibb, B. E. (2002). Cognitive vulnerability-stress models of depression in a self-regulatory and psychobiological context. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 268-294). New York, NY, US: The Guilford Press.

Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review, 96*, 358–372.

Adams, R. E., Ritter, C., & Bonfine, N. (2015). Epidemiology of trauma: Childhood adversities, neighborhood problems, discrimination, chronic strains, life events, and daily hassles among people with a severe mental illness. *Psychiatry Research, 230*(2), 609-615.

Adlina, S., Suthahar, A., Ramli, M., Edariah, A. B., Soe, S. A., Mohd, A. F., ... & Karuthan, C. (2007). Pilot study on depression among secondary school students in Selangor. *The Medical journal of Malaysia*, 62(3), 218-222.

Ahmad, N. A., Rashid, N. R. N. A., Ismail, F., Hussein, H., Bukhari, N., Samad, A., ... & Aris, T. (2011). Sensitivity and specificity of the self-report adolescent health screening tool in identifying mental health problems among adolescents. *WebmedCentral*, 2(11).

Alloy, L.B. & Abramson, L.Y. (1999). The Temple-Wisconsin Cognitive Vulnerability to Depression (CVD) Project: Conceptual background, design, and methods. *Journal of Cognitive Psychotherapy*: An International Quarterly, 13, 227-262.

Alloy, L. B., Lipman, A. J., & Abramson, L. Y. (1992). Attributional style as a vulnerability factor for depression: Validation by past history of mood disorders. *Cognitive Therapy and Research*, 16, 391–407.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-5®). American Psychiatric Pub.

Ames, S. C., Offord, K. P., Nirelli, L. M., Patten, C. A., Friedrich, W. N., Decker, P. A., & Hurt, R. D. (2005). Initial development of a new measure of minor stress for

adolescents: The adolescent minor stress inventory. *Journal of Youth and Adolescence*, 34(3), 207-219.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411.

Ang, K. T. (2011). *Current perspectives in mental health*. PowerPoint Slide Presented at 3rd Asia Pacific Conference on Public Health, Grand Dorsett Subang Hotel, Selangor, Malaysia.

Ang, J. K., Phang, C. K., Mukhtar, F., Osman, Z. J., Awang, H., Sidik, S. M., ... & Ab Ghaffar, S. F. (2017). Association between perceived parental style and depressive symptoms among adolescents in Hulu Langat District, Malaysia. *International journal of adolescent medicine and health*, 30(6).

Asselmann, E., Wittchen, H. U., Lieb, R., & Beesdo-Baum, K. (2017). A 10-year prospective-longitudinal study of daily hassles and incident psychopathology among adolescents and young adults: interactions with gender, perceived coping efficacy, and negative life events. *Social psychiatry and psychiatric epidemiology*, 1-10.

Auerbach, R. P., Webb, C. A., & Stewart, J. G. (2016). Cognitive behavior therapy for depressed adolescents: A practical guide to management and treatment. Routledge.

Avenevoli, S., Swendsen, J., He, J. P., Burstein, M., & Merikangas, K. R. (2015). Major depression in the National Comorbidity Survey–Adolescent Supplement: prevalence, correlates, and treatment. *Journal of the American Academy of Child & Adolescent Psychiatry*, 54(1), 37-44.

Babbie, E. R. (2013). The basics of social research. Cengage Learning.

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative science quarterly*, 421-458.

Baharudin, R., Zukefly, N. S., & Arshat, Z. (2016). Development of a cognitive diatheses model for depression in adolescents: parenting and negative life events as predictors. Ministry of Education, Putrajaya.

Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural equation modelling: A Multidisciplinary Journal*, 9(1), 78-102.

Barber, B. A., Kohl, K. L., Kassam-Adams, N., & Gold, J. I. (2014). Acute stress, depression, and anxiety symptoms among English and Spanish speaking children with recent trauma exposure. *Journal of Clinical Psychology in Medical Settings*, 21, 66-71.

Barlow, C. (Ed.). (2001). Modern Malaysia in the global economy: political and social change into the 21st century. Edward Elgar Publishing.

75

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.

Barra, S. M. M., Baharudin, R., Zulkefly, N. S., Yahya, A. N., & Madon, Z. (2019). Understanding Sex Differences in Depressive Symptomatology Among Malaysian Adolescents. *Recoletos Multidisciplinary Research Journal*, 7(1), 63-79.

