

**THE MEDIATING ROLE OF EARLY MALADAPTIVE
SCHEMAS AND PARENTING STYLE ON THE
RELATIONSHIP BETWEEN INSECURE ATTACHMENT
AND ANXIETY AMONG ADOLESCENT STUDENTS OF
INTERNATIONAL SECONDARY SCHOOLS IN
KELANG VALLEY, MALAYSIA**

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Abstract

Anxiety is among the most prevalent forms of psychopathology in adolescence. Both the attachment and cognitive theories emphasize the role of the quality of the parent-child relationship in psychopathology and its impact on emotional health. Whereas few studies have examined the additive and reciprocal effects of multiple factors on the development of anxiety symptoms in adolescents, the present study was an attempt to examine the influence and the reciprocal connections of three sets of variable including attachment style, parental behaviors rearing and cognitive schemas on the development of anxiety. Importantly, this was also the first study to examine the mediating role of early maladaptive schemas and parenting variables in the links between insecure attachment and anxiety symptoms in an adolescent sample with four cultural backgrounds (Malaysian, Arab, Indian and American/European).

Using multiple cluster sampling, 38 classrooms from 13 international secondary schools in Kuala Lumpur, Malaysia were selected. A sample of 762 non-clinical adolescents (302 girls and 460 boys) aged 13-18 years (mean age = 15.37 years) completed the questionnaires measuring attachment (ASQ), perceived parenting behaviors (EMBU-C), early maladaptive schemas (YSQ-S3) and anxiety symptoms (SCAS). The results indicated that there were small to moderate positive correlations among various risk factors, with regression analyses revealing insecure attachment, two parenting styles (Anxious Rearing and Rejection) and six particular EMSs were accounted as significant predictors of anxiety in adolescents.

Further, the findings revealed that cognitive maladaptive schemas within Impaired Autonomy and Overvigilance/Inhibition schema domains were stronger predictors of anxiety compare to attachment and parenting variables. The findings as well indicated the strong correlation between parenting behaviors and maladaptive cognitive schemas. Particularly, high parental rejection and low parental warmth were strongly associated

with Disconnection and Rejection domain as well as parental overprotection and anxious rearing with Impaired Autonomy schema domain. Furthermore, investigation of cultural differences revealed that Asian samples (Malaysian, Arab and Indian) considerably reported the higher rate of anxiety symptoms than European/American sample as well as on almost all measured risk factors. Further, Malaysian adolescents reported the highest level of anxiety symptoms. The results also indicated some differences between Malaysian three ethnic groups on the measures of study.

Finally, the finding suggests that adolescents with insecure avoidance attachment who perceived their parents' behaviors characterized by rejection and anxious rearing are at greater risk for increased anxiety symptoms. Further, particular early maladaptive schemas and parenting style do mediate the relations between insecure attachment and anxiety in the adolescent.

**Peranan Penyalah Penyesuaian Pengantara Awal dan Gaya Penjagan Anak-anak
dalam Penghubungan antara Ketidak-terjamin dan Keresahan dalam Kalangan
Pelajar di Sekolah Menengah Antarabangsa Kelang-Valley Malaysai**

Abstrak

Dalam pengajian-pengajian epidemiologi, gangguan keresahan merupakan dianosis paling kerap dalam kalangan kanak-kanak dan remaja. Kedua-dua lampiran dan teori kognitif menegaskan kepentingan peranan kualiti pengalaman dalam penjagaan anak dan kesihatan emosi dewasa pada peringkat awal. Manakala beberapa kajian telah diuji tentang penambahan dan kesan atas kepelbagaian faktor dalam pembangunan gejala kegelisahan dalam kalangan belia. Kajian tersebut merupakan percubaan pertama untuk menguji pengaruh dan hubungan bersalingan antara tiga set pembolehubah termasuk gaya penampilan, tingkah laku ibu bapa dan skema kognitif dalam pembangunan kegelishan. Yang penting, ini merupakan kajian pertama yang telah diperiksa tentang skema peranan salah penyesuaian pengantara awal dan pembolehubah-pembolehubah keibubapaan dalam penghubungan antara gejala ketidak-terjamin dan gejala kegelisahan dalam satu sampel remaja yang asal daripada konteks kepelbagaian budaya (Rakyat Malaysia, Arab, orang India dan orang Eropah/Amerika).

Penggunakan persampelan kelompok 2-peringkat, 38 bilik darjah dari 13 buah sekolah menengah antarabangsa di Kuala Lumpur, Malaysia yang terpilih. Sejumlah 762 orang pelajar tingkatan 2-6 (302 perempuan dan 460 lelaki) berumur 13-18 tahun (purata umur = 15.37 tahun) soal selidik yang lengkap untuk mengukur gaya penampilan (Attachment Style, ASQ), tingkah laku ibu bapa (Parental Rearing Behavior, EMBU.C), skema salah penyesuaian awal (Early Maladaptive Schemas, YSQ-S3) dan skala kegelisahan (SCAS-C). Statistik huraian menunjukkan bahawa jumlah mata fobia sosial merupakan gejala-gejala paling tinggi dalam kalangan remaja. Analisis korelasi menunjukkan

bahawa terdapat korelasi positif yang rendah hingga sederhana dalam kalangan faktor kepelbagai risiko dan pembolehubah-pembolehubah kognitif yang berhubung kait dengan pendorong kegelisahan. Lebih-lebih lagi, analisis regresi mendedahkan bahawa kedua-dua pegelakkan dan perasaan kurang pasti; penolakan daripada ibubapa dan pengumpulan kerisauan, serta enam EMS tertentu merupakan unsur-unsur bukti mendorong kebimbangan dalam kalangan remaja. Berdasarkan kajian, kesimpulan bahawa skema salah penyesuaian dan gaya keibubapaan awal memainkan peranan penting dalam pengantaraan hubungan antara ketidak-selamat dan kebimbangan golongan remaja.

Akhirnya, perbezaan-perbezaan silang budaya dalam pembolehubah-pembolehubah penyelidikan telah disediakan.

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DEDICATION

I dedicate this work to:

My dear wife, Touran

and

My lovely daughters, Niloufar and Niousha.

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CHAPTER ONE:

INTRODUCTION

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1.1 Introduction

Anxiety occurs in everyone's life (Nuding, 2013). In children, it is commonly seen as fears, worries and scary dreams (Muris, 2006b; Muris et al., 2007; Lyneham & Rapee, 2011). Anxiety in childhood is normal but is transient (Muris et al., 2000). However, for a substantial portion of children, anxiety takes the form of a disorder (Muris et al., 2007; Muris et al., 2010). The condition tends to be severe and chronic, lasting into adulthood (Kessler et al., 2010; Kessler et al., 2012; Muris et al., 2010). Among adolescents, anxiety disorder is the most prevalent form of psychopathology (Albano et al., 2003; Bittner et al., 2007; Colonnese et al., 2011; Merikangas et al., 2010; Nelemans et al., 2014; Yap et al., 2014). The symptoms usually remain undiagnosed (Tomb and Hunter, 2004). Due to the internalized nature of its symptoms, the actual rate of prevalence may be even higher with many remain unidentified and untreated (Neil and Christensen, 2009). Epidemiological data estimates a prevalence of 10% children are affected by some anxiety disorders (Asbahr, 2004; DeSousa et al., 2013).

Anxiety disorders are not only highly prevalent; it is chronic and costly to the individual and society (Bittner et al., 2007; Costello et al., 2005; Craske and Zucker, 2002; Lyneham & Rapee, 2011). Anxiety is related with impairment in a child's functioning in many different domains; its presence can lead to severe psychosocial problems (Bernstein and Victor, 2008; Bittner et al., 2007) especially when left untreated (DeSousa et al., 2013). Children with anxiety symptoms or disorders may have difficulty dealing with normal developmental challenges (Goodwin et al., 2004; Mondin et al., 2013), handling peers (Bernstein et al., 2005; Gazelle and Ladd, 2003), and achieving in school (Bernstein et al., 2005). Also, existing studies suggest anxiety disorders effect significant areas of adolescent development, such as interpersonal relationship and social adjustment (Drake and Ginsburg, 2012; Mondin et al., 2013), in

the parent–child relationship, identity development and personality development (McLeod et al., 2007; Nelemans et al., 2014).

Some researchers posited untreated anxiety in the adolescent is a risk factor for subsequent psychiatric disorders in later life (Bittner et al., 2007; Manfro et al., 2002; Manfro et al., 2003; Negreiros and Miller, 2014; Wittchen et al., 2003). Bittner et al. (2004) found that anxiety disorders associated with a significantly increased risk of developing major depressive disorder, as other authors (Beesdo et al., 2009; Manfro et al., 2003). The increased risk occurs with the presence of more than one anxiety disorder i.e. in the child and family, severe impairment and comorbid panic attacks (Manfro et al., 2003). Longitudinal studies of youth indicated that if left untreated, it increases the risk for adult substance abuse and suicide attempts (Beesdo et al., 2010; Bittner et al., 2007; Cash and Bridge, 2009).

In the last three decades, interest in research on the etiology of anxiety disorders in children and adolescents has grown enormously (Colonnesi et al., 2011; Negreiros and Miller, 2014). Many studies have devoted generating theories to explain the etiology of possible factors that contribute to the development and maintenance of anxiety disorders in children. The study of childhood anxiety has predominantly focused on the cognitive and behavioral systems (Muris et al., 2007). Lang (1968)'s three-system model of anxiety describes the phenomenon of anxiety as an emotion that manifests itself in three systems:

(1) The cognitive system, which is characterized by subjective feelings of anxiety and thoughts about the threatening stimulus or situation,

(2) The behavioral system, the obvious response of the anxious individual in the face of threat i.e., fight, flight, or freezing reactions,

(3) The physiological system associated with physical symptoms such as palpitations, sweating, and tremors. This response serves to increase attention and to prepare the body for immediate action.

The genetic research identifies a moderate portion of heritability (Scaini et al., 2014), considerable researches have confirmed the strong role of early environmental experiences and psychological components in the etiology of anxiety disorders (Gregory and Eley, 2007; Negreiros and Miller, 2014). Several risk factors identified in the pathogenesis of childhood anxiety, such as temperament (Hudson and Rapee, 2004), traumatic childhood experiences (Muris et al., 2007) and the child–parent attachment (Brumariu and Kerns, 2010; Colonna et al., 2011; Wood et al., 2003b). Other factors are the family functioning and parenting styles (Bögels and Brechman-Toussaint, Negreiros and Miller, 2014; 2006; Van Der Bruggen et al., 2008; Wood et al., 2003b).

With regards to the importance of family environment and its significant effects on early child experiences, as conducted in this study, adolescents' anxiety has been investigated based on the attachment and cognitive theories. Several aspects of early environmental and parental influences have a significant role associated with the children's manifestations of anxiety (Negreiros and Miller, 2014; Wood et al., 2003; Wright et al., 2009). Concerning this, the association between family factors and anxiety, suggest the mediating role of early maladaptive schemas and parenting styles contributing to attachment difficulties and anxiety in children.

1.1 Problem Statement

Bowlby (1988a) postulates a universal human need is to form close emotional bonds. According to the attachment theory (Bowlby, 1988a; Bowlby, 1989), the primary attachment is regarded as an important determinant of development and

psychopathology. The theory explains functioning as rooted in the early childhood relationship and the impact of experiences with the parent or significant caregivers lasting throughout the lifespan. Indeed, it is not surprising the origin of adult anxiety results from direct childhood experiences and quality of infant- parent interaction (Dilmac et al., 2009; Drake and Ginsburg, 2012; van Eijck et al., 2012).

An essential assumption of the attachment theory (Bowlby, 1980; Bretherton and Munholland, 1999) is the internal working model. Bowlby (1969) and Bowlby (1980) proposed that the quality of childhood relationships with the caregivers results in internal representations or working models. Supported by Ainsworth (1985) who states that these early attachment experiences results in the child forming an “internal working model” of the self. The internal working models are mental representations of self and others as a consequence of the early relationships with caregivers (Fonagy, 1999). This internal working model act as guides for subsequent close relationships i.e. it provides the prototypes for later social relations.

Bowlby (1980) conceptualized in the children encode the early interactions with caregivers as mental representations. These mental representations influence memory, expectations, and response expectations about their caregivers’ availability and the availability of others in their subsequent social interactions. The working models hold the experience with primary caregivers leads to expectations and beliefs about the self, the world, and relationships (Waters et al., 2000; Waters and Waters, 2006). The mental representations serve as the basis for the internal working models. The children integrate working models constructed in various attachment relationships into a meta-model (Bretherton, 1995), and shapes how the child responds to external events (Ainsworth et al., 1978; Ainsworth, 1985).

The parent-infant attachment is a system to ensure the caregiver and child's proximity to one another protects the infant (Ainsworth, 1985; Bowlby, 1988b; Bowlby, 2005). The patterns of the attachments differ base on variety of factors, including differences in the quality of caregiving (Ainsworth et al., 1978; Ainsworth, 1985; Bowlby, 2005). As conceptualized by the attachment theory, healthy attachment style within the family system influences interpersonal relationship formation and success throughout individual development (Bretherton, 1995; Waters et al., 2000; Waters and Waters, 2006).

Ainsworth et al. (1978) concluded the existence of an underlying security-insecurity dimension to the quality of the attachment relationship, with an individual's family-of-origin experience thought to be predictive of future relationship attachments made by that individual (Bretherton, 1995; Waters and Waters, 2006). The sensitivity and responsablity of the caregivers determine the security of the child in the relationship (Ainsworth, 1985 ; Baumrind, 1991). Ainsworth et al. (1978) and Ainsworth (1985) proposed children with secure attachment develop a model of self as being loved and valued, and a model of the other as warm and loving. In contrast, when children have experiences that lead them to expect caregivers to be rejecting or unreliable, they developed a model of the self as unloved and rejected, and a model of the other as unloving and rejecting. These children do not expect their caregivers will be available when needed, and they develop alternative, insecure strategies for coping with their distress (Muris et al., 2003).

These working models include expectations, beliefs, emotional appraisals, and rules for processing or excluding information, are partly conscious and partly unconscious, they act and manage interpersonal relationships (Levy et al., 1998). The internal working models influence how people interpret and predict the behavior of others and tend to generate experiences in line with the existing working models,

making them resistant to change (Bowlby, 1969), and placing them at risk for psychopathology (Greenberg, 1999).

A theoretically emphasized risk factor for the development and maintenance of childhood anxiety is the family environment. There is a large body of empirical literature that emphasizes the effect of child insecure attachment style on the development of anxiety disorders (Asseff, 2010; Bögels and Brechman-Toussaint, 2006; Brown and Whiteside, 2008; Brumariu and Kerns, 2008; Colonnese et al., 2011; Esbjorn et al., 2013; Groh et al., 2012; Jinyao et al., 2012; Picardi et al., 2013; Van Der Bruggen et al., 2008; Van Gastel et al., 2009; Vulliez, et al., 2013). Studies investigating attachment and childhood anxiety stated insecure-ambivalent attachment has a stronger relation with anxiety than avoidant attachment (Bögels and Brechman-Toussaint, 2006; Manassis, 2001). More recent investigations posited both avoidant and ambivalent (anxious) attachment are linked to anxiety (Esbjorn et al., 2013; Jinyao et al., 2012; Picardi et al., 2013).

Ainsworth et al. (1971) classified ambivalent attachment as associated with patterns of unpredictable and irregular responsiveness of the caregiver; with consequences on the ambivalently attached infants living with the constant fear of being left vulnerable and alone. According to attachment theory, ambivalently attached infants are particularly prone to develop chronic levels of anxiety later in life (Bar-Haim et al., 2007; Manassis, 2001). Manassis (2001) proposed ambivalent children are vulnerable to suffer from separation anxiety because they need to be sure of the parents' attention. In children with an avoidant attachment, used to cope with rejection and abandonment. They distance themselves from their mother or ignore her during the reunion phases. These children are vulnerable to suffer both social phobia and separation anxiety (Ainsworth et al., 1978).

Whereas, attention has been focused mostly on the early relationship between children and their parents, it is not completely clear how these early experiences lead to psychopathology (particularly anxiety) later in life. Negative parental rearing behaviors can perpetuate and maintain the insecure attachment pattern and its outcomes, suggesting the relationship between insecure attachment and the development of psychopathology. This is supported by many other studies investigating the link related to experiences with different parenting styles (Bar-Haim et al., 2007; Bögels et al., 2006; Güngör and Bornstein, 2010; Shamir-Essakow et al., 2005).

Furthermore, attachment patterns have become increasingly important in adolescence because, during this period adolescents explore intimate, supportive relationships and develop mutual attachments outside the family (Steinberg and Silk, 2002). When attachment functions normally the adolescent tends to establish close and secure relationships with peers as close friends or romantic partners (Allen and Land, 1999). Although there is a gradual shift of primary attachment from parents to peers (Fraley and Davis, 1997), parents remain central in the lives of adolescents. From an attachment perspective, representations of parent-child interactions help to shape attachment style in childhood and continue to do so in later ages in relationships with others (Fraley and Shaver, 2000; Güngör and Bornstein, 2010; Mikulincer et al., 2003).

Moreover, there has been a focus on perceived parenting style and its impact on the development of anxiety. Many researchers have showed associations between perceived parental behaviors style and consequent anxiety in children and adolescents (Bornstein and Zlotnik, 2008; Brand et al., 2009; Brown and Whiteside, 2008; Bruggen et al., 2010; Knappe et al., 2012; Laurin et al., 2015; McLeod et al., 2007; Nanda et al., 2012; Negreiros and Miller, 2014; Picardi et al., 2013; Schwartz et al., 2012; Van der Bruggen et al., 2010; Van Oort et al., 2012; Varela et al., 2013; Yap et al., 2014).

Specifically, researchers indicated that parental over control (Laurin et al., 2015; McLeod et al., 2007; Nanda et al., 2012; Picardi et al., 2013; Van Der Bruggen et al., 2008; Young et al., 2013), rejection (Gulley et al., 2014; Hale III. et al., 2006; Negreiros and Miller, 2014) and low parental warmth were linked to adolescents' anxiety (Knappe et al., 2012; Picardi et al., 2013).

The literatures on adolescent attachment pattern as well as perceived parenting style both emphasize the role of the quality of the parent-child relationship in children's emotional health. However, few studies have investigated the links between adolescents' attachment and perceptions of parenting.

Similar to attachment theory, cognitive theory (Beck, Emery, & Greenberg, 1985; Young, Klosko, & Weishaar, 2003) also posits that early childhood interaction and experiences with caregivers are internalized by the child and continue to shape how the child responds to external events as he or she ages. It is assumed that the relationship between early childhood events and adult pathology may be mediated by an internal model named cognitive schemas. Cognitive theory also emphasizes on early childhood events and experiences with parent as a base for the formation of cognitive schemas. Surprisingly, there is a great deal of similarities between the concept of an internal working model in attachment theory and schemas in the cognitive approach. Like the concept of an internal working model in attachment, the cognitive approach focuses on cognitive models or schemas that reflect thinking styles or beliefs about self and others which can lead to psychopathology.

Clinical cognitive models have traditionally stressed the impact of cognitive styles on the development of anxiety and depression (Alloy, 2001; Barlow, 2004; Beck, Brown, Gary, Steer, Robert, Eidelson, Judy, Riskind, John, 1987; Chorpita & Barlow, 1998). More recently, cognitive models have placed more emphasis on early childhood, unmet attachment needs (Young et al., 2003) and specific parental behaviors such as

those characterized by over control and low care that may be key factors in the development of cognitive schemas related to anxiety and depression (Barlow, 2004; Ingram, Overbey, & Fortier, 2001; McGinn, Cukor, & Sanderson, 2005). Despite the central role accorded to schemas in cognitive conceptualizations and treatment of a variety of psychiatric disorders, research studies have not examined the origin of schemas. Cognitive theorists such as Beck (1985) and Young (1999) have proposed that schemas mostly develop during early childhood primarily as a result of unmet or frustrated emotional and developmental needs in relationships with significant caretakers early in life. Young therefore referred to these schemas as “early maladaptive schemas” (EMSs). EMSs serve as a framework for interpreting of events and other’s behavior; they are supposed to affect a person's perceptions and experiences in a biased and self-perpetuating way, leading to a greater risk of psychopathology. Young has identified 18 EMSs that are grouped in five (5) main domains: Disconnection, Impaired Autonomy, Impaired Limits, Other-Directness, Over vigilance and Inhibition (Young et al., 2003). According to Young’s schema model EMSs operate on the deepest level of cognition, usually outside of awareness, and make the individual psychologically vulnerable to develop depression, anxiety, dysfunctional relationships, addiction, and psychosomatic disorders (Young, 1999).

In accordance with Schema Theory, research on EMSs have shown that EMSs among adults were significantly related to a variety of psychiatric symptoms and disorders (Balsamo et al., 2015; Calvete, 2014; Calvete et al., 2015; Cohen et al., 2015; Gonzalez-Diez, 2015; Haffart Lunding and Haffart, 2014; Koemer et al., 2015; Kwak and Lee, 2015; Pinto-Gouveia, Castilho, Galhardo, & Cunha, 2006; Rusinek et al., 2013; Shariatzadeh et al., 2015; Welburn et al., 2002) including : personality disorders (Astaneh et al., 2013; Jovev & Jackson, 2004; Haffart Lunding and Haffart, 2014; Reeves & Taylor, 2007; Shriatzadeh et al., 2015; Thimm., 2010b), substance abuse

(Aaron, 2013; Brotchie, Meyer, Copello, Kidney, & Waller, 2004; Shorey et al., 2015), eating disorders (Boone et al., 2013; Elmquist et al., 2015; Waller, Kennerly, & Ohanian, 2007), obsessive-compulsive disorder (Kim et al., 2014; Kwak & Lee, 2015; Shariatzadeh et al., 2015), social phobia (Calvete et al., 2013; González-Díez et al., 2015; Pinto-Gouveia et al., 2006), anxiety (Calvete, 2014; Cámara & Calvete, 2012; Cohen et al., 2015; Gonzalez-Diez, 2015; Hawke & Provencher, 2013; Koerner et al., 2015) and depression (Balsamo et al., 2015; Calvete, 2013; Orue et al., 2014; Renner et al., 2012; Rusinek et al., 2013). These studies showed that certain EMSs are more strongly related to some disorders than others. However, EMSs are apparently a general vulnerability factor for psychopathology as they are relevant for a broad range of psychiatric diagnoses (Thimm, 2010a).

In addition, in several retrospective studies in adult indicated that EMSs highly correlated with negative parental behaviors (Crawford & Wright, 2007; Cukor & McGinn, 2006; Nia et al., 2014; Quirk et al., 2014; Wright, Crawford, & Del Castillo, 2009). Some studies have investigated EMSs in adolescents (Calvete et al., 2013; Calvete, 2015; Cohen et al., 2015; Gonzalez-Diez, 2015; Lumley, & Harkness, 2007; Orue et al., 2014; Roelofs et al., 2013; Rusinek et al., 2013; Van Vlierberghe & Braet, 2007), and the schema scales were found to be related to a variety of psychological symptoms in adolescents. In an etiological model on the development of anxiety, Vasey (2001) posited the relationships between possible contributing variables and anxiety, in order to understand the complex pattern of multidirectional variables involved in its development. Many of the models that attempted to explain the development of anxiety postulate that suboptimal parenting, (generally, this has been defined as a parenting style characterized by low care or acceptance and high levels of rejection and overcontrol) leads to anxiety through the development of dysfunctional cognitive schema that are biased towards threat and negative outcomes, or insecure attachment

and internal working models (Chorpita & Barlow, 1998; Vasey, 2001). Vasey (2001) postulated overprotective parenting, rather than making the child feel safer, alerts them to possible dangers and makes them believe they are vulnerable (in need of protection) and may lead to a cognitive bias towards threat. Attachment theorists also postulate that insecure attachment leads to biased cognitive appraisals of the child's environment through the development of felt insecurity in 'Internal Working Models'. Despite the fact that numerous models now posit a mediating role for negatively biased cognition in the relationship between parenting and anxiety, there is little empirical research to support them (Gallagher & Cartwright-Hatton, 2008). In addition, no research has examined the mediating role of EMSs and parenting styles with regard to the relationship between childhood experiences (particularly attachment style) and psychopathology as proposed in Young's schema therapy.

In order to examine the usefulness of attachment style as a predictor of anxiety, it is important to look at how much predictive power it can add to the more extensively researched parenting and cognitive schema factors. It is also pertinent to models of the development of anxiety to investigate the mediating role of EMSs and parenting on the link between attachment and anxiety. This study therefore aims to address gaps in the existing literature in order to achieve a better understanding of which parenting factors and EMSs are important in the development of anxiety and how these factors have their effect through attachment style of children. A number of studies have demonstrated that EMS are significantly related to dimensions of perceived parental rearing styles in different populations (Nia et al, 2014; Quirk et al., 2014; Thimm, 2010a; Wright et al, 2009). However, few studies have empirically examined the relationship between early parenting style and mediating effects of cognitive style on anxiety; there is no study that investigates relationship between insecure attachment and EMSs. Also, no study has examined the relationship between child attachment style, parenting style and cognitive

factors like EMSs in the development of anxiety altogether. It is not understood how negative parenting styles interact with EMS and what may possibly mediate between attachment styles and anxiety. Therefore, as one possibility that has not received much attention in child psychopathology, this study is an attempt to examine whether parenting style and EMS, can act as mediating factors between child attachment style and anxiety in adolescents.

Another factor that has received less attention in attachment and cognitive literature is cultural and ethnic group variation on parenting styles, anxiety level, attachment pattern and EMSs. There is a debate about universality of attachment pattern and its assumption, some findings support the universality assumption of attachment theory (Posada et al., 2002), others do not (Agishtein & Brumbaugh, 2013; Li, Duan, Wang & Wu, 2015; van Ijzendoorn & Sagi-Schwartz, 2008; Wang & Scalise, 2010). Also, there are theoretical and empirical evidence showing cultural differences in patterns of parenting between Western and non-Western countries, suggesting that Asian parents may utilize strategies reflecting authoritarian parenting more often than Western countries parents (Varela., Vernberg, Sanchez-Sosa, Riveros, & Mashunkashey, 2004). In terms of cultural variations in parenting styles, there are some general differences between Eastern and Western cultures. For example, with regard to the Chinese context, some studies showed Chinese parenting style was characterized by over control and monitoring of children's behaviors, and emphasize on unquestioning obedience, self-discipline, force for doing well in school and less express their warmth or express in implicit fashion. On the contrary, American mothers promote autonomy and independent behavior in their children by using reasoned control, openly expressing their warmth and intimacy, and frequently praising their children (Xu et al., 2005).

Although, the literature indicates that culture plays an important role in the development of attachment styles as well as influences parenting styles, but attachment

studies have been largely confined to western contexts. Only limited adult attachment research in Asian countries is found in the literature (Li, Duan, Wang & Wu, 2015; Ng, Trusty, & Crawford, 2005; Hyo Soon You & Kathleen Malley-Morrison, 2000; Sun et al., 2010; Wang & Scalise, 2010). Currently, there is little information about similarities and differences in non-Western societies on parenting styles, attachment patterns and EMSs. In this context, Malaysia is of particular interest as a multi-culture society. In addition, the current study was conducted in international secondary schools where students come from different countries. In this heterogeneous environment where ethnicity and racial context may differ in adolescent attachment pattern, perceive parenting behaviors and anxiety level, it is important to understand how the ones ethnic group influences on adolescent anxiety and related factors.

In addition to cultural variation, research shows that gender is related to anxiety symptoms and attachment orientation in adolescents. Some studies identified that girls had higher levels of anxiety symptoms than boys (American Psychiatric Association, 2013; Hale III., Raaijmakers, & Muris, 2008; Yen et al., 2010). Others indicated there is no gender differences in anxiety score (Peng, Lam, & Jin, 2011) or that gender differences are limited to some symptoms, but not all (Nelemans et al., 2014).

Finally, the majority of studies that examined early maladaptive schemas, attachment relationships, parenting style and anxiety disorders have been retrospective researches and focused on adulthood or early adulthood, with few studies on adolescence. Based on results of literature studies, there is no empirical study that has examined the relationship between attachment pattern and early maladaptive schemas in adolescence with anxiety disorders. The study of the relationship between attachment patterns, perceived parental rearing behaviors and early maladaptive schema in the development and maintenance of anxiety disorders in adolescence is an emerging field

of investigation that holds promise for informing etiological models and new interventions.

1.3. Significance of the Study

Attachment theory is a theory of personality development and psychopathology across the lifespan (Simpson & Belsky, 2008; Trentini et al., 2015). Although there are numerous studies on attachment in infancy and early childhood in attachment literature, the impact of attachment and parent-child relationships on adolescence has been largely neglected. Also, the cognitive framework, as originally outlined by Beck (1967), has generated a vast body of empirical research on psychopathology (Bosmans, Rosseel & Bogels, 2009). One of the core assumptions of cognitive theory is that negative basic beliefs about the self, other people and their worlds, also denoted as maladaptive schemas, underlie the development and maintenance of emotional disorders (Beck et al., 1985). Dysfunctional schemas are presumed to develop early in life through negative interactions with primary caregivers, and make people vulnerable to psychological problems when confronted with stress (Bosmans et al., 2009). Although there is now consistent evidence that negative cognitive schemas are associated with anxiety and depression (Alloy, 2001; Barlow, 2004; Ingram, Miranda, & Segal, 1998; Young et al., 2003), little attention has been paid to the origin of schemas and the relation between early maladaptive schemas, parenting styles and anxiety in people with insecure attachment style. In addition, there is no research that examines early maladaptive schemas, attachment styles, parenting styles and anxiety symptoms in adolescence.

Indeed, the multiple and integrated approach to anxiety have had less focus. Therefore, the current study considered some of the determinants of anxiety that are related to attachment and cognitive theory and examined early maladaptive schemas in adolescents more closely. Furthermore, this study investigated how the parenting

behaviors and early maladaptive schemas with together and separately might have the mediate role in the development of anxiety in adolescents. So, findings of this study can provide excellent support for the cognitive approach that early life experience with caregivers are linked to the development of the cognitive schemas and can further add to attachment theory that early maladaptive schemas at least partially mediates the relation between insecure attachment and anxiety.

In addition, as Young et al., (2003) has posited that early negative experiences with caregiver and unmet developmental needs early in life is stored in schemas and peoples with disconnection domain schemas are unable to form a secure attachment to others, this study explored to what extent insecure attachment relate to EMSs in adolescents. Furthermore, the possible contributions of attachment styles, early maladaptive schemas and parenting styles on anxiety in adolescents have been studied. It is expected that a specific insecure attachment is related to some specific schemas. In addition, the relationships between parenting styles and EMSs and gender specific variation for study variable were also explored.

Finally, to examine the cultural group influences on adolescents' anxiety, perceived parental rearing behavior, attachment pattern and EMSs, Malaysia is of particular interest in this study because, there is no study in this field. Thus, this study has been a comparative study that pointed out the similarities and differences on study variables within Malaysia occupants from three different Malaysian ethnic groups and comparing with international students who come from India, Arab and Western countries. Altogether, this research can be a foundation for future studies by providing an understanding of how insecure attachment with special emphasis on the mediating role of cognitive and parenting factors influences adolescents' anxiety. It can help to provide an integrated model of adolescent's anxiety. Likewise, the results of this study

can be used for clinical application in assessment, individual treatment, family intervention and development of educational programs correcting parent-adolescent interactions for positive parenting and reducing anxiety. Based on the above, the following research questions were developed.

1.4. Research Questions

1. What is the relationship between insecure attachment and adolescent anxiety?
2. What is the relationship between insecure ambivalent attachment and anxiety symptoms in adolescents?
3. What is the relationship between parenting styles and anxiety symptoms in adolescents?
4. What is the relationship between parenting styles and adolescents' attachment style?
5. What is the relationship between Early Maladaptive Schemas and adolescent anxiety?
6. What is the relationship between schema domains and adolescent anxiety?
7. What is the relationship between schema domains and parenting styles?
8. What is the relationship between insecure attachment, parenting styles and Early Maladaptive Schemas with anxiety?
9. What are the mediating effects of parenting styles and EMSs on the relationship between insecure attachment and anxiety in adolescents?
10. What are the cultural group differences on the measures of parenting, attachment styles, EMSs and anxiety in adolescents?
11. What are the gender group differences on the measures of parenting, attachment styles and anxiety in adolescents?

1.5. Objectives of the study

The present study investigated the relationship between attachment styles and anxiety in adolescents with emphasis on parental styles and early maladaptive schemas as mediators. The relationship between parenting styles and early maladaptive schemas, were also examined. In addition, the relationship between early maladaptive schemas and attachment styles were also examined.

The specific objectives of this study are:

1. to determine the relationship between attachment styles and anxiety in adolescents,
2. to determine the relationship between insecure ambivalent attachment and anxiety symptoms in adolescents?
3. to examine the relationship between parenting styles and anxiety score in adolescents,
4. to investigate the relationship between attachment styles and perceived parenting style in adolescents,
5. to examine the relationship between EMSs and anxiety in adolescents,
6. to investigate the relationship between schema domains and anxiety in adolescents,
7. to investigate the relationship between schema domains and parenting styles,
8. to examine the independent and combined contributions of attachment, parenting styles and EMSs in the prediction of adolescents' anxiety,
9. to determine the mediating effects of parenting styles and EMSs on relationship between insecure attachment styles and anxiety in adolescents,
10. to examine the cultural groups differences on measures of study including anxiety, maladaptive schemas, perceived parenting and attachment style scores,

11. to examine the gender differences on attachment style, perceived parenting styles and anxiety symptoms in adolescents.

University of Malaya

CHAPTER TWO:

LITERATURE REVIEW

University of Malaya

2.1 Fear and anxiety in children and adolescents

Literature demonstrated that anxiety is one of the most prevalent forms of psychopathology in children and adolescence period (Albano et al., 2003; Bittner et al., 2007; Colonnesi et al., 2011; Merikangas et al., 2010) and can result in severe psychosocial problems (Bernstein & Victor, 2008; Negreiros and Miller, 2014). According to the recent epidemiological survey, anxiety disorders are among the most common form of psychiatric disorders in children and adolescence, with lifetime prevalence as high as 31.9% among adolescents (Merikangas et al., 2010). Current or short-term prevalence rates for anxiety are approximately 2% to 4% (Costello, Egger, & Angold, 2004).

In addition to the high prevalence of anxiety symptoms in adolescence, a significant proportion of childhood anxiety symptoms and disorders appear to have a chronic course and last into adulthood (Kessler et al., 2012; Nelemans et al., 2014). Moreover, anxiety disorders in adolescents have shown high comorbidity with each other and other psychiatric diagnoses (Essau, 2003). Furthermore, anxiety disorders can cause significant impairment in many areas of a child's life (e.g., school, peer relationships, family) and lead to psychological problems later in life (DeSousa et al., 2013; Kendall, Safford, Flannery-Schroeder, & Webb, 2004).

