

# Understanding Sex Differences in Depressive Symptomatology among Malaysian Adolescents

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## **Abstract**

*Depressive symptomatology is among the primary psychological problems experienced by adolescents. Extant literature has also extensively reported sex differences in the occurrence of depressive symptoms. However, a majority of related research has primarily been carried out in the Western context. Hence, we conducted a study to identify the prevalence of depressive symptoms among Malaysian adolescents, and to determine its relationship with certain risk factors as well as the potential moderating role of sex. The sample comprised of 964 adolescents from 20 secondary schools across Malaysia. Logistic regression results demonstrated that stressful life events and maternal verbal aggression significantly predicted symptoms of depression. In moderation tests, sex significantly interacted with stressful life events and parental verbal aggression in predicting depressive symptoms. Hence, there is evidence to suggest that the depressogenic impact of stressful life events and parental verbal aggression on depressive symptomatology differs between male and female adolescents.*

*Keywords: adolescents, depressive symptoms, parental verbal aggression, sex, stressful life events*

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## **1.0 Introduction**

Depression is the main determining factor of disability and burden of disease globally (Wang et al., 2017). An even more disconcerting fact is that adolescence is a crucial time for the onset of depressive symptoms and disorders (Frison & Eggermont, 2015; Vélez et al., 2016). During adolescence, estimates of depression are the highest among all psychological disorders (Hammen, 2009). High prevalence estimates of adolescent depressive symptoms have been reported worldwide, such as, 41.1% among

Vietnamese (Nguyen, Dedding, Pham, Wright, & Bunders, 2013), 48% among Latinos (Young, 2016), 17.7% among Malaysians (Kaur et al., 2014), 26% among Chinese (Wang et al., 2016), 25% among Bangladeshis (Khan, Ahmed, & Burton, 2017), 36.4% among Ethiopians (Demoze, Angaw, & Mulat, 2018), and 21% among Ugandans (Sserunjogi, Rukundo, Ovuga, Kiwuwa, & Musisi, 2016). Such pervasiveness of depressive symptomatology during adolescence is a cause for great concern due to its resulting impairments in day-to-day functioning. Adolescent depressive

symptoms have been found to contribute to deficient academic performance (Humensky et al., 2010), smoking (Guo et al., 2016), suicidal ideation (Ahmad, Cheong, Ibrahim, & Rosman, 2014), weak resistance to illness, more health-related worries, interpersonal conflict, and perceptions of diminished social support (Naicker, Galambos, Zeng, Senthilselvan, & Colman, 2013). This scenario is further aggravated by the persistence and recurrence of adolescent depressive symptoms during adulthood (Dunn & Goodyer, 2006).

Suffice it to say, the development of adolescent symptoms of depression is a debilitating psychological health problem that is in dire need of intervention. In view of this, literature suggests that a multitude of factors must be examined to get a good grasp of the emergence of depression in adolescents. Among the paramount risk factors for the development of adolescent depression underscored in literature are stressful life events and parenting behaviors (Roberts & Bishop, 2005). Central to the stress exposure model is the notion of a unidirectional stress-depression relationship, wherein stressful life events significantly increase the risk for the development of depression (Herres & Kobak, 2014). By and large, this theory posits that stressful life events precede the development of depression and that individuals who have experienced stress are more likely to get depressed compared to those who have not (Garber, 2006). In fact, reliable lines of evidence have thoroughly documented the hypothesized depressogenic influence of stressful life events (e.g., Hazel, Oppenheimer, Technow, Young, & Hankin, 2014; Sanchez, Lambert, & Jalongo, 2012; Shapero et al., 2015; Young, 2016; Zhang, Li, Gong, & Ungar, 2013).

By the same token, hostile parenting patterns are stressors that can elicit depression in young individuals (McLeod, Weisz, & Wood, 2007). As a

matter of fact, 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). As espoused by the personality subtheory of the parental acceptance-rejection theory (PARTheory), a child who is subjected to verbally aggressive parenting behaviors may develop diminished emotional stability and immensely distressing emotions (Rohner & Brothers, 1999). Support for the personality subtheory of PARTheory in explaining the development of depression in adolescents may be gleaned from several individual and meta-analytic studies (e.g., Miranda, Affuso, Esposito, & Bacchini, 2016; Rohner & Britner, 2002; Tillman & Juntunen, 2013).

An investigation of depressive symptomatology would not be adequately informative without considering the role of sex since salient differences between males' and females' experiences of depression have been documented in the literature. Specifically, studies have revealed that adolescent girls endorse more depressive symptoms than boys do (Kaur et al., 2014; Malooly, Flannery, & Ohannessian, 2017). Such upsurge in depressive symptoms and disorders among girls starts to appear at about 13 to 15 years old, whereas those for males remain stable (Alloy, Hamilton, Hamlat, & Abramson, 2016; Salk, Petersen, Abramson, & Hyde, 2016). However, between 15 and 18 years old, there is an increase in the overall rates of depression for both adolescent girls and boys, with females being two times more likely than boys to become depressed (Hankin et al., 2015).