Barrett, S., & Heubeck, B. G. (2000). Relationships between school hassles and uplifts and anxiety and conduct problems in grades 3 and 4. *Journal of Applied Developmental Psychology*, 21(5), 537-554.

Bebbington, P. (1987). Misery and the of disease theories of depression. *International Journal of Social Psychiatry*, 33(1), 13-20.

Beck, A. T. (1967). Depression: Clinical, experimental, and theoretical aspects. New York: Harper & Row.

Beck, A. T. (1987). Cognitive models of depression. *Journal of Cognitive Psychotherapy*, 1: 5–37.

Beck, A. T. (1991). Cognitive therapy: A 30-year retrospective. *American psychologist*, 46(4), 368.

Beck, A. T. (2005). The current state of cognitive therapy: a 40-year retrospective. *Archives of General Psychiatry*, 62(9), 953-959.

Beck, A. T. (2008). The evolution of the cognitive model of depression and its neurobiological correlates. *American Journal of Psychiatry*, 165(8), 969-977.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive therapy of depression. New York: Guilford Press.

Beck, J. S. (1995), Cognitive therapy: Basics and beyond. New York: Guilford Press.

Beck, J. S. (2011). Cognitive-behavioral therapy. *Clinical textbook of addictive disorders*, 474-501.

Bennik, E. C., Nederhof, E., Ormel, J., & Oldehinkel, A. J. (2014). Anhedonia and depressed mood in adolescence: course, stability, and reciprocal relation in the TRAILS study. *European child & adolescent psychiatry*, 23(7), 579-586.

Biau, D. J., Kernéis, S., & Porcher, R. (2008). Statistics in brief: the importance of sample size in the planning and interpretation of medical research. *Clinical orthopaedics and related research*, 466(9), 2282-2288.

Bland, J. M., & Altman, D. G. (1997). Statistics notes: Cronbach's alpha. *Bmj*, 314(7080), 572.

Bleuler M. (1963). Conception of schizophrenia within the last fifty years and today [Abridged]. *Proceedings of the Royal Society of Medicine*, 56(10), 945–952.

Bloom, H. S. (2006). The core analytics of randomized experiments for social research. Technical report, MDRC.

Brière, F. N., Janosz, M., Fallu, J.S., & Morizot, J. (2015). Adolescent trajectories of depressive symptoms: co-development of behavioral and academic problems. *Journal of Adolescent Health*, 57(3), 313-319.

Brockman, D. D. (2011). From late adolescence to young adulthood. Karnac Books.

Byrne, B. M. (2010). Structural equation modeling with AMOS: Basic concepts, applications, and programming (2nd edition). New York: Routledge.

Calvete, E., & Connor-Smith, J. K. (2005). Automatic thoughts and psychological symptoms: A cross-cultural comparison of American and Spanish students. *Cognitive Therapy and Research*, 29(2), 201-217.

Calvete, E., Orue, I., & Hankin, B. L. (2013). Transactional relationships among cognitive vulnerabilities, stressors, and depressive symptoms in adolescence. *Journal of abnormal child psychology*, 41(3), 399-410.

Calvete, E., Orue, I., & Hankin, B. L. (2015a). A longitudinal test of the vulnerability-stress model with early maladaptive schemas for depressive and social anxiety symptoms in adolescents. *Journal of Psychopathology and Behavioral Assessment*, 37(1), 85-99.

Calvete, E., Orue, I., & Hankin, B. L. (2015b). Cross-lagged associations among ruminative response style, stressors, and depressive symptoms in adolescents. *Journal of Social and Clinical Psychology*, 34(3), 203-220.

Carmines, E. G., & Zeller, R. A. (1979). Reliability and validity assessment (Vol. 17). Sage publications.

Castelao, C. F., & Kröner-Herwig, B. (2013). Different trajectories of depressive symptoms in children and adolescents: predictors and differences in girls and boys. *Journal of youth and adolescence*, 42(8), 1169-1182.

Charles, S. T., Piazza, J. R., Mogle, J., Sliwinski, M. J., & Almeida, D. M. (2013). The wear and tear of daily stressors on mental health. *Psychological science*, 24(5), 733-741.

Chartier, G., Garel, P., Herba, C., & Booij, L. (2017). Cognitive vulnerability to depression in adolescents with depression, their healthy siblings and a control group: A cross-sectional study. *European Psychiatry*, 41, S127.

Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organizational research methods*, 11(2), 296-325.