2.2 Fear and Anxiety as a normal or pathological phenomena

Fear and anxiety like other basic human emotions not only are normal and expected but, also useful and even they are vital throughout the life, particularly in difficult and stressful situations. As noted by prominent clinical scientists (Barlow, 1988), fear serves the valuable and essential role of alerting an individual to be aware of the imminent danger, focusing attention and preparing organism to fight or flee, through activating physical, behavioral and cognitive resources. Repeated experiences with fear-

provoking situations and cues provide an individual with opportunities to learn appropriate cognitive and behavioral responses for mastering these situations, along with learning to differentiate true threat from false or neutral situations. For children, fear is an essential part of the normal development that allows them to be able dealing with dangerous situations or avoid them. However, for some children and adolescents, excessive and intense fears and anxiety can occur, resulting in disruption of the child's daily activities and quality of life (Albano, Causey, & Carter, 2001).

The DSM-V (American Psychiatric Association, 2013), defines fear as an emotional response to real or perceived imminent threat, whereas anxiety is anticipation of future threat. Obviously, these two states overlap, but they also differ, with fear more often associated with excessive autonomic arousal for fight or flight, thoughts of immediate danger, and escape behaviors, and anxiety more often associated with muscle tension and vigilance in preparation for future danger or avoidance behaviors. Fear is an immediate alarm reaction informing danger or threatening situations. This alarm reaction, called the “fight-or flight response.” Following perceived threatening situations (cognitive element of fear), fight-or flight response involves activation of the autonomic nervous system coupled with a focusing of attention on either escaping the situation or fighting the potential threat. The response of the autonomic nervous system lead to a number of physiological sensations, such as pounding heart, rapid breathing, sweating, muscle tension, hot or cold flashes, and nausea. These sensations are harmless and viewed as adaptive (Albano et al., 2001). Indeed, these physiological changes are a result of the alarm system and essential biological mechanism which used for motivation to act in response to threat or danger.

In contrast to the immediate alarm reaction associated with fear, anxiety is a mood state or emotion that characterized by three interactive components or systems:

(1) *the cognitive component* involves all the thoughts, images, beliefs and interpretations about the situation which may originate from maladaptive schemas and lead to dysfunctional thoughts, (2) *the behavioral system*, the observable response of the anxious individual in the face of threat (i.e., fight, flight, avoidance or freezing reactions), and (3) *the physiological system* associated with physical symptoms such as palpitations, sweating, and tremors, which serves to increase attention and to prepare the body for immediate action (Barlow, 1988; Lang, 1968a). Thus, in contrast to the immediacy of the fear response, anxiety is more consistent as a state of dread, unease, worry, or apprehension about an upcoming or anticipated situation.

Although anxiety may not be a pleasant experience, the purpose of activating the anxiety response system is to effectively cope with the threat and increase one's chances for survive, and is therefore a necessary mechanism. Also, anxiety has been named the "shadow of intelligence", because humans can anticipate and plan for future events, allowing one to prepare for any number of consequences or scenarios. Therefore in proper or moderate level of anxiety is functional and can increase motivation and enhancing performance in various situations. This finding was demonstrated by Yerkes and Dodson (1908), who found that moderate levels of anxiety improved performance, whereas too little or too much anxiety interfered with task performance (Albano et al., 2001).

Indeed, anxiety as pathology is dis regulation of the normal response system (Barlow, 2004; Weems & Silverman, 2008). A reaction may be considered abnormal if no objective danger is present or the intensity of the anxiety is significantly disproportionate to the danger (Beck, Brown, Gary, Steer, Robert, Eidelson, Judy, Riskind, John, 1987). If the anxiety response system is continually activated when the problem is not an actual danger but, rather, a misperception or exaggeration of the

danger (mainly because of maladaptive schemas), this biological mechanism is inappropriate and ineffective (Beck et al., 1985). Worry, for example, can be maladaptive if it is so intense that it actually interferes with a person's ability to deal with a dangerous situation. In other words, pathological anxiety can be considered as emotional distress and functional impairment caused by dysregulation of the anxiety response system. These features can emerge as physiological symptoms (e.g., racing heart), cognitive symptoms (e.g., cognitive biases due to negative schemas), behavioral symptoms (e.g., avoidance) and social symptoms e.g., interpersonal difficulties (Weems & Silverman, 2008).

According to the DSM-V, anxiety disorders can be defined as share features of excessive fear and anxiety and related behavioral disturbances. Anxiety disorders differ from developmentally normative fear or anxiety by being excessive or persisting beyond developmentally appropriate periods. They differ from transient fear or anxiety by being persistent (e.g., lasting 6 months or more), although sometimes the duration is shorter in children (as in separation anxiety disorder and selective mutism). Since individuals with anxiety disorders usually overestimate the danger in situations they fear or avoid, the primary determination of whether the fear or anxiety is excessive or out of proportion are made by the clinician, taking cultural contextual factors into account. Many of the anxiety disorders develop in childhood and tend to persist if not treated (American Psychiatric Association, 2013).

In distinguishing a normal, developmental fear or anxiety reaction from a pathological anxiety or phobia, clinicians utilize the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) criteria for detecting a disorder. Each anxiety disorder is diagnosed only when the symptoms are not attributable to the physiological effects of a substance/medication or to another medical condition or are not better explained by another mental disorder. The anxiety disorders differ from one another in the types of

objects or situations that induce fear, anxiety, or avoidance behavior, and the associated cognitive ideation. Thus, while the anxiety disorders tend to be highly comorbid with each other, they can be differentiated by close examination of the types of situations that are feared or avoided and the content of the associated thoughts or beliefs.

According to the DSM-V (American Psychiatric Association, 2013), there are seven anxiety disorders as described below:

(1) Separation anxiety disorder is characterized by inappropriate and excessive anxiety concerning separation from the home or from attachment figures. There is persistent fear or anxiety about harm coming to attachment figures and events that could lead to loss of or separation from attachment figures and reluctance to go away from attachment figures, as well as nightmares and physical symptoms of distress. Although the symptoms often develop in childhood, they can be expressed throughout adulthood as well.

(2) Selective mutism is characterized by a consistent failure to speak in social situations in which there are an expectation to speak (e.g., school). The failure to speak interferes with normal social communication or in academic/occupational functions.

(3) Specific phobia includes extreme, unwarranted fears of a specific objects or situations, such as blood, elevators, closed places, animals, etc.

(4) Social anxiety disorder (social phobia) is characterized by an excessive fear in social situations or performance anxiety in interpersonal and social situations. These include social interactions such as meeting unfamiliar people, situations in which the individual may be observed eating or drinking, and situations in which the individual performs in front of others. The cognitive ideation is of being negatively evaluated by others, by being embarrassed, humiliated, or rejected, or offending others.

(5) Panic disorder, the individual experiences recurrent unexpected panic attacks (i.e., pounding heart, sweating, shortness of breath, chest pain, fear of dying, etc.) and is persistently concerned or worried about having more panic attacks.

(6) Agoraphobia includes being fearful and anxious about two or more of the following situations: using public transportation; being in open spaces; being in enclosed places; standing in line or being in a crowd, or being outside of the home alone in other situations. These situations almost always induce fear or anxiety and are often avoided and require the presence of a companion.

(7) Generalized anxiety disorder is characterized by persistent and excessive anxiety about various domains without any specific reasons, including work and school performance, which the individual finds difficult to control. In addition, the individual may experience one or more physical symptoms, including restlessness; being easily fatigued; difficulty concentrating or mind going blank; irritability; muscle tension; and sleep disturbance.

The anxiety scale used in the current study examined the symptoms of all anxiety disorders except selective mutism disorder. Although anxiety disorder may change over times in children and adolescents and they may have comorbidity with each other, as recommended by Weems et al., (2008), it may be useful to view the main symptoms of anxiety disorders as core features (e.g., total score of anxiety scale) and secondary features (i.e., those specific symptoms that differentiate by anxiety subscales).

2.3 An Overview of Attachment Theory

Attachment theory as a multi-disciplinary theory originated from evolutionary biology, ethology, developmental psychology, cognitive science, and control systems theory. Bowlby (1969) offered an explanation of the emotional bonds between infants

and their caregivers, considered some biological phenomena such as imprinting of geese (Lorenz, 1935) and attachment of rhesus monkeys to cloth-covered mothers (Harlow, 1958) that secondary-drive theories held at the time did not explain. Bowlby (1988b) explained that dependency of the infant to caregiver is more than the need for food. He proposed that through the process of natural selection, individuals have become biologically predisposed to seek proximity and develop a strong emotional tie to the primary attachment figure. Therefore, the need to form an emotional bonding with a primary caregiver is vital for the survival of the infant. The caregiver provides not only feeding and protection from threats, but also social interaction, soothing and learning. To ensure closeness to the attachment figure, infants possess attachment behaviors that keep the caregiver close such as crying, cooing, grasping, crawling, and other vocal and motor behaviors (Bowlby, 1982).

Contemporary attachment theory developed from the joint work of John Bowlby and Mary Ainsworth. Much of the work of attachment theory includes a child's bonding to the mother and its disruption through separation, deprivation, and bereavement (Bowlby, 1988a, 1989). The attachment figure as a secure base builds a balance between attachment behaviors and exploratory behaviors which provides for optimal growth and development of independence. According to attachment theory, caregiver's availability, sensitivity and responsiveness to the infant needs and the degree of reciprocity between the infant and the mother determines the secure versus insecure quality of attachments. Therefore each infant, however treated, will become securely or insecurely attached to its caregiver. The most critical time period for this bond to form and for attachment needs to be met is during early infancy by the end of the first year (Shamir-Essakow et al., 2005).

The concept of infant's primary attachment was empirically supported and extended through the work of Mary Ainsworth's cross-cultural field studies in Uganda and Baltimore. Mary Ainsworth as a member of Bowlby's research team developed an observational, laboratory-based assessment tool, the Strange-Situation procedure (Vaughn & Waters, 1990), which applied for the assessment of the quality of infant and caregiver relationships. She enriched the study of attachment theory with the empirical studies of mother-infant attachment. In an empirical study, Mary Ainsworth (1978) examined mother-infant dyads in Uganda through the strange situation procedure. She first noticed infants' variations in relating to attachment figures and termed these differences "attachment styles." She identified three categories describing an attachment relationship based on infant behavior displayed in the Strange Situation. Bowlby later labeled three specific styles as: secure, insecure-avoidant, and anxious-ambivalent insecure attachment. Secure infants were able to use the caregiver as a secure base for exploration in the unfamiliar situation. They were distressed when separated from their mother but were readily comforted by her on reunion, and then returned to play. Insecure-avoidant infants, tended to show minimal distress on separation and avoided proximity or interaction with the caregiver on reunion. Mothers of these infants were found to reluctant to physical contact when their infants were upset, frequently rejecting their infants when they sought comfort and reassurance. These infants have a tendency to minimize or suppress expressions of negative affect and avoided their mother on the reunion, may be as a coping strategy against painful feelings of separation (Shamir-Essakow et al., 2005).

Infants, who were classified as insecure-ambivalent, were obviously incapable of using the caregiver as a secure base for exploration, tending to seek excessive proximity and contact with the caregiver even prior to the separation. These infants

became overtly distressed upon separation, and would not be comforted upon reunion time. They showed angry, resistant, and ambivalent behavior upon reunion with their mother. Mothers of ambivalent infants were found to be the most inconsistent in their availability and least qualifying in soothing their infants, and directly interfered with their infant's exploration (Cassidy & Berlin, 1994). Later, disorganized attachment style was posited by Main and colleagues. They noticed that some children were unclassifiable on the basis of their behaviors and, therefore, proposed disorganized attachment as a separate category (Roelofs, Meesters, Ter Huurne, Bamelis, & Muris 2006).

To sum up, Bowlby (1969) outlined four defining features and functions for attachment relationship:

1. Proximity maintenance (desiring to be close to the attachment figure),
2. separation distress (anxiety over separation from the attachment figure),
3. safe haven (returning to the attachment figure whenever sensing danger or threatened), and
4. secure base, which help the child to go around and exploration of the environment; yet knowing the attachment figure will protect if danger arises.

Attachment security accounts an important factor for social and emotional adjustment throughout the life span (Bartholomew & Horowitz, 1991; Collins & Long, 2003). One's attachment pattern to the parents or primary caregiver persist throughout life and becomes the template for other intimate relationship and emotional bonds formed later with others (Ainsworth, 1985). Further, quality of primary attachment is regarded as an important determinant of development and psychopathology. It suggested that anxiety and depression in the child may result from actual or threatened loss of attachment relationships (Bowlby, 1976; Bowlby, 1980).

2.3.1 Internal Working Models

Bowlby (1969) combined several approaches, including psychoanalysis, ethology, cognitive psychology, and developmental psychology, for providing a better explanation of infants and their caregivers' emotional bonding and the lasting effects of early attachment experiences on personality and psychopathology formation.

A basic assumption of Attachment Theory (Bowlby, 1982; Bowlby, 1980) is that through the attachment formation and early interactions with caregivers' mental representations of self and others were developed and it acts as guides for subsequent close relationships. Bowlby (1969) posited whether or not the emotional and physical needs of a child in early development are met; inform the development of internal working models of the self and others. This is the part of his formulation most affected by the object relations theories during the time of his training and early research. He posited that internal working models are formed on the basis of the caregiver's behavior; for example, children with secure attachment that their caregivers are loving and responsive, children develop a model of the self as loved and valued, and a model of the other as warm and loving (Bretherton & Munholland, 1999). In contrast, when children have experiences that lead them to expect caregivers to be rejecting or unreliable, they develop a model of the self as unloved and rejected, and a model of the other as unloving and rejecting. These children do not expect that caregivers will be available when needed, and they develop alternative, insecure strategies for coping with their distress. Bowlby theorized that over time, children internalize experiences with caregivers in such a way that early attachment styles form a prototype for later relationships outside of the family (Muris et al., 2003a).

The internal working models include expectations, beliefs, emotional appraisals, and rules for processing or excluding information. Although, they are partly conscious and

partly unconscious, they act and manage interpersonal relationship (Levy et al., 1998). Indeed, they influenced how people interpret and predict others' behavior and tend to generate experiences in line with the existing working models, making them resistant to change (Bowlby, 1982). In addition, they impact on the development of trust, communication, adaptability, defensiveness, and self-concepts (Bretherton & Munholland, 1999). For example, the avoidant individuals hold a negative internal working perception of others, and tend to harbor a strong sense of distrust and hostility toward others. As a consequence, they may show avoidance behavioral patterns when faced with anxiety inducing situations, interpersonal closeness, or dealing with interpersonal conflicts (Wang et al., 2010). The internal working models in children with insecure attachment are characterized by fear, anxiety, anger, and mistrust and may put children at risk for psychopathology (Greenberg, 1999).

Although, Bowlby (1969) borrowed the concept of the internal working model from the object relations theory, it is considerably similar to the concept of schema in cognitive theory. Cognition is a major component of the attachment system. Bowlby (1969) and Ainsworth et al., (1978) explained that the attachment experiences of infants contribute to the formation of “internal working models”, or cognitive representations of the attachment figure(s), the self, and others. Over time, internal working models often become generalized to other relationships as well, such that the infant forms a relatively stable view of "self" and “others” more globally (Agishtein & Brumbaugh, 2013). This concept is similar to relational schemas and encompasses the majority of early maladaptive schemas that will be explained in the next section.

2.3.2 Adolescence and Attachment style

At first glance, Bowlby's theory seems to deal with just emotional bonding of infant and mother. However; he has asserted that attachment relationships play a powerful role

throughout the life. Although it occurs in infant and mother relationship, Bowlby (1979) posited it works "from the cradle to the grave" and lasting throughout the lifespan. Continuity and consistency of attachment pattern from infancy to adulthood can be attributed to the internal working models of self and other which assumed coming from attachment patterns (Cassidy, 2000). A number of studies have provided evidence for the continuity of attachment styles from the infant stage to school age (Main, Kaplan, & Cassidy, 1985).

Further, adolescence is a major transition period during which a person passes childhood and enters into adult's life. It is a critical period because of physical, cognitive, social and emotional changes in adolescent's life. These developmental changes have the most significant implications for adolescent attachment. With the onset of puberty come not only physical changes, but also many other important changes. For example, the social world of an adolescent changes to become more peer focused than before. Based on their attachment pattern, they start to experience close and intimate relationship beyond the family. However, parents do not disappear from the daily life of an adolescent. Further during this stage, an individual develops a more mature sense of identity because of such advances in behavioral, social and cognitive domains. In addition, these developmental changes impact on adolescents' tendency for a more independent and autonomous life as well as it helps adolescent to be emotionally separated from parents. So, development of autonomy is a core feature of adolescence due to transitions in the role of attachment figures with maturity (Venta, Shmueli-Goetz, & Sharp, 2013). Therefore, Attachment Theory is helpful in the understanding of adolescents' social -emotional life.

Research has also established the quality of attachment as an important correlate and predictor of psychological well-being. Adolescence represents an important transitional period and is associated with considerable changes in psychosocial

functioning and centrally in attachment relationships. Attachment Theory has generated a considerable body of work and it posits that in early development, the emotional and physical needs of a child and whether or not they are met, inform the development of internal working models of the self and others. In addition, attachment security is central for adolescent well-being with the greatest consequences of attachment insecurity in the interpersonal domain, that is, negative consequences in family, friend, and romantic relationships (Berlin, Cassidy, & Appleyard, 2008).

The conceptualization of the attachment system as it relates to adolescents and adults began in the mid-1980. Hazan and Shaver (1987), based on the internal working model, explained romantic relationships and applied the theory to adult attachment pattern. They provided an explanation for adult intimate and romantic relationships from the perspective of attachment theory. Hazan and Shaver's influential article set off a large body of research and new ideas on the development and functioning of the attachment system over the human lifespan. They asserted while an infant's attachment figure is usually a parent, attachment figures in adolescence and adulthood can range from close friends to siblings to romantic partners, as long as these relationships serve the three functions of the attachment system: protection, secure base, and a safe haven (Agishtein & Brumbaugh, 2013).

Further, Proximity seeking or maintenance of closeness, separation protest, and secure base are three attachment-related behaviors which exist across all stages in development (Hazan & Shaver, 1987; Segrin & Flora, 2005). Secure base refers to the utilizing attachment figure as a foundation from which to explore the environment and seek out non-attachment related pursuits. The concept of a secure base is more important in adolescence. With regards to the adolescent needs to separation from parents in both physically and emotionally, the presence and availability of attachment

figure is crucial (Allen & Land, 1999). Therefore, the behaviors of attachment used to describe infant attachments should be related to attachment in adolescence. Hazan and Shaver (1994) stated that the most important aspect of the relationship which relates to attachment is for each person to act as a “reliable haven of safety.” In adolescence, this idea translates to the support, warmth and comfort that attachment figures can provide. Separation protest is another behavioral aspect of very early attachments that translates to adolescence. For example, because of cognitive gains, a more complex understanding of separation will have implications for attachment relationships when faced with more permanent separations, such as death (Barrocas, 2012). Kobak and colleagues (Kobak, Cassidy, Lyons-Ruth, & Ziv, 2006; Kobak, Cassidy, & Ziv, 2004) also, posited the separation as a threat to secure attachment is differ across the lifespan, changing from physical separations in infancy to verbal threats of rejection or abandonment in adolescence and later developmental periods.

2.3.3 Adolescence and Adult Attachment classification

Attachment theorists agree that adolescent and adult attachment styles fall into two broad categories, Secure and Insecure. They further agree that Secure has only one dimension, but differ when it comes to the number of dimensions in the insecure attachment style categories. Hazan and Shaver (1987) found that romantic love can be categorized as an attachment process. They employed Ainsworth attachment styles classification (e.g., secure, anxious/ambivalent, avoidant) to romantic relationships among adults. Bartholomew and Horowitz (1991) conceptualized an alternative model of four categories of attachment style, based on the concept of internal working models and its two dimensions (working models of self-vs. others). They proposed a model of attachment in which the one’s image of the self, as well as the image of other people, plays a central role. Four categories of attachment are proposed, namely secure

attachment, preoccupied attachment, fearful attachment, and dismissing attachment. Secure attachment refers to a sense of worthiness together with an expectation that other people are generally accepting and responsive. Preoccupied attachment reflects a sense of unworthiness combined with a positive evaluation of others. These individuals struggle for getting confirmation and self-acceptance from valued others. Fearful attachment indicates to a sense of unworthiness combined with an expectation that others will behave negatively (e.g., untrustworthy and rejecting). These individuals avoid intimate relationship with others to protect themselves against predicted rejection by others. Finally, the dismissing attachment is characterized by an ambivalence tendency; a sense of worthiness combined with a negative disposition towards other people. These individuals tend to protect themselves against disappointment by avoiding close relationships and maintaining a sense of independence and invulnerability (Roelofs et al., 2006).

Feeney, Noller, and Hanrahan (1994) unified the findings associated with the study of adult attachment. Based on Hazan and Shaver (1987), three-group model of attachment (Secure, Avoidant, and Anxious/Ambivalent) and Bartholomew and Horowitz (1991) four-category model of attachment (Secure, Fearful, Preoccupied, and Dismissing), they posited five dimensions of attachment style and highlighted the dimensional nature of adult attachment rather than emphasizing the categorical measures. Feeney et al. (1994) 5 factors (dimension) of adult attachment style includes the following categories: Confidence in Self and Others, Discomfort with Closeness, Need for Approval, Preoccupation with Relationships and Relationships as Secondary. Feeney and his colleagues' work "...cover the major features described in both three- and four-group models of adult attachment, together with the basic themes of infant attachment theory." (Feeney, et al., 1994, p. 133).

2.3.4 The Role of Anxiety in Attachment Theory

Anxiety is a basic concept of attachment theory. From the beginnings of attachment theory, anxiety has been a primary issue and at the core of insecure attachment. The evolutionary based fear of being alone drives infants to seek proximity to their caregivers. The distress of separation from a caregiver is of fundamental interest in attachment theory but is only somewhat related to the concept of separation anxiety in anxiety research. As observed in the Strange Situation and in everyday separations between parents and children, most infants and young children become evidently distressed upon separation from their attachment figures (Ainsworth, Blehar, Waters & Wall, 1978). This distress due to separation from the caregiver is the earliest form of anxiety experienced by infants and is showed most often in resistant infants. Anxiety upon separation from a caregiver is considered the underlying cause of insecure attachment (Bowlby, 1982). Although, some distress and protesting are considered as a normal and adaptive response which propels infant to maximize proximity to the caregiver and ensure safety, but excessive and developmentally inappropriate reactions to separation are related with anxious or ambivalent attachment as well as later psychopathology.

In summary, according to Attachment Theory, anxiety and fear of abandonment are the driving forces behind attachment formation. In fact, anxiety can be considered as an antecedent for attachment formation as well as a consequence of insecure attachment. When the attachment relationship is threatened, or the attachment figure is not consistently available, the insecure attachment can often result. The insecure attachment also puts children more at risk for negative outcomes such as various psychopathology particularly anxiety symptoms and disorders.

2.3.5 The Role of Attachment in the Development of Anxiety

Contemporary Attachment Theory posited a conceptual perspective to the development of childhood anxiety. Bowlby (1973) and Stayton and Ainsworth (1973) postulated a link between attachment insecurity and child anxiety. According to Bowlby, anxiety originates in an infant's uncertainty about caregiver availability, which is the fundamental condition underlying insecure attachment. A few decades later, Sroufe (1996) described separation anxiety as one of the earliest forms of an anxious experience. Later on, when child frequently experience distress in the child–parent relationship, it can become a precursor of subsequent anxiety disorders (Colonna et al., 2011).

It has been suggested that the type of insecurity that is most likely to be associated with later anxiety disorders is the ambivalent insecure attachment. As a consequence of the unpredictable and inconsistent availability of their caregiver, children with insecure-ambivalent attachments are chronically anxious, worrying about whether their needs will be met (Warren, Huston, Egeland, & Sroufe, 1997). They are constantly worried about abandonment and being vulnerable. These children are characterized by heightened monitoring of their mother and avoided the exploratory behavior. In unfamiliar situations, they show an exaggerated fear response, constituting overt anxiety (Manassis, 2001). Whereas avoidant infants learn not to expect comfort from the caregiver and externalize their discomfort, resistant or ambivalent infants do not know what to expect from the caregiver and, therefore, are more likely to internalize their distress, conflicting feelings, showing anxiety and confusion about the relationship (Sroufe, 1983). As a result of this type of unpredictable and conflicting dyadic interaction, ambivalent infants are overwhelmed by the constant anxiety of getting their needs met.

In addition, some studies also revealed significant relationship between avoidant attachment style and internalizing problems including anxiety (Bradley, 2000; Manassis, 2001; Shamir-Essakow et al., 2005). As mentioned earlier, mothers of avoidant children are constantly rejecting and ignore or suppress the children's negative emotion (particularly anxiety and anger), resulting in their children learning to mask negative emotions in order to ensure receiving care when distressed (Shamir-Essakow et al., 2005).

An increasing number of studies have examined the relation between attachment and anxiety during childhood and adolescence. In this section, the results of studies that examined the relation between insecure attachment and anxiety particularly during childhood and adolescence or youth adult were reviewed. Recent studies have indicated associations between different attachment styles and psychopathology and consistent patterns of individual differences in attachment styles among adolescents and young adults. One series of studies has shown that children and adolescents who classify themselves as avoidant or ambivalently attached display higher levels of internalizing and externalizing problems than adolescents who classify themselves as securely attached (Brumariu & Kerns, 2010; Muris, Mayer, & Meesters, 2000; Muris et al., 2003a; Nishikawa et al., 2010; Trentini et al., 2015). Also, it reported that people with insecure attachment tend to experience higher levels of anxiety (Brenning, Soenens, Braet, & Bal, 2012; Jinyao et al., 2012; Picard et al., 2013; Van Brakel, Muris, Bogels, & Thomassen, 2006; Vulliez-Coady et al., 2013).

In a review study, Brumariu and Kerns (2010) evaluated evidence for the links of child and adolescence's attachment style with internalizing problems in childhood and adolescence. The relation between attachment and anxiety was examined on the basis of 17 studies. The results provided evidence for a relation between child-parent attachment and internalizing symptoms in childhood and adolescence. Further, anxiety

was most strongly related to attachment insecurity among internalizing problems and this relation verified to be stronger during adolescence than during childhood. Moreover, in particular ambivalent attachment was found correlated with anxiety during adolescence.

In another study, Colonnesi et al. (2011) conducted a meta-analysis of 46 studies (from 1984 to 2010) that empirically examined the relation between insecure attachment and anxiety in children up to age 18. They examined the strengths and direction of the relation between insecure attachment and anxiety. Further, they reviewed relevant researches in the last 30 years in order to find moderator factors that could influence the relation between attachment and anxiety. The results of this meta-analytic study showed that insecure attachment and anxiety proved to be moderately associated, with a medium effect size of $r = .30$. Moderator analyses revealed that ambivalent (resistant/preoccupied) attachment showed a stronger association with anxiety when compared to studies examining the relation between (non-specified) insecure attachment and anxiety. Furthermore, a stronger relation between attachment and anxiety was found during adolescence, when both attachment and anxiety were measured through questionnaires and when attachment was assessed in terms of internal mental states or attachment to peers. Moreover, the analysis indicated different types of anxiety disorders did not moderate the relation between insecure attachment and anxiety. They concluded that insecurely attached children vulnerable to developing anxiety disorders. Because children with insecure attachment styles are less able to establish and keep friendships, resolve interpersonal problems, receive less support from peers or caregivers and experience more rejections. In addition, children who have insecure attachment tend to show some deficiency for self-regulation, which is indicated low

level of self-control and ego-resiliency that related to poor impulse control and capacity of dealing with changing demands (Colonnesi et al., 2011).

In addition, attachment style can effect on anxiety in two ways: the quality of the attachment relationship and the quality of parental behavior style that precipitates the attachment relationship. Certain parenting styles assumed to be associated with subsequent attachment styles (Ainsworth et al., 1978; Sroufe, 1996), indicating that these two variables shared significant variance.

2.4 Effects of parental rearing behaviors on anxiety

Another factor that is thought to play a role in the origins of anxiety as well as influences attachment security is parental rearing behaviors. Indeed, it seems a bidirectional flow between child attachment style and perceived parenting behaviors. It has been suggested that parental care, warmth, sensitivity and availability are related to children's attachment security. The continuous quality of parental behaviors and the child's internal working model of that relationship both may contribute in the development of anxiety (Booth-LaForce & Oxford, 2008; van der Voort et al., 2014).

Research on the relationship between parenting style and attachment style in adolescence has revealed that adolescents who scored high on avoidance attachment reported their parents as rejecting, cold, unengaged, and distant. Further, perception of high parental control, intrusiveness and overprotection is significantly associated with higher ambivalent attachment and anxiety symptoms (Barber, Stolz, Olsen, Collins, & Burchinal, 2005; Güngör & Bornstein, 2010). Muris, Meesters, and van Brakel (2003b) found that insecurely attached adolescents perceived their parents as less emotional warm and more rejecting and overprotective than securely attached adolescents. Attachment security in adolescents was found closely related to parental behaviors style,

in particular, maternal attunement to the adolescent and maternal supportiveness. Both the adolescent attachment pattern and perceived parenting style literature emphasize the role of the quality of the parent-child interaction in children's mental health beyond the family (Güngör & Bornstein, 2010).

Brenning et al. (2012) examined the role of parenting and adolescent attachment style on the development of internalizing (anxiety and depression) symptoms. They found meaningful and specific associations between dimensions of parenting and dimensions of attachment. Higher perceived parental warmth and responsiveness was related to lower avoidance attachment and higher autonomy-support (less parental control) was related to lower anxiety. Furthermore, they reported both ambivalent and avoidance attachment styles seem to relate positively to adolescents' internalizing symptoms.

Muris et al. (2000b) found that negative parental rearing behaviors and insecure attachment in primary school children were both positively linked to symptoms of worry. Moreover, the results showed that there were significant associations between parental rearing and attachment style and that both factors accounted for independent variance in worry scores. Further, results of their study and further study (Muris et al., 2003a) using the adolescent's sample showed that attachment style and parental rearing behaviors, in particular rejection and overprotection, were positively associated with worry and insecure attachment. In another study using a sample of preadolescents, Muris et al. (2003b) found evidence to suggest that both insecure attachment and negative parental rearing accounted for a unique proportion of the variance in internalizing symptoms, for externalizing symptoms only parental rearing behaviors explained a significant proportion of the variance. It should be noted that Muris et al. (2003a & 2003b) used the Hazan and Shaver (1987) self-reported measure of

attachment style, which assesses attachment towards friends and peers, but does not measure the attachment patterns towards parent(s). Thus, it remains unclear how specific parent-child attachment relationships and perceived parenting style are related to anxiety symptoms.

On the other hand, anxiety literature and contemporary developmental theories of anxiety posited that the family environment contributes to the development and maintenance of anxiety disorders (Chorpita & Barlow, 1998; Hudson & Rapee, 2004). Parental behavior style is a key feature of that environment. Suboptimal parental child rearing behaviors have been shown to be associated with anxiety-related symptoms in children and adolescents (Laurin et al, 2015; McLeod et al., 2007a; Nanda et al., 2012; Pereira et al., 2014; Van Der Bruggen et al., 2008).

The majority of the extant research into the role of parenting in the etiology and maintenance of anxiety has identified two main dimensions of parental rearing. The first dimension can be described as 'care' that refers to parental behaviors related to acceptance, warmth, affection, nurturance towards their child and on the reverse side is rejection or criticism. Parental rejection is marked by the cold and unaffectionate, hostile and aggressive, indifferent as well as disapproval and unresponsiveness towards children. These parents are less accepting of their children's ideas, display less warmth, and are more judgmental, dismissive and/or critical (Negreiros and Miller, 2014). The second dimension is labeled as 'control' and refers to parental overprotection, anxious rearing behaviors and on the opposite side, promotion of autonomy (Muris et al., 2003a). Anxious rearing refers to parental behaviors that are related to the explicit encouragement of anxious cognitions and avoidance behaviors in children. Theoretically, controlling and overprotecting parenting restricts children from exploring new situations and doing daily activities independently. These parental behaviors may

convey to them that they are incapable of undertaking independently and navigating their surroundings successfully. Further, parental control may enhance child anxiety and parents may exert control in anticipation of their child's anxiety-related distress. Along these lines, rejection and criticism may prevent children's attempts at self-sufficiency and emotion regulation skills by increasing their sensitivity to anxiety and, consequently, putting children at a higher risk for developing anxiety (Negreiros and Miller, 2014). Both rejection and overprotection parenting practices then likely convey to children that they are not in command of their environment and thus live in an unsafe and threatening world, resulting in increased anxiety (Varela. et al., 2013).

There is growing research interest in the association between parental behavior and child anxiety (Negreiros & Miller, 2014; van der Bruggen et al., 2008; Young et al., 2013). In a meta-analytic review, Van Der Bruggen et al. (2008) examined the relation between child anxiety and parental control. They found a substantial association between child anxiety and parental control ($d = .58$). Further analyses yielded the strongest effect sizes for studies with an overrepresentation of girls, for school-aged children, for families from higher socioeconomic backgrounds, and for studies using a discussion task to assess parental control. In a similar vein, several studies have found confirming evidence for the proposed relationship between controlling rearing behaviors and child anxiety symptoms, some of them relying on direct observation of parent-child interactions (Varela. et al., 2013; Wood et al., 2003b) and others used the questionnaires that measure children's perceptions of parental rearing behaviors (Gulley et al., 2014; Knappe et al., 2012; Laurin et al., 2015; Muris et al., 2000b; Muris et al., 2003b; Nanda et al., 2012; Pereira et al., 2014; Van Brakel et al., 2006; Young et al., 2013). Recently, Laurin et al., (2015) in a longitudinal study examined the effects of parental factors on the development of childhood anxiety in a sample of 2120 children and their families. The results indicated that maternal depression and family

dysfunction, both coercive and overprotective parenting increase the risk of the development of anxiety in children. In addition, an interaction between maternal depression and overprotection was found, indicating that overprotection only increases child anxiety when maternal depression is high.