The observed sex differences in the rates of depression accentuate the mechanisms of stress reactivity (Hammen, 2016). In particular, a possible

elucidation for the apparent differences between males and females in depressive symptomatology is exposure to stressful life events (SLE). Young individuals frequently confront and must cope with several stressful life events which elicit substantial changes in their lives, such as transferring of schools, parental separation, death in the family, or illness (Johnson, 1982). As posited by the stress reactivity model, sex differences in depression may be explained by the interaction between sex and stress in predicting depression (Mezulis, Funasaki, Charbonneau, & Hyde, 2010). Scholars have hypothesized that males' and females' reactions to negative life events vary, in that, girls tend to internalize stress responses, while their male counterparts are more likely to externalize their reactions to stressors (Thompson, Kingree, & Desai, 2004). In other words, the stress reactivity framework implies that girls, relative to boys, have a higher likelihood of becoming depressed in response to exposure to undesirable events (Shih, Eberhart, Hammen, & Brennan, 2006).

The stress reactivity model has been investigated through a statistical moderation framework. In their meta-analysis, Grant et al. (2006) found that sex has been investigated as a moderator for the relationship of stressful life circumstances and depressive symptomatology in more than a hundred studies. It was further demonstrated in their investigation that 18 out of 19 studies that observed a moderating effect of sex found that the depressogenic effect of stressful life events on internalizing symptoms such as depression was greater for girls compared to boys. Similarly, Hankin and associates (2015) found that stressful peer relationships significantly predicted depression in both adolescent males and females; although the effect was stronger on girls than on boys. In the same way, adolescent

girls who experienced more overall stressors in different aspects (e.g., interpersonal, achievement, dependent, independent, and peer-related) displayed more symptoms of depression (Hankin, Mermelstein, & Roesch, 2007). Dutch adolescent girls, relative to boys, have also been found to be more vulnerable to the influence of stressful life events on depressive symptoms (Bouma, Ormel, Verhulst, & Oldehinkel, 2008).

In contrast, other studies showed that young males, relative to girls, did not manifest a depressogenic response to stressful life events. Studies (e.g., Agoston & Rudolph, 2016; Mezulis et al., 2010) have indicated that stressful life events predicted symptoms of depression in adolescent girls but not in males. Contrariwise, other empirical investigations (e.g., Eberhart, Shih, Hammen, & Brennan, 2006; Shih et al., 2006) provided evidence that the depressogenic impact of stressful life events was more pronounced in male teens than in their female counterparts. Nonetheless, the moderating role of sex was not confirmed in some studies (e.g., Johnson, Whisman, Corley, Hewitt, & Rhee, 2012; Moksnes, Moljord, Espnes, & Byrne, 2010).

The role of sex as a moderator of the association between a specific form of stressful life event, that is, harsh parenting behavior and child outcomes has likewise been empirically examined. However, previous studies which sought to determine whether adolescent boys and girls reacted differently to harsh parenting behaviors have yielded mixed findings. In the United States, harsh verbal punishment was found to have a more negative influence on girls' self-concept than that of boys (Berzenski & Yates, 2013). In contrast, fathers' harsh discipline was a stronger determinant of sons' aggressive behaviors than those of daughters' (Chang, Schwartz, Dodge,

& McBride-Chang, 2003). Although, in another research, coercive behavior by the father was more strongly associated with girls' aggression than that of boys (Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998). Moreover, McKee et al. (2007) did not find a significant interaction between harsh parental discipline and sex in predicting internalizing symptoms in young individuals. Similarly, sex did not moderate the link between adolescent depression and parental relationship with the child in the study by Eberhart et al. (2006).

Prior findings on psychological symptoms as determined by the interactions of stressful life events and harsh parenting with adolescent sex have been conflicting. Such contradictory findings hinder clear-cut understanding and generalization on the role of sex in the occurrence of depressive symptomatology. Notwithstanding this major drawback in literature, the relationships between adolescent depressive symptoms, stressful life events, and sex remain understudied in the Asian context particularly in Malaysia. Considering that adolescent girls and boys must deal with a multitude of stressful life events (Auerbach, Admon, & Pizzagalli, 2014) and developmental transitions which elevate negative emotions and susceptibility to internalizing symptoms (Larson & Ham, 1993), then, the paucity of pertinent research on Malaysian adolescents was deemed a primary limitation of extant literature on depressive symptomatology; henceforth necessitating further investigations. Moreover, given that understanding the reasons for disparities in depression between males and females is favorable to the design of prevention programs (Garber, 2006) and in grasping the antecedents of depression (Nolen-Hoeksema, 2001), then examining the role of sex in the occurrence of depressive symptoms is essential.

Against this background, this research sought to: (1) identify if stressful life events, paternal verbal aggression (PVA), and maternal verbal aggression (MVA) significantly predict depressive symptoms in Malaysian adolescents, and (2) determine whether sex moderates the associations of SLE, PVA, and MVA with depressive symptoms. Specifically, we aimed to test the following hypotheses:

*Hypothesis 1a:* Increasing number of SLE is associated with moderate to severe depressive symptoms.

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

*Hypothesis 1c:* Greater levels of perceived maternal verbal aggression are associated with moderate to severe symptoms of depression.

*Hypothesis 2a:* Females are more likely to experience moderate to severe depressive symptoms with greater number of SLE than their male counterparts.

