Stressful Life Events, Parental Verbal Aggression and Depressive Symptoms in Malaysian Adolescents: The Moderating Role of Parental Warmth

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ABSTRACT

Depressive symptomatology is a serious mental health problem that has been observed among Malaysian adolescents. Hence, we conducted a cross-sectional study to identify the risk and protective factors for adolescent depressive symptoms. Specifically, we hypothesized that stressful life events, parental verbal aggression, and parental warmth are significantly associated with adolescent depressive symptoms. A sample of 1092 adolescents (13-19 years old; 447 boys and 645 girls) was recruited using probability proportional to size cluster sampling from 20 secondary schools in four states across Malaysia. Results of the multivariable logistic regression analysis revealed that stressful life events and maternal verbal aggression had significant main effects on depressive symptoms. In the moderation analyses, paternal warmth alleviated the influence of paternal verbal aggression on depressive symptoms. In contrast, both paternal and maternal warmth exacerbated the depressogenic impact of maternal verbal aggression. Such findings could improve prevention and intervention programs for combatting depressive symptoms in Malaysian adolescents.

INTRODUCTION

Adolescence is characterized by a dramatic increase in depressive symptoms and disorders (Bastin et al., 2015). In fact, a

meta-analysis of 41 studies conducted in 27 countries from every region globally revealed that the worldwide-pooled prevalence of any depressive disorder in children and adolescents was 2.6% (Polanczyk et al., 2015). Specifically, other studies have reported the prevalence of adolescent depression to range from 7.1% to 19.4% in 11 European countries (Balazs et al., 2012), 11.3% to 18% in the United States (Mojtabai et al., 2016; Saluja et al., 2004), 36.4% in Ethiopia (Demoze et al., 2018), 8.2% in Germany (Wartberg et al., 2018), 21% in Uganda (Nalugya-Sserunjogi et al., 2016), 20.3% in Brazil (Bahls, 2002) and 6.2% to 64.8% in China (Tang et al., 2018). Recent studies have documented that the prevalence rates for depressive symptoms among adolescents in Malaysia range from 10.3% to 39.7% (Ibrahim et al., 2014; Kaur et al., 2014; Ramli et al., 2008; Wahab et al., 2013). Such reports warrant concern considering empirical evidence demonstrating that depressive symptomatology among Malaysian adolescents is related to health-risk behaviors, such as smoking (Lim et al., 2014) and suicidal ideation or behaviors (Ahmad et al., 2014; Ibrahim et al., 2014; Talib & Abdollahi, 2015). Thus, it is crucial to identify risk and protective factors for the emergence of depressive symptoms to develop efficacious prevention and intervention strategies.

The risk-protective model of resilience provides an overarching framework for understanding the occurrence of depressive symptoms. A wealth of studies has investigated the applicability of the risk-protective model of resilience toward an understanding of adolescent depressive symptoms (e.g., Beam et al., 2002; Breton et al., 2015; Colman et al., 2014; Jaschek et al., 2016). Essentially, resilience involves coping with and disabling the negative effects of risk factors and traumatic experiences (Fergus & Zimmerman, 2005). In other words, the risk-protective model posits that protective factors interact with risks to diminish the latter's deleterious influence on adolescent outcomes (Zimmerman, 2013). Risk factors refer to "antecedent conditions associated with an increase in the likelihood of adverse, deleterious, or undesirable outcomes" (Kazdin et al., 1997). In contrast, protective factors equip adolescents with personal, social and contextual qualities indispensable for a desirable development (Zimmerman, 2013).

A large number of published studies have established that stressful life events are among the prominent risk factors for depressive symptoms. Stressful life events are "major or minor events that disrupt those mechanisms that maintain the stability of an individual's physiology, emotion, and cognition" (Ingram & Luxton, 2005). Hammen (2009) noted that any undesirable event that a vulnerable person believed would bring about a loss of his sense of being successful, competent, or worthwhile could elicit depression. Notably, adolescents often encounter an array of life events that may result in significant changes in their lives, such as birth of siblings, changing from one school to another, parental separation, death

in the family, and serious injury or illness, that are potential stressors which they need to cope with and adapt to (Johnson, 1982).

A considerable amount of literature has supported the hypothesized effect of stressful life events on adolescent depressive symptoms (e.g., Fox et al., 2010; Hazel et al., 2014; Sanchez et al., 2012; Shapero et al., 2015; Young, 2016; Zhang et al., 2013). In particular, adolescent depressive symptomatology has been significantly predicted by major life events including death of a parent or witnessing violence (Carter et al., 2015) as well as separation, social adversity, and family environment events (Jaschek et al., 2016). Correspondingly, minor stressful life events have also been significantly associated with adolescent depressive symptoms such as interpersonal or relationship stressors (Agoston & Rudolph, 2016; Herres & Kobak, 2015), and school-related hassles (Sokratous et al., 2013; Wang et al., 2016). Despite this overwhelming observation, the applicability of such finding towards explaining adolescent depressive symptoms among Malaysians remains understudied as pertinent research has primarily focused on adult samples (e.g., Kadir & Bifulco, 2011; Maideen et al., 2014). Given the upsurge of stressful life events during adolescence (Hankin, 2006), alongside elevated emotional experiences (Casey et al., 2010), the lack of related studies that sampled Malaysian adolescents was reckoned a major drawback of existing literature.

Recently, researchers have manifested a growing interest in parental verbal aggression as a risk factor for psychopathological symptoms. Parental verbal aggression comprises "verbal attacks and threats toward adolescents by a primary caregiver" (LeRoy et al., 2014). The prevalence of parent-adolescent verbal aggression has been estimated to range from 29.7% (Sachs-Ericsson et al., 2006) to 33% (LeRoy et al., 2014). In an earlier study, Straus and Field (2003) reported that the prevalence rates of verbally aggressive parenting behaviors ranged from 25% to 94% in nonclinical samples and 41% to 92% in clinical samples. Further, Chang et al. (2003) articulated that shouting, name calling, frequent negative commands, manifest expressions of anger, and making threats made up harsh parenting behaviors. In fact, parental verbal aggression has been described as a form of emotional abuse or psychological maltreatment (LeRoy et al., 2014; Polcari et al., 2014), which can put a strain on children's emotion regulation skills (Chang et al., 2003; Wolfe & McIsaac, 2011). As a result of parental verbal aggression, a child may become less emotionally stable or experience intensely distressing emotions (Khaleque & Rohner, 2012; Rohner & Brothers, 1999).

Surprisingly, only a handful of studies have examined the association between verbally aggressive parenting and adolescent depressive symptoms (e.g., Donovan & Brassard, 2011; Wang & Kenny, 2014). Instead, most studies on parental verbal aggression have focused on its links with depression in emerging adults (e.g., Polcari

et al., 2014; Taillieu & Brownridge, 2013; Teicher et al., 2006), or with general internalizing symptoms in children (e.g., Anonas & Alampay, 2015; McKee et al., 2007; de Zoysa et al., 2010). Such scarcity of research may be due to the prominence of studying other forms of harsh parenting. In fact, parents' physical aggression has received much attention (Teicher et al., 2006; Wang & Kenny, 2014) despite evidence that parental verbally aggressive behaviors may have more damaging effects than physical aggression (Teicher et al., 2006). Literature likewise suggests that verbal or symbolic actions displayed by caretakers that generate psychological pain to the child are among the most invasive and worst forms of stressful events in a child's day-to-day life (Wolfe & McIsaac, 2011).

Nonetheless, most individuals who face stressful life events do not develop depressive symptoms or disorders (Hammen, 2016). As a matter of fact, a great number of children and adolescents exhibit resilience amidst experiencing risk factors for depression (Gladstone & Beardslee, 2009). For this reason, the pathways through which adverse life events influence depressive symptoms have integrated the vital role of protective factors. The nature of such mechanisms is elucidated by the stress buffering model, which specifically identifies stressful life events as risk factors, and perceived social support as a protective factor for the development of child outcomes. The central assumption of this theory is that social support ameliorates the potential depressogenic effects of undesirable experiences in life (Burton et al., 2004). In other words, the stress buffering model is consistent with the risk-protective model of resilience in emphasizing the vital role of protective factors in mitigating the development of adolescent depressive symptoms in the presence of risk factors, that is, stressful life events.