Clark-Carter, D. (2014). Z Scores. *Wiley StatsRef: Statistics Reference Online*.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

Compas, B. E., & Reeslund, K. L. (2009). Processes of risk and resilience during adolescence. *Handbook of adolescent psychology*.

Conklin, A. I., Guo, S. X. R., Yao, C. A., Tam, A. C. T., & Richardson, C. G. (2019). Stressful life events, gender and obesity: A prospective, population-based study of adolescents in British Columbia. *International Journal of Pediatrics and Adolescent Medicine*.

Costello, E. J., Erkanli, A., & Angold, A. (2006). Is there an epidemic of child or adolescent depression?. *Journal of Child Psychology and Psychiatry*, 47(12), 1263-1271.

Creswell, J. W. (2014). Research design: qualitative, quantitative, and mixed methods approaches. SAGE Publications.

Croasmun, J. T., & Ostrom, L. (2011). Using Likert-type scales in the social sciences. *Journal of Adult Education*, 40(1), 19.

Cui, L., Shi, G., & Oei, T. P. (2013). A study of cognitive vulnerability–stress model of depressive symptoms among Chinese adolescents. *Stress and Health*, 29(5), 383-391.

Curtin, S. C., Warner, M., & Hedegaard, H. (2016). Increase in suicide in the United States, 1999-2014. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

Department of Statistics Malaysia. (2010). Population Distribution and Basic Demographic Characteristic Report 2010.

DeVellis, R. F. (2016). Scale development: Theory and applications (Vol. 26). Sage publications.

Dolenc, P. (2015). Stress and Coping with Stress in Adolescence. *Revija za elementarno izobraževanje*, 8(4), 177-189.

Dozois, D. J., & Rnic, K. (2015). Core beliefs and self-schematic structure in depression. *Current Opinion in Psychology*, 4, 98-103.

Dulaney, E. S., Graupmann, V., Grant, K. E., Adam, E. K., & Chen, E. (2018). Taking on the stress-depression link: Meaning as a resource in adolescence. *Journal of adolescence*, 65, 39-49.

Eberhart, N. K., Auerbach, R. P., Bigda-Peyton, J., & Abela, J. R. (2011). Maladaptive schemas and depression: Tests of stress generation and diathesis-stress models. *Journal of Social and Clinical Psychology*, 30(1), 75-104.

Fam, J. Y., & Yaacob, S. N. (2018). Correlates of stress among female adolescents. *Jurnal Psikologi Malaysia*, 32(1).

Fergusson, D. M., Horwood, L. J., Ridder, E. M., & Beautrais, A. L. (2005). Subthreshold depression in adolescence and mental health outcomes in adulthood. *Archives of general psychiatry, 62*(1), 66-72.

Ferrari A.J., Charlson F.J., Norman R.E. et al. (2013) Burden of depressive disorders by Country, Sex, Age, and Year: findings from the global burden of disease study 2010. *PLoS Medicine*, 10 (11), e1001547.

Folkman, S. (2013). Stress: appraisal and coping. In Encyclopedia of behavioral medicine (pp. 1913-1915). Springer New York.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.

Franko, D. L., Striegel-Moore, R. H., Brown, K. M., Barton, B. A., McMahon, R. P., Schreiber, G. B., ... & Daniels, S. R. (2004). Expanding our understanding of the relationship between negative life events and depressive symptoms in black and white adolescent girls. *Psychological medicine*, 34(7), 1319-1330.

Friedmann, J. S., Lumley, M. N., & Lerman, B. (2016). Cognitive schemas as longitudinal predictors of self-reported adolescent depressive symptoms and resilience. *Cognitive behaviour therapy*, 45(1), 32-48.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological science*, 18(3), 233-239.

Gabler, S., Häder, S., & Lahiri, P. (1999). A model-based justification of Kish's formula for design effects for weighting and clustering. *Survey Methodology*, 25, 105-106.

George, D., & Mallery, M. (2010). SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 update (10a ed.) Boston: Pearson.

Girgus, J. S., & Yang, K. (2015). Gender and depression. *Current Opinion in Psychology*, 4, 53-60.

Gore, S., Aseltine Jr, R. H., & Colten, M. E. (1993). Gender, social-relationship involvement, and depression. *Journal of Research on Adolescence*, 3(2), 101-125.

Grant, K. E., Compas, B. E., Thurm, A. E., McMahon, S. D., Gipson, P. Y., Campbell, A. J., ... & Westerholm, R. I. (2006). Stressors and child and adolescent psychopathology: Evidence of moderating and mediating effects. *Clinical psychology review*, 26(3), 257-283.