*Hypothesis 2b:* There will be a significant interaction between sex and PVA in predicting adolescent depressive symptoms.

*Hypothesis 2c:* Sex will moderate the relationship between MVA and moderate to severe depressive symptomatology in adolescents.

## **2.0 Methodology**

### **Research Design**

The present study was primarily guided by a quantitative research approach. Inasmuch as this research sought to examine associations between variables, a correlational research design

also directed the analytical procedures. This study likewise made use of cross-sectional research design, in which the data analyzed were collected at a single point in time.

### **Research Locale and Sampling Procedure**

To ensure a heterogenous nationally-representative sample, the research locale encompassed all regions of Malaysia, particularly Johor (southern region), Kelantan (eastern region), Kuala Lumpur (central region) and Pulau Pinang (northern region). Respondents were recruited from a total of 20 government secondary schools in both rural and urban areas in these regions. Specifically, nine schools were selected from Johor, five from Kelantan, three from Kuala Lumpur, and three from Pulau Pinang.

The cluster sampling method was utilized by the researchers to choose the study participants due to the large geographic area of the country. Specifically, the probability proportional to size method of cluster sampling was used to select the clusters from which the respondents were drawn. First, the researchers identified government daily secondary school as the research cluster. The second step involved determining the number of clusters for each classification of locale (urban and rural), then for each state, lastly for every district. Then, a random selection of government daily secondary schools as well as students within each cluster ensued. Students enrolled in Forms (i.e., secondary education levels) 1, 2, 4, and 6 participated in the research. In Malaysia, Forms 1 and 2 correspond to lower secondary education levels; whereas, Forms 4 and 6 refer to upper secondary education levels.

### **Data Collection**

At the outset, permissions to use and translate the research instruments were solicited

from the corresponding authors through e-mail. All questionnaires originally developed in English were translated to Bahasa Melayu. Approvals for all study procedures were obtained from the Ministry of Education, State Education Department, school principals, individual classroom teachers, and the ethics committee of Universiti Putra Malaysia (UPM). Then, a pilot study was carried out to assess the feasibility, time, cost, instruments, and methods intended to be utilized in the main project. The data for the main study were collected by enumerators who received a one-day intensive training beforehand. The researchers and enumerators coordinated with the school principals and teachers to ensure the smooth administration of questionnaires. The respondents or the guardians of those younger than 18 years old read and signed a written consent form to signify willingness to participate in the study. Participants completed a set questionnaires, including information on their demographic background. The measures were administered in group sessions consisting of 60 or fewer adolescents during school hours for approximately 60 – 90 minutes in the classroom or hall under the supervision of two enumerators and a teacher. Participants received a token for taking part in the research.

To gather information pertaining to the research variables, the respondents filled out a series of self-report measures. Depressive symptomatology was assessed using the Malay version of the Beck Depression Inventory (BDI-Malay; Mukhtar & Oei, 2008) with 20 items containing four statements each, and a response option from 0 (no symptoms) to 3 (severe symptoms). The Life Events Checklist-Malay (LEC; Baharudin, Zulkefly, Arshat, 2015) was used to measure frequency of SLE experienced within the past six months. Respondents indicated how often

they encountered each of 23 life events, from 0 "never," 1 "once," to 2 "more than once." Sample items included, "Parent, sister, or brother died," and "I argued with my friend/parent." Using the Malaysian Parenting Behaviour Inventory (MPBI; Baharudin, Zulkefly, Arshat, 2014), respondents self-reported the frequency of PVA and MVA using a five-point Likert scale (0 = never to 4 = very often) to endorse how often six verbally aggressive behaviors were displayed by their parents. Sample items for parental verbal aggression included, "Scream or yell when angry at you," and "Threaten to punish you on your wrongdoing." All instruments demonstrated good reliability and content validity.

### Data Analysis

The Statistical Package for Social Sciences Software (SPSS v. 20) was used to perform all statistical processes. The final analytical sample consisted of 964 adolescents who provided complete data. For the coding of the outcome variable, following Beck, Steer, and Garbin (1988), a cutoff score of 16 was used to estimate the presence of moderate to severe depressive symptoms. In this study, depression referred only to depressive symptoms and not to clinically-diagnosed depressive disorders. For a preliminary comprehension of the data, descriptive statistics were employed. Bivariate tests were also carried out to further understand the association of the demographic characteristics of adolescents with depressive symptoms and to identify potential confounding variables. Inasmuch as the dependent variable and all demographic factors were categorical, the Pearson chi-square test for independence was used. Independent samples t-test was also employed to identify bivariate associations between the predictors and the

dependent variable.

To address the research questions, this study used binary logistic regression as the main statistical tool. This study first performed a univariable regression for each of the three predictors – SLE, PVA, MVA. Hosmer and Lemeshow (2000) suggested that a variable with a p-value of less than 0.25 can be included in the multivariable model. Then, two multivariable regression tests were carried out to identify the depressogenic impacts of SLE, PVA, and MVA while holding all variables constant. The first multivariable model or direct effects model examined if depressive symptoms will be predicted by a set of variables comprising of stressful life events, paternal verbal aggression, and maternal verbal aggression. The second model examined sex as a moderator. Hence, sex was multiplied with each of the predictor variables to create three two-way interactions. To get a better grasp of the effect of the significant predictors on the dependent variable, the odds ratios (OR) were examined. Accordingly, if the odds ratio is higher than 1, it means that there is an increase in the odds of the category 1 outcome for every unit increase in the predictor (Tabachnick & Fidell, 2013).