There is robust empirical support for the stress-buffering model if parental support is examined as a protective factor against stressful life events (Hazel et al., 2014). Intimate confiding relationships provide sufficient esteem and information support to individuals undergoing life stressors (Cohen & Wills, 1985). When a person is going through life challenges and difficult emotions, he often seeks out people close to him, such as his parents, for support and guidance (Velez et al., 2016). In this regard, parental warmth could be a source of social support for young individuals (Ge et al., 2009). Accordingly, Davidson and Adams (2013) operationalized social support from parents as involving parental warmth, responsiveness, nurturance, and affective communication. Specifically, parental warmth contributes to the adolescent's development of positive mental representations of his relationship with his parents and restricts over-activated behavioral and emotional responses (Alegre et al., 2014). Hence, warm parenting may serve as a buffering factor between familial and environmental negative life experiences and situations and individual outcomes (Jaggers et al., 2017).

However, evidence for the protective role of parental warmth in the associations between risk factors and depressive symptoms has been contradictory. While some researchers found significant moderating effects (e.g., Ge et al., 2009; Hazel et al., 2014; Quach et al., 2015), others did not observe the role of parental warmth in protecting adolescents who are facing undesirable life situations and/or harsh parenting from symptoms of depression (e.g., Burton et al., 2004; Jaschek et al., 2016; Wang & Kenny, 2014; Zimmerman et al., 2000). Such conflicting findings impede generalizations of the moderating role of parental warmth.

Overall, it is yet to be clarified whether the same evidence for the relationships between stressful life events, parental verbal aggression, parental warmth, and depressive symptoms revealed in Western research hold true for Malaysian adolescents due to sparseness of pertinent data. This study therefore set out to assess the extent to which these risk and protective factors significantly impact Malaysian adolescents' depressive symptoms. There are two other deficiencies in literature that merit consideration. First, only a few studies distinguished maternal from paternal verbal aggression and warmth. Inasmuch as mothers may adopt different parenting strategies than fathers (Braza et al., 2015; McKinney & Renk, 2008), a sex-specific analysis of parenting behavior would be more enlightening. Secondly, stressful life events and parental verbal aggression have been studied separately as risk factors. Since it is implausible for a single etiological model to sufficiently explain depression, a host of factors must be simultaneously examined (Hankin, 2006). Against this background, the present study utilized a multivariable framework for investigating risk and protective factors for depressive symptoms. Specifically, this research aimed to address the aforementioned gaps by a cross-sectional investigation of depressive symptoms in Malaysian adolescents, with stressful life events and parental verbal aggression as risk factors, and parental warmth as a protective factor. In particular, this research sought to:

1. Determine if stressful life events, paternal verbal aggression, and maternal verbal aggression will significantly predict adolescent depressive symptoms.

   Hypothesis 1a: Increasing number of stressful life events recently experienced is associated with depressive symptoms.

   Hypothesis 1b: A higher level of perceived paternal verbal aggression is related to symptoms of depression.

   Hypothesis 1c: Greater levels of perceived maternal verbal aggression correspond to an elevated likelihood of depressive symptoms in adolescents.

2. Determine if parental warmth significantly interacts with stressful life events and parental verbal aggression in predicting adolescent depressive symptoms.

Hypothesis 2a: Paternal warmth will diminish the depressogenic impact of stressful life events.

Hypothesis 2b: The depressogenic influence of paternal verbal aggression will be buffered by paternal warmth.

Hypothesis 2c: Paternal warmth will reduce the relationship between maternal verbal aggression and adolescent depressive symptoms.

Hypothesis 2d: Maternal warmth will buffer adolescents from depressive symptomatology when faced by stressful life events.

Hypothesis 2e: Maternal warmth will lessen the depressogenic impact of paternal verbal aggression.

Hypothesis 2f: The association between maternal verbal aggression and depression will be alleviated by maternal warmth.

MATERIALS AND METHODS

The course of this study was steered by a quantitative research design. A nationally representative sample comprising 1092 adolescents from urban and rural areas of four states in Malaysia, namely, Johor (southern region), Kelantan (eastern region), Kuala Lumpur (central region) and Pulau Pinang (northern region), was selected through probability proportional to size cluster sampling. The respondents were recruited from 13 urban and 7 rural secondary schools from 18 districts across the country. With the assistance of authorized personnel

from each school, random sampling was used to select one class of students enrolled in Form 1, Form 2, Form 4, or Form 6. Students in Form 3 and Form 5 were prohibited from participating in the study for they had to prepare for the national examinations. A written informed consent was obtained from the participants and their parents or guardians before administering the survey. Data gathering was done for three months from July to October 2015 by trained enumerators and graduate research assistants. Participants completed the self-administered survey in group sessions for approximately 30 to 45 minutes. Afterwards, they received a token for taking part in the research. Prior to data collection, the study was approved by the ethics committee of the Universiti Putra Malaysia, Ministry of Education, State Education Department, school principals, and classroom teachers.

Measures

Participants completed a series of questionnaires containing self-report measures. The level of depressive symptoms was assessed using the Malay version of Beck Depression Inventory (BDI-Malay) (Mukhtar & Oei, 2008). The BDI-Malay is a self-report inventory with 20 items that measure symptoms of depression. For each of the 20 items, participants endorsed one of three statements about their feelings in the past two weeks. Each item listed four statements and responses were scored on a 0-3 scale, ranging in intensity from the absence of depressive symptom (0) to its severe form (3). The total score was

computed by adding the score marked by the respondent for every item. Higher scores indicated more severe depressive symptoms. According to Beck et al. (1988), the cut-off score for BDI should be lowered to include the maximum number of cases with depressive symptoms. Following the recommendations by these authors, a cutoff score of 10 was used to identify Malaysian adolescents with depressive symptoms. The BDI-Malay has good internal consistency ranging from 0.71 to 0.91 and test-retest reliability of 0.80 (Mukhtar & Oei, 2008). For this study, the BDI-M likewise had good internal consistency reliability with a Cronbach's alpha coefficient of 0.90.

The Life Events Checklist-Malay (LEC) (Baharudin et al., 2015) was used to measure frequency of stressful life events experienced by the respondent within the past six months. Respondents indicated how often they encountered each of 23 life events, with the following response options: 0 "never," 1 "once," and 2 "more than once." A total score was calculated by summing the responses on all items. Higher scores meant more frequent exposure to stressful life events. Baharudin et al. (2015) reported a Cronbach's alpha coefficient of 0.83. For this study, LEC also had good internal consistency reliability with a Cronbach's alpha coefficient of 0.83. Sample items include, "Parent, sister, or brother died", "Parents were separated or divorced," "I got a bad grade in school", and "I argued with my friend/parent". The scale comprised both major and minor negative stressful life events. Such a scale was deemed suitable in view of findings of prior studies (e.g., Overbeek et al., 2010; Unger et al., 2001) that negative life events are more significantly associated with depression than positive stressors.

Using the Malaysian Parenting Behaviour Inventory (MPBI; Baharudin et al., 2014), respondents self-reported the frequency of a number of parenting behaviors for each parent. Respondents used a five-point Likert scale (0 = never to 4 = very often) to endorse how often ten expressions of warmth and six verbally aggressive behaviors were demonstrated by their parents. The MPBI comes in two forms, one for measuring the parenting behaviors of the mother and one for the father. The total score for each parent was computed by summing individual item scores. Higher scores indicated that the respondent experienced more parental warmth or verbal aggression from parents. Both subscales have good internal consistency, as shown by the following Cronbach's alpha scores: maternal warmth (0.88), maternal verbal aggression (0.78), paternal warmth (0.92), and paternal verbal aggression (0.84) (Baharudin et al., 2014). For the present study, the Cronbach alpha coefficients were: maternal warmth (0.87), maternal verbal aggression (0.73), paternal warmth (0.89), and paternal verbal aggression (0.78) which indicate good internal consistency reliabilities. Sample items for parental warmth included "Say love to you," and "Hug and kiss you." The parental verbal aggression subscale included items such as "Scream or yell when angry at you," and "Threaten to punish you on your wrong doing."