Another dimension of parenting that has been consistently associated with anxiety is parental rejection/criticism (Hale III. et al., 2006; Hudson & Rapee, 2001; Negreiros and Miller, 2014; Vulic'-Prtoric & Macuka, 2006) For example, Vulic'-Prtoric and colleagues (2006) reported that perceived parental rejection was strongly correlated with both anxiety and depression, but depressive children also rated their parents less warmth, accepting, supporting and approving. In addition, Negreiros and Miller (2014) in a review article integrated theoretical and empirical literatures of the association between parenting and childhood anxiety. They suggested that although, parental rejection may put children at a higher risk for developing anxiety by decreasing of children's emotion regulation skills, parental rejection has been more often associated with depression than with anxiety, as parents with rejecting or hostile styles may reinforce children's negative perceptions of self and the world. However, among all the family variables in Vulic'-Prtoric and colleagues' study, father rejection reported highest correlations with anxiety and found it the best and only predictor of anxiety in early adolescence.

Parenting behaviors reflecting anxious rearing was also examined in more recent studies (Muris et al., 2003b; Roelofs et al., 2006; Van Brakel et al., 2006; Wood et al., 2003b; Young et al., 2013). Research showed anxious rearing was consistently associated with severity of internalizing symptoms with the highest associations found with anxiety scores.

A number of investigation focused on specific anxiety disorders and parenting factors. Knappe et al. (2012) studied social phobia in adolescent and examined a

population-based sample of 1053 adolescents as part of the prospective longitudinal Early Developmental Stages of Psychopathology (EDSP)-Study. The results of this study showed that the pattern of maternal overprotection, paternal rejection and lower emotional warmth was associated with Social Phobia, but not with other anxiety disorders. Further, Heider et al. (2008) found that parental warmth and overprotection are associated with Social Phobia, specific phobias, generalized anxiety and panic disorder. With regarding that they did not control associations for comorbidity, Beesdo, Pine, Lieb, and Wittchen (2010) with focusing on comorbidity, compared associations with parenting between generalized anxiety only and other anxiety disorders comorbid with GAD, depressive disorders and both anxiety and depressive disorders. They found parental rejection related to anxiety and depressive disorders (either alone or combined) and overprotection related to generalized anxiety and other anxiety disorders as well.

More recently, Yap et al. (2014b) in a systematic review examined the associations between parental factors and depression or anxiety disorders in adolescent aged 12-18 years. They identified 181 articles altogether, with 140 articles examining depression, 17 articles examining anxiety problems, and 24 articles examining both outcomes. They found strong evidence, showing that Parental factors included less parental warmth and more inter-parental conflict and parental over control led to an increased risk for both depression and anxiety; for depression additionally, they included less autonomy granting and monitoring.

In conclusion, researches from both clinical and population-based samples revealed that elevated levels of parental control or over protection (Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004; Laurin et al., 2015; McLeod et al., 2007a; Pereira et al., 2014; Van Der Bruggen et al., 2008; Varela. et al., 2013; Vreeke et al., 2013; Young et al., 2013), rejection (Hale III. et al., 2006; Hudson & Rapee, 2001; Vulic'-Prtoric &

Macuka, 2006), anxious rearing (Muris et al., 2003a; Roelofs et al., 2006; Van Brakel et al., 2006; Wood et al., 2003b; Young et al., 2013) and conversely low parental warmth (Knappe et al., 2012; Picardi et al., 2013) were significantly related to anxiety in children and adolescents. Nonetheless, a comprehensive theory on how insecure attachment and suboptimal parenting contributes to the development and maintenance of anxiety in particular and underlying mechanisms remain unclear.

2.5 An Overview of Cognitive and Schema Theories

In recent years, theoretical models of the development and maintenance of anxiety disorders in children have posited a need to address the cognitive dimension of anxiety (Chorpita & Barlow, 1998; Silverman & Field, 2011; Vasey, 2001; Weems & Silverman, 2006; Weems & Stickle, 2005). One of the core assumptions of Beck's cognitive theory is that negative basic beliefs (schema) about the self, others and world are main factors in the development and maintenance of emotional disorders. Consistent with cognitive theory, Young (1990) has proposed that schema forms early in life through negative interactions with primary caregivers, and make people vulnerable to psychological problems when confronted with stress (Van Vlierberghe, Braet, Bosmans, Rosseel, & Bogels, 2010).

Regarding anxiety disorders, cognitive models propose that anxious children exhibit biased ways of thinking. These models focus on children selective attention toward threatening stimuli, the recall of past experiences, the interpretation of stimuli and situations, and the appraisal of own abilities and sources for coping with the situation. The anxious children most probably are hyper-vigilance and over estimating the threatening stimuli, recall disproportionately negative information about past experiences and under estimate their abilities, interpret ambiguous stimuli in a negative way and percept it as a threatening situation (Weems & Silverman, 2006). A review of

the theoretical and empirical literature indicates that individuals with anxiety disorders have a variety of cognitive distortions which lead to unrealistic perceptions of physical and/or psychological danger. These individuals view the world as a dangerous place, overestimating the probability and severity of feared events and underestimating their own coping resources (Cassidy et al., 2009).

According to cognitive approach, the manner in which anxious individuals process and interpret their life experiences may reveal possible etiological mechanisms in anxiety disorders. The cognitive view of childhood anxiety, though, is best understood within the broader framework of a developmental psychopathology model of anxiety, which suggests that there are biological, behavioral, social, and cognitive processes potentially interacting over the lifespan that lead to and maintain anxiety problems (Vasey, 2001; Silverman & Field, 2011; Weems & Silverman, 2008; Weems & Stickle, 2005). Anxiety problems are not the result of one cause but, rather, the outcome of a complex interaction of many factors. For example, individuals with anxiety disorders may have a variety of maladaptive schemas and faulty cognitive processes such as viewing a neutral situation as dangerous or misevaluating one's ability to cope which is rooted in childhood experiences and insecure attachment.

According to Attachment Theory, if in the threatening or stressful situation, the attachment figure does not provide desired comfort, the child is assumed to develop cognitive “representational models” of the world as frightening and of the self as inadequate and unable in eliciting help. Research has suggested that insecurely attached children are more likely to have such negative cognitions than are securely attached children (Cassidy, 2009; Mclean et al., 2014; Roelofs et al., 2013). For example, McLean et al., (2014) studied the relations between early maladaptive schemas and current attachment relationship in a small young adult sample. The results showed self-

reported avoidance and ambivalence attachment styles were associated with maladaptive schemas in a predictable pattern.

Recently, cognitive models have also placed more emphasis on early childhood experiences and interaction with parents as a base for the formation of cognitive schemas. It is assumed that unmet attachment and developmental needs and specific parental behavior styles, such as those characterized by over control, rejection and low care may be key factors in the development of cognitive schemas related to anxiety and depression (Barlow, 2004; McGinn et al., 2005; Young et al., 2003) Indeed, early experiences with caregivers are internalized by child and continue to shape how the child responds to external events as he or she ages (Young et al., 2003). Therefore, maladaptive schemas and faulty cognitive processes which are originated from early childhood experiences can be considered as a core feature of any anxiety disorder particularly in children and adolescents.

2.5.1 Early Maladaptive Schemas

Young and colleagues (2003) have proposed that schemas develop during early childhood primarily as a result of relationships with significant caretakers. Young postulated that distilled knowledge from unmet or frustrated emotional and developmental needs early in life is stored in schemas, leading to a greater risk of psychopathology. Young therefore referred to these schemas as “early maladaptive schemas” (EMSs). He defined the EMS as "a broad, pervasive theme or pattern, comprised of memories, emotions, cognitions, and bodily sensations, regarding oneself and one's relationships with others, developed during childhood or adolescence, elaborated throughout one's lifetime and dysfunctional to a significant degree“ (Young

et al., 2003, p. 7). EMSs assumed to affect a person's experiences, interpretation and information processing in a biased and self-perpetuating way (Rijkeboer & Boo, 2010).

According to Young et al. (2003), EMS arises from the unmet of psychological core needs in childhood (e.g., secure attachment, autonomy, freedom to express valid needs and emotions, realistic limits) through ongoing patterns of negative experiences with caregivers, peers, traumatic experiences or inappropriate boundaries. A mismatch between parental behavior and the child temperament may also lead to the development of EMS. EMSs perpetuate themselves through cognitive distortions, self-defeating patterns, and maladaptive coping styles and lead directly or indirectly to psychological distress or disorders (Young, 1999; Young et al., 2003). They operate on the deepest level of cognition, usually outside of awareness, and make the individual psychologically vulnerable to develop depression, anxiety, dysfunctional relationships, addiction, and psychosomatic disorders (Young, 1999). When a schema is triggered, the individual may respond to it with a dysfunctional coping style (e.g, over compensation, avoidance, surrender) that perpetuates the schema (Young et al., 2003). Based on clinical observations over several years, Young introduced a comprehensive listing of "Early Maladaptive Schemas" including eighteen schemas which were grouped within five schema domains. They are briefly described in Table 1 (Young, 2005).

Table 2.1, Early Maladaptive schemas with associated schema domains based on:

Young Schema Questionnaire - Short 3 (Young, 2005)

EMSs	Description
<p><i>Disconnection and Rejection:</i></p> <p>1. Abandonment/Instability</p> <p>2. Mistrust/Abuse</p> <p>3. Emotional Deprivation</p> <p>4. Defectiveness/shame</p> <p>5. Social Isolation/Alienation</p>	<p>Expects that others will abandon or will not protect or support one.</p> <p>Expects that others will harm or be abusive to one.</p> <p>Expects one's emotional needs will not be satisfied.</p> <p>The perception of defects that make one unlovable and invalid.</p> <p>Seeing oneself as different and isolated from others.</p>
<p><i>Impaired autonom :</i></p> <p>6. dependence/Incompetence</p> <p>7. Vulnerability to Harm</p> <p>8. Enmeshment</p> <p>9. Failure to Achieve</p>	<p>Believes one cannot care for oneself without support from others.</p> <p>Believes one cannot control the threat of disaster or to be injured.</p> <p>The perceived emotional over involvement with others, due to fear that one will not cope without them.</p> <p>A perceived inadequacy, leading to fail any desired goals.</p>
<p><i>Impaired limits:</i></p> <p>10. Entitlement/Grandiosity</p> <p>11. Insufficient Self-Control</p>	<p>Believes that one deserves special treatment without considering others.</p> <p>Believes that one cannot or need not control impulses & feelings.</p>
<p><i>Other-Directedness:</i></p> <p>12. Subjugation</p> <p>13. Self-Sacrifice</p> <p>14. Approval seeking</p>	<p>Suppresses one's needs & emotions due to feeling controlled by others.</p> <p>Believes that one should focus on others' needs rather than one's own.</p> <p>Intense need on gaining approval & attention from others at the expense of developing a secure, true sense of self.</p>
<p><i>Overvigilance/ Inhibition:</i></p> <p>15. Negativity/Pessimism</p> <p>16. Emotional Inhibition</p> <p>17. Unrelenting Standards</p> <p>18. Punitiveness</p>	<p>A lifelong focus on the negative aspects of life while minimizing or neglecting the positive or optimistic aspects.</p> <p>Believes it is necessary to inhibit emotional expression to avoid aversive consequences or disapproval.</p> <p>Believes one should achieve very high standards to avoid criticism</p> <p>Belief that people should be harshly punished for making mistakes.</p>

2.5.2 Five Schema Domains

Young (1999) hypothesized that these EMS's could be grouped within five domains. These domains are related to the basic emotional needs and five developmental tasks that every child must successfully pass in order to live as a healthy adult. These developmental tasks are (1) connection and acceptance, (2) autonomy and performance, (3) realistic limits, (4) inner directedness and self-expression, and (5) spontaneity and pleasure. When any of these tasks is not met the adolescent will have difficulty functioning in one or more of the five schema domains. Five schema domains are described and listed below.

1. *Disconnection and Rejection*

This domain refers to "the expectation that one's needs for safety, stability, nurturance, connection, and acceptance will not be met in a predictable manner" (Young, 1999, p. 12). According to the theory, children need to develop a sense of connection and emotional tie that forms social integration. Children also need a sense of acceptance and understanding. When children do not experience these feelings of love, empathy, and acceptance, often the result of adverse parenting, they are at risk for insecure attachment as well as developing one of the five schemas within this domain (Young et al., 2003). Young asserted that individuals with schemas within this domain are unable to form secure and satisfying attachments to others. They often come from family which was characterized as unstable (abandonment/instability), abusive (mistrust/abuse), cold or low emotional warmth expression (emotional deprivation), and rejecting (defectiveness/shame) or isolated from the outside world (social isolation/alienation). This schema domain as a group is often associated with anxiety, hypersensitivity, and feelings of isolation and loneliness (Pinto-Gouveia et al., 2006).

2. *Impaired Autonomy and Performance*

This domain is defined as "the expectations about oneself and the environment that interfere with one's perceived ability to separate, survive, function independently, or perform successfully" (Young, 1999, p. 13). Children need to develop a sense of autonomy for establishing an independence identity and learn to be separate from parents and family. This schema domain is associated with parental overprotection, enmeshed child- parent relationship leading to undermining of the child's confidence, failing to empower the child independent performance and feelings of incompetence, emptiness, and helplessness (Young, 1999).

3. *Impaired Limits*

A group of schema is described as: "Deficiency in internal limits, responsibility to others, or long-term goal orientation" (Young, 1999, p. 14). People with this schema domain have difficulty in self-discipline and respecting the rights of others, cooperating, or following long-term goals. Young asserted that setting realistic limits and rules are important for children to develop the ability to control impulses and discipline themselves. Parental permissiveness, overindulgence, lack of direction, or a sense of superiority rather than appropriate confrontation may lead to developing the EMSs within the domain of Impaired Limits (Young et al., 2003).

4. *Other-Directedness*

The fourth Schema Domain is known as "An excessive focus on the desires, feelings, and responses of others, at the expense of one's own needs ..." (Young, 1999, p. 14). Young et al. (2003) stated that people within this domain excessively focus on the desires and feeling of others at the expense of one's own needs in order to gain love and attention from others. Young's theory postulated that an important aspect of healthy

development comprises expression of one's unique and autonomous needs and emotions without feeling shame or guilt. When children are taught to put too much emphasis on the desires of others (e. g., through the parental conditional regards) at the expense of their own needs are likely to develop EMSs within the other-directedness domain. These schemas generally produce feelings of resentment, anger, and guilt.

5. *Overvigilance and Inhibition*

The fifth and final domain is defined as an "Excessive emphasis on suppressing one's spontaneous feelings, impulses, and choices or on meeting rigid, internalized rules and expectations about performance and ethical behaviors, often at the expense of happiness, self-expression, relaxation, close relationships or health" (Young, 1999, p. 15). Individuals with this domain usually show a sense of pessimism and worry, fearing that their lives could fall apart if they fail to be alert and careful at all times. According to Young, children should be encouraged to spontaneously express their feelings and choices and not be over vigilant and inhibited, which often comes at the expense of happiness and health. Punitive and demanding parents who overstress duties and rules as well as having high expectations and unrelenting standards often convey in their children the belief that no matter what they have done, they always need to achieve at a higher level in order to gain parental approval and love (Young, 1999; Young et al., 2003). Few studies focused on the Young's schemas domain and their association with psychopathology. For instance, significant relationship was found between anxiety and the over vigilance / inhibition schema domain (McGinn et al., 2005; Van Vlierberghe et al., 2010).

2. 5.3 EMSs and anxiety in adults

Many researchers have used Schema Theory and its classification to characterize the content of cognitive vulnerability in adults with a number of psychiatric disorders, for examples: personality disorders (Jovev & Jackson, 2004; Reeves & Taylor, 2007; Thimm., 2010b), eating disorders (Boone et al, 2013; Elmquist et al., 2015; Waller et al., 2007), alcohol and drug abuse (Aaron, 2013; Brotchie et al., 2004; Shorey et al., 2015), anxiety (Calvete, 2014; Cámara & Calvete, 2012; Cohen et al., 2015; Gonzalez-Diez, 2015; Hawke & Provencher, 2013; Koerner et al., 2015) and depression (Balsamo et al., 2015; Calvete, 2013; Orue et al., 2014; Renner et al., 2012; Rusinek et al., 2013). The results of these studies revealed that those suffering from psychiatric disorders or symptoms display significantly higher schema scores compared to control group. Further, the result demonstrated that schema scores can discriminate reliably between groups with different forms of psychopathology.

Also, some studies examined the relationship between specific EMSs and symptoms of anxiety and depression and the EMS's ability to predict these disorders (Esther Calvete et al., 2005; Maud et al., 2012; Pinto-Gouveia et al., 2006; Orue et al., 2014; Stopa et al., 2001; Welburn et al., 2002). For example, Welburn et al. (2002) examined the ability of EMS's to predict depression and anxiety in a clinical sample. Results indicated that there was a significant difference in EMS's predicting the development of psychiatric symptoms including the symptoms of depression and anxiety. Specifically, abandonment, insufficient self-control, and dependency EMS's were significant predictors of depressive symptoms. Also, abandonment, vulnerability to harm, failure, self-sacrifice and emotional inhibition EMS's were significant predictors of anxious symptoms. Stopa et al. (2001) further tested the ability of EMS's to predict depressive and anxious symptoms in a clinical sample. Results indicated that abandonment,

defectiveness, subjugation, and self-sacrifice were the EMS's that significantly predicted depressive symptoms. Also, results indicated that unrelenting standards was the only EMS that significantly predicted anxious symptoms. In a similar study, Orue et al. (2014) have investigated how EMS's can predict both depressive and anxious symptoms in a non-clinical sample. Results indicated that defectiveness/shame, failure, and self-sacrifice were the only significant EMS's to predict depressive symptoms. Also, abandonment, failure, and subjugation were the only significant EMS's to predict anxious symptoms. More recently, Maud et al., (2012) investigated the relationship between anger, depression, and anxiety and early maladaptive schemas among 262 non-clinical Australian adults. Findings from structural equation model showed vulnerability to harm had the highest correlation with Anxiety, whereas social Isolation and enmeshment were linked to depression, and entitlement, insufficient self-control, mistrust and abuse, subjugation (negatively), and abandonment were linked to anger.

More specifically, Pinto-Gouveia et al. (2006) focused on anxiety disorders and compared EMS's between a group of patients with social phobia, other anxiety disorders, and a group of non-psychiatric controls. Results indicated that both clinical groups scored significantly higher than the general population group in most of the subscales of the schema questionnaire. The subscales associated with significantly higher scores were the EMS's: emotional deprivation, guilt/failure, social undesirability/defectiveness, mistrust/abuse, social isolation/alienation, dependency, abandonment, subjugation, and shame.

As can be seen, these research results on the ability of specific EMS's to predict anxiety symptoms in adults have been inconsistent. The inconsistency in the results can be attributing to different methodology, measure tools for assessing anxiety symptoms and different type of samples that each study used. Further, these studies did not

consider other factors (e. g., attachment and parenting styles) and their interactions with EMSs that can make a difference in the level or type of psychopathology.

2. 5.4 EMSs and parenting styles

As Bowlby (1979) stated that adverse experiences during childhood play an important role in causing the cognitive disturbance. Recently, both attachment and cognitive models have had more emphasis on early childhood and specific parenting styles, such as those characterized by over control and low care that may be key factors in forming cognitive schemas as well as development of anxiety and depression (Alloy, 2001; Barlow, 2004; Chorpita & Barlow, 1998; Ingram et al., 1998; McGinn et al., 2005; Muris et al., 2003a).

Accordance with Schema Theory, a number of retrospective studies among different adult populations have shown that EMSs are significantly related to perceived parental malpractices (Crawford & Wright, 2007; Cukor & McGinn, 2006; Harris & Curtin, 2002; McGinn et al., 2005; Muris, 2006; Thimm, 2010a; Wright et al., 2009). For example, Thimm (2010a) found in an adult clinical sample that all five schema domains were related to parental rejection. Further, the disconnection and rejection, other-directedness, and over vigilance and inhibition domains were negatively associated with maternal emotional warmth. Moreover, Harris and Curtin (2002) reported in an undergraduate sample that EMSs including defectiveness/shame, insufficient self-control, incompetence/ inferiority, and vulnerability to harm were negatively associated with perceptions of parental warmth and positively were also related to perceiving parental overprotection.

2.5.5 Parental Rearing Behaviors, EMSs and Anxiety

Only one study has investigated the relationship between parental rearing behaviors, anxiety and the mediating role of cognitive distortion. McGinn et al. (2005) in a small clinical sample of adults found the significant relationship between anxiety and the “hypervigilance” schema domain. However, contrary to previous findings, they found no relationship between anxiety and parental warmth or control as measured by the PBI. Therefore, mediational analyses could not be carried out. They asserted that the lack of a relationship between parenting and anxiety in this study may be due to their use of the Beck Anxiety Inventory (BAI), which is a physiologically focused and suitable scale for measuring state anxiety. Further, their study was conducted in adult sample and perceived parental behaviors rearing were examined retrospectively by recalling memory of their parent behaviors which may increase positive memory bias.

2.5.6 EMSs, parenting and anxiety in adolescents

Several studies have investigated EMSs in adolescents (Calvete et al., 2015; Cohen et al., 2015; Gonzalex-Diez, 2015; Gallagher & Cartwright-Hatton, 2008; Lumley. & Harkness, 2007; Rusinek et al., 2013; Van Vlierberghe & Braet, 2007; Van Vlierberghe et al., 2010). In these studies, the schema scales were found to be related to a variety of psychological symptoms in non-clinical adolescents, depression (Rusinek et al., 2013), obesity (Van Vlierberghe & Braet, 2007), social anxiety (Calvete et al., 2015; Cohen et al., 2015; Gonzalex-Diez, 2015) and anxiety trait (Gallagher & Cartwright-Hatton, 2008; Pereira et al., 2014).

Lumley and Harkness (2007) examined depressed adolescents (N=57) on childhood adversity, early maladaptive schemas, and symptoms of anxiety and depression. They found that schema contents with themes of mistrust and vulnerability

were mediated the relation between childhood abuse and anxiety symptoms, while schema contents with themes of defectiveness or deprivation were mediated the relation between childhood neglect and depression symptoms. As predicted, physical abuse was preferentially related to anxiety symptomatology and the Vulnerability to harm schema. Emotional maltreatment was preferentially related to Dependency, Failure, Self-Sacrifice, and Subjugation schemas. They also found evidence for a cognitive content specificity model: cognitions related to danger mediated the association of childhood maltreatment and anxiety symptoms, and schemas related to loss or worthlessness mediated the association of childhood maltreatment and depressive symptoms.

Pereira et al., (2014) also examined the association between parental factors, children's anxiety and the role of cognitive errors and threat interpretation in mediating these relationships in a sample of 80 children between 7 and 12 years and their parents. The results of their study indicated that mothers' trait anxiety and fathers' overprotection and concern have significant effects on children's anxiety. Furthermore, the relationship between paternal overprotection and children's anxiety was partially mediated by children's control beliefs and threat interpretation although; mothers' trait anxiety and children's anxiety was fully mediated by children's interpretative biases. These findings provide partial support for the mediating role of three cognitive vulnerability including control beliefs, cognitive errors and threat interpretation, in the relationship between parental variables and children's anxiety.

Van Vlierberghe and colleagues (2010) specifically studied the dimensionality of Young's schemas and their content-specific association with psychopathology in a small adolescent sample. They reported that anxiety problems were specifically associated with the schemas Vulnerability to Harm/Illness and the schemas of the Over vigilance /Inhibition domain. Further schemas Abandonment /Instability, Failure to Achieve, Dependence /Incompetence, Unrelenting Standards/Hyper criticalness, and Entitlement/

Grandiosity were positively predictive for the presence of an anxiety disorder. The results revealed that adolescents with anxiety problems are preoccupied with the idea that a catastrophe can strike any time and that they will be unable to prevent it (Vulnerability to Harm/Illness). Anxious adolescents also reported the belief that they must meet very high standards (Unrelenting Standards /Hyper criticalness). These cognitions are combined with a great belief in the availability of others for emotional support (negative association with Emotional Deprivation) and one's own ability to exert sufficient self-control and frustration tolerance to achieve goals and restrain expression of emotions /impulses (negative association with Insufficient Self-Control/Self-Discipline).

In another study, Gallagher and Cartwright-Hatton (2008), focusing on the constructs of care/warmth, control/overprotection, rejection and parental discipline styles investigated the relationship between parenting factors, and trait anxiety using self-report methodology with a sample of 16–18 year olds. They also examined the mediating role of cognitive distortions and metacognition in the relationship between these parenting behaviors and anxiety. Multiple regression analysis showed that only the effect of parental discipline styles (over-reactivity) was significant, ($p < 0.0001$). Furthermore, Over-reactive discipline was significantly associated with increased cognitive distortions ($p < 0.0001$) and metacognition ($p < 0.0001$). Both cognitive distortions and metacognition were found to partially mediate the relationship between parent discipline style and trait anxiety.

Despite Young's specific emphasis on the early development of EMS and the importance of child-parent attachment relationship in the development of EMS, only one study was found that longitudinally examined the association between attachment style in childhood and the presence of EMS during late adolescence. To examine the relation between early maladaptive schemas (EMS) and attachment style, Simard, Moss,

and Pascuzzo (2011) in a 15-year longitudinal research design, assessed sixty participants at two times: 6 (Time 1) and 21 years of age (Time 2). Time 1 attachment was assessed using a separation–reunion procedure and Time 2 attachment, using the Experiences in Close Relationships questionnaire. EMSs were evaluated with the Young Schema Questionnaire (Time 2). They reported there were more signs of EMS among young adults with either an insecure ambivalent child attachment, or an insecure preoccupied adult attachment style, compared to their secure peers. These differences were not specific to one domain of EMS; they were reported for various EMS. The results suggested that specific elements of representational models are more likely to be related to the development of EMS: high anxiety over abandonment, negative self-view and explicit manifestations of personal distress. Unmet childhood needs for secure attachment may lead to a large variety of EMS as defined in schema therapy.

In summary, so far a growing body of evidence generally confirms that schemas are an important component of psychopathology that of high levels of early maladaptive schemas (EMSs) has been correlated with personality disorders as well as other psychiatric disorders. Although, EMSs seem to be a general vulnerability factor for psychopathology as they are relevant for a broad range of psychiatric diagnoses, some preliminary studies showed that certain EMSs are more strongly related to some disorders than others. EMSs are also thought to be the result of aversive parent-child relationship and difficult childhood. However, this understanding of the underlying factors of anxiety may minimize or neglect the importance of cultural influences and gender specified effects on the formation of early maladaptive schemas, attachment pattern and anxiety.

2.6 Cultural Group Influences

2.6.1 Cultural Group Influences on Attachment

Attachment Theory assumed that the attachment bond is an evolved behavior system. Bowlby, (1969) posited that it is a free cultural and universal human construct. This means that all humans, regardless of cultural context, are genetically predisposed to develop an attachment bond to a caregiver during infancy. After some debate, there is now general consensus that the attachment behavioral system is universal and present in all humans. In spite of this general conclusion, a number of evidence revealed meaningful cultural differences in the attachment orientations (Agishtein & Brumbaugh, 2013; Tomlinson, Cooper, & Murray, 2005; Wang & Mallinckrodt, 2006; Sun et al., 2010; Wang & Scalise, 2010). Further, van Ijzendoorn and Sagi-Schwartz (2008) evaluated the cross-cultural attachment studies in several non-European, non-Anglo-Saxon societies including various African cultures, China, Israel, Japan, and Indonesia. They asserted that a considerable number of infants (up to 40%) have been found to be insecurely attached independent of cultural context but, the number of secure infants varies considerably across cultures. They suggested a balance between universal trends and contextual determinants.

In addition, Leyendecker et al., (1997) identified possible factors that can explain cultural differences in attachment orientation (e.g., the frequency and quality of mother-child interactions or infant/mother vocalizations). Posada and colleagues (2002) specifically compared attachment behaviors across two countries (The United States and Colombia) and found significant differences in several domains of mother-infant interactions (e.g., interference in babies' play, active-animated interactions, etc.). These findings highly support the idea that parental behavior style affecting attachment

formation is under the influence of culture. Along these lines, Sun et al., (2010) in a retrospective study examined the relationship between early parenting style and adult attachment in a sample of 565 Chinese graduate students. Although, they found a link between parental bonding and adult attachment in males, contrary to findings from Caucasian samples (e.g., Berry et al., 2007; Shi, 2010) they failed to find the general link between early parental bonding experience and adult attachment. They discussed those cultural practices of child rearing in China, such as grandparents taking the role of the primary caregiver, may lead to stronger attachment bonding between the child and grandparents rather than the child and parents, hence resulting in a weak influence of parental bonding on adult attachment. Furthermore, due to the traditional son-preference practices in China, parents give more attention to raising their sons because their future and the continuance of the family lineage are dependent on their sons (Sun et al., 2010).

In another study, Wang et al., (2010) examined the applicability of Western adult attachment perspectives to interpersonal problems experienced by individuals with Taiwanese university students. The result of relationship between attachment and interpersonal problems indicated that Taiwanese participants, who scored low on anxious and avoidance attachment, reported fewer interpersonal problems. The findings suggest that after resetting a proper cultural reference (ideal attachment), expressions of attachment avoidance of Taiwanese participants appear to be consistent with the theoretical predictions and similar to the patterns found with Western samples.

Attachment distributions vary not only internationally, but by other cultural variables that influence interpersonal behaviors. One such cultural distinction examined in a number of studies is ethnic origin. Several developmental factors that vary by ethnicity may reasonably lead to ethnic differences in attachment distributions, including variations in relational models and variations in emotion socialization (Fiori, Consedine, & Magai, 2009). Some investigations have supported ethnic variation in

attachment styles distribution. One consistent pattern is that African-Americans demonstrated higher rates of avoidant attachment compared to European-Americans (Magai et al., 2001; Wei, Russell, Mallinckrodt, & Zakalik, 2004). Researchers have asserted some possible reasons to account for this association, including higher rates of punitive emotion socialization (i.e., parents responding punitively to their children's emotions), that leads to more avoidance among African-Americans, and lower income leading to lower maternal sensitivity among African-Americans (Bakermans-Kranenburg, van Ijzendoorn, & Kroonenberg, 2004).

Evidence about attachment variation among other ethnicities is less consistent. Kim and Zane (2004) found that Korean-Americans were more avoidant but less anxious than their European-American counterparts. Conversely, You and Kathleen Malley-Morrison (2000) found that Korean college students were more anxious but there were found no differences on avoidant attachment compare to European-American. Other studies have found higher rates of both anxious and avoidance attachment among Asian-Americans (Wei et al., 2004). In addition, Güngör and Bornstein (2010) also examined the mediating role of culture on relation between attachment and parenting among Turks and Belgians adolescents. They reported Turks' adolescents rated themselves as more avoidant than did Belgians'. In testing the moderating role of culture in the association between attachment avoidance and psychological control, the Culture by Paternal control interaction was significant.

2.6.2 Cultural influences on Anxiety

Although DSM-V recognized cultural influences as an important part of the evaluation process for understanding psychopathology features (American Psychiatric Association, 2013), only few studies have compared the frequency and correlates of anxiety symptoms among adolescents in Asian countries and the published literature is

inconsistent. For example, Gan and colleague (2011) in a study among Malaysian university students reported high prevalence (55%) of significant anxiety symptoms. While the range of anxiety symptoms prevalence estimates in general population varied from 15% to 52% (Bryant, Jackson, & Ames, 2008). By contrast, concerning cultural variation in social anxiety rate, Hofmann, Asnaani, and Hinton (2010) reported that Asian cultures show the lowest rate of social anxiety, whereas Russian and US samples show the highest rates of social anxiety disorder. In another study, Essau et al. (2011) in a survey of anxiety symptoms among adolescents (aged 12-17 years) in Japan and England reported that adolescents in England demonstrated significantly higher levels of anxiety symptoms than adolescents in Japan. They suggested future studies need to explore the effects of cultural context and environmental factors such as the role of parenting styles that account for the higher levels of anxiety in English compared with Japanese adolescents.

2.6.3 Parental rearing behaviors and Culture

Another factor that has paid less attention in the literature is cultural influences on parenting styles. The most widely used typology and effects of parenting style on children have emerged from the researches among western white cultures. However, there is theoretical and empirical evidence showing cultural differences in patterns of parenting behaviors between Western and non-Western countries, suggesting that Asian parents may utilize strategies reflecting authoritarian parenting (characterized by high control over children, rejection and emphasizing discipline and obedience from children) more often than Western countries parents (Varela. et al., 2004). In terms of cultural variation in parenting style it seems, there are some general differences between Eastern vs. Western cultures. For example, Indian culture assumed to be more conservative as compared to the American culture and that parents in India are stricter.

In addition, Indian parents were found overprotective and obsessed about the safety of their children, due to which the children are less exposed to their surroundings and possible threats, which in turn leads to lower levels of confidence compared to American children (Sandhu, 2010). Furthermore, Jambunathan and Counselman (2002) found Indian mothers living in the United States to have more authoritative parenting styles while Indian mothers living in India had more authoritarian styles.

With regard to the Chinese context, Chinese parenting style was characterized by over control and monitoring of children's behaviors and emphasizes on unquestioning obedience, self-discipline, the force for doing well in school and less express their warmth or express in an implicit fashion. On the contrary, American mothers promote autonomy and independent behavior in their children by using reasoned control, openly expressing their warmth and intimacy, and frequently praising their children (Xu et al., 2005). Moreover, Chao (2000) and Wu et al. (2002) explained some characteristics of traditional Chinese parenting practice, such as being directive and using shame/withdrawal of love. They mentioned Chinese parents expect children to be obedient and respectful and parents are supposed to be responsible and experienced instructors who pass along cultural norms, values and life experiences. As a consequence, Chinese children are less likely to express their feeling and opinion openly and parents are likely to maintain a distance associated with the traditional status hierarchy when interacting with their children. These parenting behaviors are conveyed in an authoritarian or controlling parenting style, particularly when children misbehave.

With regards to parental rearing behaviors in Arab societies, researchers demonstrated that authoritarian parenting style and collective cultural system are common in these cultures. In this cultural context, gender discrimination is predominant which the discipline and control over females are harsher than males and they have

fewer choices and options in life. They have less opportunity for social relationship and their lives are restricted almost to space within the borders of home and family life. In contrast, boys enjoy a wider space of mobility and more choices and options (Dwairy & Menshar, 2006). In spite of the limited socialization toward female Arab children and adolescents, some studies reported that authoritarian parenting and physical punishments were conducted more frequently toward boys than girls (M Dwairy, 2004). In a study of the relationship between parenting style and mental health in Egyptian adolescents it has been reported that there is no significant relationship between authoritarian parental rearing and psychological disorders. It was concluded that authoritarian parenting within an authoritarian culture is not as harmful as within Western liberal culture (Dwairy & Menshar, 2006).

With respect to Malaysian context, Keshavarz and Baharudin (2009) compared Malaysian ethnic groups' similarities and differences, and concluded that Malaysian parents regardless of races endorsed authoritarian parenting and it is well accepted locally. Malaysian culture views children's obedience as being respectful to adults. Therefore, children are expected to obey parents, behave in a socially acceptable manner, inhibit own needs and be considerate over others within the group.