## 3.0 Results and Discussion

### Descriptive and Bivariate Statistics of Research Variables

Overall, the sample consisted of 964 secondary-school adolescents from two-parent households. The present study investigated depressive symptoms as the outcome variable. Using a cutoff score of 16, 319 (33.1%) respondents demonstrated moderate to severe symptoms of depression, of which 62.4% were females and 50.8 percent were aged 13 to 14 years.

Tables 1 and 2 present the distribution of the respondents according to various demographic characteristics. Accordingly, 60.5% of the overall participants were females and 50.7% were early adolescents. Likewise, there was an almost equal distribution of respondents based on high school level which ranged from 22.2% (level 4) to 27.0% (level 6). The sample was also dominated by Malays (77.7), which is consistent with the national population of Malaysia.

**Table 1.** Personal Characteristics of the Respondents

Characteristics	Frequency (N=964)	Percentage
<b>Sex</b>		
Male	381	39.5
Female	583	60.5
<b>Age</b>		
13-14 (early adolescence)	489	50.7
15-18 (middle-late adolescence)	475	49.3
<b>Ethnicity</b>		
Malay	749	77.7
Chinese	145	15.0
Indian	57	5.9
Others	13	1.3
<b>School level</b>		
1	246	25.5
2	244	25.3
4	214	22.2
6	260	27.0

Note. Age categories are based on the approximate age range for the different stages of adolescence reported by the American Academy of Pediatrics (2019).

**Table 2.** Family Characteristics of the Respondents

Characteristics	Frequency (N=964)	Percentage
<b>Family income</b>		
RM 999 & below	181	18.8
RM 1000-2999	373	38.7
RM 3000-4999	172	17.8
RM 5000 & above	238	24.7
<b>Mother's age</b>		
28-40 (young adulthood)	255	26.5
41-65 (middle age)	709	73.5
<b>Father's age</b>		
30-40 (young adulthood)	94	9.8
41-65 (middle age)	810	84.0
66-90 (old age)	60	6.2
<b>Mother's education</b>		
No schooling	15	1.6
Primary	93	9.6
Secondary	595	61.7
Tertiary	261	27.1
<b>Father's education</b>		
No schooling	13	1.3
Primary	108	11.2
Secondary	559	58.0
Tertiary	284	29.5

Note. Age categories are based on the approximate age range for different developmental stages by Shaffer and Kipp (2014).

In terms of family monthly income, those belonging to the RM 1000-2999 category had the highest proportion of the sample. In addition, most of the study participants had middle-aged parents who were 41 to 65 years old, with percentages of



73.5 and 84.0 for mothers and fathers, respectively. Finally, a great majority of the respondents had parents with a secondary level of education, with 61.7% for mothers and 58.0% for fathers.

Bivariate analyses were also performed to further gain insights into the association between the respondents' demographic characteristics and depressive symptoms as well as to identify potential confounding variables. Apparently, none of the demographic variables yielded a significant relationship with depressive symptoms. This implies that there was no significant difference in the proportion of the respondents who exhibited depressive symptoms and their counterparts in terms of demographic factors.

In terms of the main research variables, the means scores for SLE, PVA, and MVA were 15.49 (SD = 7.34), 9.30 (SD = 4.40), and 10.46 (SD = 4.32), respectively. As to the bivariate analyses using the t-test for independence, results revealed significant associations between depressive symptoms

and all three predictors. In particular, significant mean differences were found between those with and without depressive symptoms. Evidently, those who reported having moderate to severe symptoms of depression had higher scores for SLE (M = 17.9, SD = 7.46;  $t(962) = -7.51, p = .000$ ), PVA (M = 10.24, SD = 4.58;  $t(962) = -4.72, p = .000$ ), and MVA (M = 11.54, SD = 7.448;  $t(962) = -5.54, p = .000$ ) than their counterparts.

### Logistic Regression Analyses

Binary logistic regression was employed to address the research questions and test the hypotheses. Table 3 presents the findings of the univariable and multivariable regression analyses. The univariable results suggest that, independent of other predictors, SLE, PVA, and MVA were all significant predictors of depressive symptoms in Malaysian adolescents. Hence, all variables were included in the multivariable analyses.