Grant, K. E., McMahon, S. D., Carter, J. S., Carleton, R. A., Adam, E. K., & Chen, E. (2014). The influence of stressors on the development of psychopathology. In *Handbook of developmental psychopathology* (pp. 205-223). Springer US.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis, 7th ed.. Upper Saddle River, NJ, US: Pearson Prentice Hall.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.

Hamilton, J. L., Stange, J. P., Abramson, L. Y., & Alloy, L. B. (2015). Stress and the development of cognitive vulnerabilities to depression explain sex differences in

depressive symptoms during adolescence. *Clinical Psychological Science*, 3(5), 702-714.

Hammen, C. (1991). Generation of stress in the course of unipolar depression. *Journal of abnormal psychology*, 100(4), 555.

Hammen, C. (2005). Stress and depression. *Annu. Rev. Clin. Psychol.*, 1, 293-319.

Hammen, C. L. (2015). Stress and depression: old questions, new approaches. *Current Opinion in Psychology*, 4, 80-85.

Hankin, B. L. (2008). Stability of cognitive vulnerabilities to depression: a short-term prospective multiwave study. *Journal of abnormal psychology*, 117(2), 324.

Hankin, B. L., & Abela, J. R. (Eds.). (2005). Development of psychopathology: A vulnerability-stress perspective. Sage.

Hankin, B. L., Mermelstein, R., & Roesch, L. (2007). Sex differences in adolescent depression: Stress exposure and reactivity models. *Child development*, 78(1), 279-295.

Hankin, B. L., Young, J. F., Abela, J. R., Smolen, A., Jenness, J. L., Gulley, L. D., ... & Oppenheimer, C. W. (2015). Depression from childhood into late adolescence: Influence of gender, development, genetic susceptibility, and peer stress. *Journal of abnormal psychology*, 124(4), 803.

Harkness, K. L., & Monroe, S. M. (2016). The assessment and measurement of adult life stress: Basic premises, operational principles, and design requirements. *Journal of abnormal psychology*, 125(5), 727.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication monographs*, 76(4), 408-420.

Heron, M. (2016). Deaths: Leading causes for 2013. Centers for Disease Control and Prevention, National Vital Statistics Reports, 65(2).

Ho, R. (2006). Handbook of univariate and multivariate data analysis and interpretation with SPSS. CRC Press.

Hollon, S. D., & Kendall, P. C. (1980). Cognitive self-statements in depression: Development of an automatic thought questionnaire. *Cognitive therapy and research*, 4(4), 383-395.

Howell, D. C. (2012). Statistical methods for psychology. Cengage Learning.

Ibrahim, N. (2012). Healthy Mind Programme in School. Proceedings fom: 1st World Congress on Healthy Ageing 2012.

Ingram, R. E., & Luxton, D. D. (2005). Vulnerability-stress models. Development of psychopathology: A vulnerability-stress perspective, 32-46.

Institute for Public Health. (2007). The Third National Health and Morbidity Survey 2006 (NHMS III). Vol. 1. Malaysia: Ministry of Health.

Institute for Public Health. (2015). National Health and Morbidity Survey 2015 (NHMS 2015). Vol. II: Non-Communicable Diseases, Risk Factors & Other Health Problems.

Institute for Public Health. (2017a). National Health and Morbidity Survey 2017 (NHMS 2017): Adolescent Mental Health (DASS-21).

Institute for Public Health. (2017b). National Health and Morbidity Survey 2017 (NHMS 2017): Adolescent Health Survey 2017.

Kaur, J., Cheong, S. M., Mahadir Naidu, B., Kaur, G., Manickam, M. A., Mat Noor, M., ... & Rosman, A. (2014). Prevalence and correlates of depression among adolescents in Malaysia. *Asia Pacific Journal of Public Health*, 26(5_suppl), 53S-62S.

Kendler, K. S., & Gardner, C. O. (2010). Dependent stressful life events and prior depressive episodes in the prediction of major depression: the problem of causal inference in psychiatric epidemiology. *Archives of general psychiatry*, 67(11), 1120-1127.

Kerlinger, F. N., & Lee, H. B. (1999). Foundations of behavioral research: quantitative methods in psychology. *Behavior therapy*, 80090-6.

Kessler, R. C. (2012). The costs of depression. The psychiatric Clinics of north America, 35(1), 1.