Data Analysis

Univariate descriptive statistics were employed for a preliminary understanding of the prevalence of depressive symptoms, stressful life events, parental verbal aggression, parental warmth, and demographic characteristics of adolescents. Then, bivariate analyses using chi-square tests and student's t-tests were performed to compare categorical and continuous variables, respectively. To determine the unique effect of each predictor variable on depressive symptoms, univariable logistic regression was first analyzed. Hosmer and Lemeshow (2000) underscored that a univariable analysis was a necessary preliminary step to ascertain the potential importance of a single independent variable in predicting the outcome variable. They recommended a variable with a *p*-value of less than 0.25 to be a candidate for inclusion in the multivariable model.

Subsequently, three hierarchical multivariable logistic regression models tested the associations between the variables of interest. A group of predictors were entered the regression model in a sequential or blockwise entry. Such entry method allows for the assessment of changes in the individual variable effects after the addition of another block of predictors (Osborne, 2015). Gender, paternal warmth, and maternal warmth were entered in block 1. Next, stressful life events, paternal verbal aggression, and maternal verbal aggression were entered in block 2. This served as Model 1 in the multivariable regression analysis which tested hypotheses 1a, 1b, and 1c. Finally, three two-way interactions were entered in the last block to test hypotheses 2a to 2f. Models 2 and 3 differed only at the last block, wherein paternal warmth was the moderator in the second model, while maternal warmth was the moderator in the third model. All independent and moderator variables were standardized before the multivariable tests to generate easily interpretable odds ratios. Lastly, significant two-way interactions were plotted to more fully explore the nature of the moderation relationships. For bivariate tests and binary logistic regression, the significance level was set at a p-value less than 0.05. All statistical analyses were conducted using SPSS version 20 for Windows (SPSS Inc., Chicago, IL).

RESULTS AND DISCUSSIONS

Descriptive and Bivariate Statistics

A total of 1092 adolescents participated in this study, in which 40.9% were males and 50.9% were 13 to 14 years old. A summary of the descriptive and chi-square statistics of the demographic variables are presented in Table 1. With actual scores that ranged from zero to 57, results showed that the average score for depressive symptoms was 13.02 (SD = 9.50). Using a cut-off score of 10, approximately 57% of Malaysian adolescents were classified as having depressive symptoms, which ranged from mild to severe. Such prevalence rate is higher than what has been reported by previous studies in Malaysia (e.g., Ibrahim et al., 2014; Kaur et al., 2014), Germany (Wartberg et al., 2018), United States (Saluja et al., 2004), Uganda (Nalugya-Sserunjogi

et al., 2016), Europe (Balazs et al., 2012), and Brazil (Bahls, 2002), but within the range of estimates observed in China (Tang et al., 2018). However, such comparative findings must be interpreted with caution since these studies utilized different instruments as well as cut-off scores to measure depressive symptoms. Among the demographic characteristics, only gender was significantly related to symptoms of depression ($\chi^2 = 10.00$, p < .01), with a higher proportion of girls having depressive symptoms than their male counterparts. In view of this, all multivariable regression models controlled for gender. This outcome corroborates previous findings that rates of adolescent depressive symptoms are higher for females than for males (e.g., Alloy et al., 2016; Ge et al., 2003; Hankin et al., 2015; Salk et al., 2016).

Table 1
Descriptive and chi-square statistics of the demographic variables

Variables	Frequency (Percentage) N = 1092	Percentage of those with Depressive Symptoms N = 624	Chi-Square (X^2)
Gender			10.00**
Male	447 (40.9)	36.9	
Female	645 (59.1)	63.1	
Age			2.42
13-14	556 (50.9)	48.9	
15-19	536 (49.1)	51.1	
Race			2.80
Malay	830 (76.0)	77.6	
Chinese	177 (16.2)	15.7	
Indian	64 (5.9)	5.1	
Others	21 (1.9)	1.6	
Locality			0.03
Urban	746 (68.3)	68.1	
Rural	346 (31.7)	31.9	
Mother's education			3.74
None	16 (1.5)	1.7	
Primary	103 (9.4)	10.6	
Secondary	649 (59.4)	59.3	
Tertiary	324 (29.7)	28.4	
Father's education			1.77
None	15 (1.4)	1.6	
Primary	119 (10.9)	10.4	
Secondary	602 (55.1)	56.4	
Tertiary	356 (32.6)	31.6	

Note. N = total sample size
** denotes *p* < 0.01

As shown in Table 2, results likewise demonstrated that adolescents with depressive symptoms had significantly higher mean scores for stressful life events (t = -8.11, p < 0.001), paternal verbal aggression (t = -4.88, p < 0.001), and maternal verbal aggression (t = -6.31, p < 0.001) than those without symptoms. Conversely, adolescents without depressive symptoms exhibited significantly higher levels of paternal warmth (t = 5.19, p < 0.001) and maternal warmth (t = 5.91, p < 0.001) than those with symptoms.

Table 2
Descriptive and T-test statistics of the main research variables

Variables	Overall Sample Mean (SD) N = 1092	Depressive Symptoms		T- test
		Yes M (SD)	No M (SD)	
SLE	15.41 (7.41)	17.91 (7.56)	14.16 (7.02)	-8.11***
PVA	9.25 (4.37)	10.15 (4.56)	8.80 (4.20)	-4.88***
MVA	10.40 (4.34)	11.55 (4.48)	9.82 (4.15)	-6.31***
PW	22.86 (7.82)	21.15 (8.11)	23.72 (7.53)	5.19***
MW	25.77 (7.23)	23.88 (7.79)	26.72 (6.84)	5.91***

Note. N = total sample size; M = mean; SD = standard deviation; SLE = stressful life events; PVA = paternal verbal aggression; MVA = maternal verbal aggression; PW = paternal warmth; MW = maternal warmth
*** denotes *p* < 0.001

Regression Analyses

In the univariable analyses, all three risk factors significantly predicted symptoms of depression. Specifically, higher levels of stressful life events (OR = 1.08, 95% CI: 1.06-1.10), paternal verbal aggression (OR = 1.10, 95% CI: 1.06-1.13), and maternal verbal aggression (OR = 1.12, 95% CI: 1.09-1.15) were associated with higher odds of having depressive symptoms. Results of the multivariable logistic regression analyses for predicting depressive symptoms are shown in Table 3. In Model 1, stressful life events (OR = 1.58, 95% CI: 1.38-1.82) and maternal verbal aggression (OR = 1.33, 95% CI: 1.09-1.62) had significant main effects on adolescent depressive symptoms, above and beyond other predictors in the model;

thereby supporting hypotheses 1a and 1c, respectively. In contrast, paternal verbal aggression did not significantly predict depressive symptoms; hence, hypothesis 1b failed to be supported.

Moreover, two moderation models tested the protective role of parental warmth against the depressogenic impact of stressful life events and parental verbal aggression. In Model 2, results showed that the interaction of stressful life events with paternal warmth did not emerge as a significant predictor of depressive symptoms; hence, hypothesis 2a failed to be supported. In contrast, hypothesis 2b was supported, in that, paternal warmth had a significant buffering effect for the association between paternal verbal aggression and symptoms

Table 3
Multivariable logistic regression for predicting depressive symptoms

Variables	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Gender	1.65*** (1.27-2.16)	1.66*** (1.27-2.17)	1.68*** (1.29-2.21)
PW	0.86 (0.70-1.05)	0.86 (0.70-1.06)	0.86 (0.70-1.05)
MW	0.82* (0.67-1.00)	0.82 (0.67-1.00)	0.81* (0.66-0.99)
SLE	1.58*** (1.38-1.82)	1.58*** (1.37-1.81)	1.59*** (1.38-1.83)
PVA	1.13 (0.92-1.38)	1.04 (0.84-1.29)	1.14 (0.93-1.39)
MVA	1.33 ** (1.09-1.62)	1.41** (1.14-1.75)	1.31** (1.07-1.60)
SLE x PW		0.98 (0.85-1.13)	
PVA x PW		0.81* (0.66-0.98)	
MVA x PW		1.36** (1.11-1.66)	
SLE x MW			0.91 (0.78-1.05)
PVA x MW			0.95 (0.78-1.16)
MVA x MW			1.23* (1.01-1.50)

Note. OR: odds ratio; CI: confidence interval
PW: paternal warmth; MW: maternal warmth; SLE: stressful life events; PVA: paternal verbal aggression; MVA = maternal verbal aggression
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

of depression (OR = 0.81, 95% CI: 0.66-0.98). As visualized in Figure 1, among adolescents with low levels of paternal warmth, the probability of having depressive symptoms increased with elevated levels of paternal verbal aggression. However, with high paternal warmth, depressive symptoms decreased even with increasing paternal verbal aggression. Furthermore, a significant interaction between paternal warmth and maternal verbal aggression on symptoms of depression was also observed (OR = 1.36, 95% CI: 1.11-1.66). However, hypothesis 2c, which suggested a buffering relationship, was still not supported since findings demonstrated that the association between maternal verbal aggression and depressive symptoms was exacerbated by high paternal warmth, as illustrated in Figure 2.