**Table 3.** Logistic Regression for Predicting Depressive Symptoms

Variables	Univariable	Model 1	Model 2
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Sex			1.08 (0.80-1.45)
SLE	<b>1.07***</b> (1.05-1.09)	<b>1.06***</b> (1.04-1.08)	1.01 (0.98-1.04)
PVA	<b>1.08***</b> (1.04-1.11)	1.01 (0.96-1.05)	0.92 (0.85-1.01)
MVA	<b>1.09***</b> (1.06-1.13)	<b>1.06*</b> (1.01-1.10)	<b>1.15**</b> (1.05-1.26)
SLE x Sex			<b>1.10***</b> (1.05-1.14)
PVA x Sex			<b>1.14*</b> (1.03-1.26)
MVA x Sex			<b>0.89*</b> (0.79-0.98)

Note. \* denotes  $p < .05$ ; \*\* denotes  $p < .01$ ; \*\*\* denotes  $p < .001$ ;  
OR = Odds Ratio; CI = Confidence Interval

The first multivariable model (Model 1) examined which among SLE, PVA, and MVA will

have a significant relationship with adolescent depressive symptoms, over and above other

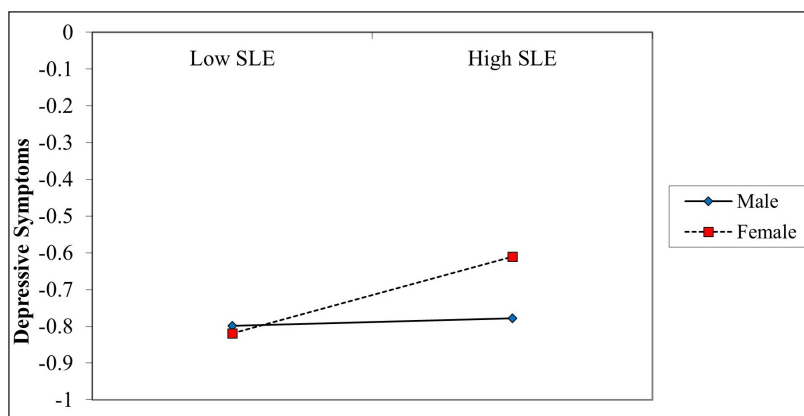


predictors in the equation. As demonstrated in Table 3 (column 3), SLE was significantly related to depressive symptoms. In support of hypothesis 1a of this study, findings demonstrated that, holding all other variables in the model constant, the odds of having depressive symptoms increased by 1.06 times (95% CI: 1.04-1.08) for every unit increase in SLE. In keeping with the stress exposure theory, such outcome was not surprising given the overwhelming empirical findings from past studies that SLE is a depressogenic risk for adolescents (e.g., Young, 2016). As articulated by scholars, undergoing multiple SLE is more influential to the development of depression rather than single stressors (Morales & Guerra, 2006). Burton, Stice and Seeley (2004) elucidated that going through several stressful life events may overstrain a person's coping mechanisms, thereby placing him at risk for psychological disorders.

Similarly, above and beyond other predictors in the model, MVA had a significant positive relationship with adolescent depressive symptoms, providing support for hypothesis 1c. Particularly, for every unit increase in MVA, the odds of having moderate to severe symptoms of depression increased by 1.06 times (95% CI: 1.01-1.10). On the contrary, PVA was not a significant risk factor

for depressive symptoms; hence, hypothesis 1b failed to be supported. Such finding is in harmony with most results from prior research (e.g., Anonas & Alampay, 2015) that maternal harsh verbal discipline predicted adolescent internalizing symptoms, while paternal verbal punishment did not. Wang and Kenny (2014) suggested that such empirical outcomes 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.

The second multivariable model (Model 2) aimed to determine whether adolescent sex moderates the associations of SLE, PVA, and MVA with depressive symptoms. As hypothesized, the interaction of sex with all predictors significantly predicted depressive symptoms. As shown in Figure 1, decomposition of the significant SLE x sex interaction demonstrated that female adolescents reacted more strongly to SLE, with greater elevations in depressive symptoms relative to males as the number of SLE increased. As such, hypothesis 2a was supported, which is consistent with the stress reactivity model and several previous studies (e.g., Barile, Grogan, Henrich, Brookmeyer, & Shahar, 2012; Hankin et al., 2015).



**Figure 1.** Moderating Effect of Sex on the Depressogenic Impact of SLE

Sex also emerged as a significant moderator of the relationship of depressive symptoms with both PVA and MVA (see Figures 2 and 3); therefore, hypotheses 2b and 2c were supported. Figure 2 illustrates a stark contrast in the depressogenic impact of PVA between boys and girls. As girls' level of depressive symptoms increased with increasing PVA, that of male adolescents appears to be decreasing. This corroborates the finding by Hart et al. (1998). On the other hand, Figure 3 demonstrates that boys' level of depressive symptoms increased with greater elevations in MVA; whereas that of girls

remained stable. Overall, these findings dispute several previous empirical results (e.g., Chang et al., 2003; Mckee et al., 2007; Eberhart et al., 2006) wherein sex was not a significant moderator of the relationship between parenting behaviors and adolescent psychological outcomes. These findings are indicative of the cross-gender effects of parenting. Particularly, maternal parenting influences the well-being of the son, while fathers' parenting strategies affect the well-being of the daughter (McFarlane, Bellissimo, & Norman, 1995).