King, G., Honaker, J., Joseph, A., & Scheve, K. (2001). Analyzing incomplete political science data: An alternative algorithm for multiple imputation. *American political science review, 95*(1), 49-69.

Kish, L. (1965). Survey sampling. New York: John Wiley & Sons.

Kline, R. B. (2015). Principles and practice of structural equation modeling. Guilford publications.

Lakdawalla, Z., Hankin, B., Mermelstein, R. (2007). Cognitive theories of depression in children and adolescents: A conceptual and quantitative review. *Clinical Child and Family Psychology Review*, 10(1), 1-24.

Latiff, L. A., Tajik, E., Ibrahim, N., Abubakar, A. S., & Ali, S. S. B. A. (2016). Depression and its associated factors among secondary school students in Malaysia. *Southeast Asian Journal of Tropical Medicine and Public Health*, 47(1), 131.

Latiff, L. A., Tajik, E., Ibrahim, N., Bakar, A. S. A., & Ali, S. S. A. (2017). Psychosocial Problem and its Associated Factors Among Adolescents in the Secondary Schools in Pasir Gudang, Johor. *Mal J Med Health Sci*, 13(1), 35-44.

Leng, C. S., Hutagalung, F. D., & Li, L. P. (2017). A review of depression and its research studies in Malaysia. *International Journal of Education*, 2(4), 40-55.

Lewis, A. J., Kremer, P., Douglas, K., Toumborou, J. W., Hameed, M. A., Patton, G. C., & Williams, J. (2015). Gender differences in adolescent depression: Differential female susceptibility to stressors affecting family functioning. *Australian Journal of Psychology*, 67(3), 131-139.

Little, T. D. (2013). Longitudinal structural equation modeling. Guilford press.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modelin*g, 9(2), 151-173.

Locke, L. F., Spirduso, W. W., & Silverman, S. J. (2013). Proposals that work: A guide for planning dissertations and grant proposals: SAGE Publications.

Lovibond, P. F., & Lovibond. (1995). Manual for the depression anxiety stress scales. The Psychology Foundation of Australia Inc.

Low, N. C., Dugas, E., O'Loughlin, E., Rodriguez, D., Contreras, G., Chaiton, M., & O'Loughlin, J. (2012). Common stressful life events and difficulties are associated with mental health symptoms and substance use in young adolescents. *BMC psychiatry*, 12(1), 116.

Lumley, M. N., & Harkness, K. L. (2007). Specificity in the relations among childhood adversity, early maladaptive schemas, and symptom profiles in adolescent depression. *Cognitive Therapy and Research*, 31(5), 639-657.

Maideen, S. F. K., Sidik, S. M., Rampal, L., & Mukhtar, F. (2014). Prevalence, associated factors and predictors of depression among adults in the community of Selangor, Malaysia. *PloS one*, 9(4), e95395.

Mann, M. J., Kristjansson, A. L., Sigfusdottir, I. D., & Smith, M. L. (2014). The impact of negative life events on young adolescents: comparing the relative vulnerability of middle level, high school, and college-age students. *RMLE Online*, *38*(2), 1-13.

Marcotte, D., Lévesque, N., & Fortin, L. (2006). Variations of cognitive distortions and school performance in depressed and non-depressed high school adolescents: A two-year longitudinal study. *Cognitive Therapy and Research*, 30(2), 211-225.

Meiser, S., & Esser, G. (2017). How dysfunctional are dysfunctional attitudes? A threshold model of dysfunctional attitudes and depressive symptoms in children and adolescents. *Cognitive Therapy and Research*, 1-15.

Mezulis, A. H., Funasaki, K. S., Charbonneau, A. M., & Hyde, J. S. (2010). Gender differences in the cognitive vulnerability-stress model of depression in the transition to adolescence. *Cognitive Therapy and Research*, 34(6), 501-513.

McIntosh, E., Gillanders, D., & Rodgers, S. (2010). Rumination, goal linking, daily hassles and life events in major depression. *Clinical psychology and psychotherapy*, 17(1), 33-43.

Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Replication—Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, 49, 980-989.

Michl, L. C., McLaughlin, K. A., Shepherd, K., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence in early adolescents and adults. *Journal of abnormal psychology*, 122(2), 339.

Midgley, N., Parkinson, S., Holmes, J., Stapley, E., Eatough, V., & Target, M. (2017). "Did I bring it on myself?" An exploratory study of the beliefs that adolescents referred to mental health services have about the causes of their depression. *European child & adolescent psychiatry*, 26(1), 25-34.