In Model 3, the significant moderating influence of maternal warmth was evident only on the relationship between maternal
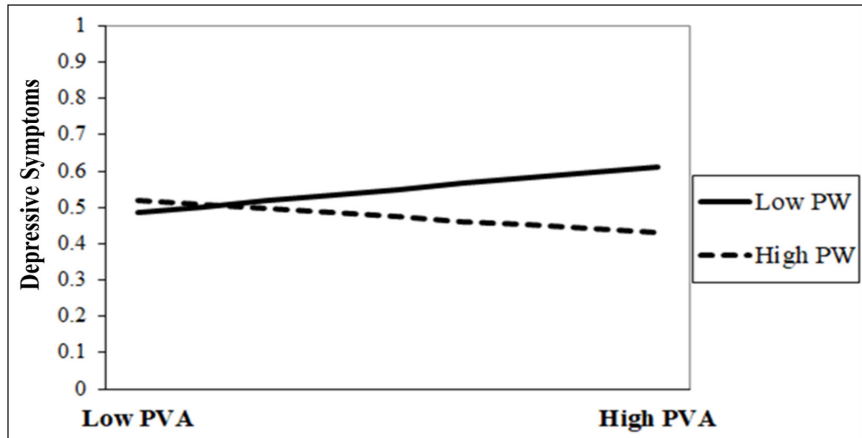
Figure 1. The interaction of Paternal Verbal Aggression (PVA) and Paternal Warmth (PW) on depressive symptoms
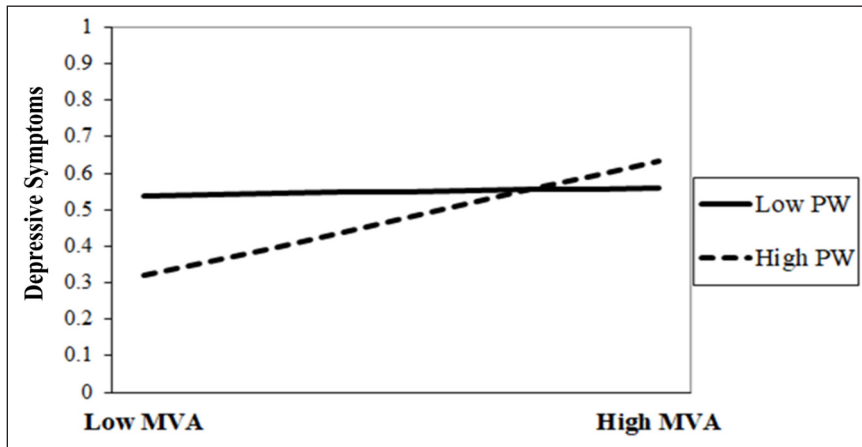

Figure 2. The interaction of Maternal Verbal Aggression (MVA) and Paternal Warmth (PW) on depressive symptoms

verbal aggression and depressive symptoms (OR = 1.23, 95% CI: 1.01-1.50). As revealed in Figure 3, adolescents with low levels of maternal warmth were highly likely to exhibit depressive symptoms regardless of the degree of maternal verbal aggression. Conversely, with greater maternal verbal aggression, the probability of showing symptoms of depression continued to rise despite high levels of maternal warmth. In other words, while a significant interaction

effect was revealed, hypothesis 2f still failed to be supported since maternal warmth increased the depressogenic impact of maternal verbal aggression instead of diminishing it. Moreover, maternal warmth did not buffer the associations of both stressful life events and paternal verbal aggression with adolescent depressive symptoms; as such, hypotheses 2d and 2e were likewise not supported by the findings.
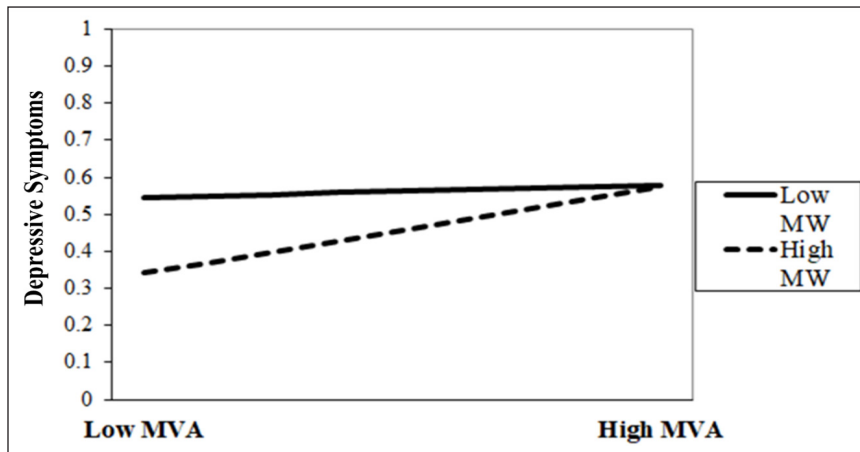
Figure 3. The interaction of Maternal Verbal Aggression (MVA) and Maternal Warmth (MW) on depressive symptoms

Discussions of Findings on Hypotheses Testing

The most obvious finding to emerge from this study was that stressful life events significantly predicted depressive symptoms. Such an outcome was not surprising given the overwhelming results from past studies that total stressful life events brought about a depressogenic risk for adolescents (e.g., Fox et al., 2010; Natsuaki et al., 2007; Sanchez et al., 2012; Shapero et al., 2015; Sun et al., 2016; Young, 2016). As explained by scholars, undergoing multiple stressful life events is more influential to the development of depression than a single stressor (Meyer et al., 1993; Morales & Guerra, 2006). Burton et al. (2004) elucidated that when individuals experience only one stressful event, generating suitable coping resources may not be that difficult; in contrast, going through a manifold of adverse life events may overstrain a person's means of coping, which puts him at risk for developing disorders.

Parental verbal aggression was also examined as a risk factor for depressive symptoms. In the multivariable analysis, maternal verbal aggression had a direct influence on depressive symptoms. This finding is in harmony with results from prior research that maternal verbal aggression predicted adolescent depressive symptoms (e.g., Donovan & Brassard, 2011; Wang & Kenny, 2014); while paternal verbal aggression was not associated with internalizing symptoms in children (Anonas & Alampay, 2015). Several studies have suggested that harsh parenting from the mother has a stronger effect on the child than that of the father (Chang et al., 2003).

Wang and Kenny (2014) suggested that such empirical outcome may be due to the fact that children spend more time with their mother than they do with their father, and that mothers appear to exhibit more harsh forms of discipline. In fact, our univariate analysis revealed a higher mean score for MVA (M=10.40; SD=4.34) than

PVA (M=9.25; SD=4.37). Even though contemporary Malaysian women may already be pursuing higher education or are engaged in employment, they still perform the primary responsibility of rearing their children (Mellström, 2009). Hence, the constant interaction between the mother and the child may expose the latter to more MVA.