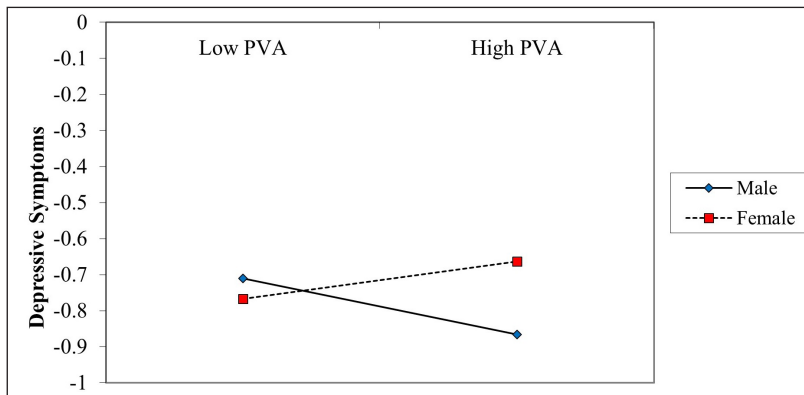


Figure 2. Moderating Effect of Sex on the Depressogenic Impact of PVA

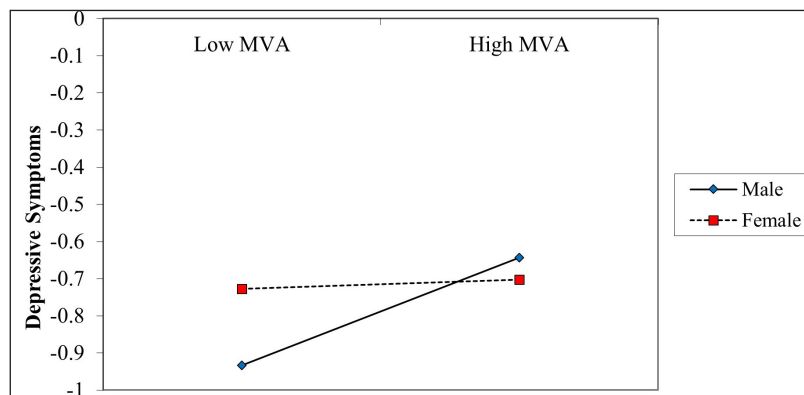


Figure 3. Moderating Effect of Sex on the Depressogenic Impact of MVA

#### 4.0 Conclusion And Recommendations

The present study empirically established the occurrence of moderate to severe depressive symptoms among Malaysian adolescents. It was also confirmed that experiencing SLE and MVA increased the likelihood of symptoms of depression. Furthermore, sex significantly interacted with SLE, PVA, and MVA in predicting depressive symptoms. It can be concluded then that SLE and MVA are significant risk factors for depressive symptomatology among Malaysian adolescents. Based on our findings, it can also be concluded that there are indeed sex differences in the depressogenic impact of SLE, PVA, and MVA on Malaysian adolescents.

Needless to say, the present study was subject to some potential methodological weaknesses. Firstly, 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. Secondly, the only moderating factor examined was sex. Further research could explore other personal, social, and contextual factors as moderators such as parental warmth, self-esteem, and cognitions. Similarly, future research should investigate other risk factors for adolescent depressive symptomatology (e.g., cognitive functioning) and protective factors that may buffer against the development of depression in young individuals.

Despite these limitations, findings from this study make several contributions to existing literature. First and foremost, results have substantiated the assertions of the stress exposure model, PARTheory, and stress reactivity theory which were tested in the current research; thereby contributing to their applicability to understanding depressive symptoms in non-Western contexts. Secondly, outcomes on the sex-specific influence of parental verbal aggression offer important

insights into the differential roles of mother and father on adolescent development. As such, family intervention programs must take into consideration differences in parent-adolescent dynamics. Prevention and intervention programs should likewise incorporate training on stress management. In addition, this study showed that male and female adolescents differed in terms of how SLE, PVA, and MVA influenced their level of depressive symptoms. Hence, practitioners should put more emphasis on designing programs which are tailored specifically to males or females to be more efficient. Finally, results have particular significance for educators in Malaysia since academic professionals can also help in preventing the occurrence of depression by screening their students and helping them deal with potential risk factors.

#### 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. <https://doi.org/10.1177/0272431615593176>
- Ahmad, N., Cheong, S. M., Ibrahim, N., & Rosman, A. (2014). Suicidal Ideation Among Malaysian Adolescents. *Asia Pacific Journal of Public Health, 26*(5\_suppl), 635–695. <https://doi.org/10.1177/1010539514540746>
- 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. <https://doi.org/10.1177/2167702616643008>