Briefly, the researches have shown that in western cultural context (European/American) parents mostly apply authoritative parenting styles which encourage individualistic and independent behavior in their children through reasoned control, displaying emotional warmth and democratic and negotiated interactions (Wittmer & Petersen, 2013). In contrast, in the majority of Asian cultures, for example, in Chinese (Xu et al., 2005), Egyptian (Dwairy & Menshar, 2006; Rudy & Grusec, 2006), Malaysian (Keshavarz & Baharudin, 2009) and Indian (Jambunathan & Counselman, 2002) parents generally use authoritarian styles and foster subordination and interdependent behavior in their children through high control over their children

and stressing on strict discipline and obedience to adult authority. As a conclusion, authoritarian parenting style is normative parenting in Asian cultures that identified by parental behaviors such as showing low emotional warmth, over control, greater rejection, and unquestioning obedience and respect for authority, less verbal reasoning and discussion from their children. In addition, many Asian cultures emphasize conformity, social harmony and the consequent importance of suppressing strong emotions (You & Malley-Morrison, 2000), which could be related to internalizing disorders including anxiety. Thus, the possibility exists that Asian children may be at greater risk of anxiety disorders due to exposure to authoritarian parenting style.

In addition, influence of parenting behavior style on children's anxiety may also vary across cultural groups. Researchers have tried to investigate whether effects of parenting on anxiety symptoms have similar effects in different cultures. In some studies among non-white cultures the relationships between parenting and anxiety have been found highly variable and inconsistent results (McLeod et al., 2007a; Stewart & Bond, 2002; Varela. et al., 2013). For example, Varela and college (2013) examined relations between controlling and rejecting parenting styles, parental anxious rearing behaviors and child anxiety in a sample of Latino children. It was an observational study which families completed a discussion-based task in a lab setting. Results indicated that child anxiety was linked with parental control and not associated with low parental acceptance and warmth. Further, Dewar (2000) cited studies conducted in the context of parenting in the United States, China, Turkey, South America, Spain and Netherlands, which stated that authoritarian parenting was linked to emotional distress, anxiety and depression symptoms for all ethnic groups, but the effect was the strongest among western white cultures. However, research on adolescents in the Middle East failed to find a link between authoritarian parenting and psychological problems (

Dwairy & Menshar, 2006; Rudy & Grusec, 2006). It may be because of cultural differences, where children are less distressed by authoritarian parenting if it is perceived to be normal.

2.6.4 Early Maladaptive Schemas and culture

The main schema theorists asserted that the eighteen maladaptive schemas recognized in the schema theory are universal and do not vary significantly by culture but, there was found no empirical study to support it. In other hand, in schema theory, early experiences and interaction with parents, peers and others are the main determinants in the development of particular EMSs (Young et al., 2003). Thus, it is conceivable that the environment, of which culture is one aspect, indirectly effect on the adolescent's schemas. It seems that culture is one of the secondary elements that impact the development of schemas and future cross-cultural studies clarify the cultural feature of EMSs.

2.7 Gender Differences

Another factor that has been studied in the literature is gender specific variation which may effect on adolescents' anxiety and related variables. While, the gender differences in rates of anxiety in adulthood has consistently been reported and well documented, but during childhood and adolescence, these results were not so consistent. Anxiety has been reported more prevalent among girls in the general population (Aune & Stiles, 2009; Leikanger, Ingul, & Larsson, 2012; Yen et al., 2010) but not in clinical samples (Kendall et al., 2010).

Furthermore, some studies using nonclinical adolescents' sample identified that girls reported higher levels of anxiety symptoms on all scales than boys (Yen et al., 2010). Others indicated there are no gender differences in anxiety score (Peng et al.,

2011) or there are sex differences just for some anxiety scales, but not all (Hale III. et al., 2008; Nelemans et al., 2014). For examples, Yen et al. (2010) examined the differences in the levels of anxiety across gender and age. They found girls had significantly higher levels of anxiety symptoms on all scales than boys. Furthermore, Hale III et al. (2008) reported that adolescent girls had a slight increase in generalized anxiety disorder symptoms, these symptoms decreased in boys. They discussed that this trend has not been supported by some studies that were conducted in Asian countries. Recently, Nelemans, et al., (2014) have examined prospectively developmental trajectories of five anxiety disorder symptom dimensions (generalized anxiety disorder, panic disorder, school anxiety, separation anxiety disorder, and social anxiety disorder) from early to late adolescence in a community sample of 239 adolescents. The results indicated that girls reported higher mean levels of GAD and separation anxiety disorder symptoms across adolescence than did boys.

Furthermore, few researches showed adolescent gender was related to attachment orientation. For instance, results of these studies revealed that female adolescents reported higher anxious (ambivalent) attachment than male adolescents. As studies showing gender differences in socialization, this result indicated that girls tend to be more concerned with close relationships (Güngör & Bornstein, 2010). On the contrary, findings of a study in a sample of Chinese graduate students showed that girls reported higher levels of avoidance attachment style but there were no gender difference in ambivalence attachment style. Furthermore, girls reported significantly higher levels of paternal warmth compare to males. Securely attached males reported significantly higher levels of parental warmth and lower levels of parental overprotection than the 3 insecurely attached groups (Sun et al., 2010). The researchers explained that higher levels of parental warmth reported by Chinese females may reflect that daughters have a

closer relationship with their both mother and father and fathers in today's Chinese society are more engaged in the caregiving role and not restricted to their traditional parenting role. They also discussed that higher levels of mother overprotection among the males may be due to the Chinese parents' preference for sons which lead them to exercise greater control and expectations for sons than daughters (Sun et al., 2010).

In addition, support for gender-specific relationships was found for perceived parental rearing behaviors (Roelofs et al., 2006; Vulic'-Prtoric & Macuka, 2006). For example, Vulic'-Prtoric, and Macuka (2006) conducted a research on a sample of adolescents ranging in age 10- 16 years. They found among family variables, perceived father rejection was found to be the best predictor of anxiety. Further, significant gender differences were found in a perception of parental rearing behaviors, it was found that, in comparison to boys, girls rated both their parents as being more emotionally warm and accepting and less rejecting. On the other hand, boys reported more perceived parental rejection.

2.8 Summary

In summary, there is a large body of literature that had special emphasis on child and adolescent insecure attachment, either avoidant or ambivalent, in the process of anxiety disorders development (Brown & Whiteside, 2008; Colonnese et al., 2011; Jinyao et al., 2012; Vulliez-Coady et al., 2013; Weems et al., 2002). Since, insecure attachment styles are relevant for a broad range of psychiatric diagnoses; it seems to be a general vulnerability factor for psychopathology and a precursor of other risk factors. In addition, a growing body of evidence generally confirms that schemas are an important component of psychopathology that of high levels of early maladaptive schemas (EMSs) has been correlated with anxiety. Some studies showed that certain EMSs are more strongly related to some disorders than others. Further, EMSs are

thought to be the result of unmet developmental needs early in life including insecurity attachment and the aversive parent-child relationship. Therefore, some researchers based on cognitive models have suggested that parenting style characterized by low care, high levels of rejection and over control leads to anxiety through the development of dysfunctional cognitive schema that are biased towards threat and negative outcomes, or insecure attachment and internal working models (Alloy, 2001; Vasey, 2001). Moreover, few researches focused on the effect and importance of cultural context and gender specified effects in the formation of early maladaptive schemas, attachment pattern and anxiety.

Finally, majority of studies that examined early maladaptive schemas, parenting style and anxiety have been retrospective researches and focused on adulthood or early adulthood, limited research was found on EMS in children and adolescents. Despite the central role accorded to schemas in cognitive conceptualizations and treatment of a variety of psychiatric disorders, research studies have not examined the origin of schemas. Based on results of literature studies, there is no empirical study that has examined relationship between attachment pattern, parenting behavior style, early maladaptive schemas and anxiety disorders in adolescents.

Altogether, there has been limited research examining the effects of multiple risk factors on the development of anxiety symptoms in adolescents. In order to examine the usefulness of insecurity attachment as a predictor of anxiety it is important to look at how much predictive power it can add to the more extensively researched parenting and cognitive schema factors. It is also pertinent to models of the development of anxiety to investigate the mediating role of EMSs and parenting on the link of attachment and anxiety. This study therefore aims to address gaps in the existing literature in order to achieve a better understanding of which parenting factors and EMSs are important in

the development of anxiety and how these factors have their effect through the relationship between attachment style and anxiety in adolescents. Further, the role of culture and ethnic group differences on research variables were explored.

2.9. Conceptual Framework of the Study

A number of constructs have been linked to the development of anxiety. One of the earliest factors found to predict anxiety was insecure attachment or the quality of emotional bonding between infant and their caregivers. Bowlby (1980) assumed that attachment style and the way these bonds developed and become organized during the infancy and childhood are major determinants of personality development and psychopathology. Although there is a general agreement in the literature that insecure-ambivalent attachment has a stronger relation with anxiety than avoidant attachment or attachment insecurity in general (Bögels & Brechman-Toussaint, 2006; Colonnesi et al., 2011), some investigators posited both avoidant and ambivalent (anxious) attachment linked to anxiety (Jinyao et al., 2012; Picardi et al., 2013; Vulliez-Coady et al., 2013).

Another factor that was related to anxiety was perceptions of parenting behaviors. Specifically, it was noted that low level of emotional warm or care, increased control and rejection from parents were found to predict the development of anxiety in children (Hale III. et al., 2006; Harris & Curtin, 2002; Knappe et al., 2012; McGinn et al., 2005; Shah & Waller, 2000).

Another construct that has been linked to the development of anxiety is early maladaptive schemas (EMS's). Specifically, it has been noted that the EMS's of abandonment, vulnerability to harm, failure, self-sacrifice and emotional inhibition (Welburn et al., 2002), pessimism/worry (Koerner et al., 2014) also, failure, and subjugation (Calvete et al., 2005) and unrelenting standards (Koerner et al., 2014; Stopa et al., 2001) were found to predict anxiety symptoms. Although several retrospective

studies showed that EMSs were significantly related to dimensions of perceived parental rearing styles in adult but no empirical studies were found to examine the relationship between attachment pattern, parental behaviors styles and early maladaptive schemas in children and adolescents.

Literature has also shown that cultural and ethnic influences on parenting styles and attachment pattern. There is evidence that attachment pattern and parenting styles differed across cultural groups (Lavy, Azaiza, & Mikulincer, 2012). For example, some developmental factors that vary by ethnicity may reasonably lead to ethnic differences in attachment distributions, including variations in relational models and variations in emotion socialization (Fiori et al., 2009). Several investigations have supported ethnic variation in attachment styles distribution. One consistent pattern is that African-Americans (Magai et al., 2001; Wei et al., 2004) as well as some Asian ethnicity such as Korean and Turks (Güngör & Bornstein, 2010; Kim & Zane, 2004) demonstrated higher rates of avoidant attachment compared to European-Americans. Other studies have found higher rates of both anxious and avoidance attachment among Asian-Americans (Wei et al., 2004). Researchers have asserted some possible reasons to account for this association, including higher rates of punitive emotion socialization (i.e., parents responding punitively to their children's emotions), that leads to more avoidance and lower income leading to lower maternal sensitivity among African-Americans (Bakermans-Kranenburg et al., 2004). Further, there is theoretical and empirical evidence showing cultural differences in patterns of parenting between western and non-western societies, suggesting that Asian parents may utilize strategies reflecting authoritarian parenting more often than Western countries parents (Varela. et al., 2004) which can be as risk factors in formation of maladaptive schemas and anxiety disorders. Currently, there is little information about similarities and differences in non-Western

societies on parenting styles, attachment patterns and EMSs. Only few studies have compared the frequency and correlates of anxiety symptoms among adolescents in Asian countries and the published literature is inconsistent.

Furthermore, a few researches showed that the gender of adolescents were related to attachment orientation (Güngör & Bornstein, 2010; Sun et al., 2010), perceived parental rearing behaviors (Vulic´-Prtoric & Macuka, 2006) and levels of anxiety symptoms (Aune & Stiles, 2009; Leikanger et al., 2012; Yen et al., 2010). For instance, some studies identified that girls had higher levels of anxiety symptoms than boys (Hale III. et al., 2008; Yen et al., 2010). Others indicated there is no gender differences in anxiety score (Peng et al., 2011) or that gender differences are limited to some symptoms, but not all (Nelemans et al., 2014). However, it is not completely understood how insecure attachment, perception of parental rearing behaviors and EMSs might be related to one another in predicting anxiety altogether, and how gender and ethnicity variations effect on anxiety and related factors.

Based on attachment theory, one way these constructs might be related is that relationship between infant and their primary caregivers is determinant of attachment pattern as well as parental rearing behaviors which can perpetuate attachment style. Moreover, cognitive theory assumed that adverse parenting, (generally, this has been defined as a parenting style characterized by low level of warmth, high levels of rejection and over control/protection) leads to anxiety through the development of maladaptive cognitive schema that are biased towards threat and negative outcomes (Alloy, 2001; Vasey, 2001). Furthermore, ethnicity and gender have specified effects on parenting style, attachment pattern as well as on the formation of early maladaptive schemas and anxiety. It assumed that there is cultural variation in attachment and parenting behaviors patterns as well as maladaptive schemas and level of anxiety. Also,

gender may effect on level of anxiety, attachment and perceived parenting style. In order to test this model, a mediational analysis must be done. A mediational analysis gives a more functional understanding of the relationship among the variables discussed and their interaction. Figure 1 illustrates the main relationship between insecure attachment styles and anxiety and the mediating roles of parenting style and maladaptive cognitive schemas as well as indirect effects of gender and cultural group's background on anxiety in adolescents.

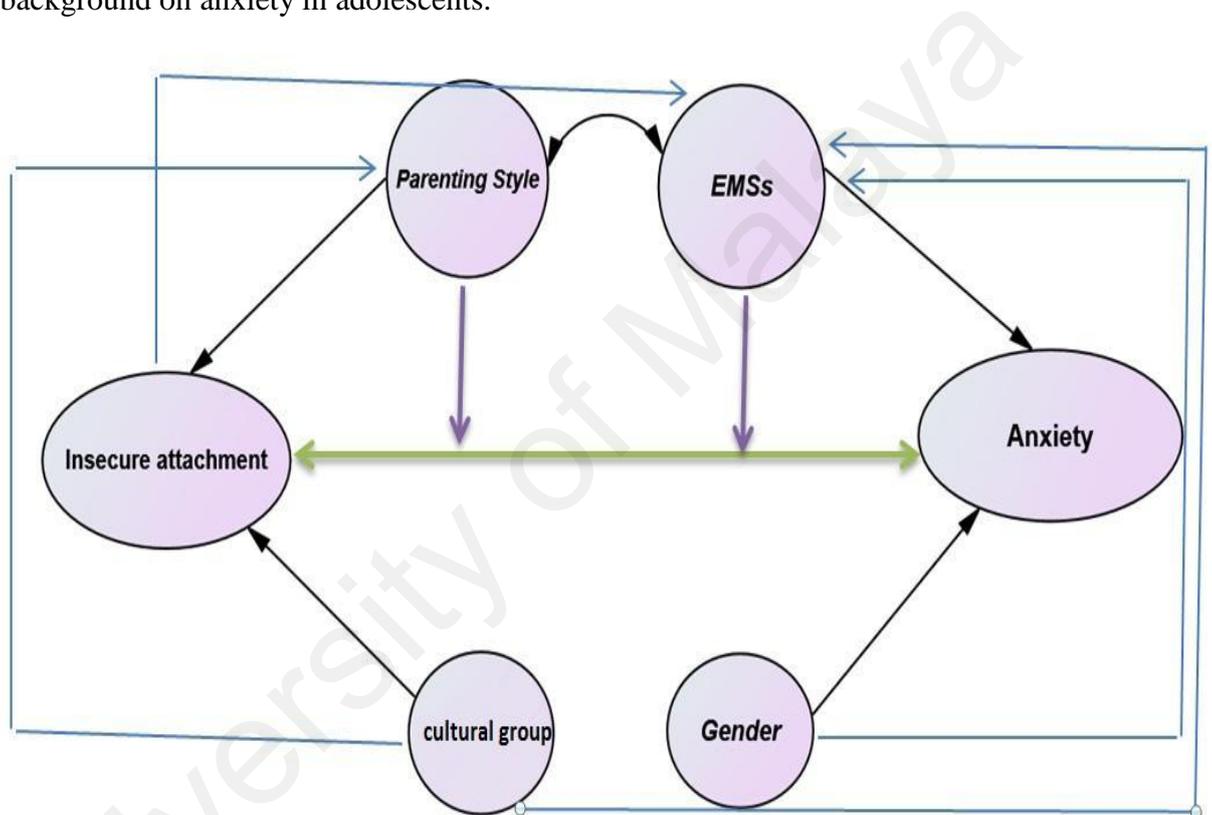


Figure- 1: Conceptual framework of study

2.10. Statement of Purpose

The purpose of the present study was the investigations of the relationship between attachment styles and anxiety in adolescents with emphasis on parenting behaviors style and early maladaptive schemas as mediator factors. In addition, ethnic group or cultural variations and influences on attachment patterns, parenting styles, anxiety and EMSs were examined.

More specifically, the following issues were investigated:

1. The relationship between different types of attachment styles and anxiety symptoms in adolescents.
2. The relationship between insecure ambivalent attachment and anxiety symptoms in adolescents,
3. The relationship between parenting styles and anxiety score in adolescents,
4. The relationship between attachment styles and perceived parenting style in adolescents,
5. The relationship between EMSs and anxiety in adolescents,
6. The relationship between schema domains and anxiety in adolescents,
7. The relationship between schema domains and parenting styles,
8. The independent and combined contributions of self-reported attachment style, perceived parental rearing behavior and EMS in the prediction of adolescents' anxiety.
9. The mediating effects of parenting styles and EMSs on the relationship between insecure attachment styles and anxiety in adolescents.
10. The cultural groups differences on measures of study including anxiety, maladaptive schemas, perceived parenting and attachment style scores,
11. Gender variation on the scores of attachment styles, perceived parenting behaviors styles, EMSs and anxiety symptoms.

2.11. Hypotheses of study

Based on the theoretical and empirical literature, the study Hypotheses were as follows:

1. The insecure attachment is correlated with higher score in anxiety scale.
2. The insecure ambivalent attachment has stronger correlation with total score of anxiety scale.

3. There are relationship between parenting styles and anxiety in adolescent.
4. There are relationship between parenting styles and attachment style.
5. The Early Maladaptive Schemas are significantly correlated with total score of anxiety.
6. The schema domains significantly and positively correlated with total anxiety score.
7. The five schema domains (YSQ, S-3) are significantly associated with different patterns of parenting rearing behaviors.
8. The insecure attachment, parenting behavior styles and EMSs are significant predictors of total score of anxiety.
9. There are the mediating effects of parenting styles and EMSs on the relationship between insecure attachment styles and anxiety in adolescents.
10. There are significant cultural group differences on measures of parenting, attachment styles, EMSs and anxiety in adolescents.
11. There are significant gender differences on anxiety symptoms, attachment pattern and in perceptions of parental rearing behaviors.

CHAPTER THREE:

RESEARCH METHODOLOGY

University of Malaya

3.1. Research Design

In a cross sectional study, the relationship between insecure attachment, parenting styles and EMSs with anxiety were investigated. Further, the mediating roles of parenting styles and EMSs on the link between insecure attachment and anxiety in adolescents were studied.

3.2. Study Population

The study population was all 13-18 years old adolescents' students who were studying at private and international secondary schools in Kuala Lumpur, Malaysia. The sample was 816 adolescents chosen by cluster sampling method. In this method, a list of international and private English language type's secondary schools in Kuala-Lumpur was prepared initially. Then 18 schools were randomly chosen from the list of 34 international and private secondary schools that was obtained from The Ministry of Education Malaysia website. Acquiring authorization for conducting the research was through sending E-mails to all mentioned schools on the list. After constant reminder via emails and telephone calls, 13 schools agreed to participate in this study. Following this, 38 classrooms within the 13 schools were selected (one classroom for each grade was randomly selected from every school). Finally, all students of the selected classrooms were examined.

3.3 Procedure of data collection

Following ethical approval of the study by the Ethics Committee of the University of Malaya Medical Center (Appendix F.) and the Ministry of Education Malaysia (Appendix G.), students of selected schools and classrooms were assessed by measurement scales and research questionnaires through two 20 minutes-long sessions with a short break in between the sessions. In the first session of testing, all selected students were assessed by:

- Inventory of Young Schemas Questionnaire-short form(YSQ-S3)
- *Egna Minnen Beträffande Uppfostram* (EMBU-C) [perceived parental rearing behaviors]

In the second session, the following questionnaires were given:

- Spence Children Anxiety Scale(SCAS)
- Attachment Style Questionnaire, and the
- Socio- Demographic Questionnaire

Prior to testing, written informed consent (Appendix E) was obtained from all students and their parents. They were given the opportunity not to participate if they so wished. Also, outlining the purpose of the study, aspects of confidentiality and the conditions under which the testing would proceed was briefed to the students by the researcher. However, 29 adolescents elected to not participate. Thus, the response rate was 96.4%. Questionnaires were completed in groups within the school setting, under the supervision of researcher and research assistant. Verbal instructions as to how to fill in the questionnaires were given to the students.

The students read the questionnaires themselves, but were instructed that they could request assistance if they wish. To reduce the effect of social desirability, an ID number was given to each student instead of writing their names. The written code (ID) was written on a piece of paper and was given to participants to attach to their questionnaire. Furthermore, it was emphasized that there were no right or wrong answers. Also, assurance was given about the confidentiality of their answers. It was mentioned that except the researcher neither the school nor parents were able to access their responses. Finally, at the end of second session, students who participated in this research received a pen and a chocolate as a token of appreciation.

3.4 Measures of Study

For the purposes of this study, self-report measures were chosen because, self-report represents an important method of assessing adolescent subjective cognitive and emotional experiences and anxiety symptoms, given that many aspects of anxiety and other variables represent subjective cognitive and emotional experiences that are not open to observation by others such as parents or teachers. The assessment instruments used were as follows:

3.4.1 *The Modified Egna Minnen Beträffande Uppfostram* (EMBU-C; Muris, et al., 2003b)

The EMBU-C (Appendix C) in Swedish language means My Memories of Upbringing (Castro, et al., 1993; Muris, Bosma, Meesters, & Schouten, 1998) and it focuses on the child's report of parental rearing behaviors. The majority of perceived parenting style measures are constructed as retrospective measures which assess adults' memories of their parents' child-rearing behaviors. The EMBU-C was reconstructed to make the statements developmentally and cognitively appropriate for children. It can be used with children ages 7 to 12 (Castro et al., 1993) and adolescents (Gerlsma, Arrindell, Van der Veen, & Emmelkamp, 1991) for assessing current perceptions of parenting behaviors. Further, a new subscale named anxious rearing was added in the modified version of EMBU-C (Muris et al., 2003b). Anxious rearing behaviors are particularly relevant for study of anxiety in children and adolescents. In addition, the cross national validity of the factor structure underlying this measure was confirmed in a study comprising a total of 1950 children in Australia, Spain, and Venezuela (Arrindell et al., 2005). Another advantage of the EMBU-C is that it is a relatively short instrument. Based on the characteristics and advantages of EMBU-C mentioned above, the modified version of EMBU-C (Muris et al., 2003b) was chosen in the current study.

The questionnaire consists of 40 items, which yielded four subscales representing domains of parental rearing behaviors: emotional warmth, overprotection, rejection, and anxious rearing. For each EMBU-C item, participants first assessed father's rearing behavior and then mother's rearing behavior, using 4-point Likert-scales (1=No, never, 2=Yes, but seldom, 3=Yes, often, 4=Yes, most of the time). Muris et al., (2003b) tested the psychometrics of the modified EMBU-C in a large sample of children and adolescents (N=1702). Results showed that the scale has a clear-cut 4-factor structure, which is in correspondence with the hypothesized subscales. In recent study, Young et al., (2013) examined the psychometric properties of the EMBU-C in the context of children with an anxiety disorder in comparison with community participants. Results supported psychometric properties of the EMBU-C. Further, the overprotection and anxious-rearing subscales discriminated between children with an anxiety disorder and community participants. Furthermore, EMBU-C scale was reliable in terms of internal consistency, test-retest stability and convergent validity (Muris et al., 2003b; Young et al., 2013). Therefore, the EMBU-C appears to have value for assessing parental factors that may contribute to anxiety in children and adolescents. Cronbach's alpha for the modified version of the EMBU-C was reported as follows: emotional warmth = .89, overprotection = .64, rejection = .83, anxious rearing = .81 (Muris et al., 2003b). In current study, reliability (Cronbach alpha coefficient) of this scale was .90 and for its subscales were as follows: emotional warmth = .90, overprotection = .81, rejection = .90, anxious rearing = .89.

3.4.2 Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994)

ASQ (Appendix A) is a 40-item, Likert-type self-administered questionnaire designed to determine both a three-factor solution and a five-factor solution/scale of attachment, which when combined together present a more refined dimension of attachment. The three-factor solution includes the following categories: security (eight items), avoidance (17 items), and anxiety/ambivalent (15 items). In the current study, the three-factor solution was used. The five dimensions of attachment include the following categories: Confidence in Self and Others (eight items with scores ranging from eight to 48), Discomfort with Closeness (10 items with scores ranging from 10 to 60), Need for Approval (seven items with scores ranging from seven to 42), Preoccupation with relationships (eight items with scores ranging from eight to 48), and Relationships as Secondary (seven items with scores ranging from seven to 42).

This 40-item questionnaire asked participants about relationships, in general, to rate aspects of themselves and others ranging from 1 (totally disagree) to 6 (totally agree). To avoid response bias, the items were listed in random order and three items were reverse-scored (items 20, 21 and 33). It yields five subscales: confidence, discomfort with closeness, relationships as secondary, need for approval, and preoccupation with relationships. These subscales can be understood using the concepts of secure, avoidance and ambivalent attachment style: confidence indicates secure attachment; discomfort with closeness and relationships as secondary reflect avoidance; need for approval and preoccupation with relationships reflect anxious/ambivalent attachment style.

Feeney et al. (1994) developed the ASQ to better highlight the dimensional nature of attachment rather than emphasizing the categorical measures. As Ng et al. (2005) asserted: “The ASQ is a broad-based continuous measure that better reflects the

dimensional nature of adult attachment in comparison to categorical measures...” (p. 418). As a continuous measure, the ASQ overcomes the limitations of categorical measures (e.g., Hazan & Shaver, 1987). So, ASQ was selected for the current study because of its broad-based and non-context-specific characteristics. Unlike many attachment measures for an example; Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) those based on specific relational contexts and require the individuals to be in or at least have had some romantic experience, whereas the ASQ was designed to suit those with little or no experience of romantic relationships, including young adolescents. These characteristics of the ASQ also make the instrument attractive for use in cross-cultural settings (Ng et al., 2005).

The ASQ showed adequate reliability and construct validity in university and secondary school student samples (Feeney et al., 1994). Fossati et al. (2003) reported alpha coefficients ranging from .83 to .91. More recently, Trentini et al., (2015) studied the psychometric properties of the three-factor model of ASQ in comparison with the State Attachment Measure (SAAM). Confirmatory Factor Analysis showed an acceptable fit between both ASQ and SAAM three-factor model. The result confirmed the hypothesized measurement model for security, ambivalence (anxious), and avoidance. The result indicated internal consistency reliability for three subscales and had incremental validity in predicting psychological well-being and mental health. In this study, internal consistency of ASQ was .77 and for subscales ranged from .67 to .71.

3.4.3 Young Schema Questionnaire-Short 3 (YSQ-S3; Young, 2005)

The YSQ-S3 (Appendix D) consists of 90 items and was originally a longer 232-item form. It includes 18 subscales (EMSs) covered in the original form. Each item reflects a statement about the individual’s belief about himself or herself, the world or

other people including cognitions and feelings. For example, some of the sample items include such statements as “If I don’t try my hardest, I should expect to lose” regarding cognitions and “I worry about being physically attacked by people” regarding feelings.

Participants rated items using a 6-point scale from 1 (completely untrue of me) to 6 (describes me perfectly). There are five items for each of the 18 EMS subscales, and the scores for each EMS are calculated by summing the items. The higher score on a scale indicates a greater presence of that particular EMS. The possible range for each subscale is 5-30 points for each subscale. Based on Young (2005) theoretical assumptions the 18 EMS's were grouped within five schema domains which are briefly described in Table 2-1. The average score is calculated for each schema domains. The YSQ-S3 was chosen for this study because of being a comprehensive measure of maladaptive schemas as well as relatively short and easy-to-rise instrument.

The YSQ-SF has shown good predictive validity. Welburn et al. (2002) examined the relationship between the EMSs and different types of psychological distress, such as depression and anxiety. Results indicated that different types of psychological distress were significantly predicted by EMSs. To date, five studies have tested the psychometric properties of the latest version of the YSQ, YSQ-S3 (short version) which was used in this study, (Calvete, Orue, & González-Díez, 2015; Kriston, Schäfer, Jacob, Härter, & Hölzel, 2013; Saariaho, Saariaho, Karila, & Joukamaa, 2009; Soygüt, Karaosmanoğlu, & Cakir, 2009; Trip, 2006). All studies found good discriminant validities with regard to differentiating clinical verses non-clinical samples and correlations with other measures of psychopathology, and internal consistency of all subscales was high. For example, Calvete and colleagues (2015) examined internal consistency of the YSQ-S3 and the results showed good psychometric properties, with

confirmation of the factor structure and adequate alpha coefficients for the scales. Alpha coefficients were ranged from .81 to .91 for schema domains (Calvete et al., 2015).

Within the current study, adolescents' report on the YSQ-S3 yielded Cronbach's alphas value for the full questionnaire $\alpha = .95$ and for each schema domains were as follows: Disconnection/Rejection $\alpha = .89$, Impaired autonomy & Performance $\alpha = .83$, Other-Directedness $\alpha = .72$, Impaired Limits $\alpha = .67$ and for Overvigilance & Inhibition $\alpha = .80$.

3.4.4 Spence Children's Anxiety Scale (SCAS; Spence, 1998) [Appendix B]

For the purposes of this study, the SCAS as a self-report anxiety measure was selected since self-report represents an important method of assessing adolescent anxiety, given that many aspects of anxiety represent subjective cognitive and emotional experiences that are not open to observation by others (Neil & Christensen, 2009; Meghan Tomb & Hunter, 2004). Further, based on previous studies SCAS is a reliable and valid screening instrument for normal adolescents. Furthermore, SCAS measures adolescents' anxiety according to DSM- IV diagnostic criteria and anxiety disorders classification. Results of the confirmatory and exploratory factor analyses were supportive of the DSM-IV constructs of anxiety disorders and confirming six specific subscales and one general underlying concept of anxiety (Arendt, Hougaard, & Thastum, 2014; S. Spence, 1998).

The Spence Children's Anxiety Scale (SCAS) is a 45-item, self-report measure for children and adolescents. It was developed by Spence (1998) based on classification outlined by the Diagnostic and Statistical Manual of Mental Disorders IV (American Psychiatric Association, 1994). This questionnaire measures symptoms of anxiety relating to separation (e.g. 'I worry about being away from my parents'), social phobia

(e.g. 'I worry what other people think of me'), obsessive-compulsive disorder (e.g. 'I have to keep checking that I have done things right'), fears of injury (e.g. 'I am scared of going to the doctors or dentist'), panic/agoraphobia (e.g. 'I am afraid of being in small closed places, like tunnels or small rooms') and generalized anxiety (e.g. 'I worry about things'). For this study, respondents were asked to indicate the frequency with which each symptom occurs on a four-point scale ranging from Never (scored 0) to Always (scored 3). Then, a total of SCAS score was obtained by summing scores of the 38 anxiety symptom items as well as the anxiety subscales were calculated by computing the average score of each subscale.

SCAS showed high internal consistency, not only for the total scale ($\alpha = .90$), but also for all the subscales ($\alpha = .60-.90$) ranging between acceptable to excellent (Arendt et al., 2014; Essau et al., 2011; Spence, 1998), with exception of the subscale for fear of physical injury that has shown the lowest internal consistency with unsatisfactory Cronbach's, ($\alpha < .60$) in some studies (Arendt et al., 2014; Brown & Whiteside, 2008). Further, the SCAS differentiated significantly between children and adolescents with anxiety disorders and controls, and between the different anxiety disorders (Arendt et al., 2014; Nauta et al., 2004). Spence (1998) reported that the SCAS demonstrates convergent validity with the Revised Child Manifest Anxiety Scale [RCMAS; (Reynolds & Richmond, 1978)] and divergent validity with the Child Depression Inventory [CDI; (Kovacs, 1981)]. Recent investigations (Arendt et al., 2014; Muris, Schmidt, & Merckelbach, 2000c; Spence, Barrett, & Turner, 2003) found confirmed the strong psychometric properties of the SCAS with adolescents. These studies provided evidence to support reliability and concurrent validity of the SCAS with adolescents. In this study, internal consistency (Cronbach's alpha) of SCAS was .94. Internal consistencies for subscales were: Separation Anxiety = .86, Social Phobia = .78,

Obsessive- Compulsive = .77, Panic/Agoraphobia = .94, Physical Injury Fears = .70 and Generalized Anxiety = .77.

3.4.5 Socio-Demographic Information

The following socio-demographic information was obtained from the adolescents:

- 1) Gender
- 2) Age
- 3) Grade (Form)
- 4) Cultural group/Ethnicity
- 5) Religion
- 6) Mothers (age, education level, occupation)
- 7) Fathers (age, education level, occupation)
- 8) Parents' marital status
- 9) Parents' living status

3.5. Pilot Study

After determining the various measurement scales, in order to ensure that these scales are reliable for measuring research variables in this population, a pilot study was conducted. The pilot study included 58 participants (boys=28, girls=30) between the ages of 14-18 years old who were studying at a private international secondary school in Kuala Lumpur. The reliability of the scales was calculated for each of the instruments utilized through the pilot study (Table 3.1). Adequate to good internal consistencies were found for measures of study. Cronbach's alpha coefficients for scales were as follows: Young Schema Questionnaire (YSQ-S3) = .96, Perceived Parental Rearing

Behavior Style (EMBU-C) = .77, Attachment Style Questionnaire (ASQ) = .83 and Spence Children Anxiety Scale (SCAS) = .78.

Since the mother tongue of the majority of the participants was not English, it was anticipated that some of them would have difficulty understanding some words and phrases particularly on the items of the YSQ, S-3. In the pilot study, these were detected and replaced with alternative words. For example on YSQ, S-3 in item2; “sticking” replaced with “clinging”, in item5; “faults” replaced with “defects”, in item7 “living” instead of “getting by”, in item16 “valuable” replaced with “worthwhile”. Then, some of the original items were rephrased in order to facilitate understanding of the statement for adolescents. After revising the questionnaires, they were used for the actual fieldwork in schools.