In addition, consistent with gender role theories, Chang et al. (2003) stressed that children might have a more negative emotional response to maternal aggression than that of the father since such behavior went against the traditional role of the mother, which was to exhibit warm and caring behaviors toward the child. Indeed, within the Asian context, the mother is supposed to provide a loving environment at home (Jankowiak, 1992) and foster a strong emotional relationship with the child (Chao & Tseng, 2002). In fact, a study of Malaysian adolescents by Yap et al. (2014) demonstrated that mothers accorded more importance to emotional support to the child than fathers did. In view of this, when the child experiences rejection through maternal verbal aggression, then they become emotionally distressed (Khaleque & Rohner, 2012).

Focal to this study was the exploration if parental warmth would protect adolescents from the depressogenic impact of stressful life events and parental verbal aggression. Contrary to the risk-protective model and stress-buffering framework, results from the present study did not find support for the hypothesized role of parental warmth in mitigating the influence of stressful life events on depressive symptoms. The nonsignificant interaction between paternal warmth and stressful life events on depressive symptoms substantiated findings from previous studies (e.g., Ge et al., 1994; Ge et al., 2009). For example, Ge and associates (2009) found that closeness with the father did not moderate the effects of family and personal stressful life events on adolescent depressive symptoms. They speculated that this might be due to the lack of attention and responsiveness exhibited by fathers, which were supposedly helpful to adolescents who were going through life stress. In contrast, the finding that maternal warmth did not buffer the stress-depression link disputes findings from past studies (e.g., Ge et al., 1994; Ge et al., 2009), which found that maternal warmth significantly safeguarded adolescents from the influence of stressful life events and other risk factors on depressive symptoms.

A plausible explanation for the overall lack of evidence for the protective role of parental warmth may be the nature of stressful life events assessed in this research. As presumed by Cohen and Wills (1985), the stress-buffering role of certain types of social support may be influential only to specific forms of stressful life events. Nonetheless, this study investigated aggregated stressful life events rather than domain-specific. Hazel et al. (2014) similarly noted that such a cumulative measure of stressful life events might obscure the specific types of stressors which could be ameliorated most by social support. Hence, significant findings for

the moderating effect of parental warmth may have emerged if this study focused on domain-specific stressful life events.

This study yielded some significant findings on the impact of parental warmth in moderating the relationship between parental verbal aggression and adolescent depressive symptoms. In contrast to the results by Wang and Kenny (2014), paternal warmth moderated the depressogenic impact of paternal verbal aggression. Researchers have reasoned that by exhibiting high levels of warmth, parents compensate for their harsh disciplinary strategies (McKee et al., 2007), or counteract the undesirable lessons communicated by their hostile parenting (Simons et al., 2012). Simons et al. (2012) further noted that within the domains of parental warmth, children learnt that parents' verbally and physically aggressive behaviors toward them were normative of intimate relationships. Wang and Kenny (2014) also suggested that within the context of a parent-child relationship that was characterized by love and trust, children who were harshly disciplined might not necessarily feel rejected, but instead imbibe their parent's values and behaviors; hence, parental warmth may act as a protective factor against hostile parenting. Apparently, an affectionate and warm parent-child bond facilitates healthy emotional growth during adolescence (del Barrio et al., 2016). When parental warmth is exhibited in the family, adolescents may not hesitate to share their thoughts and experiences with their parents, which in turn, lead to greater parental knowledge of their whereabouts, activities,

and acquaintances (Son & Choi, 2013; Yun et al., 2016). Such parent-child quality of interaction has been shown to reduce depressive symptoms in adolescents over time (Garthe et al., 2015).

In accord with findings of other studies (e.g., McKee et al., 2007; Wang & Kenny, 2014), results of this research demonstrated that maternal warmth did not buffer against the effects of fathers' verbally aggressive behaviors on adolescent depressive symptoms. However, an interesting finding involved the significant interaction between parental warmth and maternal verbal aggression. What is surprising is that despite the presence of high paternal or maternal warmth, depressive symptoms continued to rise at increasing levels of maternal verbal aggression. Although this finding looks counter-intuitive, it mirrors the observation by Anonas and Alampay (2015), wherein high maternal warmth increased the effects of greater levels of parental verbal punishment on child internalizing symptoms. Wang and Kenny (2014) speculated that even within the context of a warm parent-child bond, harsh verbal discipline still strengthened depressive symptoms due to its threats to the adolescent's sense of self. As pointed out by Turner and Finkelhor (1996), inconsistent parenting, wherein parental support is concurrent with frequent punishment, may result in a sense of unpredictability and heightened distress in adolescents. It may be argued that adolescents who are experiencing undesirable family risk factors will be protected more from depressive

symptoms if they receive less, rather than high emotional support from parents (Beam et al., 2002; Gore & Aseltine, 1995).

CONCLUSIONS

It was empirically established that experiencing multiple stressful life events and maternal verbal aggression increased depressive symptoms in adolescents. Moreover, warm parenting by the father mitigated the influence of paternal verbal aggression on adolescent depressive symptoms; therefore, substantiating the risk-protective model as well as the stress-buffering framework. However, both paternal and maternal warmth aggravated the depressogenic impact of maternal verbal aggression. Hence, parental warmth was not a protective factor against the depressogenic impact of maternal verbal aggression. In addition, there was no inter-parental protective influence of parental warmth, in that, paternal warmth did not reduce the depressogenic impact of maternal verbal aggression and maternal warmth was not at all related to paternal verbal aggression. By and large, adolescents' perceptions of parenting behaviors highlighted the distinct roles played by mothers and fathers. Accordingly, mothers' and not fathers' harsh parenting was predictive of depressive symptoms. In contrast, fathers' and not mothers' positive parenting operated as a protective factor against the depressogenic influence of parental verbal aggression.

On the whole, results substantiated assertions of theories on the associations between stressful life events, parental verbal aggression, and adolescent depression, as well as the buffering role of paternal warmth. The present study may also offer suggestions to policy-makers and practitioners concerning possible avenues for reducing depressive symptoms among Malaysian adolescents. Overall, clinicians, parents, and school personnel must work together in developing prevention and intervention programs to ensure that adolescents do not develop depressive symptoms.

However, some limitations of this study need to be acknowledged. This research was cross-sectional; hence causality between the predictors and depressive symptoms could not be established. Nonetheless, given that within the Southeast Asian setting less is known as to the relationships among the variables of interest, such an approach was useful as it provided immediate clarifications on the issues at hand. To extend the findings of this research, future work should employ longitudinal and prospective designs. Secondly, data were based solely on adolescents' self-report. Since self-report measures could potentially compromise internal validity, the use of multiple sources of information would be preferable as it may reduce the effect of subjectivity (Li et al., 2013). Future studies should interview multiple informants, such as parents and teachers, to provide corroboration to the reports made by adolescents. Nevertheless, regardless of potential inaccuracies in the self-reporting of adolescents, their perceptions are important aspects of their behavioral and cognitive

functioning; therefore, adolescents' reports may be more influential to their well-being than actual behaviors of others (Brown et al., 1986; as cited in Beam et al., 2002). Lastly, only a measure of depressive symptoms was utilized rather than a clinical assessment of depressive disorders. Consequently, other researchers can carry out follow-up studies that investigate a clinical sample of adolescents.

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REFERENCES

Agoston, A. M., & Rudolph, K. D. (2016). Interactive contributions of cumulative peer stress and executive function deficits to depression in early adolescence. *Journal of Early Adolescence, 36*(8), 1070-1094. doi: 10.1177/0272431615 593176

Ahmad, N., Cheong, S., Ibrahim, N., & Rosman, A. (2014). Suicidal ideation among Malaysian adolescents. *Asia-Pacific Journal of Public Health*, *26*(5S), 63S-69S. doi: 10.1177/1010539514540746

Alegre, A., Benson, M. J., & Perez-Escoda, N. (2014). Maternal warmth and early adolescents' internalizing symptoms and externalizing behavior: Mediation via emotional insecurity. *Journal of Early Adolescence, 34*(6), 712-735. doi: 10.1177/0272431613501408

Alloy, L. B., Hamilton, J. L., Hamlat, E. J., & Abramson, L. Y. (2016). Pubertal development, emotion regulatory styles, and the emergence of sex differences in internalizing disorders and symptoms in adolescence. *Clinical Psychological Science, 4*(5), 867-881. doi: 10.1177/2167702616643008

Anonas, M. R. L., & Alampay, L. P. (2015). The moderating role of parental warmth on the relation between verbal punishment and child problem behaviors for same-sex and cross-sex parent-child groups. *Philippines Journal of Psychology*, *48*(1), 1-29.