- American Academy of Pediatrics. (2019) Adolescent sexual health. Retrieved from <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/adolescent-sexual-health/Pages/Stages-of-Adolescent-Development.aspx>.
- 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. *Philippine Journal of Psychology*, 48(1), 115–152.
- Auerbach, R. P., Admon, R., & Pizzagalli, D. A. (2014). Adolescent Depression: Stress and Reward Dysfunction Randy. *Harvard Review Psychiatry*, 22(3), 139–148. <https://doi.org/10.1158/0008-5472.CAN-10-4002.BONE>.
- 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*. Ministry of Education, Putrajaya.
- Baharudin, R., Zulkefly, N. S., & Arshat, Z. (2014). *The Development of Malaysian Parenting Behaviour Inventory (MPBI)*. Ministry of Education, Putrajaya.
- Barile, J. P., Grogan, K. E., Henrich, C. C., Brookmeyer, K. A., & Shahar, G. (2012). Symptoms of Depression in Israeli Adolescents Following a Suicide Bombing : The Role of Gender. *Journal Early Adolescence*, 32(4), 502–515. <https://doi.org/10.1177/0272431611400317>.
- 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.
- Berzenski, S. & Yates, T. (2013). Preschoolers' emotion knowledge and the differential effects of harsh punishments. *Journal of Family Psychology*, 27(3), 463–472. doi:10.1037/a0032910.
- Bouma, E. M. C., Ormel, J., Verhulst, F. C., & Oldehinkel, A. J. (2008). Stressful life events and depressive problems in early adolescent boys and girls: The influence of parental depression, temperament and family environment. *Journal of Affective Disorders*, 105(1–3), 185–193. <https://doi.org/10.1016/j.jad.2007.05.007>
- 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. <https://doi.org/10.1037/0022-006X.72.4.689>
- Chang, L., Schwartz, D., Dodge, K. A., & McBride-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology*, 17(4), 598–606. <https://doi.org/10.1037/0893-3200.17.4.598>.
- Demoze, M. B., Angaw, D. A., & Mulat, H. (2018). Prevalence and Associated Factors of Depression among Orphan Adolescents in Addis Ababa, Ethiopia. *Psychiatry Journal*.
- Dunn, V., & Goodyer, I. M. (2006). Longitudinal investigation into childhood- and adolescence-onset depression: Psychiatric outcome in early adulthood. *British Journal of Psychiatry*, 188(MAR.), 216–222. <https://doi.org/10.1192/bjp.bp.105.058881>

org/10.1192/bjp.188.3.216

- Eberhart, N. K., Shih, J. H., Hammen, C. L., & Brennan, P. A. (2006). Understanding the Sex difference in vulnerability to adolescent depression: An examination of child and parent characteristics. *Journal of Abnormal Child Psychology*, 34(4). <https://doi.org/10.1007/s10802-006-9020-4>.
- Frison, E., & Eggermont, S. (2015). The impact of daily stress on adolescents' depressed mood: The role of social support seeking through Facebook. *Computers in Human Behavior*, 44, 315–325. <https://doi.org/10.1016/j.chb.2014.11.070>.
- Garber, J. (2006). Depression in children and adolescents: Linking risk research and prevention. *American Journal of Preventive Medicine*, 31(6 supp. 1), 104–125. [doi.org/10.1016/j.amepre.2006.07.007](https://doi.org/10.1016/j.amepre.2006.07.007).
- Grant, K. E., Compas, B. E., Thurm, A. E., McMahon, S. D., Gipson, P. Y., Campbell, A. J., ... Westerholm, R. I. (2006). Stressors and child and adolescent psychopathology: Evidence of moderating and mediating effects. *Clinical Psychology Review*, 26, 257–283. <https://doi.org/10.1016/j.cpr.2005.06.011>.
- Guo, L., Hong, L., Gao, X., Zhou, J., Lu, C., & Zhang, W. H. (2016). Associations between depression risk, bullying and current smoking among Chinese adolescents: Modulated by gender. *Psychiatry Research*, 237, 282–289. <https://doi.org/10.1016/j.psychres.2016.01.027>.
- 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 and Coping*, 29(4), 335–351. <https://doi.org/10.1080/10615806.2015.1134788>.
- Hankin, B. L., Mermelstein, R., & Roesch, L. (2007). Sex differences in adolescent depression: Stress exposure and reactivity models. *Child Development*, 78(1), 279–295.
- Hankin, B. L., Smolen, A., Gulley, L. D., Abela, J. R. Z., Jenness, J. L., Technow, J. R., ... Cohen, J. R. (2015). Depression from childhood into late adolescence: Influence of gender, development, genetic susceptibility, and peer stress. *Journal of Abnormal Psychology*, 124(4), 803–816. <https://doi.org/10.1037/abn0000089>.
- Hankin, B. L., Young, J. F., Abela, J. R. Z., Smolen, A., Jenness, J. L., Gulley, L. D., ... Oppenheimer, C. W. (2015). Depression From Childhood Into Late Adolescence : Influence of Gender, Development, Genetic Susceptibility, and Peer Stress, 124(4), 803–816.
- Hart, C. H., Nelson, D. A., Robinson, C. C., Olsen, S. F., McNeilly-Choque, M. K. (1998) Overt and relational aggression in Russian nursery-school-age children: Parenting style and marital linkages. *Developmental Psychology*, 34, 687–697.
- 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. (2014). 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: John Wiley & Sons, Incorporated.
- Humensky, J., Kuwabara, S. A., Fogel, J., Wells, C., Goodwin, B., & van Voorhees, B. W. (2010). Adolescents with depressive symptoms and their challenges with learning in school. *Journal of School Nursing*, 26(5), 377–392. <https://doi.org/10.1177/1059840510376515>.
- 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: Plenum.
- Johnson, D. P., Whisman, M. A., Corley, R. P., Hewitt, J. K., & Rhee, S. H. (2012). Association between depressive symptoms and negative dependent life events from late childhood to adolescence. *Journal of Abnormal Child Psychology*. <https://doi.org/10.1007/s10802-012-9642-7>.
- 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), 535-625. doi:10.1177/1010539514544356.
- Khan, A., Ahmed, R., & Burton, N. W. (2017). Prevalence and correlates of depressive symptoms in secondary school children in Dhaka city, Bangladesh. *Ethnicity & Health*, 0(0), 1–13. <https://doi.org/10.1080/13557858.2017.1398313>.
- Larson, R.W., & Ham, M. (1993). Stress and “storm and stress” in early adolescence: the relationship of negative events with dysphoric affect. *Developmental Psychology*, 29, 130-140.
- Malooly, A. M., Flannery, K. M., & Ohannessian, C. M. C. (2017). Coping mediates the association between gender and depressive symptomatology in adolescence. *International Journal of Behavioral Development*, 41(2), 185–197. <https://doi.org/10.1177/0165025415616202>.
- McFarlane, A. H., Bellissimo, A., & Norman, G. R. (1995). Family structure, family functioning and adolescent well-being: the transcendent influence of parental style. *Journal of Child Psychology and Psychiatry*, 36(5), 847–864. <https://doi.org/10.1111/j.1469-7610.1995.tb01333.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* 187–196. doi:10.1007/s10896-007-9070-6.
- McLeod, B. D., Weisz, J. R., & Wood, J. J. (2007). Examining the association between parenting and childhood depression: A meta-analysis. *Clinical Psychology Review*, 27(8), 986–1003. doi:10.1016/j.cpr.2007.03.001.
- Mezulis, A. H., Funasaki, K. S., Charbonneau, A. M.,