Miloseva, L., Vukosavljevic-Gvozden, T., Richter, K., Milosev, V., & Niklewski, G. (2017). Perceived social support as a moderator between negative life events and depression in adolescence: implications for prediction and targeted prevention. *EPMA Journal*, 8(3), 237-245.

Moksnes, U. K., Moljord, I. E., Espnes, G. A., & Byrne, D. G. (2010). The association between stress and emotional states in adolescents: The role of gender and self-esteem. *Personality and Individual Differences*, 49(5), 430-435.

Monroe, S. M. (2008). Modern approaches to conceptualizing and measuring human life stress. *Annu. Rev. Clin. Psychol.*, 4, 33-52.

Monroe, S. M., & Hadjiyannakis, H. (2002). The social environment and depression: Focusing on severe life stress. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 314–340). New York: Guilford Press.

Monroe, S. M., & Simons, A. D. (1991). Diathesis-stress theories in the context of life stress research: implications for the depressive disorders. *Psychological bulletin*, 110(3), 406.

Morris, M. C., Kouros, C. D., Fox, K. R., Rao, U., & Garber, J. (2014). Interactive models of depression vulnerability: The role of childhood trauma, dysfunctional attitudes, and coping. *British Journal of Clinical Psychology*, 53(2), 245-263.

Mukhtar, F., & PS Oei, T. (2011). A review on the prevalence of depression in Malaysia. *Current Psychiatry Reviews*, 7(3), 234-238.

Musa, R., Fadzil, M. A., & Zain, Z. (2007). Translation, validation and psychometric properties of Bahasa Malaysia version of the Depression Anxiety and Stress Scales (DASS). *ASEAN Journal of Psychiatry*, 8(2), 82-89.

National Institute of Mental Health (2016, October). Depression. Retrieved from https://www.nimh.nih.gov/health/topics/depression/index.shtml.

Nevid, J. S., Rathus, S. A., & Greene, B. (2003). *Abnormal psychology in a changing world*. Upper Saddle River: Prentice Hall.

Newnham, E. A., Pearson, R. M., Stein, A., & Betancourt, T. S. (2015). Youth mental health after civil war: the importance of daily stressors. *The British Journal of Psychiatry*, 206(2), 116-121.

Ng, C. G. (2014). A review of depression research in Malaysia. *The Medical journal of Malaysia*, 69, 42-45.

Noor, N. M., & Alwi, A. (2013). Stressors and well-being in low socio-economic status Malaysian adolescents: The role of resilience resources. *Asian Journal of Social Psychology,* 16(4), 292-306.

Nishikawa, S., Fujisawa, T. X., Kojima, M., & Tomoda, A. (2018). Type and timing of negative life events are associated with adolescent Depression. *Frontiers in psychiatry*, *9*, 41.

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of abnormal psychology*, 100(4), 569.

Nolen-Hoeksema, S. & Girgus, J.S. (1994). The emergence of gender differences in depression during adolescence. *Psychological Bulletin*, 115, 424-443.

Oppenheimer, C. W., Hankin, B. L., & Young, J. (2018). Effect of parenting and peer stressors on cognitive vulnerability and risk for depression among youth. *Journal of abnormal child psychology*, 46(3), 597-612.

Pan, J. Y., Ye, S., & Ng, P. (2016). Validation of the automatic thoughts questionnaire (ATQ) among mainland Chinese students in Hong Kong. *Journal of clinical psychology*, 72(1), 38-48.

Patak, Z. and Lothian, J. (2007). Enhancing the Quality of Price Indexes - A Sampling Perspective. Ottawa, Canada: Statistics Canada.

Patrician, P.A. (2002). Multiple imputation for missing data. *Research in Nursing & Health*, 25, 76–84.

Paykel, E. S. (1979). Recent life events in the development of the depressive disorders. The psychobiology of the depressive disorders: Implications for the effects of stress, 245-262.

Powell, V. B., Abreu, N., Oliveira, I. R. D., & Sudak, D. (2008). Cognitive-behavioral therapy for depression. *Revista Brasileira de Psiquiatria*, 30, s73-s80.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods*, 40(3), 879-891.

PSYCH, M. (2017). 10-Year Research Update Review: The Epidemiology of Child and Adolescent Psychiatric Disorders: I. Methods and Public Health Burden. Child Development, 890(8567/05), 4410-O972.