Bahls, S. (2002). Epidemiology of depressive symptoms in adolescents of a public school in Curitiba, Brazil. *Brazilian Journal of Psychiatry, 24*(2). doi: 10.1590/S1516-44462002000200005

Baharudin, R., Zulkefly, N. S., & Arshat, Z. (2014). *The development of Malaysian Parenting Behaviour Inventory (MPBI)*. Putrajaya, Malaysia: Ministry of Education.

Baharudin, R., Zulkefly, N. S., & Arshat, Z. (2015). *Development of a Cognitive Diathesis Model for depression in adolescents: Parenting and negative life events as predictors*. Putrajaya, Malaysia: Ministry of Education.

Balazs, J., Miklosi, M., Kereszteny, A., Apter, A., Bobes, J., Brunner, R., ... Wasserman, D. (2012). P-259 – Prevalence of adolescent depression in Europe. *European Psychiatry, 27*. doi: 10.1016/S0924-9338(12)74426-7

Bastin, M., Mezulis, A., Ahles, J., Raes, F., & Bijttebier, P. (2015). Moderating effects of brooding and co-rumination on the relationship between stress and depressive symptoms in early adolescence: A multi-wave study. *Journal of Abnormal Child Psychology*, *43*, 607-618. doi: 10.1007/s10802-014-9912-7

Beam, M. R., Gil-Rivas, V., Greenberger, E., & Chen, C. S. (2002). Adolescent problem behavior and depressed mood: Risk and protection

within and across social contexts. *Journal of Youth and Adolescence*, *31*(5), 343-357. doi: 10.1023/a:1015676524482

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*(1), 77-100. doi: 10.1016/0272-7358(88)90050-5

Braza, P., Carreras, R., Muñoz, J. M., Braza, F., Azurmendi, A., Pascual-Sagastizabal, E., ... Sanchez-Martin, J. R. (2015). Negative maternal and paternal parenting styles as predictors of children's behavioral problems: Moderating effects of the child's sex. *Journal of Child and Family Studies, 28,* 847-856. doi: 10.1007/s10826-013-9893-0

Breton, J., Labelle, R., Berthiaume, C., Royer, C., St-Georges, M., Richard, D., & Guile, J. (2015). Protective factors against depression and suicidal behaviour in adolescence. *The Canadian Journal of Psychiatry*, *60*, S5-S15.

Burton, E., Stice, E., & Seeley, J. R. (2004). A prospective test of the stress-buffering model of depression in adolescent girls: No support once again. *Journal of Consulting and Clinical Psychology*, *72*(4), 689-697. doi: 10.1037/0022-006X.72.4.689

Carter, J. S., Dellucci, T., Turek, C., & Mir, S. (2015). Predicting depressive symptoms and weight from adolescence to adulthood: Stressors and the role of protective factors. *Journal of Youth and Adolescence, 44*(11), 2122-2140. doi: 10.1007/s10964-015-0301-5

Casey, B. J., Jones, R. M., Levita, L., Libby, V., Pattwell, S., Ruberry, E., Soliman, F., & Somerville, L. H. (2010). The storm and stress of adolescence: Insights from human imaging and mouse genetics. *Developmental Psychobiology*, *52*(3), 225-235. doi: 10.1002/dev.20447

Chang, L., Schwartz, D., Dodge, K. A., & McBridge-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology, 17*, 598-606.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin 98*, 310-357.

Chao, R., & Tseng, V. (2002). Parenting of Asians. In M. H. Bornstein (Ed.), *Handbook of parenting: Social conditions and applied parenting* (2nd ed., Vol. 4, pp. 59-93). Mahwah, USA: Lawrence Erlbaum Associates.

Colman, I., Zeng, Y., Mcmartin, S. E., Naicker, K., Ataullahjan, A., Weeks, M., … Galambos, N. L. (2014). Protective factors against depression during the transition from adolescence to adulthood: Findings from a national Canadian cohort. *Preventive Medicine*, *65*, 28-32. doi: 10.1016/j.ypmed.2014.04.008

Davidson, S., & Adams, J. (2013). Adversity and internalizing problems among rural Chinese adolescents: The roles of parents and teachers. *International Journal of Behavioral Development, 37*(6), 530-541. doi: 10.1177/0165025413503421

del Barrio, V., Holgado-Tello, F. P., & Carrasco, M. A. (2016). Concurrent and longitudinal effects of maternal and paternal warmth on depression symptoms in children and adolescents. *Psychiatry Research, 242,* 75-81. doi: 10.1016/j.psychres.2016.05.032

Demoze, M. B., Angaw, D. A., & Mulat, H. (2018). Prevalence and associated factors of depression among orphan adolescents in Addis Ababa, Ethiopia. *Psychiatry Journal, 2018,* 1-6. doi: 10.1155/2018/5025143

de Zoysa, P., Newcombe, P. A., & Rajapakse, L. (2010). Outcomes of parental use of psychological aggression on children: A structural model from Sri Lanka. *Journal of Interpersonal Violence, 25*, 1542-1560. doi: 10.1177/0886260 509354582

Donovan, K. L., & Brassard, M. R. (2011). Trajectories of maternal verbal aggression across the middle

school years : Associations with negative view of self and social problems. *Child Abuse & Neglect*, *35*(10), 814-830. doi: 10.1016/j. chiabu.2011.06.001

Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review Public Health*, *26*, 399-419. doi: 10.1146/annurev.publhealth.26.021304.144357

Fox, J. K., Halpern, L. F., Ryan, J. L., & Lowe, K. A. (2010). Stressful life events and tripartite model: Relations to anxiety and depression in adolescent females. *Journal of Adolescence, 33,* 43-54. doi: 10.1016/j.adolescence.2009.05.009

Garthe, R. C., Sullivan, T., & Kliewer, W. (2015). Longitudinal relations between adolescent and parental behaviors, parental knowledge, and internalizing behaviors among urban adolescents. *Journal of Youth Adolescence, 44,* 819-832. doi: 10.1007/s10964-014-0112-0

Ge, X., Kim, I. J., Brody, G. H., Conger, R. D., Simons, R. L., Gibbons, F. X., & Cutrona, C. E. (2003). It's bout timing and change: Pubertal transition effects on symptoms of major depression among African American youths. *Developmental Psychology*, *39*, 430-439.

Ge, X., Lorenz, F., Conger, R., Elder, C., & Simons, R. L. (1994). Trajectories of stressful life events and depressive symptoms during adolescence. *Developmental Psychology*, *30*, 467-483.

Ge, X., Natsuaki, M. N., Neiderhiser, J. M., & Reiss, D. (2009). The longitudinal effects of stressful life events on adolescent depression are buffered by parent –child closeness. *Development and Psychopathology*, *21*, 621-635. doi: 10.1017/S0954579409000339

Gladstone, T. R. G., & Beardslee, W. R. (2009). The prevention of depression in children and adolescents: A review. *Canadian Journal of Psychiatry*, *54*(4), 212-221.

Gore, S., & Aseltine, R. H. (1995). Protective processes in adolescence: Matching stressors with social resources. *American Journal of Community Psychology*, *23*, 301-327.

Hammen, C. (2009). Adolescent depression: Stressful interpersonal contexts and risk for recurrence. *Current Directions in Psychological Science*, *18*, 200-204.