- & Hyde, J. S. (2010). Gender differences in the cognitive vulnerability-stress model of depression in the transition to adolescence. *Cognitive Therapy and Research, 34*(6), 501–513. <https://doi.org/10.1007/s10608-009-9281-7>.
- Miranda, M. C., Affuso, G., Esposito, C., & Bacchini, D. (2016). Parental acceptance–rejection and adolescent maladjustment: Mothers' and fathers' combined roles. *Journal of Child and Family Studies, 25*(4), 1352–1362. doi:10.1007/s10826-015-0305-5.
- Moksnes, U. K., Moljord, I. E. O., Espnes, G. A., & Byrne, D. G. (2010). The association between stress and emotional states in adolescents : The role of gender and self-esteem. *Personality and Individual Differences, 49*(5), 430–435. <https://doi.org/10.1016/j.paid.2010.04.012>.
- 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.
- Naicker, K., Galambos, N. L., Zeng, Y., Senthilselvan, A., & Colman, I. (2013). Social, demographic, and health outcomes in the 10 years following adolescent depression. *Journal of Adolescent Health, 52*(5), 533–538. <https://doi.org/10.1016/j.jadohealth.2012.12.016>.
- Nguyen DT, Dedding C, Pham TT, Wright P, & Bunders J. (2013). Depression, anxiety, and suicidal ideation among Vietnamese secondary school students and proposed solutions: A cross-sectional study. *BMC Public Health, 13*(1). <https://doi.org/10.1186/1471-2458-13-1195>.
- Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science, 10*(5), 173-176. doi.org/10.1111/1467-8721.00142.
- Roberts, C., & Bishop, B. (2005). Depression. In T. P. Gullotta and G. R. Adams (Eds.), *Handbook of Adolescent Behavioral Problems* (pp. 205-230). US: Springer.
- Rohner, R., & Britner, P. (2002). Worldwide mental health correlates of parental acceptance-rejection: Review of cross-cultural and intracultural evidence. *Cross-Cultural Research, 36*, 16-47.
- Rohner, R., & Brothers, S. (1999). Perceived parental rejection, psychological maladjustment, and borderline personality disorder. *Journal of Emotional Abuse, 1*, 81-95.
- 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. <https://doi.org/10.1016/j.jad.2016.03.071>.
- 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.
- Shaffer, D. R., & Kipp, K. (2014). *Developmental Psychology: Childhood and adolescence* (9th ed.). Belmont, CA: Wadsworth.
- 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.
- Shih, J. H., Eberhart, N. K., Hammen, C. L., & Brennan, P. A. (2006). Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology*, *35*(1), 103-115.
- Sserunjogi, J. N., 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*, 4-11. <https://doi.org/10.1186/s13034-016-0133-4>.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). New Jersey: Pearson Education Incorporated.
- Thompson, M. P., Kingree, J. B., & Desai, S. (2004). Gender differences in long-term health consequences of physical abuse of children: Data from a nationally representative survey. *American Journal of Public Health*, *94*(4), 599-604.
- Tillman, K. S., & Juntunen, C. L. (2013). Parental acceptance-rejection theory and court-involved adolescent females: An exploration of parent-child and student-teacher relationships. *Journal of Juvenile Justice*, *2*(2), 46-62.
- 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.
- Wang, J., Wu, X., Lai, W., Long, E., Zhang, X., Li, W., ... Lin, H. (2017). Prevalence of depression and depressive symptoms among outpatients: A systematic review and meta-analysis. *BMJ Open*, *7*(8), 1-14. <https://doi.org/10.1136/bmjopen-2017-017173>.
- 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. <https://doi.org/10.1016/j.psychres.2016.09.050>.
- Wang M. T., Kenny S. (2014a). 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.
- Wolfe, D. A., & Mclsaac, 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.

- 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
- 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.