Robins, C. J., & Block, P. (1989). Cognitive theories of depression viewed from a diathesis-stress perspective: Evaluations of the models of Beck and of Abramson, Seligman, and Teasdale. *Cognitive Therapy and Research*, 13(4), 297-313.

Rogers, W. M., & Schmitt, N. (2004). Parameter recovery and model fit using multidimensional composites: A comparison of four empirical parceling algorithms. *Multivariate Behavioral Research*, 39, 379–412.

Rose, D. T., & Abramson, L. (1992). IX developmental predictors of depressive cognitive style: research and theory. Developmental perspectives on depression, 4, 323.Rosenfield, D., Jouriles, E. N., Mueller, V., & McDonald, R. (2013). When at-risk teens are violent toward romantic partners: The role of common stressors. *Psychology of violence*, 3(3), 260.

Rosenthal, D. (1963). A suggested conceptual framework. In D. Rosenthal (Ed.), *The Genain quadruplets: A case study and theoretical analysis of heredity and environment in schizophrenia* (pp. 505-511). New York, NY, US: Basic Books.

Roth, P.L. (1994). Missing data: A conceptual review for applied psychologists. *Personnel Psychology*, 47, 537–561.

Rudolph, K. D. (2014). Puberty as a developmental context of risk for psychopathology. *In Handbook of developmental psychopathology* (pp. 331-354). Springer, Boston, MA.

Ruivo, P., Matos, A. P., & Oliveira, S. (2015). Life events, depression and gender: Their relation with school adaptation. Proceedings of INTED2015 Conference, 7739-7748.

Ruiz, F. J., & Odriozola-González, P. (2016). The role of psychological inflexibility in Beck's cognitive model of depression in a sample of undergraduates. *Anales de Psicología*, 32(2).

Salafia, E. H. B., & Lemer, J. L. (2012). Associations between multiple types of stress and disordered eating among girls and boys in middle school. *Journal of Child and Family Studies*, 21(1), 148-157.

Santrock, J. (2015). Essentials of life-span development. McGraw-Hill Higher Education.

Sarris, J., O'Neil, A., Coulson, C. E., Schweitzer, I., & Berk, M. (2014). Lifestyle medicine for depression. *BMC psychiatry*, 14(1), 107.

Schumacker, R. E., & Lomax, R. G. (2004). A beginner's guide to structural equation modeling (2nd ed.). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., ... & Committee on Early Childhood, Adoption, and Dependent Care. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232-e246.

Silver, L. B. (1988). The scope of the problem in children and adolescents. *Chronic mental illness in children and adolescents*, 39-51.

Shore, L., Toumbourou, J. W., Lewis, A. J., & Kremer, P. (2017). Longitudinal trajectories of child and adolescent depressive symptoms and their predictors – a systematic review and meta‐analysis. *Child and Adolescent Mental Health*.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological methodology*, 13, 290-312.

Southall, D., & Roberts, J. E. (2002). Attributional style and self-esteem in vulnerability to adolescent depressive symptoms following life stress: A 14-week prospective study. *Cognitive Therapy and Research*, 26(5), 563-579.

Stange, J. P., Hamilton, J. L., Abramson, L. Y., & Alloy, L. B. (2014). A vulnerability-stress examination of response styles theory in adolescence: Stressors, sex differences, and symptom specificity. *Journal of Clinical Child & Adolescent Psychology*, 43(5), 813-827.

Sterba, S. K., & MacCallum, R. C. (2010). Variability in parameter estimates and model fit across repeated allocations of items to parcels. *Multivariate Behavioral Research*, 45(2), 322-358.

Stockings, E., Degenhardt, L., Lee, Y. Y., Mihalopoulos, C., Liu, A., Hobbs, M., & Patton, G. (2015). Symptom screening scales for detecting major depressive disorder in children and adolescents: a systematic review and meta-analysis of reliability, validity and diagnostic utility. *Journal of affective disorders*, 174, 447-463.

Suhr, D. (2006). The basics of structural equation modeling. Presented: Irvine, CA, SAS User Group of the Western Region of the United States (WUSS).

Tan, K. L., & Yadav, H. (2013). Depression among the urban poor in Peninsular Malaysia: A community based cross-sectional study. *Journal of health psychology*, 18(1), 121-127.

Technow, J. R., Hazel, N. A., Abela, J. R., & Hankin, B. L. (2015). Stress sensitivity interacts with depression history to predict depressive symptoms among youth: Prospective changes following first depression onset. *Journal of abnormal child psychology*, 43(3), 489-501.