Hammen, C. (2016). Depression and stressful environments: Identifying gaps in conceptualization and measurement. *Anxiety, Stress, & Coping*, *29*(4), 335-351. doi: 10.1080/10615806.2015.1134788

Hankin, B. (2006). Adolescent depression: Description, causes, and interventions. *Epilepsy & Behavior*, *8*, 102-114. doi: 10.1016/j.yebeh.2005.10.012

Hankin, B., Young, J., Abela, J., Smolen, A., Jenness, J., Gulley, L., ... Oppenheimer, C. (2015). Depression from childhood into late adolescence: Influence of gender, development, genetic susceptibility, and peer stress. *Journal of Abnormal Psychology*, *124*(4),803-816. doi: 10.1037/abn0000089

Hazel, N., Oppenheimer, C., Technow, J., Young, J., & Hankin, B. (2014). Parent relationship quality buffers against the effect of peer stressors on depressive symptoms from middle childhood to adolescence. *Developmental Psychology, 50*(8)*,* 2115-2123. doi: 10.1037/a0037192

Herres, J., & Kobak, R. (2015). The role of parent, teacher, and peer events in maintaining depressive symptoms during early adolescence. *Journal of Abnormal Child Psychology, 43,* 325-337. doi: 10.1007/s10802-014-9896-3

Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed.). New York, USA: John Wiley & Sons, Incorporated.

Ibrahim, N., Amit, N., & Suen, M. W. (2014). Psychological factors as predictors of suicidal ideation amng adolescents in Malaysia. *PLoS*

ONE, 9(10): e110670. doi: 10.1371/journal. pone.0110670

Ingram, R. E., & Luxton, D. D. (2005). Vulnerability-stress models. In B. L. Hankin, & J. R. Z. Abela (Eds.), *Development of psychopathology: A vulnerability-stress perspective* (pp.32-46). doi: 10.4135/9781452231655.n2

Jaggers, J. W., Bolland, A. C., Tomek, S., Ii, W. T. C., Hooper, L. M., Bolland, K. A., & Bolland, J. M. (2017). Does biology matter in parent – child relationships? Examining parental warmth among adolescents from low-income families. *Journal of Family Issues, 38*(2), 225-247. doi: 10.1177/0192513X15610156

Jankowiak, W. (1992). Father–child relations in urban China. In B. S. Hewlett (Ed.), *Father–child relations: Cultural and biosocial contexts* (pp. 345-363). New York, USA: De Gruyter.

Jaschek, G., Carter-Pokras, O. D., He, X., Lee, S., & Canino, G. (2016). Association of types of life events with depressive symptoms among Puerto Rican youth. *PLoS ONE, 11*(10), 1-15. doi: 10.1371/journal.pone.0164852

Johnson J. H. (1982). Life events as stressors in childhood and adolescence. In B. B. Lahey & Kazdin A. E. (Eds.), *Advances in clinical child psychology* (pp. 219-253). New York, USA: Plenum.

Kadir, N. B. A., & Bifulco, A. (2011). Vulnerability, life events and depression amongst Moslem Malaysian women: Comparing those married and those divorced or separated. *Social Psychiatry and Psychiatric Epidemiology, 46*, 853-862. doi: 10.1007/s00127-010-0249-4

Kaur, J., Cheong, S., Naidu, B., Kaur, G., Manickam, M., Noor, M., . . . Rosman, A. (2014). Prevalence and correlates of depression among adolescents in Malaysia. *Asia-Pacific Journal of Public Health, 26*(5S), 53S-62S. doi: 10.1177/1010539514544356

Kazdin, A., Kraemer, H., Kessler, R., Kupfer, D., & Offord, D. (1997). Contributions of risk factor research to developmental psychopathology. *Clinical Psychology Review, 17*(4), 375-406.

Khaleque, A., & Rohner, R. P. (2012). Transnational relations between perceived parental acceptance and personality dispositions of children and adults: A meta-analytic review. *Personality and Social Psychology Review, 16,* 103-115.

LeRoy, M., Mahoney, A., Boxer, P., Gullan, R. L., & Fang, Q. (2014). Parents who hit and scream: Interactive effects of verbal and severe physical aggression on clinic-referred adolescents' adjustment. *Child Abuse and Neglect, 38*, 893-901. doi: 10.1016/j.chiabu.2013.10.017

Li, W., Zhang, L., Liu, B., & Cao, H. (2013). The impact of negative interpersonal life events on social adaptation of Chinese college students: Mediator effect of self-esteem. *Social Behavior and Personality, 41*(5), 705-714. doi: 10.2224/sbp.2013.41.5.705

Lim, K., Chong, Z., Khoo, Y., & Kaur, J. (2014). Parental smoking status, stress, anxiety, and depression are associated with susceptibility to smoking among non-smoking school adolescents in Malaysia. *Asia-Pacific Journal of Public Health, 26*(5S), 81S-90S. doi: 10.1177/1010539514542426

Maideen, S. K., Mohd Sidik, S., Rampal, L., & Mukhtar, F. (2014). Prevalence, associated factors and predictors of anxiety: A community survey in Selangor, Malaysia. *BMC Psychiatry, 15*(262),1-12. doi: 10.1186/s12888-015-0648-x

McKee, L., Roland, E., Coffelt, N., Olson, A. L., Forehand, R., Massari, C., … Zens, M. S. (2007). Harsh discipline and child problem behaviors : The roles of positive parenting and gender. *Journal of Family Violence, 22*(4), 187-196. doi: 10.1007/s10896-007-9070-6

McKinney, C., & Renk, K. (2008). Multivariate models of parent-late adolescent gender dyads: The importance of parenting processes in predicting adjustment. *Child Psychiatry and Human Development*, *39*(2), 147-170. doi: 10.1007/s10578-007-0078-1

Mellström, U. (2009). The intersection of gender, race and cultural boundaries, or why is computer science in Malaysia dominated by women? *Social Studies of Science, 36*(6), 885-907.

Meyer, P. A., Garrison, C. Z., Jackson, K. L., Addy, C. L., McKeown, R. E., & Waller, J. L. (1993). Undesirable life-events and depression in young adolescents. *Journal of Child and Family Studies*, *2*(1), 47-60.

Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics, 138*(6). doi: 10.1542/peds.2016-1878

Morales, J. R., & Guerra, N. G. (2006). Effects of multiple context and cumulative stress on urban children's adjustment in elementary school. *Child Development, 77(*4), 907-923.

Mukhtar, F., & Oei, T. P. S. (2008). Exploratory and confirmatory factor validation and psychometric properties of the Beck Depression Inventory for Malays (BDI-Malay) in Malaysia. *Malaysian Journal of Psychiatry, 17*(1), 51-64.

Nalugya-Sserunjogi, J., Rukundo, G. Z., Ovuga, E., Kiwuwa, S. M., & Musisi, S. (2016). Prevalence and factors associated with depression symptoms among school-going adolescents in Central Uganda. *Child and Adolescent Psychiatry and Mental Health*, *10*(39). doi: 10.1186/s13034-016-0133-4

Natsuaki, M. N., Ge, X., Brody, G. H., Simons, R. L., Gibbons, F. X., & Cutrona, C. E. (2007). African American children's depressive symptoms: The prospective effect of neighborhood disorder, stressful life events, and parenting. *American Journal of Community Psychology*, *39*, 163-176.

Osborne, J. W. (2015). *Best Practices in Logistic Regression*. California, USA: Sage Publications, Incorporated.

Overbeek, G., Vermulst, A., de Graaf, R., Have, M. T., Engels, R., & Scholte, R. (2010). Positive life events and mood disorders: Longitudinal evidence for an erratic lifecourse hypothesis. *Journal of Psychiatric Research*, *44*(15), 1095-1100. doi: 10.1016/j.jpsychires.2010.03.019

Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry, 56*(3), 345-365. doi: 10.1111/jcpp.12381

Polcari, A., Rabi, K., Bolger, E., & Teicher, M. H. (2014). Child abuse & neglect parental verbal affection and verbal aggression in childhood differentially influence psychiatric symptoms and wellbeing in young adulthood. *Child Abuse & Neglect*, *38*(1), 91-102. doi: 10.1016/j.chiabu.2013.10.003

Quach, A. S., Epstein, N. B., Riley, P. J., Falconier, M. K., & Fang, X. (2015). Effects of parental warmth and academic pressure on anxiety and depression symptoms in Chinese adolescents. *Journal of Child and Family Studies*, 1-11. doi:10.1007/s10826-013-9818-y

Ramli, M., Adina, S., Suthahar, A., Edariah, A., Mohd Ariff, F., Narimah , A., ... Karuthan, C. (2008). Depression among secondary school students: A comparison between urban and rural populations in a Malaysian community. *Hong Kong Journal of Psychiatry*, *18*, 55-61.