Table 3.1: Internal Consistencies of Measures (*coefficient alpha*) in pilot study

Scales		Alpha	Num. of items
Young Schemas Questionnaire (YSQ-S3)		.96	90
Schema Domains	Disconnection / Rejection	.87	25
	Impaired autonomy & Performance	.83	20
	Other-Directedness	.74	15
	Impaired Limits	.67	10
	Overvigilance & Inhibition	.82	20
Perceived Parental Rearing Behaviors(EMBU-C)		.77	40
Parenting Styles	Control / Overprotection	.79	10
	Emotional Warmth	.88	10
	Rejection	.92	10
	Anxious Rearing	.82	10
Attachment Style Questionnaire (ASQ)		.83	40
Attachment Styles	Confidence- Secure	.71	8
	Discomfort with Closeness	.73	10
	Relationship As Secondary	.66	7
	Need for Approval	.68	7
	Preoccupation	.76	8
Spence Children Anxiety Scale (SCAS)		.78	45
Anxiety Subscales	Separation Anxiety	.84	6
	Social Phobia	.76	6
	Obsessive- Compulsive	.77	6
	Panic / Agoraphobia	.84	9
	Physical Injury	.69	5
	Generalized Anxiety	.75	6

CHAPTER FOUR:

RESULTS

University of Malaya

4.1 Introduction

In the present study, Statistical Package for Social Sciences (SPSS, Version 22) was employed to perform the various statistical analyses. Firstly, in the preliminary analyses the necessary assumption such as normality, equality of variances and internal consistency of measures were checked. Secondly, descriptive statistics of the measures of the study and demographic variables were conducted. After that, the following univariate and multivariate tests were used; Independent samples t-test, Pearson's correlation coefficient, MANOVA and multiple linear regression analysis. Furthermore, a zero-order correlation was conducted to investigate correlations among different variables measures of the study. Then, mediating effects of parenting styles and EMSs on relationship between insecure attachment styles and anxiety in adolescents were examined via various regression analyses. Then, based on significance of zero order correlations, mediator role of EMSs and parenting styles in the prediction of adolescents' attachment and anxiety were examined. MANOVA and regression analysis were used to examine the relationship between the significant predictors of perceived parental behaviors, EMSs and attachment styles as found in the previous analyses, and the adolescents' anxiety symptom scores for the ethnicity groups.

4.2 Checking Data and Preliminary Analysis

Before data entry, all questionnaires were checked for missing, incomplete or skipped questions. From the 787 of collected questionnaires, 25 (3.2%) of them were dropped out due to missing data on some of the items. Prior to analysis, correct entries and missing values were examined. Some of the participants 8 % (n= 62) did not provide data on some of their socio-demographic information such as; parent's education, job and marital status, mainly because of its confidentiality. Also, some adolescents were not able to complete the EMBU-C in relation to the father's (N = 13)

or the mother's information (N= 3) due to the fact that they were no longer in contact with their parent due to divorce/separation or death.

In using parametric analysis, the necessary assumptions such as normality, equality of variances and acceptable skew and kurtosis were examined. A Kolmogorov-Smirnov test indicated that scores on the SCAS, YSQ-S3 and Rejection subscale of EMBU-C were not normally distributed. Skewness ranged from .012 to .95. With regards to sample size for the current study, Tabachnick and Fidell (2001) suggest that parametric analyses can tolerate this degree of skewness and kurtosis. Furthermore, to find out whether the self-report measures were reliable in terms of internal consistency, reliability coefficients were calculated for each of the instruments utilized and their subscales. Cronbach's alpha for the instruments ranged from .77 for the Attachment Styles Questionnaire (ASQ) to .95 for the Young Schemas Questionnaire- Short form (YSQ-S3), (see Table 4.1). As shown, adequate to good internal consistencies (as ranging from .66 to .95) were found for scales and subscales of study. It can be seen alpha coefficients of the majority of scales were over .90 and for subscales were .70 that means, the questionnaires were reliable to use.

Table 4.1: Internal Consistency of Measures (*coefficient alpha*)

Scales		Alpha	Number of items
Young Schemas Questionnaire(YSQ-S3)		.95	90
Schema	Disconnection/Rejection	.89	25
Domains	Impaired autonomy	.83	20
	Other-Directedness	.72	15
	Impaired Limits	.67	10
	Overvigilance & Inhibition	.80	20
Perceived Parenting Behaviors(EMBU-C)		.90	40
Parenting Styles	Control/Overprotection	.81	10
	Emotional Warmth	.90	10
	Rejection	.90	10
	Anxious Rearing	.89	10
Attachment Style Questionnaire (ASQ)		.77	40
Attachment Styles	Confidence- Secure	.71	8
	Discomfort with Closeness	.73	10
	Relationship As Secondary	.67	7
	Need for Approval	.66	7
	Preoccupation	.70	8
Spence Children Anxiety Scale (SCAS)		.94	45
Anxiety Subscales	Separation Anxiety	.86	6
	Social Phobia	.78	6
	Obsessive- Compulsive	.77	6
	Panic / Agoraphobia	.94	9
	Physical Injury	.70	5
	Generalized Anxiety	.77	6

4.3 Socio-Demographic Information of participants

This study included 762 participants between the ages of 13-18 years old ($M=15.37$ years; $SD=1.2$). Considerably more boys (60.4%, $n= 460$) than girls (39.6%, $n= 302$) participated in the study. All participants were adolescent students' who were studying at private and international secondary schools in Kuala Lumpur. The detailed demographic information of the participants is presented in Table 4.3.1. It included a frequency distribution for gender, age, grade, ethnicity, religion background, parent's marital status, parent's job and education. As shown, the majority of participants (75%) were in mid adolescence with the age between 14-16 years old and the remaining were 13years old 5.3% and 17-18years old 19.6%.

Moreover, majority of participants ($n=612$) were Malaysian (80%) and 20% International students ($n= 150$). They also varied in ethnicity, with 43.4% reporting Chinese Malaysian, 18% Malay, 14.3% Indian Malaysian and 4.5% reporting Mixed Parentage (Malaysian) and an additional 19.6% of students were Non-Malaysian (International students) that consisted of 41 Indian (5.4%), 40 western (5.2%), 40 Arab (5.2%) and 29 others nationality origins (3.8%). With regard to religious background, 28% participants were Muslims, 32.7% were Buddhists, 15.1% were Christians, 16% were Hindus and 4.7% were free thinkers.

Based on parent's occupation and education, the sample was generally of high socioeconomic status. Approximately over 60% ($n=462$) of participants reported their father job as high position jobs, with 30.6% ($n=233$) of them were businessman and 30.1% ($n=229$) reported Professional jobs and the remaining were in others job as shown in Table 4.3.1. Also, for mothers' job, 14.8 % ($n=113$) had the Professional job, 10.9% ($n=83$) were Businesswoman, 46.7% were housewives and the remaining were in others job. As for parental education, 47.5% ($n=343$) of the participant's father had

tertiary education and post-graduate degree as compared to 31.5% (n=230) of their mothers who had tertiary education and above.

Table 4.2: Demographic Characteristics of the Participants

		Frequ.	Percent
Sex	Male	460	60.4
	Female	302	39.6
	Total	762	100
Age	13	43	5.6
	14	162	21.3
	15	188	24.7
	16	220	28.8
	17	130	17.1
	18	19	2.5
	Total	762	100
Grade (Form)	2	175	23
	3	208	27.3
	4	217	28.5
	5	126	16.5
	6	36	4.7
Ethnicity	Malay	137	18.0
	Chinese Malaysian	331	43.4
	Indian Malaysian	109	14.3
	Mixed Parentage	35	4.6
	Western	40	5.2
	Arab	40	5.2
	Indian (India)	41	5.4
	Others	29	3.8
Religion	Islam	213	28.0
	Christian	115	15.1
	Hindu	122	16.0
	Buddism	249	32.7
	Others	27	3.5
	None(free thinker)	36	4.7
	Total	762	100
Mother's Education	Primary education	58	7.9
	Secondary education	268	36.7
	Diploma	175	23.9
	Tertiary education	157	21.5
	Post-Graduation	73	10.0

Table 4.2: Demographic Characteristics of the Participants-continued

		Frequ.	Percent
Father's Education	Primary education	55	7.6
	Secondary education	206	28.5
	Diploma	119	16.5
	Tertiary education	205	28.4
	Post-Graduation	138	19.1
	Total	723	100.0
Father's Occupation	Professional jobs	229	32.7
	Technical worker	92	13.1
	Businessman/woman	233	33.3
	Retired	7	1.0
	Unemployed	3	0.4
	Clerical worker	63	9.0
	Sales worker	31	4.4
	Armed force & Police	11	1.6
	Others	31	4.4
Total	700	100	
Mother's job	Professional job	113	15.8
	Technical worker	12	1.7
	Businessman/woman	83	11.6
	Housewife	356	49.9
	Retired	4	.6
	Clerical worker	81	11.3
	Sales worker	24	3.4
	Other	41	5.8
	Total	714	100.0
Parents' marital status	Married	677	90.6
	Divorced	52	7.0
	One parent passed away	17	2.3
	Both parents passed away	1	0.1
	Total	747	100.0

4.4 Descriptive information on the measures of study

Table 4.3 shows the means and standard deviations of anxiety symptoms based on SCAS. As expected in this age period, the highest mean score was related to Social Phobia (M=1.64, SD=0.54).

Table 4.3 Descriptive Information on the Anxiety Scale (SCAS)

SCAS subscales	Min - Max	Mean	Std. De.
Separation Anxiety	0 - 3.00	1.36	0.59
Social Phobia	0 - 3.00	1.64	0.54
Obsessive Compulsive	0 - 3.00	1.51	0.54
Panic/Agoraphobia	0 - 3.00	1.21	0.53
Physical Injury Fears	0 - 3.00	1.50	0.60
Generalized Anxiety	0.17 - 3.00	1.53	0.49
Total score of SCAS	6 - 89.00	38.25	14.92

Table 4.4 Descriptive Information on the Early Maladaptive Schemas

YSQ-S3 subscales	Min-max	Mean	Std. De.
Emotional Deprivation	5-30	13.13	5.37
Abandonment	5-30	16.14	6.05
Mistrust	5-30	16.44	4.80
Social Isolation/Alienation	5-30	14.03	5.15
Defectiveness/Un lovability	5-30	12.58	5.23
Failure to Achieve	5-30	15.14	5.54
Practical Incompetence/Dependence	5-30	14.12	4.41
Vulnerability to Harm or Illness	5-30	15.06	5.49
Enmeshment	5-30	13.76	4.50
Subjugation	5-30	14.51	4.85
Self-Sacrifice	5-30	16.46	4.58
Emotional Inhibition	5-30	15.09	4.74
Unrelenting Standards	5-30	18.30	4.48
Entitlement/Superiority	5-30	16.66	4.41
Insufficient Self-Control/Discipline	5-30	16.73	4.88
Admiration/Recognition-seeking	5-30	17.32	5.09
Pessimism/Worry	5-30	17.57	5.38
Self-Punitiveness	5-30	16.30	4.83
Total score for YSQ	134-454	279.40	58.60

Table 4.4 contains the means, standard deviations, and minimum-maximum of 18 early maladaptive schemas variables (YSQ-S3). As shown the highest mean related to schema Unrelenting Standards ($M=18.30 \cdot SD=4.48$) and the lowest mean related to Defectiveness/Un lovability schema ($M=12.58 \cdot SD=5.23$).

Table 4.5 Descriptive information on Schema Domains (YSQ-S3)

Schema Domains	Min-max	Mean	Std. De.
Disconnection/ Rejection	5 - 27.20	14.46	4.16
Impaired autonomy / performance	5 - 24.50	14.52	3.87
Other-Directedness	6.67 - 28.33	16.10	3.56
Impaired limits	6 - 26.50	16.69	3.91
Overvigilance & Inhibition	7 - 28.75	16.81	3.54

Means, standard deviations, and minimum-maximum of 5 schema domains (YSQ-S3) were calculated. As shown in Table 4.5, Overvigilance & Inhibition schema domain had the highest mean in the maladaptive schema domains ($M= 16.81$, $SD= 3.54$).

Table 4.6 shows the means, standard deviations, and minimum-maximum score on the various parenting style. Although all means of perceived father rearing behaviors were slightly less than mother's but, there is a consonance between perceived mother and father parental rearing behaviors in different parenting style subscales. As can be seen, the highest mean scores were related to Mother Parental Anxious Rearing ($M=28.15$) and Mother Emotional Warmth ($M=27.93$).

Table 4.6 Descriptive Information on Perceived Parenting Style (EMBU-C)

EMBU-C subscales	Min –Max	Mean	Std. De.
Control/Overprotection (Mother)	12- 40	24.66	5.20
Control/Overprotection (Father)	11- 38	22.21	5.16
Emotional Warmth(Mother)	10- 40	27.93	6.45
Emotional Warmth(Father)	10- 40	26.96	6.66
Rejection(Mother)	10- 39	18.87	6.23
Rejection(Father)	10- 40	17.75	6.04
Anxious Rearing(Mother)	10- 40	28.15	6.02
Anxious Rearing(Father)	10- 40	26.51	6.33
Total score of Overprotection	10- 37.5	23.42	4.76
Total score of Emotional Warmth	10- 40	27.45	6.12
Total score of Rejection	10- 39	18.31	5.73
Total score of Anxious rearing	11- 40	27.32	5.78

Table 4.7 Descriptive Information on attachment styles (ASQ)

Subscales of ASQ	Min - Max	Mean	Std. De.
Confidence	1.25 - 6	3.73	0.76
Discomfort with closeness	1.5 - 5.90	3.70	0.77
Relationship as secondary	1 - 5.57	3.10	0.86
Need for approval	1 – 6	3.71	0.83
Preoccupation	1.38 - 6	3.68	0.85

Table 4.7 shows the means and standard deviations of the 5 dimensions of

attachment styles. Scores were generally skewed in the direction of low scores for insecure attachment style. The highest mean score was related to secure-confidence attachment style (M=3.73 SD= 0.76).

Table4. 8 Descriptive Information on attachment styles based on 3 dimensions

Attachment Styles	Min - Max	Mean	Std. De.
Secure Attachment	1.25 - 6.00	3.73	0.76
Avoidance Attachment	1.55 - 5.29	3.40	0.68
Ambivalent Attachment	1.65 - 5.86	3.69	0.75

Table 4.8 shows the participants reported secure attachment at the highest level and ambivalent attachment as the highest mean score of insecure attachment.

4.5. Gender Differences on the measures of study

Before addressing the main results of study, participants' gender differences on the measures of study were examined. To examine hypothesis 11, boys and girls were compared on anxiety symptoms, attachment pattern, perceptions of parental rearing behaviors and schema domains. Table 4.9 shows the result of this comparison between genders. Girls reported higher levels of anxiety than boys on the most subscales of anxiety. Although, boys scored higher than girls on Separation Anxiety and Panic/Agoraphobia but the differences were not statistically significant. T-tests revealed that girls scored significantly higher than boys on overall anxiety symptoms, Social Phobia and Physical Injury Fears.

Gender differences were also found for perceived parenting behavior styles. Girls perceived their mother and father as more emotionally warm compared to boys. Boys perceived their father as more controlling and overprotective compared to girls.

Furthermore, boys perceived higher levels of rejection by both mother and father. As far attachment dimensions, girls scored significantly higher on Ambivalent Attachment compared to boys. As a conclusion, gender differences were found for anxiety symptoms, attachment pattern and perceived parenting behavior styles. No significant differences were found on any of Schema Domains subscales across gender.

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Table 4.9: Gender differences on measures of study

Adolescent's Self-Report		Mean	SD	Mean	SD	t	p
Total score of Anxiety		36.28	13.90	41.27	16.20	-4.53	.000
Separation Anxiety		1.39	0.61	1.35	0.54	.765*	.444
Social Phobia		1.59	0.53	1.73	0.55	-3.62*	.000
Obsessive Compulsive		1.54	0.54	1.47	0.55	1.83*	.067
Panic/Agoraphobia		1.23	0.54	1.18	0.51	1.33*	.184
Physical Injury Fears		1.42	0.59	1.63	0.61	-4.62*	.000
Generalized Anxiety		1.51	0.48	1.57	0.52	-1.77	.077
Secure attachment		3.74	0.74	3.71	0.81	.614*	.540
Avoidance attachment		3.40	0.65	3.41	0.73	-.310	.757
Ambivalent attachment		3.61	0.70	3.82	0.83	-3.52	.000
Mother	Overprotection	24.66	5.14	24.66	5.32	.007*	.995
	Emotional Warmth	27.31	6.00	28.88	7.03	-3.194	.001
	Rejection	19.35	6.13	18.15	6.33	2.60*	.009
	Anxious Rearing	28.11	5.84	28.21	6.31	-.211	.833
Father	Overprotection	22.59	5.16	21.63	5.12	2.50*	.013
	Emotional Warmth	26.49	6.41	27.66	6.98	-2.328	.020
	Rejection	18.66	6.30	16.37	5.38	5.33	.000
	Anxious Rearing	26.53	6.11	26.51	6.67	.037	.970
Parental (total)	Overprotection	23.63	4.70	23.12	4.87	1.45*	.147
	Emotional Warmth	26.92	5.71	28.26	6.63	-2.87	.004
	Parental Rejection	19.00	5.79	17.28	5.51	4.101*	.000
	Anxious Rearing	27.34	5.55	27.31	6.13	.073	.942
Disconnection / Rejection		14.52	3.88	14.39	4.58	.416	.678
Impaired Autonomy		14.74	3.80	14.20	3.99	1.89*	.059
Other-Directedness		16.13	3.53	16.06	3.61	.231*	.817
Impaired limits		16.68	3.86	16.72	4.00	-.120*	.904
Overvigilance & Inhibition		16.90	3.46	16.68	3.66	.852*	.394

*Variances were significantly equal (Homogeneity of Variances).

4.6. Correlational Analyses

Pearson correlations were computed in order to test Hypotheses 1 to 6. The relations between anxiety and predictive factors (i.e. attachment styles, parenting style and EMSs) as well as relationships among these predictive factors were studied.

4. 6.1 The association between Attachment Styles and Anxiety

Pearson's correlation was calculated to investigate the relationships between attachment styles and anxiety among adolescent students.

Hypotheses 1: The insecure attachment is correlated with higher score in anxiety scale

Hypotheses 2. The insecure ambivalent attachment has stronger correlation with total score of anxiety scale.

Based on the results, hypothesis 1 was confirmed. There were small to moderate positive correlations between insecure attachment styles and anxiety. Both avoidance and ambivalent insecure attachment significantly correlated with all subscales of anxiety, indicating that higher levels of insecure attachment styles were associated with higher levels of various anxiety symptoms. Confidence-secure attachment negatively ($r = -.342 p < .01$) associated with anxiety and with all subscales of anxiety (see Table 4. 10), indicating that higher score of secure attachment was associated with the lower score of anxiety symptoms.

Findings of Table 4.10 did not support Hypothesis 2. Although, there were significant correlations between ambivalent attachment and all subscales of anxiety but the strongest correlation was found for insecure avoidant attachment and anxiety (i.e. for total anxiety score: $r = .390 p < .01$).

Table 4.10: Correlations between attachment style and anxiety scales

ASQ SCAS (Anxiety)	Secure Attachment	Avoidance Insecure Attachment	Ambivalent Insecure Attachment
Total score of SCAS	-.342**	.390**	.278**
Separation Anxiety	-.139**	.236**	.102*
Social Phobia	-.269**	.299**	.251**
Obsessive Compulsive	-.147**	.289**	.123**
Panic/Agoraphobia	-.212**	.259**	.100**
Physical Injury Fears	-.199**	.151**	.137**
Generalized Anxiety	-.246**	.286**	.198**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.6.2. Relationships between Perceived Parenting Styles and Anxiety

To test Hypothesis 3 i.e perceived parental behaviors style is correlated with adolescence report of anxiety symptoms, a bivariate Pearson correlation was conducted. Results revealed that parental rejection, overprotection, and anxious rearing style were positively related to most anxiety symptoms. Although, small significant associations were found between parental styles and anxiety, higher correlation coefficients were for Parental Rejection with total scores of Anxiety ($r=.360$, $p<.01$) and Generalized Anxiety ($r=.331$, $p<.01$) also, for Parental Anxious Rearing and total score of Anxiety ($r=.308$, $p<.01$) respectively. Further, control/overprotection parenting style was positively correlated with all anxiety symptoms. Higher correlations were devoted to generalized anxiety and Obsessive Compulsive symptoms. Further, Perceived

Parental Emotional Warmth was negatively related to all indices of anxiety symptoms with an exception for Separation Anxiety. There were also no significant correlations between Overprotection and, Anxious Rearing with Physical Injury Fears.

Table 4.11 Correlations within Parenting Style and Anxiety subscales

SCAS	Overprotection	Warmth	Rejection	Anxious Rearing
Separation Anxiety	.161**	-.022	.163**	.221**
Social Phobia	.173**	-.136**	.268**	.239**
Obsessive Compulsive	.236**	-.118**	.272**	.244**
Panic/Agoraphobia	.169**	-.163**	.270**	.147**
Physical Injury Fears	.027	-.107**	.131**	.068
Generalized Anxiety	.251**	-.111**	.331**	.272**
Total score of SCAS	.246**	-.149**	.360**	.308**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

4.6.3. Associations between Perceived Parenting Styles and Attachment Styles

Hypothesis 4: There are relationships between parenting styles and attachment style.

In order to examine this, bivariate correlations of parenting styles and attachment styles were conducted.

As shown in Table 4.12, small to moderate significant correlations between parenting and attachment styles were found. Significantly higher positive associations were between perceived parental Warmth and Secure attachment as well as between parental Rejection and Avoidance attachment style. Parental Emotional Warmth were significantly and negatively associated with insecure attachment styles [Avoidance($r = -.233$ $p < .01$) and Ambivalent($r = -.090$ $p < .05$)] and it was positively correlated with

Secure Attachment at the highest level of correlation ($r = .375$ $p < .01$) indicating higher scores in parental Emotional Warmth was associated with lower score of all insecure attachment style as well as the higher score in secure attachment. In addition, parental Rejection was significantly and positively associated with insecure Avoidance attachment style ($r = .253$ $p < .01$) and it negatively correlated with Secure Attachment ($r = -.264$ $p < .01$). So, the higher parental rejection was associated with the higher score of avoidance insecure attachment and lower level of secure attachment. However, there were no significant associated relationships ($r = -.060$) in Secure Attachment with Anxious Rearing as well as with Control/Overprotection ($r = .022$).

Table 4.12 Correlations between attachment and parenting style

Attachment Styles	Parenting Styles		
	Secure	Avoidance	Ambivalent
Control/Overprotection	.022	.119**	.106**
Emotional Warmth	.375**	-.233**	-.090*
Rejection	-.264**	.253**	.178**
Anxious Rearing	-.060	.213**	.154**

4.6.4 Relationships between Early Maladaptive Schemas and Anxiety

Hypothesis 5: The Early Maladaptive Schemas as measured by the YSQ, S-3 are significantly correlated with scores of anxiety as measured by the SCAS.

Univariate correlations for all EMSs and anxiety symptoms are presented in Table 4. 13. Moderate to strong positive significant correlations between various anxiety symptoms and most EMSs were found. The highest correlations were for total score of Anxiety and; Vulnerability to Harm($r=.555$ $p<.01$), Abandonment($r=.538$ $p<.01$), Pessimism/Worry ($r=.516$ $p<.01$), Subjugation($r=.445$ $p<.01$), Incompetence/Dependence($r=.437$ $p<.01$), Defectiveness/ Unlovability ($r=.431$ $p<.01$) and Failure to Achieve($r=.423$ $p<.01$). Further, the correlation analyses revealed that total score of EMSs, YSQ, S-3 was strongly correlated to anxiety($r=.600$ $p<.01$). All EMSs were significantly correlated with anxiety (total score of SCAS-C scale) and all subscales of anxiety with the exceptions for Entitlement with Separation and Self-Sacrifice with Physical Injury Fears.

Table 4.13: Correlations between the 18 EMSs and Anxiety subscales

EMSs	Anxiety	Overall	Separation	Social	OCD	Panic/	Physical	GAD
	Anxiety			Phobia		Agorapho	Inj. Fears	
Emotional Deprivation	.308**	.171**	.254**	.221**	.228**	.156**	.275**	
Abandonment	.538**	.257**	.396**	.308**	.327**	.246**	.444**	
Mistrust/Abuse	.413**	.148**	.327**	.293**	.230**	.198**	.357**	
Social Isolation/Alienation	.394**	.171**	.309**	.249**	.230**	.121**	.333**	
Defectiveness/Unlovability	.431**	.227**	.343**	.257**	.315**	.179**	.376**	
Failure to Achieve	.423**	.242**	.383**	.220**	.289**	.227**	.377**	
Incompetence/Dependence	.437**	.256**	.375**	.308**	.292**	.217**	.353**	
Vulnerability to Harm	.555**	.328**	.411**	.370**	.347**	.220**	.433**	
Enmeshment	.380**	.241**	.236**	.248**	.233**	.089*	.262**	
Subjugation	.445**	.173**	.350**	.293**	.244**	.186**	.370**	
Self-Sacrifice	.216**	.126**	.195**	.221**	.123**	.042	.228**	
Emotional Inhibition	.397**	.219**	.382**	.317**	.281**	.196**	.341**	
Unrelenting Standards	.239**	.165**	.250**	.279**	.151**	.075*	.292**	
Entitlement/Superiority	.217**	.065	.177**	.210**	.140**	.092*	.229**	
Insufficient Self-Control	.416**	.226**	.405**	.280**	.289**	.240**	.374**	
Recognition seeking	.293**	.011*	.291**	.200**	.169**	.116**	.242**	
Pessimism/Worry	.516**	.267**	.447**	.369**	.277**	.184**	.460**	
Self-Punitiveness	.333**	.256**	.227**	.300**	.266**	.130**	.341**	
Total score of YSQ,S-3	.600**	.313**	.500**	.422**	.389**	.253**	.524**	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Moreover, Social Phobia was correlated with EMSs such as; Pessimism/Worry ($r=.447$ $p<.01$), Vulnerability to Harm ($r=.411$ $p<.01$), Insufficient Self-Control ($r=.405$ $p<.01$), Abandonment ($r=.396$ $p<.01$) and Failure to Achieve ($r=.383$ $p<.01$). There were no significant correlations between Separation Anxiety and Entitlement also, self-Sacrifice and Physical Injury Fears.

Hypothesis 6:

The schema domains are positively correlated with anxiety score, as measured by the SCAS.

In order to examine this, bivariate correlations were conducted for anxiety score and all five schema domains. The correlations are presented in Table 4.14. As shown, all five schema domains were significantly and positively correlated with anxiety. Higher correlations were for Impaired Autonomy ($r=.584$ $p<.01$), Disconnection and Rejection ($r=.534$ $p<.01$) and Overvigilance & Inhibition ($r=.519$ $p<.01$) schema domains.

Table 4.14 Correlations between schema domains and anxiety

Schema Domains	Disconnection /Rejection	Impaired Autonomy	Other-Directedness	Impaired limits	Overvigilance / Inhibition
Anxiety Scale					
Total score of SCAS	.534**	.584**	.435**	.382**	.519**

** Correlation is significant at the 0.01 level (2-tailed).

4.6.5 Parenting styles and Maladaptive Schema Domains

Next, correlations between perceived parenting styles and schema domains were conducted in order to explore the relationships between these constructs.

Hypothesis 7:

The five schema domains (YSQ, S-3) are significantly correlated with different patterns of parenting rearing behaviors.

Table 4.15 shows that perceived parenting styles were significantly correlated ($p<.01$) with all of 5 maladaptive schema domains. All of the maladaptive schema domains were significantly and positively associated with three negative parenting styles (Overprotection, Rejection and Anxious Rearing). The highest correlation of parental

Control/Overprotection was for Impaired Autonomy schema domain($r=.281$ $p<. 01$). Parental Rejection was found strong association with Disconnection/ Rejection($r=.476$ $p<. 01$) and Impaired Autonomy($r=.469$ $p<. 01$) schema domains. Further, the highest correlation of Anxious Rearing was for Impaired Autonomy schema domain($r=.338$ $p<. 01$). This indicated that higher scores in three negative parenting styles were associated with the higher score of maladaptive schema domains.

Table4.15 Correlations between parenting styles and Maladaptive Schema Domains

Parenting Styles	Schema Domains	Disconnection/ Rejection	Impaired Autonomy	Other-Directedness	Impaired limits	Overvigilance / Inhibition
Control/Overprotection		.175**	.281**	.279**	.182**	.224**
Emotional Warmth		-.401**	-.323**	-.201**	-.234**	-.180**
Rejection		.476**	.469**	.387**	.362**	.311**
Anxious Rearing		.220**	.338**	.289**	.230**	.312**

** Correlation is significant at the 0.01 level (2-tailed).

Furthermore, in parental Emotional Warmth, this relation was negative for all 5 domains of schema particularly with Disconnection/Rejection schema domain was at highest correlation($r= -.401$ $p<. 01$). This indicated that higher scores in parental emotional warmth was associated with lower score of Disconnection/ Rejection schema domain in particular as well as other domains of maladaptive schemas.

4.7 Regression Analyses: Predictors of Anxiety

Hypothesis 8:

The insecure attachment, parenting behavior styles and EMSs are significant predictors of total score of anxiety (SCAS).

In order to examine hypothesis 8, five separate hierarchical multiple regression analyses were performed for determining the predictors have a significant impact on anxiety in adolescents as well as to clarify the contributions of each factors to adolescent's anxiety symptoms. Results of the Multiple Regression analyses are presented in Tables 4.16 to 4.20.

4.7.1 Early Maladaptive Schemas and prediction of Anxiety

In examining specific EMSs that could be significantly predictors of anxiety, stepwise hierarchical regression analyses were carried out. In these analyses, scores on 18 EMSs (YSQ, S-3) were the predictor variables, whereas the total score on the SCAS (anxiety symptoms) served as the dependent variable (See Table 4.16).

Results indicated that 39% of total variance of anxiety was explained by Vulnerability to Harm and Abandonment [(B=.375, .338 t=11.21, 10.10), $p < .001$]. The proportion was increased to 42% by adding Pessimism/Worry in to analysis. From steps 3 to 5, Insufficient Self-Control/Discipline, Entitlement /Superiority and Enmeshment were entered into the equation and these increased the explained variance to 43.3%. The results revealed that six out of 18 EMSs were accounted as significant predictors of anxiety in this population. As expected specific EMSs were significantly Predictors of anxiety and these were Vulnerability to Harm, Abandonment, Pessimism/Worry, Insufficient Self-Control/Discipline, Entitlement/Superiority and Enmeshment.

4.16 Regression Analysis predicting Anxiety from Early Maladaptive Schemas

Model	Beta	Std. Er	F	T	P
Step1					
Vulnerability to Harm or Illness,	.375	.091	241.85	11.21	.000
Abandonment	.338	.083		10.10	.000
R ² = .390, ΔR ² = .388					
Step 2					
Vulnerability to Harm or Illness,	.279	.098	183.02	7.76	.000
Abandonment	.282	.084		8.35	.000
Pessimism/Worry	.221	.097		6.35	.000
R ² = .420, ΔR ² = .418					
Step3					
Vulnerability to Harm or Illness,	.266	.098	140.17	7.37	.000
Abandonment	.271	.084		7.99	.000
Pessimism/Worry	.184	.103		4.93	.000
Insufficient Self-Control	.090	.103		2.68	.008
R ² = .426, ΔR ² = .423					
Step4					
Vulnerability to Harm or Illness,	.266	.098	113.60	7.38	.000
Abandonment	.278	.084		8.17	.001
Pessimism/Worry	.198	.105		5.24	.000
Insufficient Self-Control	.108	.106		3.11	.002
Entitlement/Superiority	.067	.105		-2.15	.032
R ² = .429, ΔR ² = .426					
Step5					
Vulnerability to Harm or Illness	.249	.100	95.77	6.76	.000
Abandonment	.267	.085		7.76	.000
Pessimism/Worry	.196	.105		5.19	.000
Insufficient Self-Control	.099	.107			.005
Entitlement/Superiority	.075	.106		2.83	.017
Emmeshment	.067	.109		-2.40	.041
R ² = .433, ΔR ² = .428					

4.7.2 Contributions of Perceived Parenting Styles in predicting of Anxiety

In order to determine the contribution of each types of parenting style in the variance of anxiety symptoms, Separate regression analyses for parenting as predictors and anxiety as dependent variable were conducted.

Table 4.17 Regression Analysis predicting anxiety from parenting style

Model	Beta	Std. Er	T	F	P
Parental Rejection	.360	.088	10.62	112.81	.000
$R^2=.129, \Delta R^2=.128$					
Parental Rejection	.295	.090	8.54		.000
Anxious Rearing	.222	.089	6.44	80.14	.000
$172. =175, \Delta R^2=.R^2$					

For this regression analysis, stepwise method was chosen and all four parenting styles were entered into the equation. Results of regression equation revealed that (Table 4.17) firstly in step1, total score of parental Rejection was entered into the equation [B=.360 t(10.62), $p < .001$] that explained 12.9% of the variance [F= 112.81, $p < .001$]. In step 2, total score of Anxious Rearing was entered into the equation (B=.222 t(6.44) $p < .001$) and this increased the explained variance to 17.5% [F = 80.141 $p < .01$] which refer to separate proportion of parenting styles in the variance of anxiety symptoms. Only 2 types of parenting styles namely rejection and anxious rearing were found as significant predictors and had 17.2 % unique contribution in adolescent anxiety symptom.

4.7.3 Contributions of Insecure Attachment Styles in prediction of Anxiety

In order to determine the contribution of each type of insecure attachment separately and together as predictors have a significant impact on anxiety in adolescents, two step regression analyses were conducted.

Table 4.18 Regression Analysis predicting anxiety from insecure attachment style

Model	Beta	Std. Er	t	F	P
Avoidance 1	.390	.731	11.66	136.26	.000
152.=R ²					
ΔR ² =.151					
2					
Avoidance	.346	.731	10.35	89.78	.000
Ambivalent	.203	.350	6.07		.000
191.=R ²					
ΔR ² =.189					

a. Dependent Variable: Total score of Anxiety Scale

Table 4.18 displays the results of the regression analysis with avoidance and ambivalent insecure attachment were the predictors and total score of SCAS (anxiety symptoms) as the dependent variable. In the first step, avoidance insecure attachment was entered into the equation [B= .390, t=11.66, p < .001] and this explained 15.1% of the variance (F= 136.26, p < .001). Then, in the step 2, ambivalent insecure attachment was entered into the equation (B=.203 t (6.07) p < .001) and this increased the explained variance to 18.9% [F = 89.78 p < .01] which indicated that while avoidance insecure attachment can explain 15.2% of total variance of anxiety, ambivalent attachment style explained 3.9% of it. This means avoidance as a predictor of anxiety was 3 times more powerful than ambivalent attachment style on predicting anxiety symptoms in adolescents.