Templeton, G. F. (2011). A two-step approach for transforming continuous variables to normal: implications and recommendations for IS research. *CAIS*, 28(1), 41-58.

Tennant, C. (2002). Life events, stress and depression: a review of recent findings. *Australian and New Zealand Journal of Psychiatry*, 36(2), 173-182.

Thoits, P. A. (1983). Multiple identities and psychological well-being: A reformulation and test of the social isolation hypothesis. *American sociological review*, 174-187.

Thoits, P. A. (2013). Self, identity, stress, and mental health. In *Handbook of the sociology of mental health* (pp. 357-377). Springer Netherlands.

Turner, R. J., Wheaton, B., & Lloyd, D. A. (1995). The epidemiology of social stress. *American sociological review*, 104-125.

Vinkers, C. H., Joels, M., Milaneschi, Y., Kahn, R. S., Penninx, B. W. J. H, Book, M. P. M. (2014). Stress exposure across the life span cumulatively increases depression risk and is moderated by neuroticism. *Depression and Anxiety*, 31, 737-745.

Visser, P. L., Loess, P., Jeglic, E. L., & Hirsch, J. K. (2013). Hope as a moderator of negative life events and depressive symptoms in a diverse sample. *Stress and Health*, 29(1), 82-88.

Waszczuk, M. A., Coulson, A. E., Gregory, A. M., & Eley, T. C. (2016). A longitudinal twin and sibling study of the hopelessness theory of depression in adolescence and young adulthood. *Psychological medicine*, 46(9), 1935-1949.

Weinberg, S. L., & Abramowitz, S. K. (2002). Data analysis for the behavioral sciences using SPSS. Cambridge University Press.

Wilkinson, R. B., & Kraljevic, M. (2004). Adolescent psychological health and school attitudes: The impact of attachment relationships. Proceedings of the Australian Psychological Society's Psychology of Relationships Interest Group 4th Annual Conference

Williams, J., & MacKinnon, D. P. (2008). Resampling and distribution of the product methods for testing indirect effects in complex models. *Structural Equation Modeling*, 15(1), 23-51.

World Health Organization (WHO). (2014). Preventing suicide: A global imperative. Geneva: World Health Organization.

World Health Organization. (2017). Depression and other common mental disorders: global health estimates.

World Health Organization. (2019). Adolescent health. Retrieved 10 December 2019, from https://www.who.int/southeastasia/health-topics/adolescent-health

Yaacob, S. N., Juhari, R., Talib, M. A., & Uba, I. (2009). Loneliness, stress, self-esteem and depression among Malaysian adolescents. *Jurnal Kemanusiaan*, 14.

Yaacob, S. N., Tan, S. A., Esmaeili, N. S., Tan, J. P., & Juhari, R. (2013). Role of gender in perceived stress and adjustment among adolescents in Malaysia. *Jokull Journal*, 63(7), 221-234.

Yee, W. S., & Lin, L. P. (2011). Anxiety and depressive symptoms among communities in the east coast of Peninsular Malaysia: A rural exploration. *Malaysian Journal of Psychiatry*, 20(1).

Young, C. C. (2016). Familial Factors, Cognitive Vulnerabilities, and Stressful Events Related to Depressive Symptoms in Latino Adolescents. *Hispanic Journal of Behavioral Sciences*, 38(3), 360-377.

Young, C. C., LaMontagne, L. L., Dietrich, M. S., & Wells, N. (2012). Cognitive vulnerabilities, negative life events, and depressive symptoms in young adolescents. *Archives of psychiatric nursing*, 26(1), 9-20.

Zettle, R. D., Webster, B. K., Gird, S. R., Wagener, A. L., & Burdsal, C. A. (2013). Factor structure of the Automatic Thoughts Questionnaire in a clinical sample. *International Journal of Cognitive Therapy*, 6(3), 280-291.

Zulkefly, N. S., Baharudin, R., & Tan, K. A. (2018). Development of a Cognitive Vulnerabilities Model for Psychological Problems in Adolescents: Attachment and Negative Life Events as Predisposing Factors. Malaysia: Ministry of Higher Education.

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PUBLICATIONS

Wong, Y. S., Zulkefly, N. S., & Tan, K. A. (in press). Stressful life events and depressive symptoms among adolescents in Malaysia: The mediating role of maladaptive cognitive schema. *International Journal of Adolescent Medicine and Health*.

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