Rohner, R., & Brothers, S. (1999). Perceived parental rejection, psychological maladjustment, and borderline personality disorder. *Journal of Emotional Abuse*, *1,* 81-95.

Sachs-Ericsson, N., Verona, E., Joiner, T., & Preacher, K. J. (2006). Parental verbal abuse

and the mediating role of self-criticism in adult internalizing disorders. *Journal of Affective Disorders, 93*, 71-78. doi: 10.1016/j.jad.2006.02.014

Salk, R. H., Petersen, J. L., Abramson, L. Y., & Hyde, J. S. (2016). The contemporary face of gender differences and similarities in depression throughout adolescence: Development and chronicity. *Journal of Affective Disorders*, *205*, 28-35. doi: 10.1016/j.jad.2016.03.071

Saluja, G., Iachan, R., Scheidt, P. C., Overpeck, M. D., Sun, W., & Giedd, J. N. (2004). Prevalence of and risk factors for depressive symptoms among young adolescents. *Archives of Pediatrics and Adolescent Medicine, 158*(8), 760-765. doi: 10.1001/archpedi.158.8.760

Sanchez, Y. M., Lambert, S. F., & Ialongo, N. S. (2012). Life events and depressive symptoms in African American adolescents: Do ecological domains and timing of life events matter? *Journal of Youth and Adolescence, 41*(4)*,* 438-448. doi: 10.1007/s10964-011-9689-8

Shapero, B. G., Hamilton, J. L., Stange, J. P., Liu, R. T., Abramson, L. Y., & Alloy, L. B. (2015). Moderate childhood stress buffers against depressive response to proximal stressors: A multi-wave prospective study of early adolescents. *Journal of Abnormal Child Psychology, 43,* 143-1413. doi: 10.1007/s10802-015-0021-z

Simons, L. G., Simons, R. L., Lei, M., Hancock, D. L., & Fincham, F. D. (2012). Parental warmth amplifies the negative effect of parental hostility on dating violence. *Journal of Interpersonal Violence, 27*(13), 2603-2626. doi: 10.1177/0886260512436387

Sokratous, S., Merkouris, A., Middleton, N., & Karanikola, M. (2013). The association between stressful life events and depressive symptoms among Cypriot university students: A cross-sectional descriptive correlational study. *BMC Public Health, 13,* 1121, 1. doi: 10.1186/1471-2458-13-1121

Son, I. B., & Choi, J. A. (2013). Parental knowledge trajectory and its relationships with parental warmth and adolescent disclosure for Korean adolescents. *Children and Youth Services Review, 35,* 1643-1649. doi: 10.1016/j.childyouth.2013.06.018

Straus, M. A., & Field, C. J. (2003). Psychological aggression by American parents: National data on prevalence, chronicity, and severity. *Journal of Marriage and the Family, 65*, 795-808. doi: 10.1111/j.1741-3737.2003.00795.x

Sun, X., Niu, G., You, Z., Zhou, Z., & Tang, Y. (2016). Gender, negative life events and coping on different stages of depression severity: A cross-sectional study among Chinese university students. *Journal of Affective Disorders*, *209,* 177-181. doi: 10.1016/j.jad.2016.11.025

Taillieu, T. L., & Brownridge, D. A. (2013). Aggressive parental discipline experienced in childhood and internalizing problems in early adulthood. *Journal of Family Violence*, *28*(5), 445-458. doi: 10.1007/s10896-013-9513-1

Talib, M. A. & Abdollahi, A. (2015). Spirituality moderates hopelessness, depression, and suicidal behavior among Malaysian adolescents. *Journal of Religion & Health, 56*(3), 784-795. doi: 10.1007/S10943-015-0133-3

Tang, X., Tang, S., Ren, Z., & Wong, D. F. K. (2018). Prevalence of depressive symptoms among adolescents in secondary school in mainland China: A systematic review and meta-analysis. *Journal of Affective Disorders, 245,* 498-507. doi: 10.1016/j.jad.2018.11.043

Teicher, M. H., Samson, J. A., Polcari, A. & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *The American Journal of Psychiatry*, *163*(6), 993-1000.

Turner, H. A., & Finkelhor, D. (1996). Corporal punishment as a stressor among youth. *Journal of Marriage and the Family*, *58*, 155-166.

Unger, J. B., Li, Y., Johnson, C. A., Gong, J., Chen, X., Li, C., & Lo, A. T. (2001). Stressful life events among adolescents in Wuhan, China: Associations with smoking, alcohol use, and depressive symptoms. *International Journal of Behavioral Medicine, 8*(1), 1-19. doi: 10.1207/s15327558ijbm0801_01

Velez, C. E., Krause, E. D., Mckinnon, A., Brunwasser, S. M., Freres, D. R., Abenavoli, R. M., & Gillham, J. E. (2016). Social support seeking and early adolescent depression and anxiety symptoms: The moderating role of rumination. *Journal of Early Adolescence, 36*(8), 1118-1143. doi: 10.1177/0272431615594460

Wahab, S., Rahman, F. N. A., Hasan, W. M. H. W., Zamani, I. Z., Arbaiei, N. C., Siew, L. K.,. . . Nawi, A. M. (2013). Stressors in secondary boarding school students: Association with stress, anxiety and depressive symptoms. *Asia-Pacific Psychiatry*, *5*, 82-89. doi: 10.1111/appy.12067

Wang, L., Feng, Z., Yang, G., Yang, Y., Wang, K., Dai, Q., … Xia, F. (2016). Depressive symptoms among children and adolescents in Western China: An epidemiological survey of prevalence and correlates. *Psychiatry Research, 246,* 267-274. doi: 10.1016/j.psychres.2016.09.050

Wang M. T., & Kenny S. (2014). Longitudinal links between fathers' and mothers' harsh verbal discipline and adolescents' conduct problems and depressive symptoms. *Child Development, 85*(3), 908-923. doi: 10.1111/cdev.12143

Wartberg, L., Kriston, L., & Thomasius, R. (2018). Depressive symptoms in adolescents. *Deutsches Arzteblatt International, 115,* 549-555. doi: 10.3238/arztebl.2018.0549

Wolfe, D. A., & McIsaac, C. (2011). Distinguishing between poor/ dysfunctional parenting and child emotional maltreatment. *Child Abuse & Neglect*, *35*(10), 802-813. doi: 10.1016/j.chiabu.2010.12.009

Yap, S. T., Baharudin, R., Yaacob, S., & Osman, S. (2014). Paternal and maternal involvement in Malaysian adolescents: Test of factor structure, measurement invariance and latent mean differences. *Child Indicator Reserch, 7,* 193-208. doi: 10.1007/s12187-013-9209-3

Young, C. (2016). Familial factors, cognitive vulnerabilities, and stressful events related to depressive symptoms in Latino adolescents. *Hispanic Journal of Behavioral Sciences*, *38*(3), 360-377. doi: 10.1177/0739986316644734

Yun, H., Cui, M., & Blair, B. L. (2016). The mediating roles of adolescent disclosure and parental knowledge in the association between parental warmth and delinquency among Korean adolescents. *Journal of Child and Family Studies, 25,* 2395-2404. doi: 10.1007/s10826-016-0425-6

Zhang, W., Li, H., Gong, Y., & Ungar, M. (2013). Stressful events and depression among Chinese adolescents: The mitigating role of protective factors. *School Psychology International*, *34*(5), 501-513. doi: 10.1177/0143034312472760

Zimmerman, M. A. (2013). Resiliency theory: A strength-based approach to research and practice for adolescent health. *Health Education Behavior*, *40*(5), 381-383. doi: 10.1177/1090198113493782

Zimmerman, M. A., Ramirez-Valles, J., Zapert, K. M., & Maton, K. I. (2000). A longitudinal study of stress-buffering effects for urban African-American male adolescent problem behaviors and mental health. *Journal of Community Psychology, 28*(1), 17-33.