4.7.4 Contributions of all predictor variables on Anxiety

In examining the independent and combined contributions of each predictor variables including; insecure attachment, parenting and maladaptive cognitive schemas separately and together on anxiety in adolescents, stepwise regression analyses were performed.

Table 4.19 Regression analyses predicting anxiety from insecure attachment, parenting styles and schema domains

Model	Beta	Std. Er	F	t	P
Step1					
Impaired Autonomy	.584	.114	393.27	19.83	.000
R ² = .341, ΔR ² = .340					
Step2					
Impaired Autonomy	.428	.147		11.18	.000
Overvigilance / Inhibition	.237	.161	225.44	6.19	.000
R ² = .373, ΔR ² = .371					
Step 3					
Impaired Autonomy	.404	.148		10.54	.000
Overvigilance /Inhibition	.225	.160		5.93	.000
Ambivalent attachment	.123	.309	159.37	4.18	.000
R ² = .387, ΔR ² = .385					
Step4					
Impaired Autonomy	.383	.149		9.90	.000
Overvigilance /Inhibition	.210	.160		5.54	.000
Ambivalent attachment	.117	.308		3.98	.000
Anxious Rearing	.097	.078	123.59	3.22	.001
R ² = .395, ΔR ² = .392					
Step 5					
Impaired Autonomy	.303	.171		6.82	.000
Overvigilance /Inhibition	.160	.170		3.96	.000
Ambivalent attachment	.102	.309		3.45	.001
Anxious Rearing	.108	.078		3.58	.000
Disconnection/ Rejection	.157	.158	102.97	3.58	.000
R ² =.405, ΔR ² = .402					
Step 6					
Impaired Autonomy	.296	.171		6.69	.000
Overvigilance /Inhibition	.134	.175		3.24	.001
Ambivalent attachment	.096	.309		3.26	.001
Anxious Rearing	.105	.078		3.47	.001
Disconnection/ Rejection	.143	.158		3.23	.001
Avoidance attachment	.081	.731	87.36	2.44	.015
R ² =.410, ΔR ² = .405					

Table 4.19 shows the main results of the regression analyses with schema domains, parenting and attachment styles as predictors and total score of anxiety scale (SCAS) as the dependent variable. As shown, there were six steps regression analysis that all significant variables were simultaneously entered into the equation and a stepwise regression analysis was carried out. Results revealed that cognitive variables such as Impaired Autonomy [B=.296 t(6.69), p < .001] and Overvigilance /Inhibition [B=.134

t(2.24), $p = .001$] schema domains were stronger predictors of anxiety compare to attachment and parenting variables. In addition, both Ambivalent [$B=.96$ t (3.26), $p < .001$] and Avoidance [$B=.081$ t (2.44), $p < .015$] insecure attachment and only one parenting style; Anxious Rearing [$B=.105$ t (3.47), $p = .001$] were significant predictors of anxiety in adolescents. Altogether, these predictors explained 41% of the total variance of anxiety ($F= 87.36$, $p < .001$) in this population (See Table 4.19).

Furthermore, same regression analyses were performed to examine which of the 18 EMSs in relations with other variables (attachment and parenting styles) were significant predictors of anxiety. Table 4.20 shows the final model of 11 steps of a stepwise hierarchal regression where all significant attachment, parenting and EMSs variables were simultaneously entered into the regression equation for predicting anxiety. As can be seen in Table 4.20, again cognitive variables, such as; Vulnerability to Harm or Illness, Abandonment and Pessimism/Worry EMSs demonstrated highest contribution on anxiety symptoms in adolescents which these three EMSs explained 42% of total variance of anxiety. In testing hypothesis 8, results indicated that both Avoidance and Ambivalent insecure attachment and five EMSs including; Vulnerability to Harm or Illness, Abandonment, Pessimism/Worry, Entitlement/Superiority, Insufficient Self-Control/Discipline, also two parenting styles; Rejection and low level of Parental Warmth were significant predictors of anxiety in adolescents. The overall regression was significant ($\Delta R^2 = .459$) which indicated 45.9% of total variance of anxiety was explained by these variables.

Table 4.20: The final model of regression analyses predicting anxiety from insecure attachment, parenting styles and EMSs

Model	Beta	Std. Er	F	T	P
Step11					
Vulnerability to Harm or Illness	.228	.098	72.55	6.31	.000
Abandonment	.249	.085		7.28	.000
Pessimism/Worry	.170	.103		4.57	.000
Avoidance attachment	.120	.680		3.88	.000
Ambivalent attachment	.068	.298		2.38	.018
Insufficient Self-Control	.100	.104		2.93	.003
Entitlement/Superiority	-.095	.104		-3.09	.002
Parental Warmth	.137	.076		4.38	.000
Rejection	.144	.086		4.33	.000
$R^2 = .465, \Delta R^2 = .459$					

4. 8 Mediating effects of Perceived Parenting Styles and EMSs

The main goal of this study was to test the hypothesis that certain EMS and perceived parenting style mediate the relations between insecure attachment and anxiety (hypothesis 9). The criteria for mediation according to Baron and Kenny (1986) are as follows:

- a. Independent variable must be significantly correlated with the dependent variable.
- b. Mediator variables must be significantly correlated with dependent as well as independent variables.

- c. When relation (b) is controlled the previously significant relationship (a) must no longer be significant or there is a significant reduction.

In order to test Hypothesis 9 and to examine the mediating effects of EMSs and perceived parenting styles on the relationship between insecure attachment styles and anxiety in adolescents, correlation and hierarchical regression analyses for independent variable (insecure attachment) and mediator variables (EMSs and parenting) were carried out.

Table 4.21: Correlations within schema domain and parenting style with insecure attachment

Over protection	Warmth	Rejection	Anxious rearing	Disconnect ion/rejecti	Impaired autonomy	Other-Directedness	Impaired limits	Overvigilance / Inhibition	Score of SCAS
.136**	-.168**	.249**	.213**	.429**	.392**	.315**	.299**	.390**	.388**
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
762	762	762	762	762	762	762	762	762	762

For the first analyses, Pearson correlations between independent, mediator and outcome variables were examined. Table 4.21 shows that all of 5 schema domains and 3 of 4 parenting styles were significantly and positively correlated ($p < .01$) with insecure attachment, but in warmth (Parenting Style) this relation was negative ($r = -.168$, $p < .01$) so warmth-parenting style had negative associated with insecure attachment. Thus, higher scores in parental warmth was associated with lower score on insecure attachment. Further, Total score of Anxiety Scale (SCAS) were significantly and positively correlated ($r = .388$, $p < .01$) with insecure attachment.

4.8.1 Direct effect of Insecure Attachment on Anxiety

In calculating the direct effect of insecure attachment as independent variable on anxiety, one step regression analysis was conducted.

Table 4.22 Regression Analysis predicting anxiety from insecure attachment style

Model	Beta	Std. Er	t	F	P
Insecure Attachment	.388	.292	11.59	134.31	.000

$$R^2=.150 \quad \Delta R^2=.149$$

a. Dependent Variable: Total score of Anxiety Scale

Table 4.22 displays the results of the regression analysis with insecure attachment was the predictor and total score of SCAS (anxiety symptoms) as the dependent variable. Result revealed the significant direct effect of insecure attachment [$B= .388$, $t=11.59$, $p < .001$] on anxiety which indicated that insecure attachment can explain 15% of total variance of anxiety.

4.8.2 Schema Domains and Parenting Styles in the predicting of Insecure Attachment

In order to examine the contributions of schema domains and parenting styles in the prediction of adolescents' insecure attachment, regression analyses were conducted. Table 4.23 shows the results of the regression analyses. Firstly, in step1 Disconnection/Rejection schema domain was entered into the equation [$B=.428$, $t=13.05$], $p < .001$] and 18.2% of the total variance of adolescents insecure attachment was explained by Disconnection/Rejection schema domain ($F= 170.38$). After that, in step 2, Over vigilance and Inhibition was entered into the equation ($B= .189$, $t=4.38$ & $p < .001$) and this increased the explained variance to 20.1%. In step 3, Impaired Autonomy & Performance was added and this slightly increased the explained variance [$B=.113$, $t=2.251$], $p < .05$] to 20.6%. In the fourth step, total score of Rejection(

Parenting Style) was added and this did not significantly increase the strength of predicting on insecure attachment ($p = .249$). Then in 5th step, this variable was removed and another independent variable, Parental Anxious Rearing was entered into the equation ($b = .087$, $t = 2.51$, $p < .005$) and this increased the explained variance to 21.1%. Since, after entering Anxious Rearing parenting style in the model, the Beta value of Impaired Autonomy schema domain decreased considerably, it seems that there was a combined contribution between these variables.

Final model revealed that two domains of schema (Over vigilance / Inhibition and Disconnection/ Rejection) and just one type of perceived parenting behaviors (anxious rearing) were predictors of insecure attachment accounted. Findings indicated that these three schema domains and parental anxious rearing behaviors explained 21.5% of total variance of insecure attachment in adolescents, that is adolescents who scored higher on these schema domains, and on parental anxious rearing behaviors tended to have more insecure attachment.

Table 4.23: Regression Analysis predicting Insecure Attachment from Schema Domains and parenting

Model	Beta	Std. Er	F	t	P
1 Step1					
Disconnection/ Rejection	.428	.013	170.38	13.05	.000
R ² = .183, ΔR ² = .182					
2 Step2					
Disconnection/ Rejection	.304	.018		7.06	.000
Overvigilance and Inhibition	.189	.021	96.82	4.38	.000
R ² = .203, ΔR ² = .201					
3 Step3					
Disconnection/ Rejection	.247	.020		4.94	.000
Overvigilance and Inhibition	.152	.022		3.31	.000
Impaired Autonomy/ Performance	.113	.022	66.58	2.25	.025
R ² = .209, ΔR ² = .206					
4 Step4					
Disconnection/ Rejection	.232	.021		4.52	.000
Overvigilance and Inhibition	.156	.022		3.40	.001
Impaired Autonomy/ Performance	.100	.023		1.94	.053
Rejection(Parenting Style)	.043	.011	50.29	1.15	.249
R ² = .210, ΔR ² = .206					
5 Step5					
Disconnection/ Rejection	.258	.020		5.16	.000
Overvigilance and Inhibition	.135	.022		2.91	.004
Impaired Autonomy	.087	.022		1.71	.088
Anxious Rearing	.087	.010	51.86	2.51	.012
R ² = .215, ΔR ² = .211					

4.8.3 Predicting Anxiety from Schema Domains and Parenting Styles

In order to examine the associated factors of schema domains, parenting style as predictors on anxiety, regression analyses were performed. Table 4.24 shows the main results of the regression analysis with schema domains and perceived parenting style as predictors and total score of SCAS scale (anxiety symptoms) as the dependent variable. As can be seen, in the first step, Impaired autonomy and performance was entered into the equation [$B=.584$, $t=19.83$], $p < .001$] which explained 34% of the anxiety variance [$F= 393.27$, $p < .001$]. After that, in the second step, Over vigilance and Inhibition was entered into the equation [$B= .237$, $t=6.19$], $p < .001$] and this increased the explained variance to 37.1% [$F= 225.44$, $p < .001$]. In step 3, Disconnection/ Rejection was added into the model and this increased the explained variance to 38.2% [$F= 157.52$, $p < .001$]. Last, in the fourth step, total score of Parental Anxious Rearing behaviors also added into the model and the strength of predicting on anxiety increased until 39.3% [$F=123.95$, $p < .001$].

Thus, these results revealed that three domains of schema (Impaired autonomy and performance, Disconnection /rejection, Over vigilance and Inhibition,) and only one parenting style (Parental Anxious Rearing behaviors) were significant predictors of anxiety. However, contrary to the hypotheses, Parental Rejection and Overprotection did not find significant contribution on predicting Anxiety in this population. These results suggested that those adolescents who scored higher in impaired autonomy and performance, disconnection /rejection, over vigilance and inhibition schema domains and scored higher on parental anxious rearing behaviors tended to have more anxiety symptoms. Figure 2 shows the direct and indirect effect of parenting style, three schema domains and insecure attachment on anxiety.

Table 4.24: Regression Analysis predicting anxiety from schema domains and parenting style

Model	Beta	Std. Er	F	t	P
1 Step1					
Impaired Autonomy	.584	.114	393.27	19.83	.000
R ² = .341, ΔR ² = .340					
2 Step2					
Impaired Autonomy	.428	.147		11.18	.000
Overvigilance and Inhibition	.237	.161	225.44	6.19	.000
R ² = .373, ΔR ² = .371					
3 Step3					
Impaired Autonomy	.344	.170		7.79	.000
Overvigilance and Inhibition	.184	.171		4.54	.000
Disconnection/ Rejection	.165	.158	157.52	3.74	.000
R ² = .384, ΔR ² = .382					
4 Step4					
Impaired Autonomy	.309	.172		6.93	.000
Overvigilance and Inhibition	.161	.171		3.97	.000
Disconnection/ Rejection	.179	.157		4.09	.000
Anxious Rearing	.116	.078	123.95	3.83	.000
R ² = .396, ΔR ² = .393					

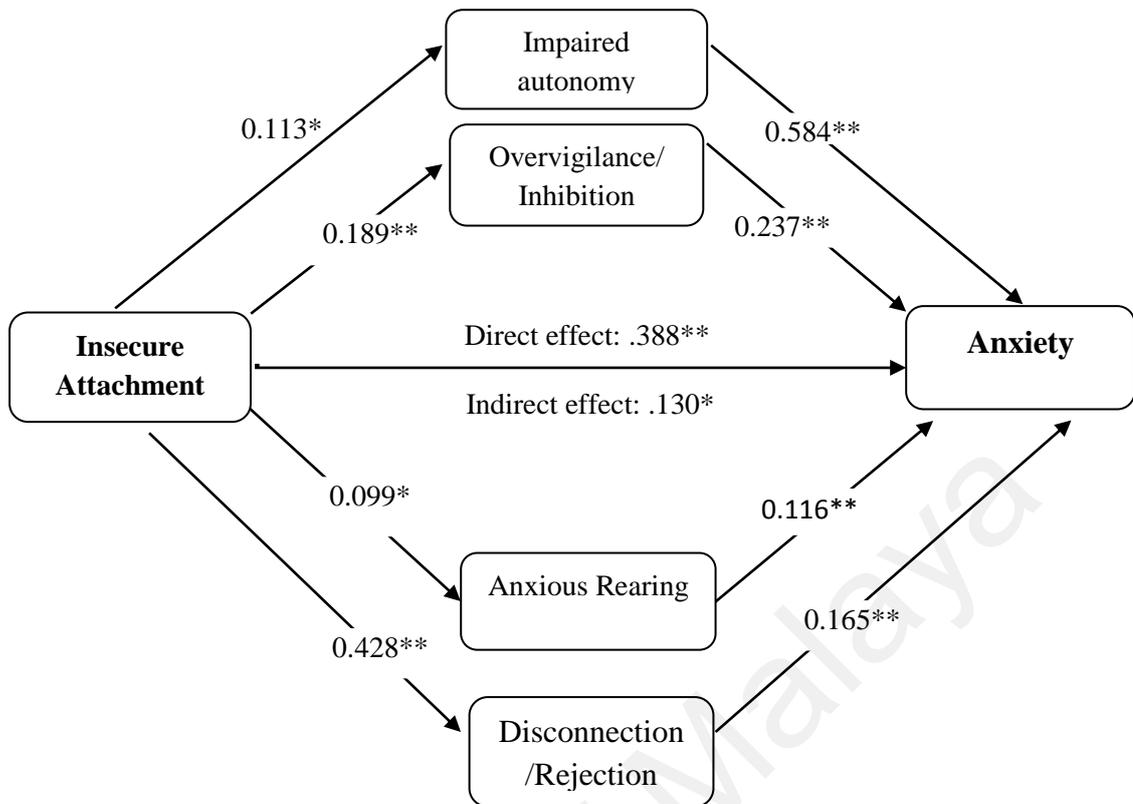


Figure 2: Summary Table based on regression analysis: Significant links between each step and their Beta scores

As described in the previous paragraphs, all preliminary criteria for mediation have been met. Anxious Rearing Parenting Styles also, Impaired autonomy and performance, Disconnection /rejection and Over vigilance and Inhibition were all identified as significant predictors of Insecure Attachment as well as Anxiety in the previous analyses. Thus, only these variables were considered as potential mediators between the insecure attachment and the anxiety. For the next set of mediation analyses; a two steps regression was conducted to investigate the mediating roles of these variables on the relations between insecure attachment and anxiety.

Table 4.25: Schema domains and Parenting Style as Mediators between Insecure Attachment and Anxiety

Model		Beta	Std. Er	F	T	P
1	Step 1					
	Impaired Autonomy	.309	.172		6.93	.000
	Disconnection/ Rejection	.179	.157		4.09	.000
	Overvigilance and Inhibition	.161	.171		3.97	.000
	Anxious Rearing	.116	.078	123.95	3.83	.000
	$R^2=.396, \Delta R^2=.393$					
2	Step 2					
	Impaired Autonomy	.298	.171		6.73	.000
	Disconnection/ Rejection	.146	.158		3.31	.001
	Overvigilance and Inhibition	.143	.170		3.55	.000
	Anxious Rearing	.105	.078		3.48	.001
	Insecure Attachment	.130	.276	104.66	4.12	.000
	$R^2=.409, \Delta R^2=.405$					

Excluded Variables

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance
1 Insecure Attachment	.130 ^b	4.124	.000	.148	.785

a. Dependent Variable: Total score of Anxiety Scale

b. Predictors in the Model: (Constant), Anxious rearing(Parenting Style), Disconnection/ Rejection, Overvigilance & Inhibition, Impaired autonomy and performance

The data from all mediation models is presented in Table 4. 25. The first regression model, in which all mediator variables; Anxious Rearing Parenting Style and the Impaired autonomy and performance, Disconnection /rejection and Over vigilance and Inhibition schema domains were entered into the model simultaneously that was

statistically significant [$\Delta R^2 = .393$, $F(123.95)$, $p < .01$]. In the second step, insecure attachment was added into the model as predictors of anxiety and it was no longer a significant predictor in this step, suggesting mediation. Further, results of regression analysis on step one revealed that the mediator variables explained 39.3% of total variance of anxiety and in the second step this proportion was 40.5%. This means the predictive ability of insecure attachment as independent for anxiety decreased to 1.3%. Whereas, predicting strength of insecure attachment alone for anxiety was found to be 15% (Table 4.22). Results also indicated that once the potential mediating effects of the schema domains and anxious rearing have been taken into account, insecure attachment no longer served as a significant predictor of anxiety. As a conclusion in examining hypothesis 9, anxious parenting style and 3 schema domains have a significant mediator role in the relationship between insecure attachment and anxiety in adolescents.

4.9 Cultural group differences on the measures of study

Hypothesis 10:

There are significant cultural group differences on measures of parenting, attachment styles, EMSs and anxiety in adolescents.

To explore the differences between the participants based on cultural group (hypothesis 10), a set of MANOVA analyses were conducted. To better comparison, the sample was divided into four categories including; Malaysian, Arab, Indian and European/American. Participant from other nationalities ($n=29$) and mixed parentage adolescents ($n=35$) were put aside. Table 4.26 shows a summary of the scores on measures of study for Malaysian adolescents compared to adolescents from other cultural groups. As can be seen from Table 4.26, descriptive statistics shows that social phobia score was the most elevated symptoms in adolescents of all cultural groups.

Further, the result from multivariate tests of MANOVA revealed a statistically significant difference in the all measures of study for four samples with the exception for parental anxious rearing. While European/American adolescents reported the lowest level of anxiety on all subscales and symptoms, Malaysian adolescents reported the highest level of total anxiety score, avoidance attachment and all schema domains with exception of Overvigilance/ Inhibition as well as they reported lowest level of parental warmth compared to others.

More specifically, the results from the multivariate tests of MANOVA revealed a statistically significant difference in measures of anxiety scales based on adolescents' cultural context, [$F(21, 1381) = 8.99, p < .001; \text{Wilk's } \Lambda = 0.69$]. Bonferroni post hoc analyses revealed that there were significant differences between Malaysian, Arab and Indian with European/American participants on all subscales of anxiety. That is European/American adolescents significantly reported least anxiety in all subscales, in contrast Malaysian, Arab and Indian adolescents reported significantly higher level of all anxiety symptoms. Also, there were significant differences between Malaysian with Arab and Indian on the total score of SCAS. That is, Malaysian adolescents reported higher level of anxiety compared to Arab ($p=.031$), Indian ($p=.031$) and European/American adolescents ($p=.000$). There were no significant differences between Malaysian, Arab and Indian adolescents on none of anxiety subscales.

Table 4.26: Mean scores (SD) of anxiety symptoms, parental behaviors, attachment styles and schema domains and group comparisons by culture / country

Variables	Malaysian Mean (sd)	Arab Mean (sd)	Indian Mean (sd)	Europ./Ameri Mean (sd)	F
SCAS (Anxiety) :					
Separation Anxiety	1.41(.56)	1.47(.54)	1.45(.46)	.62(.49)	27.20**
Social Phobia	1.68(.52)	1.55(.47)	1.60(.50)	1.22(.67)	9.84**
Obsessive-Compulsive	1.57(.49)	1.49(.37)	1.59(.54)	.85(.80)	25.17**
Panic/Agoraphobia	1.27(.45)	1.30(.43)	1.30(.40)	.41(.50)	46.23**
Physical Injury Fears	1.54(.58)	1.48(.49)	1.63(.55)	.82(.57)	20.35**
Generalized Anxiety	1.58(.48)	1.46(.41)	1.57(.50)	1.05(.59)	15.93**
Total scores	39.94(14.48)	33.62(13.07)	34.41(11.47)	25.25(13.38)	16.28**
EMBU-C(Parenting):					
Over control	23.19(4.56)	25.20(4.88)	23.16(4.46)	22.82(5.03)	2.78*
Emotional Warmth	26.69(5.86)	31.15(5.10)	31.39(6.31)	31.00(7.03)	19.13**
Parental Rejection	18.78(5.57)	16.56(5.06)	16.27(5.78)	16.42(6.94)	5.85**
Anxious Rearing	27.33(5.63)	28.76(5.37)	26.34(6.33)	25.55(6.14)	2.52
ASQ (Attachment):					
Confidence/Secure	3.66 (.73)	3.89 (.90)	4.05 (.71)	4.21 (.73)	10.70**
Avoidance	3.46 (.65)	3.32 (.54)	3.35 (.85)	2.83 (.56)	12.02**
Ambivalent	3.74 (.70)	3.22 (.83)	3.59 (.80)	3.52 (.86)	7.41**
YSQ-S3 (Schema):					
Disconnection/Rejection	14.98 (3.93)	12.10 (3.35)	11.98 (3.22)	11.66 (4.78)	19.51**
Impaired Autonomy	15.14 (3.62)	12.66 (3.26)	11.60 (2.95)	10.84 (3.19)	31.69**
Other-Directedness	16.41 (3.37)	14.64 (3.51)	14.06 (2.48)	14.47 (4.07)	11.51**
Impaired limits	17.02 (3.76)	15.12 (3.90)	15.40 (4.26)	14.52 (4.04)	8.96**
Overvigilance/Inhibition	17.19 (3.35)	15.92 (3.35)	15.95 (2.94)	13.13 (3.46)	19.96**

**P<0.001

*P<0.05

Next, to examine the cultural differences on perceived parenting styles, MANOVA was conducted with different types of parenting styles as dependent variables. The result from multivariate tests of MANOVA revealed a statistically significant difference in parenting behaviors style based on adolescents' cultural

context, [$F(12, 1296) = 4.51, p < .0005$; Wilk's $\Lambda = 0.90$]. As shown in Table 4.26, there were significant group differences on all types of parenting styles with the exception of perceived parental anxious rearing. Post hoc analyses revealed that Malaysian adolescents significantly perceived their parents as less warmth compared to Arab ($p=.000$), Indian ($p=.000$) and European/American adolescents ($p=.003$). With regards to rejection scale, significant differences emerged between Malaysian adolescents with Indian adolescents ($p=.036$). Furthermore, Arab adolescents significantly rated their parents as more controlling compared to Malaysian adolescents ($p=.032$). However, no statistically significant differences were found between four cultural groups on parental anxious rearing subscale.

To examine the cultural group differences on attachment styles, MANOVA analyses were conducted. Since the test of homogeneity of variance on confidence and avoidance attachment score were not verified ($p < 0.05$), Tamhane post hoc analyses were performed. The result from multivariate tests of MANOVA revealed a statistically significant difference in attachment styles based on adolescents' cultural context, [$F(9, 1684) = 8.05, p < .001$; Wilk's $\Lambda = 0.90$]. Tamhane Post hoc analyses indicated that there were significant differences between Malaysian with Indian ($p=.007$) and European/American ($p=.000$) participants on Secure attachment score as well as European/American with Malaysian ($p=.000$), Arab ($p=.005$) and Indian ($p=.002$) on Avoidance attachment. On ambivalent attachment, there was found significant difference between Malaysian with Arab adolescents ($p=.002$). This indicates that Asian samples had significantly higher level of avoidance insecure attachment than European/American sample. In addition, Malaysian adolescents reported significantly lower level of secure attachment compare to Indian and European/American adolescents as well as higher level of ambivalent attachment compare to Arab participants.

To investigate the cultural group differences on maladaptive schema domains,

MANOVA analyses were performed. After that, Bonferroni post hoc analyses were conducted. Results in Table 4.26 revealed that Malaysian adolescents had higher level of maladaptive schemas in all 5 domains than other three cultural groups. The result from multivariate tests of MANOVA revealed a statistically significant difference in measures of schema domains based on adolescents' cultural context, [$F(15, 2076) = 8.61, p < .001$; Wilk's $\Lambda = 0.83$]. Bonferroni post hoc analyses indicated that there were significant differences between Malaysian with Arab, Indian and European/American participants on Disconnection/Rejection and Impaired Autonomy schema domains ($p=.000$). In addition, there were significant differences found between Malaysian adolescents with Arab ($p=.012$), Indian ($p=.000$) and European/American ($p=.004$) adolescents on Other-Directness schema domain. Also, significant difference was emerged between Malaysian with Arab ($p=.021$) and European/American ($p=.002$) on the score of Impaired Limits schema domain. Furthermore, European/American adolescents reported significantly lower level of Overvigilance/ Inhibition schema domain compare to Malaysian ($p=.000$), Arab ($p=.001$) and Indian ($p=.001$). However, there were no significant differences found between European/American, Arab and Indian adolescents on all the schema domains except for Overvigilance/ Inhibition schema domain.

To sum up, in comparison to the European/American adolescents, Malaysian, Arab and Indian adolescents (Asian samples) reported the higher level of anxiety symptoms on all subscales of anxiety whereas, Malaysian reported at the highest level of total anxiety symptoms score. Furthermore, Malaysian adolescents significantly rated their parents as less warmth compared to Arab, Indian and European/American as well as reported more parental rejection than Indian and less overprotective compared to Arab adolescents. With regards to attachment styles, Malaysian adolescents reported significantly lower level of secure attachment compare to Indian and

European/American adolescents as well as higher level of ambivalent attachment compare to Arab participants. Further, European/American adolescents showed significantly lower level of avoidance attachment compared to Malaysian, Arab and Indian (Asian samples).

The results of comparison between groups in terms of schema domains indicated that Malaysian adolescents had significantly higher level of maladaptive schemas related to Disconnection/ Rejection, Impaired Autonomy, Other-Directness and Impaired Limits domains compare to those from 3 other groups. Also, Asian samples (Malaysian, Arab and Indian adolescents) reported significantly higher level of Over vigilance/Inhibition schema domain than the European/American group.

4.9.1 Malaysian three Ethnic Groups differences on anxiety, attachment style, parenting and schema domains

To investigate the differences within three Malaysian ethnic groups, four sets of MANOVA were conducted with measures of anxiety, schema domains and different types of parenting and attachment styles as dependent variables. For these variance analyses, only significant results were reported.

Table 4.27 shows the Malaysian ethnic groups' differences on measures of study. The results from multivariate tests of MANOVA revealed statistically significant differences for anxiety scales [$F(14, 1114) = 4.62, p < .0005$; Wilk's $\Lambda = 0.89$], for parenting behaviors styles [$F(8, 1140) = 7.92, p < .0005$; Wilk's $\Lambda = 0.90$], as well as for attachment styles [$F(6, 1144) = 6.89, p < .0005$; Wilk's $\Lambda = 0.93$], and schema domains [$F(10, 1140) = 4.99, p < .0005$; Wilk's $\Lambda = 0.92$], based on adolescents' ethnicity context. As can be seen in Table 4.27, significant differences between Malaysian ethnic groups were emerged for social phobia, physical injury fears and total

score of anxiety measure (SCAS). Bonferroni post hoc analyses revealed that there were significant differences between Indian and Chinese adolescents on social phobia ($p=.030$), physical injury fears ($p=.033$) and total score of anxiety measure ($p=.001$) as well as between Indian and Malay adolescents on the total score of anxiety ($p=.000$).

Table 4.27 also shows that there were significant ethnic groups' differences on all types of attachment and parenting styles except parental rejection. Bonferroni post hoc analyses revealed statistically significant differences between Chinese and Indian groups on over control/protection ($p=.034$), emotional warmth ($p=.000$) as well as on secure attachment ($p=.000$) and ambivalent attachment style ($p=.000$). Further, there were significant differences between Malay and Indian groups on emotional warmth ($p=.001$) and anxious rearing ($p=.010$) parenting styles as well as on avoidance ($p=.001$) and ambivalent ($p=.000$) attachment styles.

Furthermore, MANOVA for comparisons between Malaysian ethnic groups on schema domains indicated significant differences on three schema domains including Disconnection/Rejection, Impaired Autonomy and performance and Over vigilance/Inhibition (Table 4.27).

Post hoc analyses demonstrated significant differences between Malay and Indian on Disconnection/Rejection ($p=.001$), Impaired Autonomy ($p=.000$) and Over vigilance/Inhibition ($p=.032$) schema domains. In addition, there were significant differences between Chinese with Indian adolescents on Disconnection/Rejection ($p=.007$) and Impaired Autonomy ($p=.000$) schema domains.

Table 4.27: Mean scores (SD) of anxiety symptoms, parenting style, attachment styles, schema domains and group comparisons between Malaysian ethnic groups.

Variables	Malaysian Ethnicities			f	p
	Malay Mean (sd)	Chinese Mean (sd)	Indian Mean (sd)		
SCAS (Anxiety) :					
Separation Anxiety	1.51(.59)	1.38(.52)	1.39(.60)	2.80	.062
Social Phobia	1.67(.51)	1.72(.52)	1.57(.52)	3.40*	.034
Obsessive-Compulsive	1.56(.49)	1.55(.47)	1.59(.53)	.259	.780
Panic/Agoraphobia	1.22(.43)	1.29(.45)	1.28(.47)	1.28	.279
Physical Injury Fears	1.54(.57)	1.58(.59)	1.42(.54)	3.26*	.039
Generalized Anxiety	1.60(.50)	1.59(.47)	1.55(.46)	.41	.662
Total scores	42.77(14.62)	40.49(14.54)	34.92(12.60)	9.71**	.000
EMBU-C(Parenting):					
Over control	23.61(4.67)	22.73(4.43)	24.01(4.71)	4.50*	.011
Emotional Warmth	26.53(5.61)	25.91(5.79)	29.19(5.76)	13.21**	.000
Parental Rejection	19.63(5.55)	18.62(5.48)	18.18(5.77)	2.38	.094
Anxious Rearing	28.38(5.39)	27.24(5.53)	26.26(6.04)	4.40*	.013
ASQ (Attachment):					
Confidence/Secure	3.67 (.69)	3.57 (.90)	3.88 (.84)	7.51**	.001
Avoidance	3.64 (.62)	3.43 (.63)	3.34 (.71)	7.93**	.000
Ambivalent	3.82 (.66)	3.80 (.69)	3.48 (.76)	9.64**	.000
YSQ-S3 (Schema):					
Disconnection/Rejection	15.28 (3.85)	15.27 (3.98)	13.74 (3.70)	6.75**	.001
Impaired Autonomy	15.65 (3.46)	15.40 (3.47)	13.74 (3.92)	10.60**	.000
Other-Directedness	16.69 (3.38)	16.29 (3.39)	16.41 (3.32)	.654	.520
Impaired limits	16.58 (3.79)	17.29 (3.77)	16.77 (3.65)	1.96	.142
Overvigilance/Inhibition	17.61 (3.37)	17.24 (3.33)	16.51 (3.31)	3.37*	.035

4.10 Summary

In sum, the results of this study revealed small to moderate positive correlations between insecure (both avoidance and ambivalent) attachment styles with all subscales of anxiety. Investigations of the relationship between parenting styles and anxiety demonstrated that perceived parental warmth negatively associated with lower anxiety and parental rejection, anxious rearing and control/over protection with higher anxiety. Further, small to moderate significant correlations between parenting and attachment styles were found. Higher positive associations were between perceived parental Warmth and Secure attachment as well as between parental Rejection and Avoidance attachment style. In addition, moderate to strong positive correlations between various anxiety symptoms and most EMSs were found. All five schema domains were significantly correlated with anxiety but, the highest correlations were for Impaired Autonomy, Disconnection and Rejection and Overvigilance & Inhibition schema domains. The correlations between perceived parenting styles and schema domains demonstrated that all of the maladaptive schema domains were positively associated with three negative parenting styles (Overprotection, Rejection and Anxious Rearing). The higher correlation were for parental Control/Overprotection and Impaired Autonomy schema domain, as well as between parental Rejection and Disconnection/Rejection, Impaired Autonomy schema domains and the highest correlation of Anxious Rearing was for Impaired Autonomy schema domain.

Results of the regression analyses revealed that both Avoidance and Ambivalent insecure attachment and six EMSs including; Pessimism/Worry, Entitlement/Superiority, Abandonment, Insufficient Self-Control/ Discipline, Vulnerability to Harm or Illness and two parenting styles; Anxious Rearing and Rejection were accounted as significant predictors of anxiety in adolescents. In addition, cognitive variables were

stronger predictors of anxiety compared to attachment and parenting variables. The mediation analysis showed that Abandonment, Vulnerability to Harm, Pessimism/Worry, Insufficient Self-Control, Entitlement and Enmeshment EMSs plus Rejection and Anxious Rearing Parenting Styles mediated the relations between insecure attachment and anxiety in adolescents.

In the examining the differences between the participants based on cultural context, the results from the multivariate tests of MANOVA revealed significant differences in the all measures of study for four samples with the exception for parental anxious rearing. While European/American adolescents significantly reported least anxiety in all subscales, in contrast Malaysian, Arab and Indian adolescents reported significantly higher level of all anxiety symptoms. Malaysian adolescents reported the highest level of total anxiety score, avoidance attachment and all schema domains with exception of Overvigilance/Inhibition as well as they reported least parental warmth and more parental rejection compare to Indian and less overprotective than Arab adolescents. With regards to attachment styles, Malaysian adolescents reported significantly lower level of secure attachment compare to Indian and European/American adolescents as well as higher level of ambivalent attachment compare to Arab participants. Further, European/American adolescents showed significantly lower level of avoidance attachment compare to Malaysian, Arab and Indian adolescents.

The results of comparison between groups in terms of schema domains indicated that Malaysian adolescents had significantly higher level of maladaptive schemas related to Disconnection/ Rejection, Impaired Autonomy, Other-Directness and Impaired Limits domains compare to those from 3 other groups. Also, Asian samples (Malaysian, Arab and Indian adolescents) reported significantly higher level of Over

vigilance/Inhibition schema domain than the European/American group.

Comparing the 3 Malaysian ethnic groups, Malay and Chinese adolescents showed higher symptoms of anxiety than Malaysian Indian adolescents. Further, Malaysians Chinese reported highest level of social phobia and physical injury fears. In contrast, Malaysians Indian reported least anxiety symptoms. In addition, Indian adolescents reported highest level of parental warmth while Chinese and Malay groups perceived less emotional warmth from their parents. Further, Malay adolescents reported significantly higher level of parental anxious rearing than Indian Malaysian adolescents. Also, adolescents with Chinese ethnicity perceived their parents less overprotective than Indian adolescents. With regards to Malaysian ethnic groups differences on schema domains, Malaysian adolescents with Indian ethnicity had lower level of maladaptive schemas related to Disconnection/ Rejection and Impaired Autonomy domains compared to those from Malay and Chinese as well as lower level of Over vigilance/Inhibition compare to Malay ethnic group.

Finally, gender differences were found on some measures of study. Girls reported higher anxiety symptoms, perceived more parental warm and scored higher on Ambivalent Attachment compared to boys. Boys perceived their father as more controlling and perceived higher levels of rejection by both mother and father compared to girls.

CHAPTER V:

DISCUSSION

University of Malaya

The present study was an attempt to examine the influences and the reciprocal connections of three set of variables including attachment style, parental behavior rearing and cognitive schemas on the development of anxiety. Importantly, this study examined the mediating role of early maladaptive schemas and parenting variables in the links between insecure attachment and anxiety symptoms in an adolescent sample. In addition, the study investigates the cultural differences in patterns of attachment and parenting styles, maladaptive schema domains as well as the level of anxiety symptoms across local Malaysian adolescents from three ethnic groups comparing to adolescents from Arab, Indian and European/American nationalities.

The results of this study indicate that insecure attachment (both avoidance and ambivalent) styles significantly correlated with all subscales of anxiety as well as particular early maladaptive schemas and parenting style do mediate the relations between insecure attachment and anxiety in the adolescent. In the following pages, the main findings of this study will be reviewed and discussed, noting where support was and was not garnered for each of the twelve hypotheses driving this research. These findings will be interpreted in the context of previous research in this field.

5.1. Relationship between Attachment Styles and Anxiety

The first objective of the present study was to determine the relation between insecure attachment and anxiety as well as to examine if particular attachment styles may serve as developmental antecedents to anxiety in adolescents. It was expected that insecure attachment is correlated with the higher score in anxiety scale. In particular, hypothesis 2 stated that the insecure ambivalent attachment is correlated with anxiety and would predict anxiety symptoms.

The result demonstrated that hypothesis 1 was supported. That is insecure attachment, either avoidance or ambivalent, significantly were correlated with all subscales of anxiety, indicating that higher levels of insecure attachment styles were associated with higher levels of various anxiety symptoms. In contrast, confidence-secure attachment negatively associated with anxiety indicating the higher score of secure attachment associated with the lower score of anxiety symptoms. These results are consistent with previous research establishing attachment insecurity as a significant and reliable predictor of psychopathology and in particular to anxiety (Brown & Whiteside, 2008; Colonnesi et al., 2011; Jinyao et al., 2012; Picardi et al., 2013; Trentini et al., 2015; Wang & Scalise, 2010). This finding was also in the line with several studies that have shown that children and adolescents who classify themselves as avoidant or ambivalently attached display higher levels of internalizing and externalizing problems than adolescents who classify themselves as securely attached (Brenning et al., 2012; Brumariu & Kerns, 2010; Muris et al., 2000a; Muris et al., 2003a; Nishikawa et al., 2010; Picardi et al., 2013; Trentini et al., 2015).

In addition, the association between insecure attachment and anxiety was in accordance with Bowlby's theoretical assumptions that children's anxiety can be the result of the uncertainty about the availability of the caregivers, which increases the risk of an insecure attachment style and operates as a vulnerability factor in the development of anxiety disorders (Cassidy & Berlin, 1994). Positive relationship between insecure attachment and anxiety, as discussed by Colonnesi et al., (2011), can also be attributed to some deficiencies of insecurely attached children for self-regulation, which is indicated low level of ego-resiliency and capacity of dealing with changing demands and negative emotions as well as less ability to establish and keep friendships, resolve social problems and consequently receive less support from peers or parents and

experience more rejections.

Regarding Hypothesis 2, although the findings indicated that both avoidance and ambivalent attachment styles correlated to anxiety, a stronger association was found for avoidance insecure attachment (i.e. for total anxiety score: $r=.390$ $p < .01$). In particular, regression analyzes revealed that while avoidance attachment can explain 15% of the total variance of anxiety, ambivalent attachment style explained only 3.9% of it. This means avoidance as a predictor of anxiety was approximately four times greater than ambivalent attachment style on predicting anxiety symptoms in adolescents. Thus, the higher correlation was found for avoidance attachment and hypothesis 2; the insecure ambivalent attachment was correlated with the higher score in anxiety scale, was partially supported. This result is concordance with some studies that revealed a significant relationship between avoidant attachment style and internalizing problems including anxiety (Bradley, 2000; Brenning et al., 2012; Manassis, 2001; Shamir-Essakow et al., 2005; Wang & Scalise, 2010). On the other hand, the insecure-ambivalent attachment was found to be related with anxiety during adolescence, similarly in many other studies (Bögels & Brechman-Toussaint, 2006; Brumariu & Kerns, 2010; Colonnese et al., 2011; Manassis, 2001).

Ambivalent-attached children are thought to experience an unpredictable and irregular responsiveness of the caregiver, which enhances the fear to be abandoned. As a result, ambivalent-attached children tend to develop a chronic vigilance, they are less autonomous, their exploration of the environment is limited, and they have more difficulty in emotion regulation when exposed to stressors, which may contribute to social and general anxiety. As Manassis (2001) and Bradley (2000) discussed that not only ambivalent but also avoidant attachment may be related to anxiety development. Whereas children with an ambivalent type of attachment may develop separation

anxiety because they are used to continuously ask for the caregivers' attention, children with an avoidant type of attachment, who are used to cope with being rejected, may develop both social phobia and separation anxiety. Mothers of avoidant children are consistently rejecting, particularly in times of distress, and respond preferentially to positive emotions, resulting in their children learning to mask negative feelings in order to ensure receiving care when distressed. As a result, avoidant adolescents suppress negative affect (particularly anxiety and anger), dismiss the importance of relationships (appearing to be highly self-reliant), use idealizing defenses, and are rated as more hostile than securely attached individuals.

5.2. Connections of Perceived Parenting Styles and Anxiety

Investigations of the relationship between parenting styles and anxiety demonstrated all types of perceived parental rearing behavior were correlated to anxiety. Based on the results of correlational analyses, hypothesis 3 was supported. Results revealed that parental rejection, overprotection, and anxious rearing style were positively related to most anxiety symptoms. Higher correlation coefficients were for Parental Rejection with total scores of Anxiety ($r=.360$, $p<.01$) and Generalized Anxiety ($r=.331$, $p<.01$) also, for Parental Anxious Rearing and total score of Anxiety ($r=.308$, $p<.01$) respectively. As expected, Perceived Parental Emotional Warmth was negatively related to all indices of anxiety symptoms with an exception for Separation Anxiety.

Altogether, investigations of the relationship between parenting and anxiety demonstrated perceived parental emotional warmth was associated with lower anxiety and parental rejection, anxious rearing and control/over protection with higher anxiety. These results are consistent with previous research linking parental rejection (Alonso et al., 2004; Brown & Whiteside, 2008; Moore, Whaley, & Sigman, 2004; Young et al., 2013), control/ overprotection and low warmth (Knappe et al., 2012; Laurin et al., 2015;

Nanda et al., 2012; Pereira et al., 2014; Vreeke et al., 2013) and anxious rearing (Brown & Whiteside, 2008; Muris et al., 2000b; Roelofs et al., 2006; Young et al., 2013) to adolescents' anxiety. However, regression analyses indicated that only Anxious Rearing and Rejection parenting styles were significant predictors of anxiety in adolescents. Along these lines, rejection and anxious rearing may effect adolescent's self-efficiency and leading to develop behavioral avoidance, lower self-confidence and consequently higher anxiety symptoms (Young et al., 2013). Both of these parenting practices conveyed a message to children that they are not in command of their environment and thus live in an unsafe and threatening world, resulting in increased anxiety (Varela. et al., 2013). In contrary with previous research (Bogels & van Melick, 2004; Hudson & Rapee, 2005; Knappe et al., 2012; Laurin et al., 2015; Muris et al., 2003b; Nanda et al., 2012; Pereira et al., 2014; Vreeke et al., 2013), over control/protective and emotional warmth (parental behavior rearing) were not predictive of anxiety symptoms. One explanation for the differences in results may be that our current samples were non-clinical sample and recruited from schools and the association between parental control and anxiety may look different for these children than for children who were diagnosed with anxiety disorders. Further, most of our sample was from Asian countries (92%) where children may interpret parental control and over protection as an expression of care, concern and parental love. Therefore, they do not expect the direct love and emotional warmth. Such a situation, when children experience control and over protective behaviors from their parents, this type of parenting may have less negative effect on them (Creveling, Varela, Weems, & Corey, 2010).

5.3. Association between Perceived Parenting Styles and Attachment Styles

Correlational analysis of attachment in relation to parenting demonstrated significant relationships between parenting and attachment styles, thus, reinforcing

Hypothesis 4. More specifically, there were significant positive correlations for Rejection parenting style to Avoidance ($r=.253$ $p<.01$) and Ambivalent ($r=.178$ $p<.01$) as well as significant negative correlation with Secure Attachment ($r= -.264$ $p<.01$). Further, Anxious Rearing correlated with Avoidance ($r=.213$ $p<.01$) and Ambivalent ($r=.154$ $p<.01$). These findings are consistent with previous studies (Barber et al., 2005; Brenning et al., 2012) that adolescents who rated high on insecure avoidance or ambivalent attachment perceived their parents as more rejecting and anxious rearing.

On the other hand, Parental Emotional Warmth were significantly and negatively associated with insecure attachment styles [Avoidance ($r= -.233$ $p<.01$) and Ambivalent ($r= -.090$ $p<.05$)] and it was positively correlated with Secure Attachment ($r=.375$ $p<.01$). Thus higher scores in parental Emotional Warmth was associated with lower scores in insecure attachment particularly avoidance attachment style. In addition, Emotional Warmth was significantly and positively associated with Secure Attachment Style. So the stronger the emotional warmth, the greater is the secure attachment. These findings are consistent with previous research demonstrating a link between parental rejection and lack of parental warmth and the development of avoidance attachment strategies (Karavasilis, Doyle, & Markiewicz, 2003; Sun et al., 2010).

One possible explanation for strong positive association between parental warmth and secure attachment as well as negative correlation with anxiety is that adolescents who experienced their caregiver as warm, accepting and sensitive to their needs are more likely to develop positive *internal working models* of their caregiver's availability and responsiveness (Bowlby, 1976) and thus more likely to be securely attached to their parents. Therefore, they express their concerns and seek comfort and guidance within attachment relationships and it may reduce risk for anxiety symptoms (Booth-LaForce & Oxford, 2008). Further, attachment strategies may develop in response to certain parenting behaviors and have reciprocal effects on the relationship.

5.4. Correlation and Regression analyses on Early Maladaptive Schemas and Anxiety

The findings of correlational analyses of 18 EMSs with anxiety scale (SCAS) supported Hypothesis 5 where moderate to strong positive significant correlations between various anxiety symptoms to most EMSs were found. The highest correlations were for total score of Anxiety with; Vulnerability to Harm ($r=.555$ $p<.01$), Abandonment ($r=.538$ $p<.01$), Pessimism /Worry ($r=.516$ $p<.01$), Subjugation ($r=.445$ $p<.01$), Incompetence/ Dependence ($r=.437$ $p<.01$), Defectiveness/Unlovability ($r=.431$ $p<.01$) and Failure to Achieve ($r=.423$ $p<.01$).

Consistent with previous research on adults (Camara & Calvete, 2012; González-Díez et al., 2015; Hawke & Provencher, 2013; McGinn et al., 2005; Pinto-Gouveia et al., 2006), and studies on adolescents (Calvete et al., 2013; Calvete et al., 2015; Cohen et al., 2015; Gallagher & Cartwright-Hatton, 2008; Orue et al., 2014; Van Vlierberghe et al., 2010), the findings indicated strong positive relations between early maladaptive schemas and adolescents' anxiety ($r=.600$, $p<.01$). The results of regression analyses of all EMSs with total score of anxiety also revealed that six out of 18 EMSs were significant predictors of anxiety in this population. These were Vulnerability to Harm, Abandonment, Pessimism/Worry, Insufficient Self-Control, Entitlement /Superiority and Enmeshment, together explained 42.8% of the variance in the total score of anxiety scale (SCAS).

Regarding with associations between schema domain and anxiety, the findings supported hypothesis 6, i.e. all five schema domains were significantly correlated with anxiety: Impaired Autonomy ($r=.584$ $p<.01$), Disconnection and Rejection ($r=.534$ $p<.01$) and Overvigilance & Inhibition ($r=.519$ $p<.01$) schema domains.

These results demonstrated that adolescents with anxiety problems are preoccupied with the idea that a catastrophe can happen any time and that they are unable to prevent this (Vulnerability to Harm/Illness and Pessimism /Worry). These cognitions are combined with the belief that others were not be available for emotional support(Abandonment) and one's own ability to exert sufficient self-control and frustration tolerance to achieve goals and restrain expression of emotions/impulses (negative association with Entitlement/Superiority and Insufficient Self-Control/ Discipline schemas). This finding demonstrates that several of Young's EMSs are useful indicators of anxiety symptoms in adolescents.

5.5. Correlation and Regression analyses on Parenting style and Schema Domains

Results of correlational analyses between parenting styles and schema domains confirmed Hypothesis 7. All of the maladaptive schema domains were significantly and positively associated with three negative parenting styles (Overprotection, Rejection and Anxious Rearing) but were negatively correlated with parental emotional warmth.

Parental Rejection was associated with Disconnection/ Rejection ($r=.476$ $p<.01$) and Impaired Autonomy ($r=.469$ $p<.01$) schema domains. Further, Anxious Rearing ($r=.338$ $p<.01$) and parental Control/Overprotection ($r=.281$ $p<.01$) were correlated with Impaired Autonomy schema domain. Thus, higher scores in three negative parenting styles were associated with higher scores in maladaptive schema domains, whereas for parental emotional warmth it was the reverse.

This result is concordance with some retrospective studies conducted in adult samples. Findings of these studies indicated that EMSs were strongly correlated with perceived parental malpractices (Crawford & Wright, 2007; Cukor & McGinn, 2006; Hawke & Provencher, 2013; McGinn et al., 2005; Thimm, 2010a; Wright et al., 2009).

Furthermore, in line with previous research (Thimm, 2010a) parental Emotional Warmth was negatively associated with all domains of schema particularly with Disconnection/Rejection schema domain ($r = -.401$ $p < .01$). Thus, higher scores in parental emotional warmth was associated with lower score of Disconnection/ Rejection schema domain as well as other domains of maladaptive schemas.

The findings with respect to significant relationships between parental behaviors style and schema domains are consistent with Young's schema theory that EMSs grouped within five domains are related to the unmet basic emotional needs and five developmental tasks that every child must successfully pass in order to be an emotionally healthy adult. A mismatch between parental rearing behaviors and these developmental needs of the child may be internalized to form specific maladaptive schema. For example, Young (1999) theorized that when children's needs for safety, stability, empathy, connection, and acceptance are not met in a predictable manner, schemas within Disconnection and Rejection domain will developed. He described their parents as often unstable, rejecting and cold. Consistent with this theory, we found a strong correlation between Disconnection and Rejection domain with high parental rejection and low parental warmth as well as parental overprotection and anxious rearing with Impaired Autonomy schema domain. As expected, this schema domain was associated with parental overprotection, enmeshed child- parent relationship leading to undermining of the child's confidence, failing to empower the child independent performance and feelings of incompetence (Young et al., 2003).

5.6. Prediction of Anxiety from Attachment, parenting Styles and EMSs

Another goal of the current study was to examine the influence of three set of variables including attachment, parenting and cognitive schemas on the development of anxiety. The findings revealed that cognitive variables such as maladaptive schemas within Impaired Autonomy and Overvigilance /Inhibition schema domains were stronger predictors of anxiety compared to attachment and parenting variables. Early Maladaptive Schemas such as Vulnerability to Harm or Illness, Abandonment and Pessimism/Worry EMSs demonstrated the highest contribution on anxiety symptoms in adolescents which these three EMSs explained 41.8% of the total variance of anxiety.

In addition, combined contributions of cognitive schemas, attachment and parenting style indicated that both Ambivalent and Avoidance insecure attachment, five EMSs including; Vulnerability to Harm or Illness, Abandonment, Pessimism/Worry, Entitlement/ Superiority, Insufficient Self-Control/Discipline, also two parenting style; Rejection and low level of Parental Warmth were significant predictors of anxiety in adolescents. The overall regression was significant ($\Delta R^2 = .459$) which indicated 45.9% of total variance of anxiety was explained by these variables. It seems to be consistent with the explanation of the development of anxiety in many of the models (Barlow, 2004; Vasey, 2001) that postulated suboptimal parenting, (generally, this has been defined as a parenting style characterized by low care or acceptance and high levels of rejection and overcontrol) leads to anxiety through the development of dysfunctional cognitive schema that are biased towards threat and negative outcomes, or insecure attachment and internal working models. For example, individuals with anxiety disorders may have a variety of maladaptive schemas and faulty cognitive processes such as viewing a neutral situation as dangerous (Vulnerability to Harm or Illness, Abandonment and Pessimism/Worry) or misevaluating one's ability to cope (low level of Entitlement/Superiority and high level of Insufficient Self-Control/Discipline schema

score) which is rooted in childhood experiences (parental rejection and low emotional warmth) and insecure attachment relationship with parents.

In summary, consistent with schema therapy theoretical considerations (Young et al., 2003), maladaptive schemas such as Vulnerability to Harm or Illness, Abandonment, Pessimism/Worry, Entitlement/Superiority, Insufficient Self-Control/Discipline, which are originated from early childhood experiences due to insecure attachment and high level of parental rejection as well as low level of emotional warmth, can be considered as a core feature of anxiety disorders particularly in children and adolescents.

5.7. Mediating effects of Perceived Parenting Styles and EMSs

The main objective of this research was to determine if specific EMSs and parenting behaviors style mediate the relations between insecure attachment and anxiety symptomatology. Consistent with the hypothesis, results of this study demonstrated certain negative schemas (EMSs) and two types of parenting behaviors do mediate the relation between insecure attachment and anxiety symptoms.

The mediation analysis showed that Anxious Rearing Parenting Style and the schemas within Impaired Autonomy and Performance, Disconnection/Rejection and Overvigilance and Inhibition domains mediated the relation between insecure attachment and anxiety in adolescents. Further, the results of regression analysis revealed that 39.3% of the total variance of anxiety was explained by these three schema domains and anxious rearing parenting style as mediating variables. The predicting strength of the insecure attachment for anxiety was found 19.1% while having taken into account the parenting style and schema domains (which is mentioned above) it showed a significant decrease as a predictor of anxiety which was 1.1%. This demonstrated mediation effects of EMSs and parenting.

This suggests that relation between the mediator variables and anxiety is substantially due to the effect of insecure attachment. One explanation of the results is that insecure attachment was associated with anxiety when the former was perpetuated by parental anxious rearing behaviors that lead to the development of negative schemas having themes of loss of independence and impending threat or danger. The nature of this pattern needs to be established in future research.

5.8. Gender Differences on the measures of study

In this study of adolescents, girls were significantly more anxious than boys. This is consistent with the research on adolescent anxiety symptomology (Aune & Stiles, 2009; Hale III. et al., 2008; Leikanger et al., 2012; Yen et al., 2010). Although, boys scored higher than girls on Separation Anxiety and Panic/Agoraphobia but the differences were not statistically significant.

Girls scored significantly higher than boys on Social Phobia and Physical Injury Fears subscales. Some have explained this difference in terms of girls' increasingly negative self-image during adolescence compared to boys whose self-image remains positive (Vulic'-Prtoric & Macuka, 2006). In addition, showing the higher level of anxiety particularly social anxiety in girls may indicate that girls tend to be more concerned with close relationships. They may be more concern about rejection by the world beyond the school and existing peer groups (Güngör & Bornstein, 2010).

Moreover, consistent with the results from the previous studies (Güngör & Bornstein, 2010; Sun et al., 2010), female adolescents scored higher anxious (ambivalent) attachment than male adolescents. It can be attributed to gender differences in socialization indicating that girls tended to be more concerned with the close relationship.

Gender differences were also found in perceived parenting behavior styles. Girls perceived their mother and father as more emotionally warm compared to boys. Boys perceived their father as more controlling and overprotective compared to girls, and they also perceived higher levels of rejection by both parents. This is consistent with the results presented by Vulic´-Prtoric and Macuka (2006) that conducted a research on the family factors and internalizing problems in a sample of adolescents ranging in age 10-16 years.

5.9. Cultural Differences on the measures of study

Limited empirical studies have examined anxiety symptoms and its potential predictors such as insecure attachment and parenting behavior styles and schema domains across Asian countries. The current study was also an attempt to explore similarities and differences on anxiety scales score, schema domain, attachment and perceived parenting styles in adolescents across different cultural contexts, such as Malaysian, Indian, Arab and European/American.

Investigation of entire sample demonstrated that social phobia score was the most elevated symptoms in adolescents across all studied samples. It is concordant with previous studies (Mancini, Van Ameringen, Bennett, Patterson, & Watson, 2005), that social anxiety symptoms increased in adolescence period. It may be attributed to developmental characteristics of this age period leading to considerable changes in the social world of an adolescent. They tend to be emotionally separated from their parents and become more peer focused than before. As a consequence, the uncertainty of the future and fear of rejection by the world beyond school and existing peer groups may rise in adolescents, leading to social anxiety.

Investigation across the four countries revealed that there were considerable differences between Asian (Malaysian, Arab and Indian) samples and

European/American sample on almost all scales of anxiety. In contrast to previous studies (Essau et al., 2011; Hofmann et al., 2010), results demonstrated that all subscales of anxiety were significantly elevated for Asian adolescents with the higher scores of separation anxiety, panic/agoraphobia, Obsessive Compulsive and physical injury fears. Concordant with the high prevalence of significant anxiety symptoms among Malaysian university students in Gan and colleagues' study (2011), Malaysian adolescents reported higher anxiety (total score of SCAS) compared to Arab, Indian and European/American groups. Whereas, on anxiety subscales, no significant differences were found within Asian samples (Malaysian, Arab and Indian).

With regards to differences on perceived parenting behaviors across samples; consistent with the highest level of anxiety among Malaysian adolescents, they reported their parents at the lowest level of emotional warmth as well as at higher level of rejection comparing to Indian. Arab adolescents reported relatively the highest level of parental over-control and anxious rearing and perceived significantly higher emotional warmth compared to Malaysian sample. Parental emotional warmth may neutralize the negative effect of high parental control on Arab adolescents. That was why they obtained lower total anxiety score compared to Malaysian adolescents. Indian adolescents significantly perceived more parental warmth compared to Malaysian adolescents and reported the lowest level of rejection. As expected, European/American adolescents rated their parents at the lowest level of over controlling. It is consistent with previous researches conducted in western samples (Varela. et al., 2013). In terms of parental anxious rearing behaviors, there were no statistically significant differences between the four cultural groups.

One possible explanation for the elevation of all anxiety symptoms in Asian sample might be due to the negative parenting behaviors such as greater rejection, over controlling and less expressing directly emotional warmth (similar to authoritarian

parenting) by Asian parents (Jambunathan & Counselman, 2002; Keshavarz & Baharudin, 2009; Rudy & Grusec, 2006; Varela. et al., 2004; Xu et al., 2005) as well as more emphasize in Asian cultures on conformity, social harmony and the consequent importance of inhibition or suppressing strong emotions (You & Malley-Morrison, 2000) could lead to more risk for internalizing disorders including anxiety.

Further, Malaysian adolescents reported significantly lower level of secure attachment compared to Indian and European/American adolescents as well as higher level of ambivalent attachment compared to Arab participants. These findings with respect to differences on parental behavior styles across cultural context from the current study are consistent with the attachment theory that parental care, warmth, sensitivity and availability are related to children's attachment security.

Compared to Asian samples (Malaysian, Arab and Indian), European/American adolescents showed significantly lower level of avoidance attachment. This concurred with Kim and Zane (2004) study who found that Korean-Americans were more avoidant than their European-American counterparts as well as the result of study conducted by Güngör and Bornstein (2010) that reported Turks' adolescents rated themselves as more avoidant than did Belgians. As some researchers have asserted, one of the possible reasons for this association is the higher rates of punitive emotion socialization (i.e., parents responding punitively to their children's emotions), that leads to more avoidance among children (Bakermans-Kranenburg et al., 2004).

The results of comparison between cultural groups in terms of schema domains indicated that Malaysian adolescents had significantly higher level of maladaptive schemas related to Disconnection/ Rejection, Impaired Autonomy, Other-Directness and Impaired Limits domains compared to those from 3 other groups. This concurred with the other results of current study that Malaysian adolescents scored significantly lower level of secure attachment and perceived less emotional warmth as well as more

rejection and reported anxiety symptoms at the highest level. Also, it is in concordance with the Young's theoretical assumption that the schema domain of Disconnection/Rejection related to the expectation that one's need for security, safety, empathy, acceptance and respect, will not be met. Peoples with schemas in this domain are unable to form secure and satisfying attachments to others. The typical family of origin is assumed as unstable (abandonment), cold (emotional deprivation), and rejecting (defectiveness/shame) or isolated from the outside world (social isolation/ alienation). Further, the individuals who have schemas from Impaired Autonomy and Performance domain assumed to have expectations about oneself and the environment that interfere with one's perceived ability to separate, survive, function independently or perform successfully. The typical family of origin is enmeshed, undermining of the child's confidence, overprotective or failing to reinforce the child for performing competently outside the family.

In addition, Asian samples (Malaysian, Arab and Indian adolescents) reported significantly higher level of Overvigilance/Inhibition schema domain than European/American group. With respect to higher anxiety level of Asian samples compared to European/American group from the current study as well as the strong correlation between schemas Vulnerability to Harm/Illness and the schemas of the Overvigilance/Inhibition domain with anxiety from the previous study (Van Vlierberghe et al., 2010), the higher level of Over vigilance/ Inhibition schema domain is expected in Asian samples.

5. 10 Malaysian three Ethnic Groups differences on the measures of study

Results also suggest some differences between Malaysian three ethnic groups on measures of study. The main differences between Malaysian ethnic groups were found for the total score of anxiety scale (SCAS). Although Malays scored the highest level of

anxiety, both Malay and Chinese adolescents demonstrated significantly higher symptoms of anxiety than Malaysian Indian adolescents. Further, Chinese adolescents reported highest level of the social phobia and physical injury fears. In contrast, Indian adolescents reported lowest level of social phobia, physical injury fears and total score of anxiety.

Further, significant ethnic groups' differences were shown in all types of attachment and parenting styles except for parental rejection. Whereas Chinese adolescents perceived their parents with least emotional warmth, both Malay and Chinese adolescents significantly perceived less parental warmth compared to Indian adolescents. This confirmed the results presented by Xu et al. (2005) that Chinese parents expressed less emotional warmth or expressed in implicit fashion. Further, Malay adolescents also reported more rejection and anxious upbringing than Indian adolescents. Malay parents were more likely to encourage anxious cognitions and avoidance behaviors in their children (anxious rearing) as well less accepting of their children's ideas, displayed less warmth, and more judgmental and critical (low parental warmth and high rejection) compared to Indian parents. Furthermore, Indian adolescents scored highest on parental over control/protection and emotional warmth. This finding indicated that in comparison with Chinese and Malay parents, Indian parents were more likely to be simultaneously overprotective and obsessed about the safety of their children and displaying emotional warmth and intimacy more directly.

With regards to the least anxiety symptoms and high parental warmth reported by Malaysian Indian, it was predicted that Malaysian Indian significantly scored the highest level of secure and the lowest level of ambivalent attachment style. As predicted, and in line with the relationship between parental rejection and avoidance attachment, Malay adolescents significantly reported higher avoidance attachment than Malaysian Indian adolescents.

With regards to Malaysian ethnic groups differences on schema domains, Malaysian adolescents with Indian ethnicity had lower level of maladaptive schemas related to Disconnection/ Rejection and Impaired Autonomy domains compare to those from Malay and Chinese as well as lower level of Over vigilance/Inhibition compared to Malay ethnic group.

In line with schema theory and empirical evidence (McGinn et al., 2005) individuals who regarded their parents as low warmth and uncaring (like Malay and Chinese adolescents) had higher levels of maladaptive schema in the Disconnection/Rejection Domain, implying that such individual need for acceptance, understanding and connection(emotional ties) may not be met in a predictable manner. They are more likely to have cognitive styles characterized by abandonment, defectiveness, emotional deprivation, and social isolation. In addition, Malay and Chinese adolescents who have higher level of schema form Impaired Autonomy domain are less likely to have a sense of autonomy and function independently. They may exaggeratedly afraid to face emotional or external catastrophes that cannot be prevented as they may not be able to cope with them efficiently. Furthermore, Malay adolescents scored the highest level of schemas related to Overvigilance/Inhibition domain. This domain comprises schemas related to an excessive emphasis on suppressing one's spontaneous feelings, impulses, and choices or on meeting up to rigid, internalized rules and expectations about performance and ethical behaviours, often at the expenses of happiness, self-expression and relaxation or health. The typical family of origin is grim, demanding, and sometimes punitive (Pinto-Gouveia et al., 2006). The theoretical schemas in this domain are negativity/pessimism, emotional inhibition, unrelenting standards/hypercriticalness and punitiveness.

CHAPTER SIX:

CONCLUSIONS

University of Malaya

6.1 Conclusions

The results of current study add to the existing literature on adolescent psychology. Firstly, investigations on the relationship between insecure attachment and anxiety suggest that adolescents with insecure avoidance attachment were at greater risk for heightened levels of anxiety. Secondly, investigations on the relationship between parenting and anxiety demonstrated that adolescents who perceived higher levels of parental rejection and anxious rearing reported more worries. That is parental anxious rearing characterized by the explicit encouragement of anxious cognitions and avoidance behaviors and parental rejection marked by the cold, aggressive, critical, judgmental and punitive patterns of parenting behaviors, were associated with increased anxiety. Thus, although parents of anxious adolescents may express less emotional warmth and engage in over control/protection parenting, the results suggest that anxious rearing and rejection were strongly associated with anxiety in adolescents. This finding supports previous research suggesting that parental criticism and negativity (i.e., rejection and anxious rearing) may play a more salient role in the development of anxiety disorders in children (Brown & Whiteside, 2008; Muris et al., 2003b; Young et al., 2013).

Thirdly, analyses on attachment in relation to parenting suggest that adolescents who rated high on insecure avoidance attachment perceived their parents as more rejecting, anxious rearing and perceived less parental warmth. Attachment strategies may develop in response to certain parenting behaviors and have reciprocal effects on the relationship. These findings remind researchers and practitioners about the continued importance of negative parenting behaviors style on development or maintenance of anxiety as well as on the development of insecure attachment in

adolescents and the necessity of preventive and intervention programs such as family education program for improving parent-child/adolescents relationship.

Subsequently, the salient aspect about the results of this study is the strong association between early maladaptive schemas and higher levels of anxiety in adolescents. The EMSs of Vulnerability to Harm, Abandonment, Pessimism/Worry, Insufficient Self-Control, Entitlement/Superiority and Enmeshment were significant predictors in the regression analyses and had the largest independent effect in the variation of the anxiety score. These findings are consistent with theoretical (Beck, Brown, Gary, Steer, Eidelson, Riskind, 1987; Young et al., 2003) and empirical literature (Calvete et al., 2014; Cassidy et al., 2009; Shorey et al., 2015), suggesting individuals with anxiety disorders have a variety of cognitive distortions which lead to unrealistic perceptions of physical and/or psychological danger (Vulnerability to Harm). These individuals view the world as a dangerous place, overestimating the probability and severity of feared events (Pessimism/Worry) and underestimating their own coping resources (Insufficient Self-Control, Entitlement/Superiority and Enmeshment). This finding demonstrates that some certain EMSs (e.g. Vulnerability to Harm, Abandonment, Pessimism/Worry schemas) are useful indicators of anxiety symptoms in adolescent. It can have useful implication on the treatment of anxiety in adolescents which it might focus more on these specific EMSs in cognitive behavioral therapy.

The findings also suggest that negative parenting behaviors characterized by rejection, anxious rearing and overprotection contribute to the development of maladaptive cognitive schemas. The strong relationship between Disconnection and Rejection domain were found with high parental rejection and low parental warmth as well as parental overprotection and anxious rearing with Impaired Autonomy schema domain. These findings support the Young's schema theory assumptions that when parents are often unstable, rejecting and cold and children's needs for safety, stability,

empathy, connection and acceptance were not met in a predictable manner, schemas within Disconnection and Rejection domain will be developed. Further, it was assumed that Impaired Autonomy schema domain is associated with parental overprotection, enmeshed child-parent relationship leading to the undermining of the child's confidence, failing to empower the child independent performance and feelings of incompetence. This study supports the specificity hypothesis, indicating specific cognitive vulnerabilities may stem from particular forms of attachment and parenting style.

In addition, the results of the regression analyses of three set of variables including attachment, parenting and cognitive schemas suggest the importance of the EMSs in the experience of anxiety. Overall, the results support a range of both direct and indirect relationships between dimensions of parenting, attachment, and maladaptive schemas to anxiety symptoms in adolescents. Based on the results of this study, maladaptive schemas such as Vulnerability to Harm or Illness, Abandonment, Pessimism/Worry, Entitlement/Superiority, Insufficient Self-Control/Discipline, which are originated from early childhood experiences due to insecure attachment and high level of parental rejection as well as low level of emotional warmth, can be considered as a core feature of anxiety disorders particularly in children and adolescents. These results have important implications for the clinical assessment and treatment of anxiety, suggesting that the assessing of the attachment pattern, parental behaviors memories related to establishing specific EMSs are the important part of the evaluation. It could provide useful information about the core beliefs associated with anxiety and specific therapeutic approach for the maladaptive schemas with the use of schema-focused therapy.

The findings of the mediation analyses showed that Anxious Rearing Parenting Style and the schemas within Impaired Autonomy and Performance,

Disconnection/Rejection and Over vigilance and Inhibition domains mediated the relationship between insecure attachment and anxiety in adolescents. This finding suggests that relation between the mediator variables and anxiety was due to the effect of insecure attachment. Indeed, insecure attachment styles serve as a vulnerability factor in the development of anxiety symptoms. Insecure attachments may be perpetuated by parental anxious rearing behaviors that lead to the development of negative schemas with themes of loss of independence and impending threat or danger. This finding aids understanding of why parent-child attachment relationship is important in the development of early maladaptive schemas as well as anxiety. It also provides preliminary empirical support for Young's schema theory and the theoretical models of anxiety (Gallagher & Cartwright-Hatton, 2008) posited that the relationship between insecure attachment and anxiety is explained by adverse parenting behaviors and maladaptive cognitive schemas. Consequently, fostering the development of secure attachment in prevention and intervention programs may, ultimately, prevent the onset and maintenance of anxiety disorders.

Further, gender differences were observed in self-reported attachment style, anxiety scale and perceived parenting behaviors. The results suggest that girls were at greater risk for ambivalent insecure attachment and social anxiety symptoms. Moreover, girls perceived their mother and father as more emotionally warm while boys perceived their father as more controlling and overprotective as well as higher levels of rejection by both mother and father. This finding suggests that girls were more sensitive about the parental warmth cue and boys were more alert about the paternal control and parents' rejection cues.

Cultural differences also play a role in anxiety. Across the four countries revealed that there were considerable differences between Asian (Malaysian, Arab and Indian) samples and European/American sample on almost all measures of study.

Results showed that all subscales of anxiety were significantly elevated for Asian adolescents. Malaysian adolescents reported a high level of anxiety as well as rated their parents as less warmth and reported more parental rejection. Arab adolescents reported relatively high level of parental over control and anxious rearing. In contrast, European/American adolescents scored the lowest anxiety symptoms as well as rated their parents at the lowest level of over controlling. Further, Asian adolescents (Malaysian, Arab and Indian samples), showed significantly higher level of avoidance insecure attachment than European/American adolescents, suggesting that Asian parents may respond punitively to their children's emotions or suppressing their strong emotions. Furthermore, Malaysian adolescents reported significantly lower level of secure attachment compared to Indian and European/American adolescents as well as higher level of ambivalent attachment compare to Arab participants.

Asian samples (Malaysian, Arab and Indian adolescents) reported significantly higher level of Overvigilance/Inhibition schema domain than European/American group. Malaysian adolescents had also significantly higher level of maladaptive schemas related to Disconnection/ Rejection, Impaired Autonomy, Other-Directness and Impaired Limits domains compared to those from 3 other groups. This finding is consistent with the other results of the current study that Malaysian adolescents scored significantly lower level of secure attachment and perceived less emotional warmth as well as more rejection and reported anxiety symptoms at the highest level.

Findings of the current study on cross-cultural differences provide evidence for the notion that patterns of parenting factors and measures of anxiety were highly different across cultural contexts, particularly suggesting that Asian parents utilize greater rejection, anxious rearing and expressing less emotional warmth than western parents. As a result, it seems that adolescents of Asian countries and more specifically Malaysian adolescents are at greater risk for anxiety disorders through exposure to more

adverse parenting, insecure avoidance attachment and consequently more maladaptive schemas. The results also suggest some differences between Malaysian three ethnic groups on measures of study. Malay and Chinese adolescents showed the higher level of anxiety symptoms than Indian. On the other hand, Malay and Chinese adolescents perceived less parental warmth and Malay adolescents reported more rejection and anxious rearing than Indian adolescents.

These findings support the notion that despite the rapid urbanization and economy in the past 20 years, mental health in Malaysia as a profession remains undeveloped due to the lack of interest and proper policies for establishing mental health promotion programs (Ng et al., 2005); and therefore, room exists for new mental health, parental training and life skills training programs as well as research development, and other pioneering work.

In addition, findings regarding cultural groups' differences within Malaysian cultural groups suggest further investigation for exploring precisely which aspects of Malaysian upbringing and cultural value system are related to negative parenting style, maladaptive schemas and anxiety across Malaysia ethnic groups. However, the results of this study can be a foundation for future studies by providing an understanding of how parenting factors influences adolescents' anxieties cross-culturally. Likewise, the findings inform researchers and practitioners about the importance of cultural influences in the understanding psychopathology features (as pointed in DSM-5) of anxiety in adolescents as well as the use of culturally sensitive intervention strategies.

6.2: Limitations and Suggestions for Future Research

The results of the current study offer important insights about the relationship between parenting, attachment and early maladaptive schemas in the development of anxiety in Malaysian adolescents. However, there are also specific aspects of study's

design and sample that could potentially limit the generalizability and validity of conclusions. In the following discussion, these limitations will be considered and offer some suggestions for future research.

Firstly, the proportions of cultural groups were not equal and sufficient thus limiting the generalizability and validity of our conclusions. Secondly, the specific population under study was not representative of Malaysian national culture. The Malaysian sample included adolescents who study at private and international secondary school located in Klang Valley and thus not representative of the Malaysian adolescents and their families. The participants of the current study were mainly from the middle/upper socio-economic classes, thus, not generalizable to the Malaysian adolescents and their families.

Thirdly, this is a cross-sectional self-report study which may limit the use of data to answer the research question. Although, self-report can be inaccurate, unrealistic and misleading but in many situations (e.g., reporting negative parenting behaviors) adolescents may provide more objective information than their parents. Moreover, when the subjective and emotional experiences of the participants are of primary interest (that are not open to observation by others such as peers, parents or teachers); using self-report questionnaire can be the most meaningful method (Charach et al., 2014; Fredricks and McColskey, 2012). However, participants could have faked responses on the questionnaires to appear socially desirable. That seems unlikely since a lot of care was taken to get true responses, as far as the quality of data collection is concerned. For example; it was made known to them that they were not forced to participate in the research. In addition, the purpose of the study and aspects of confidentiality were outlined. It was emphasized that nobody can access their responses except researcher and they were assured about the confidentiality of their identity and in the overall study.

Fourthly, current investigation was related to the influence of insecure attachment, perceived parenting and EMSs on anxiety symptoms in general. However, different types of anxiety disorders should be investigated separately for a better understanding of the possible risk factors. In addition, the sample consisted exclusively of adolescents in schools, not a clinical sample. Thus, studies comparing the non-clinical group to clinical groups can emphasize the roles of schema variables and other psychological resources on the psychopathology with a stronger discriminative power. Also, the contribution and combination of risk factors may be not the same as the psychiatric diagnosis of anxiety disorders. Moreover, the use of clinical samples would allow examining whether the principles of Schema Therapy combined with family intervention is beneficial for the treatment of anxious adolescents. In particular, the results of the present study suggest that the early maladaptive schemas including Vulnerability to Harm or Illness, Abandonment, Pessimism/Worry, Entitlement/Superiority, Insufficient Self-Control/ Discipline should be the focus of interventions.

Next, although the current study attempts to consider a higher level of complexity in the relations between potential risk factors of anxiety disorders, there are likely several other variables that influence the anxiety in adolescents. For example, one important vulnerability factor that was not included is parental anxiety. Many findings support the notion that relationships between anxious parents and their children are characterized by different factors than those between normal parents and their children (Pereira et al., 2014). Thus, data on parental anxiety would have enabled us to differentiate between children with a family history of anxiety and those without such history. Another factor that can be examined in the future study can be marital or parental conflict. There is little doubt that marital relationship or parental conflict has negative consequences for children. In order to increase our understanding of etiology of anxiety, these variables ought to be included as potential mediators in future research.

Furthermore, the current study examined relations between attachment, parenting and cognitive variables with anxiety symptomatology. Since, high comorbidity between anxiety with other forms of psychopathology particularly depression were reported in the literature, the model tested here ought to be simultaneously applied to other forms of psychopathology particularly depression that is comorbid with anxiety.

Finally, Malaysia is a heterogeneous country; there may be differences in upbringing and value systems. Thus, future studies could explore precisely which aspects of adolescents' upbringing and value systems are beneficial to children's emotional health and which ones are harmful. In addition, future research aids in finding the differences of the various ethnicity subgroups. For example, adolescents from Indian ethnicity family (middle/upper socio-economic class) demonstrated less maladaptive schemas, negative parenting behaviors (e.g., parental rejection) and reported higher secure attachment and more parental warmth. Consequently, they reported lower level of various anxiety symptoms and psychopathology. In contrast, adolescents from Malay family demonstrated the highest level of anxiety score and were reported higher parental rejection. Chinese adolescents also scored higher anxious rearing and perceived the lowest level of parental warmth.

Despite limitations, the results of this study can be a foundation for future studies by providing an understanding of how insecure attachment with special emphasis on the mediating role of cognitive and parenting factors influences adolescents' anxiety also, it can help to provide an integrated model of adolescent's anxiety. These models were tested in adolescents from middle/upper socio-economic class family of Malaysian inhabitant, might be detected in general populations as an important first step in establishing linkages between culture, parenting, maladaptive cognitive schemas and more severe forms of anxiety development.

6.3: Implications for Mental Health Professionals

The results of this study have potential implications for clinicians in the management of anxiety disorders as well as for health care policymakers and planners in the prevention of emotional disturbances. In the clinical assessment and management of anxiety, findings suggest that the assessing of the attachment pattern, negative parental behaviors style, and Early Maladaptive Schemas are an important part of the evaluation. These factors also can be considered in psychotherapy and family interventions. Furthermore, maladaptive schemas such as Vulnerability to Harm, Abandonment, and Pessimism/Worry appeared as the most powerful predictors of anxiety in adolescents. It provided useful information about the core beliefs and certain EMSs those highly associated with anxiety as well as the specific therapeutic approach for the maladaptive schemas with the use of schema-focused therapy.

The finding of mediation analyzes suggests that parent-child insecure attachment relationship can be considered as a primary vulnerability factor. Consequently, fostering the development of secure attachment in infancy and early childhood may ultimately, prevent the onset and maintenance of anxiety disorders. Likewise, findings aid to understanding how the parent-adolescent relationship is important in the development of early maladaptive schemas as well as anxiety. Understanding which parenting behaviors increase an adolescent's risk for later anxiety disorders has direct implications for early intervention. For example, findings suggest that higher emotional warmth and reducing parental rejection and reducing anxious parenting would be important in preventing adolescents' anxiety disorders. As a conclusion, it would suggest that all parents should be taught to use strategies to increase their support and acceptance of adolescents feeling and behaviors as well as fostering adolescent's autonomy (rather than rejection,

suppressing their feelings, anxious modeling and verbal transmission of threat and avoidance).

The facts that Malaysian adolescents reported the highest level of anxiety symptoms and the related risk factors (more adverse parenting, insecure attachment and consequently more maladaptive schemas) as well as the remarkable effects of anxiety disorders in children and adolescents (as mentioned in chapter 1 and 2) can inform Malaysian health care policymakers in the development of appropriate preventive and educational programs. These programs should be focused in improving the parental rearing behavior, parent-child/adolescent relationship and reducing the burden of anxiety among adolescents.

Recent developments in the literature have certainly focused on the evaluation of several programs targeting anxiety prevention in children and adolescents (e.g., Dadds & Roth, 2008; Lyneham & Rapee, 2011). The majority of these prevention programs have been conducted in schools, mainly due to the fact that access to large numbers of children is easier in this environment (Neil & Christensen, 2009).

One of the most popular and effective programs is the FRIENDS program (Barrett et al., 2000). The FRIENDS programs are recognized by the World Health Organization as effective evidence-based prevention programs (WHO, 2004). For primary and high school students the program provided separated versions that include 10 in-school sessions for the child/adolescent, two booster sessions, and nil to four sessions for parents. Between the sessions homework is assigned to the children. The program uses cognitive-behavioral techniques for child anxiety including psycho-education, relaxation, positive self-talk, graduated exposure, problem-solving, and rewards. For instance, children learn to face their fears in a graduated manner and to manage anxiety through relaxation and positive self-talk. Teachers, parents and school counselor are also taught to offer supportive information and encourage the student to

implement strategies (Lyneham & Rapee, 2011). Studies have demonstrated the effectiveness of FRIENDS in emotional health and more specifically reducing stress and anxiety in children and adolescents (e. g., Anticich et al., 2013; Fisak et al., 2011; Iizuka et al., 2015).

Another preventive intervention for reducing and preventing anxiety disorders among children is The Child Anxiety Prevention Study (CAPS: Ginsburg, 2009) The CAPS programs comprise six to eight individual family sessions with a psychologist and is maintained by three booster sessions. The program focuses on increasing child strengths and resilience, reducing identified risk factors (e.g., reducing adverse parental rearing by teaching appropriate contingency management), and increasing knowledge about anxiety and improving communication skills within the family (Lyneham & Rapee, 2011).

The next program that aims to the prevention of emotional and behavioral problems in children (from birth to 16 years) is Positive Parenting Program (Triple P: Sanders, 1999). The Triple P is one of the most effective evidence-based and the most extensively researched parenting programs. Triple P gives parents simple and practical strategies to help them confidently manage their children's behavior, prevent problems developing and build strong, healthy relationships with children. Triple P interventions were conducted in several countries and have been shown to work across cultures, socio-economic groups and in many different kinds of family structures (Chung et al., 2015; Fujiwara et al., 2015; Sanders, 2012). It also has been designed as a population-based health approach to parenting, normally implemented by government bodies or NGOs (non-government organizations) across regions or countries. The aim is to reach as many people as possible to have the greatest preventative impact on a community. A large body of literature evaluated the impact of the Triple P-Positive Parenting Program on parent and child outcome measures (e. g., Chung et al., 2015; Coyne &

Kwakkenbos, 2013; Fujiwara et al., 2015; Nowak & Heinrichs, 2008; Özyurt et al., 2015; Sanders, 2012). Results indicated small to the moderate positive impact of Triple P on parenting skills, child emotional/behavioral problems and parental well-being. The analyzes identified several strengths of the Triple P system, most importantly its ability to effect meaningful improvement in parents and children relationship.

Although the research on anxiety prevention in children and adolescent is in its infancy, preliminary evidence suggests that prevention programs can be implemented successfully across cultures. However, further work on culturally appropriate assessment and treatment of anxiety (and other mental health) issues is needed. This would ensure that services are both culturally sensitive and effective at identifying symptoms and experiences that may be defined and valued differently across cultures (Lyneham & Rapee, 2011).

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List of Publications and Papers

- **Perceived Parenting Styles and Cultural influences in Adolescent's Anxiety:**
A cross-cultural comparison. Submitted to: *Journal of Child and Family Studies*.
(May, 2015)
- **The relationships between perceived parental rearing style and anxiety symptoms in Malaysian adolescents:** The mediating role of early maladaptive schemas. Accepted by: *Journal of Depression and Anxiety* (Jan, 2016).
- **Insecure attachment and anxiety in Malaysian adolescents:** The mediating role of early maladaptive schemas and parenting styles. Submitted to: *International Journal of Psychology* (November, 2015).

APPENDIX A:

Attachment Styles Questionnaire (ASQ)

Below is a list of sentences that describe **how you feel about yourself and your relation with your friends and other people**. Please, Show how much you agree with each of the following items by rating them on this scale:

DISAGREE			AGREE		
1	2	3	4	5	6
Totally disagree	Strongly disagree	Slightly disagree	Slightly agree	Strongly agree	Totally agree

-
- ___ 1. Overall, I am a valuable person.
 - ___ 2. I am easier to get to know than most people.
 - ___ 3. I feel confident that people will be there for me when I need them.
 - ___ 4. I prefer to depend on myself rather than other people.
 - ___ 5. I prefer to keep to myself.
 - ___ 6. To ask for help is to admit that you're a failure.
 - ___ 7. People's worth should be judged by what they achieve.
 - ___ 8. Achieving things is more important than building relationships.
 - ___ 9. Doing your best is more important than getting on with others.
 - ___ 10. If you've got a job to do, you should do it no matter who gets hurt.
 - ___ 11. It's important to me that others like me.
 - ___ 12. It's important to me to avoid doing things that others won't like.
 - ___ 13. I find it hard to make a decision unless I know what other people think.
 - ___ 14. My relationships with others are generally superficial.
 - ___ 15. Sometimes I think I am no good at all.
 - ___ 16. I find it hard to trust other people.
 - ___ 17. I find it difficult to depend on others.
 - ___ 18. I find that others are reluctant to get as close as I would like.
 - ___ 19. I find it relatively easy to get close to other people.
 - ___ 20. I find it easy to trust others.
 - ___ 21. I feel comfortable depending on other people.
 - ___ 22. I worry that others won't care about me as much as I care about them.

- ___ 23. I worry about people getting too close.
- ___ 24. I worry that I won't measure up to other people.
- ___ 25. I have mixed feelings about being close to others.
- ___ 26. While I want to get close to others, I feel uneasy about it.
- ___ 27. I wonder why people would want to be involved with me.
- ___ 28. It's very important to me to have a close relationship.
- ___ 29. I worry a lot about my relationships.
- ___ 30. I wonder how I would cope without someone to love me.
- ___ 31. I feel confident about relating to others.
- ___ 32. I often feel left out or alone.
- ___ 33. I often worry that I do not really fit in with other people.
- ___ 34. Other people have their own problems so I don't bother them with mine.
- ___ 35. When I talk over my problems with others, I generally feel ashamed or foolish.
- ___ 36. I am too busy with other activities to put much time into relationships.
- ___ 37. If something is bothering me, others are generally aware and concerned.
- ___ 38. I am confident that other people will like and respect me.
- ___ 39. I get frustrated when others are not available when I need them.
- ___ 40. Other people often disappoint me.

APPENDIX B:

SPENCE CHILDREN'S ANXIETY SCALE (SCAS)

Please read each question carefully and decide if it is never, sometimes, and most of the time, or always true for you that seems to describe you best. There is no right or wrong answers.

Remember; put a circle around the word that shows how you usually feel and how often each of these things happen to you.

- | | 0 | 1 | 2 | 3 |
|--|-------|-----------|-------|--------|
| 1. I worry about things..... | Never | Sometimes | Often | Always |
| 2. I am scared of the dark..... | Never | Sometimes | Often | Always |
| 3. When I have a problem, I get a funny feeling in my
Stomach | Never | Sometimes | Often | Always |
| 4. I feel afraid..... | Never | Sometimes | Often | Always |
| 5. I would feel afraid of being on my own at home..... | Never | Sometimes | Often | Always |
| 6. I feel scared when I have to take a test..... | Never | Sometimes | Often | Always |
| 7. I feel afraid if I have to use public toilets or bathrooms..... | Never | Sometimes | Often | Always |
| 8. I worry about being away from my parents..... | Never | Sometimes | Often | Always |
| 9. I feel afraid that I will make a fool of myself in
front of people..... | Never | Sometimes | Often | Always |
| 10. I worry that I will do badly at my school work..... | Never | Sometimes | Often | Always |
| 11. I am popular amongst other kids my own age..... | Never | Sometimes | Often | Always |
| 12. I worry that something awful will happen to
someone in my family..... | Never | Sometimes | Often | Always |
| 13. I suddenly feel as if I can't breathe when
there is no reason for this..... | Never | Sometimes | Often | Always |
| 14. I have to keep checking that I have done things right | | | | |

- (like the switch is off, or the door is locked)..... Never Sometimes Often Always
15. I feel scared if I have to sleep on my own Never Sometimes Often Always
16. I have trouble going to school in the mornings
because I feel nervous or afraid..... Never Sometimes Often Always
17. I am good at sports..... Never Sometimes Often Always
18. I am scared of cats..... Never Sometimes Often Always
19. I can't seem to get bad or silly thoughts
out of my head..... Never Sometimes Often Always
20. When I have a problem, my heart beats really fast. Never Sometimes Often Always
21. I suddenly start to tremble or shake when there is
no reason for this..... Never Sometimes Often Always
22. I worry that something bad will happen to me Never Sometimes Often Always
23. I am scared of going to the doctors or dentists..... Never Sometimes Often Always
24. When I have a problem, I feel shaky..... Never Sometimes Often Always
25. I am scared of being in high places or lifts Never Sometimes Often Always
26. I am a good person..... Never Sometimes Often Always
27. I have to think of special thoughts to stop bad things
from happening (like numbers or w..... Never Sometimes Often Always
- 28 I feel scared if I have to travel in the car, or
on a Bus or a train..... Never Sometimes Often Always
29. I worry what other people think of me..... Never Sometimes Often Always
30. I am afraid of being in crowded places (like shopping
centres, the movies, buses, busy playgrounds) Never Sometimes Often Always
31. I feel happy..... Never Sometimes Often Always
32. All of a sudden I feel really scared for
no reason at all..... Never Sometimes Often Always
33. I am scared of insects or spiders..... Never Sometimes Often Always

34. I suddenly become dizzy or faint when
 there is no reason for this..... Never Sometimes Often Always
35. I feel afraid if I have to talk in front of my class..... Never Sometimes Often Always
36. My heart suddenly starts to beat too quickly
 for no reason..... Never Sometimes Often Always
37. I worry that I will suddenly get a scared feeling
 when there is nothing to be afraid of..... Never Sometimes Often Always
38. I like myself..... Never Sometimes Often Always
39. I am afraid of being in small closed places, like
 tunnels or small rooms..... Never Sometimes Often Always
40. I have to do some things over and over again (like washing my hands,
 cleaning or putting things in a certain order)..... Never Sometimes Often Always
41. I get bothered by bad or silly thoughts
 or pictures in my mind..... Never Sometimes Often Always
42. I have to do some things in just the right way to
 stop bad things happening..... Never Sometimes Often Always
43. I am proud of my school work..... Never Sometimes Often Always
44. I would feel scared if I had to stay away from
 home overnight..... Never Sometimes Often Always
45. Is there something else that you are really afraid of? YES NO
 Please write down what it is

- How often are you afraid of this thing?..... Never Sometimes Often Always

APPENDIX C

Modified version of the EMBU-C (My memories of upbringing)

Instructions:

Listed below are statements that you might use to describe your parents and the way in which your mother & father treat you. **Please read each statement carefully and decide how well it describes your parents.**

Choose the **highest rating from 1 to 4** that describes your mother, then your father and write the number in the spaces before each statement. If someone substituted as your mother or father, please rate the scale for that person. If you did not have a mother or father, leave the appropriate column blank.

1	2	3	4
_____	_____	_____	_____
No, never	Yes, but seldom	Yes, often	Yes, most of the time

MOTHER FATHER

- | | | |
|-------|-------|---|
| _____ | _____ | 1. When you come home, you have to tell your parents what you have been doing |
| _____ | _____ | 2. When you are unhappy, your parents console you and cheer you up |
| _____ | _____ | 3. Your parents want you to reveal your secrets to them |
| _____ | _____ | 4. Your parents tell you that they don't like your behavior at home |
| _____ | _____ | 5. Your parents like you just the way you are |
| _____ | _____ | 6. Your parents worry about what you are doing after school |
| _____ | _____ | 7. Your parents play with you and are interested in your hobbies. |

- _____ 8. Your parents treat you unfairly
- _____ 10. Your parents listen to you and consider your Opinion
- _____ 11. Your parents wish that you were like somebody else
- _____ 12. Your parents want to decide how you should be
dressed or how you should look
- _____ 13. Your parents worry about you getting into trouble
- _____ 14. Your parents blamed you for everything that goes wrong
- _____ 15. Your parents punish you for no reason
- _____ 16. Your parents tell you what you should do after school hours
- _____ 17. Your parents want to be with you
- _____ 18. Your parents worry about you doing dangerous things
- _____ 19. Your parents show that they love you
- _____ 20. Your parents criticize you in front of others
- _____ 21. Your parents know exactly what you are allowed to
do and what not
- _____ 22. Your parents worry about you making a mistake
- _____ 23. You feel disappointed because your parents don't
give you what you want
- _____ 24. Your parents allow you to decide what you want to do
- _____ 25. Your parents take care that you behave by the rules
- _____ 26. Your parents are afraid when you do something on
your own
- _____ 27. Your parents and you like each other
- _____ 28. Your parents are mean and grudging towards you

- _____ 29. Your parents are anxious people and therefore you
_____ are not allowed to do as many things as other children
- _____ 30. When you have done something stupid, you can make
_____ it up with your parents
- _____ 31. Your parents watch you very carefully
- _____ 32. Your parents think that they have to decide
_____ everything for you
- _____ 33. Your parents give you compliments
- _____ 34. If something happens at home, you are the one who
_____ gets blamed for it
- _____ 35. Your parents warn you of all possible dangers
- _____ 36. Your parents help you when you have to do
_____ something difficult
- _____ 37. Your parents are worried when they don't know
_____ what you are doing
- _____ 38. Your parents keep a check on you
- _____ 39. Your parents beat you for no reason
- _____ 40. Your parents want to keep you from all possible dangers

APPENDIX D: YOUNG SCHEMAS QUESTIONNAIRE (YSQ-S3)

Instructions: listed below are statements that people might use to describe themselves. Please read each statement, then rate it based on how accurately it fits you **over the past year**. When you are not sure, base your answer on what you **emotionally feel**, not on what you think to be true. A few of the items ask about your relationships with your parents. If any of them have died, please answer these items based on your relationships when they were alive.

Choose the **highest score from 1 to 6** on the rating scale below that best describes you, then write your answer on the line before each statement.

Rating scale

1 = completely untrue of me

4 = moderately true of me

2 = mostly untrue of me

5 = mostly true of me

3 = slightly more true than untrue

6 = describe me perfectly

1. ____ I haven't had someone to nurture me, share him/herself with me, or care deeply about everything that happens to me.
2. ____ I find myself clinging to people I'm close to because I'm afraid they'll leave me.
3. ____ I feel that people will take advantage of me.
4. ____ I don't fit in.
5. ____ No man/woman I desire could love me once he or she saw my defects or flaws.
6. ____ Almost nothing I do at school is as good as other people can do.
7. ____ I do not feel capable of getting by on my own in everyday life.
8. ____ I can't seem to escape the feeling that something bad is about to happen.
9. ____ I have not been able to separate myself from my parents the way other people my age seem to.
10. ____ I think if I do what I want, I'm only asking for trouble.
11. ____ I'm the one who usually ends up taking care of the people I'm close to.
12. ____ I am too self-conscious to show positive feeling to others (e.g. showing I care).
13. ____ I must be the best at most of what I do; I can't accept second best.

14. ____ I have a lot of trouble accepting “no” for an answer when I want something from other people.
15. ____ I can’t seem to discipline myself to complete most routine or boring tasks.
16. ____ Having money and knowing important people make me feel worthwhile.
17. ____ Even when things seem to be going well, I feel that it is only temporary.
18. ____ If I make a mistake, I deserve to be punished.
19. ____ I don’t have people who give me warmth, holding and affection.
20. ____ I need other people so much that I worry about losing them.
21. ____ I feel that I cannot let my guard down in the presence of other people, or else they will intentionally hurt me.
22. ____ I’m fundamentally different from other people.
23. ____ No one I desire would want to stay close to me if he or she knew the real me.
24. ____ I’m incompetent when it comes to achievement.
25. ____ I think of myself as a dependent person when it comes to everyday function.
26. ____ I feel that a disaster (criminal, natural, financial, or medical) could strike at any moment.
27. ____ My parent(s) and I tend to be over-involved in each other’s lives and problems.
28. ____ I feel as if I have no choice but to give in to other people’s wishes, or else they will retaliate, get angry or reject me in some way.
29. ____ I am a good person because I think of others more than myself.
30. ____ I find it embarrassing to express my feelings to others.
31. ____ I try to do my best; I can’t settle for “good enough.”
32. ____ I am special and shouldn’t have to accept many of the restrictions or limitations placed on other people.
33. ____ If I can’t reach a goal, I become easily frustrated and give up.
34. ____ Accomplishments are most valuable to me if other people notice them.

35. ____ If something good happens, I worry that something bad is likely to follow.
36. ____ If I don't try my hardest I should expect to lose out.
37. ____ I haven't felt that I am special to someone.
38. ____ I worry that people I feel close to be leave me or abandon me.
39. ____ It is only a matter of time before someone betrays me.
40. ____ I don't belong; I'm a loner.
41. ____ I'm unworthy of the love, attention, and respect of others.
42. ____ Most other people are more capable than I am in areas of work and achievement.
43. ____ I lack common sense.
44. ____ I worry about being physically attacked by people.
45. ____ It is very difficult for my parent(s) and me to keep intimate details from each other without feeling betrayed or guilty.
46. ____ In relationships, I usually let the other person have the upper hand.
47. ____ I am so busy doing things for the people that I care about that I have little time for myself.
48. ____ I find it hard to be free-spirited and spontaneous around other people.
49. ____ I must meet all my responsibilities.
50. ____ I hate to be constrained or kept from doing what I want.
51. ____ I have a very difficult time sacrificing immediate gratification or pleasure to achieve a long-range goal.
52. ____ unless I get a lot of attention from others, I feel less important.
53. ____ you can't be too careful; something will always go wrong.
54. ____ if I don't do the job right, I should suffer the consequences.
55. ____ I haven't had someone who really listen to me, understand me, or is tuned into my true needs and feelings.

56. ____ when someone I care for seems to be pulling away or withdrawing me, I feel desperate.
57. ____ I am quite suspicious of other people's motives.
58. ____ I feel alienated or cut off from other people.
59. ____ I feel that I'm not lovable.
60. ____ I'm not as talented as most people are at their school.
61. ____ my judgment cannot be counted on in everyday situation.
62. ____ I worry that I'll lose all my money and become destitute or very poor.
63. ____ I often feel as if my parent(s) are living through me – that I don't have a life of my own.
64. ____ I've always let others make choice for me, so I really don't know what I want for myself.
65. ____ I've always been the one who listen to everyone else's problems.
66. ____ I control myself so much that many people think I am unemotional or unfeeling.
67. ____ I feel that there is constant pressure for me to achieve and get things done.
68. ____ I feel that I shouldn't have to follow the normal rules or conventions that other people do.
69. ____ I can't force myself to do things I don't enjoy, even when I know it's for my own good.
70. ____ If I make remarks at a meeting, or am introduced in a social situation, it's important for me to get recognition and admiration.
71. ____ no matter how hard I work, I worry that could be wiped out financially an lose almost everything.
72. ____ it doesn't matter why I make a mistake. When I do something wrong, I should pay the consequence.
73. ____ I haven't had a strong or wise person to give me sound advice or direction when I'm de not sure what to do.
74. ____ sometimes I am so worried about people leaving me that I drive them away.

75. ____ I'm usually on the lookout for people's ulterior or hidden motives.
76. ____ I always feel on the outside of group.
77. ____ I am too unacceptable in very basic ways to reveal myself to other people or to let them get to know me well.
78. ____ I'm not as intelligent as most people when it comes to school.
79. ____ I don't feel confident about my ability to solve every day problems that come up.
80. ____ I'm worry that I'm developing a serious illness, even though nothing serious has been diagnosed by a doctor.
81. ____ I often feel that I do not have a separate identity from my parent(s) or partner.
82. ____ I have a lot of trouble demanding that my rights be respected and that my feelings be taken into account.
83. ____ Other people see me as doing too much for others and not enough for me.
84. ____ People see me as uptight emotionally.
85. ____ I can't let myself off the hook easily or make excuses for my mistakes.
86. ____ I feel that what I have to offer is of greater value than the contributions of others.
87. ____ I have rarely been able to stick to my resolutions.
88. ____ Lots of praise and compliments make me feel like a worthwhile person.
89. ____ I worry that a wrong decision could lead to disaster.
90. ____ I'm a bad person who deserved to be punished.

APPENDIX E:

STUDENT INFORMED CONSENT FORM

Research on related factors of anxiety and emotional wellbeing among adolescent students in Klang Valley

Dear Students:

Your school has been selected to be part of a research study about related factors of anxiety and the effects of parental behavior style on emotional wellbeing of adolescent students in Kuala Lumpur. The prevention of anxiety, promotion of family mental health and help to improve relationship between parent-teenager are the general aims of the study.

The common teenager's complains are that the parents don't understand them; they have inappropriate interfere and they don't belief the teen abilities and responsibility. Also, researches show parental over protection & over controlling have important roles in children emotional and behavioral problems.

So, the researchers are interested in understanding about your emotional wellbeing and your interaction with parents and if present, to know more about anxiety symptoms and parental over controlling or over protection. This important information will greatly assist psychologists and counselors to deal with anxious teenagers. Furthermore, **the findings of this study can be used for helping parents to change & be different to deal with teenagers** by development of parental education programs.

For participation in this research, you will need to fill in a questionnaire booklet which arranged in 2 parts. Answering questionnaire will take up two 25min sessions with a short break in the middle. **At the end of second session, we will give you some interesting & useful pamphlet also, a small gift as a token of my appreciation.**

Please remember that your participation in this study is voluntary and your responses to the questionnaire will be kept confidential. **Your responses will not be presented in school or to parents.** The only individuals who will have access to the survey are the persons involved in this research. If you do not wish to participate in the survey, please check the box "NO" below, then sign this form and return it to the school by tomorrow.

Should you require further clarification about this study, please contact any of the following persons:

1.S. Ebrahim Mousavi 2. Prof. Dr. Low Wah Yun 3. Associate Prof. Dr. Aili Hanim

PhD Candidate

Supervisor

Supervisor

Faculty of Medicine

Faculty of Medicine

Faculty of Medicine

University Malaya

University Malaya

University Malaya

018-4041226

03-79675729

03-79493099

Student's name: _____

Class: _____

School:

NO, I do not want to take part in this survey

Student's signature: _____

Phone number:

Researcher name:

Researcher's signature: