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Perceived Parental Warmth and Depression in Early Adolescents: Path Analysis on the Role of Self-esteem as a Mediator

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ABSTRACT

The prevalence of depression in Malaysia instigated the twofold objectives of the present study. First, the relationship between perceived parental warmth, self-esteem and depression was examined, followed by the exploration on the role of self-esteem as a mediator between perceived parental warmth and depression among early adolescents. The model for early adolescent's depression was guided by Beck's cognitive theory of depression and parental acceptance-rejection theory. A total of 1394 adolescents aged 13 to 15 years, who reported living with both married and biological parents, provided complete self-report data on the measures (Conger's subscale for parental warmth, Rosenberg Self-esteem Scale, Beck Depression Inventory for Malays) for the three observed variables (namely, perceived parental warmth, self-esteem and depression). In order to determine the role of self-esteem as a mediator, Pearson correlation was first conducted to ensure that the initial variable (perceived parental warmth) was related to the outcome (depression) and mediator (self-esteem) variable as suggested by Baron and Kenny (1986). Path analysis was then employed to establish the mediating effect of self-esteem. Results revealed that the data from the study fitted the model and that perceived parental warmth had an indirect effect on depression through self-esteem. Findings also revealed that self-esteem was a complete mediator in the relationship between perceived parental warmth and depression. Implications for the alternative approach in preventing depression were further discussed.

Keywords: Depression, early adolescent, mediator, perceived parental warmth, self-esteem

INTRODUCTION

Depression is ranked fourth as the world most immobilizing illness (World Health Organization, 2010). About 9% of Malaysians suffer from major depression

that subsequently placed this mental health disorder as the fourth most immobilizing illness in the country (Malaysian Psychiatric Association, 2010). Depression has been reported to be high in prevalence among women and men, causing it to become a concern to mental health practitioners as well as policy makers (Malaysian Psychiatric Association, 2010). The impact of depression is detrimental to the psychological well-being of the people, including among early adolescents, which will bring adverse effects to a country's progress.

Early adolescence is a period of development when one will experience rapid physical and biological changes. It is a challenging period for adolescents having to adjust to those changes while at the same time, expected to turn out well. Yet, with puberty as the onset of early adolescence, studies on cognitive processes have postulated that adolescence is a period of increased vulnerability to risk taking and decision making (Furby & Beyth-Marom, 1992; Steinberg & Cauffman, 1996). Risk-taking behaviour that includes suicide and self-harm is often due to depression rooted by risky perceptions and appraisals. Risky perceptions in the present study refer to adolescent's perception towards parental warmth and risky appraisals refer to low self-esteem.

THEORETICAL FRAMEWORK

In his theory, Beck noted that depression is the result of negative thoughts (Beck & Alford, 2009), which are shaped by dysfunctional belief system from early experiences. Earlier in his research, he emphasized on the domination of three possible belief themes that are dysfunctional: (1) I am defective or inadequate; (2) all of my experiences result in defeats or failures, and (3) the future is hopeless. Beck (1967, 1976) additionally posited that depression is caused by the negative cognitive triad consisting of negative beliefs regarding the self, the world and the future. He asserted that the negative views of self increase negative feelings that promote sense of failure or loss, which emphasizes the defectiveness of inadequacy belief theme. Furthermore, research on the triad by Simons and Miller (1987) suggested that the only element of the triad related to depression in adolescents is negative self-regard. Their findings supported Beck's (1967, 1974) earlier claim that disapproval of self is the core factor of depression.

Against this theoretical background, the present study was also guided by the parental acceptance-rejection theory, known as PARTheory (Rohner et al., 2009). Parental acceptance and rejection forms the warmth dimension of parenting refers to the quality of the affectional bond between parents and their child. One end of the dimension is characterized by parental acceptance and the other end is characterized by parental rejection. As an evidence-based theory, it attempts to answer five classes of questions that can be divided into three sub-theories, which are the personality sub-theory, coping sub-theory and sociocultural systems sub-theory. For the personality sub-theory,

predicting and explaining psychological consequences of parental acceptance and rejection are attempted because of the need for positive response. The lack of parental warmth (negative response), however, is likely to develop negative self-esteem, an element in the mental representations of rejected persons. In addition to that effect, the sub-theory suggests that mental health issues, such as depression, are likely to be a universal correlate of perceived parental rejection. Thus, a mediation model (Rohner, 2005), as shown in Fig.1, was produced to explain the relationship between parental

warmth and mental health outcomes. The model proposes that mental health outcome (depression) is motivated by external (perceived parental warmth) and internal (self-esteem) factors.

LITERATURE REVIEW

In relation to the warmth dimension of parenting, past research often examined various aspects or dimensions of parenting in explaining adolescent's outcome. The dimensions are often divided into two; parental support and control (Bean, Barber, & Crane, 2006), parental acceptance and

Fig.1: Mediation model of the relationship between parental (paternal and maternal) acceptance-rejection and mental health outcomes.

rejection (Rohner, 2005), or parental responsiveness and demandingness (Simons & Conger, 2006). The former dimension refers to the emotional aspect of parenting, while the latter refers to the behavioural aspect. Studies (Bean *et al.*, 2006; Mason *et al.,* 1996) have revealed that the behavioural aspect of parenting is frequently associated with adolescent's behavioural problems, while the emotional aspect of parenting is associated with adolescent's emotional problems.

Although Barber *et al.* (2004) suggested that individual contributions of each dimension should not be examined in isolation, while significant contributions of the emotional aspect of parenting on self-esteem and depression have constantly been revealed in past studies. In a pilot study among university students in Taiwan (Restifo *et al.,* 2009), parental care in reference to parent's affection, emotional warmth, empathy and closeness revealed a stronger link to self-esteem and depression compared to parental overprotection. In another study by McPherson (2004), parental care had the highest predictive value in a model linking parental care, monitoring and authoritative parenting to depression, which had a 5% of variance explained for the model. Therefore, the emotional aspect of parenting seems to be contributive to self-esteem and depression.

Studies examining parenting by two individuals (father and mother), rather than one individual (father or mother) to predict self-esteem and depression, are still limited in the literature. When parents are the study interest by researchers, they utilized individual scores of mother and father. Yet, when Bean and colleagues (2006) examined maternal and paternal support individually within the same model to explain youth behaviours, the findings revealed that maternal and paternal supports were significantly correlated. Thus, parents consist of two individuals instead of an individual, who holds a relatively long-term primary caregiving for a child (Rohner, 2005). Thus, it is no doubt that in a two-parent family, parents consist of either both biological parents or one biological parent and one step-parent.

With regards to the role of self-esteem, DuBois and Hirsch (2000) suggested that self-esteem plays a secondary or supporting role. According to Butler (as cited in Siyez, 2008), self-esteem influences certain behaviours during the development confusion of adolescent. Past research by Openshaw *et al.* (1984) concluded that adolescents' self-esteem was a reflected appraisal of the parents rather than a modelling outcome of their parents' self-esteem. Thus, self-esteem functions as a mediator in the link between parental warmth and depression. Nonetheless, inconsistency in terms of the role of self-esteem between perceived parental warmth and depression as a partial or complete mediator does exist. In a model linking maternal acceptance, psychological control, firm control to depression (Garber *et al.,* 1997), the relationship between maternal acceptance and depression were partially mediated by the child's self-worth. In

contrast, Liu (2003) revealed that self-esteem was a complete mediator in the relationship between parental care and depressive symptoms.

OBJECTIVES OF THE STUDY

The present study comprised two objectives. First, the study aimed to examine the relationships between perceived parental warmth, self-esteem and depression. Perceived parental warmth and self-esteem were hypothesized to be negatively correlated with depression, while perceived parental warmth was hypothesized to be positively correlated with self-esteem. Secondly, the study aimed to explore the role of self-esteem as a mediator between the perceived parental warmth and depression. Self-esteem was hypothesized to be a complete mediator in the relationship between perceived parental warmth and depression. Thus, Fig.2 demonstrates the baseline model of early adolescent's depression linking perceived parental warmth, self-esteem and depression.

METHOD

Sampling Procedures and Sample

Data for the present study were a subset of a nation-wide study on parenting behaviour and the well-being of adolescents in Malaysia. This cross-sectional survey comprised of Form 1, Form 2 and Form 4 students who were attending daily schools in 2010 from five selected states (Kelantan, Melaka, Penang, Sabah, and Selangor). The original survey employed a multistage design, specifically the probability proportional to size (PPS) sampling technique at three stages with a cluster size of 40 students. Stages identified were locality, state and district level that resulted in a total of 73 secondary schools selected, and a total of 2934 students for the study. The survey was conducted by trained enumerators between April and May of 2010.

Given that the focus of this study was on early adolescents, Form 4 students were excluded in the present study. To focus on a particular family structure, which is a two-parent family, only Form 1 and Form 2 students living with both biological parents who are still married were included in the
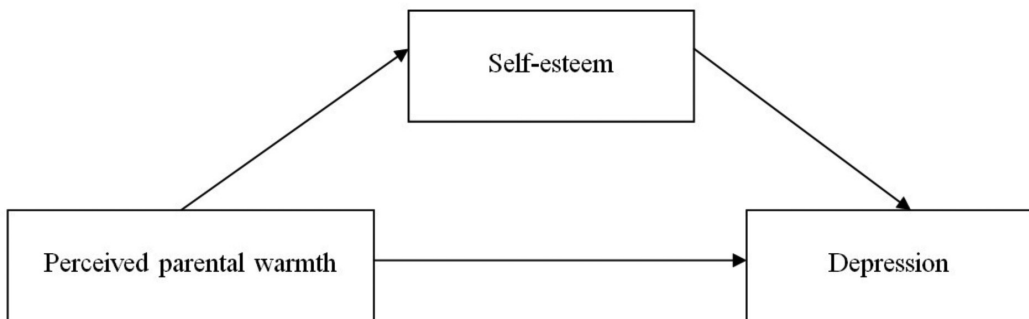

Fig.2: Model of early adolescent's depression.

present study. Approximately 1605 (54.7%) students from the nation-wide data set were eligible for further analyses.

Measures and Translation

Translation. Original scales in the English version were translated by the research team and experts in the field of family and parenting ecology. A forward-backward procedure was used to translate the scales into Malay. In the procedure, two panels of translators were involved, in which the first panel translated the English version into Malay and the second panel retranslated it into English. The two versions were then reviewed by an expert team and adaptation was made for effective communication to the sample.

Depression. The presence of depression was assessed based on the 20-item of the Beck's Depression Inventory for Malays (BDI-M), that was translated and validated by Mukhtar and Oei (2008). One item from the original 21 item Beck Depression Inventory was discarded in the BDI-M due to the cultural and religious perspective held by Malaysians. The respondents were to read a series of four evaluative statements for each item and to select one statement being the most accurate description of their feelings during the past week, including the day of the data collection. The sample items included were sadness, past failure, self-criticism and indecisive. Summative scores ranging from 0 to 60 were used as the observed variable for depression, in which higher scores indicated higher level of depression.

Self-esteem. The Rosenberg Self-esteem Scale (1965) was used to assess the level of self-esteem. The respondents were to read a list of ten statements dealing with their feelings about themselves and to select the most accurate response on a four-point Likert scale ranging from 1 "strongly disagree" to 4 "strongly agree". The sample items included were 'On the whole, I am satisfied with myself' and 'I take a positive attitude towards myself.' Five items were reverse coded as instructed by Rosenberg (1965). The summative scores ranging from 10 to 40 were used as the observed variable for self-esteem, in which higher scores indicated higher level of self-esteem.

Perceived parental warmth. Respondents gave their perceptions of parental warmth on a four-item scale for fathers and mothers, respectively [developed by Conger (2004) for the Iowa Youth and Families Project]. Each item was responded on a scale ranging from 1 "never" to 7 "always". The sample items included were 'How often do your parents let you know that he/she cares about you' and 'How often do your parents let you know he/she appreciates you, your ideas or the things you do?' The summative scores ranging from 8 to 56 were used as the observed variable for the perceived parental warmth, in which higher scores indicated higher level of parental warmth.

Data Analysis

Listwise deletion procedure was used to eliminate missing data on the measurement scales. A total of 1394 data were retained for further analysis and sufficient for a simple

three variable mediation model (Hoyle & Kenny, 1999). Thus, the sample after deletion consisted of 44.8% male and 55.2% female adolescents (with an average of 13.4 years) who reported living with both married and biological parents. The average age for fathers and mothers were 46.45 and 42.25, respectively. The majority of the fathers (28.1%) and mothers (31.1%) attained upper secondary school of formal education. The average monthly income for both parents was RM 1739.58.

According to Baron and Kenny (1986), there are four steps involved in establishing mediation, as follows:

Step 1: Show that the initial variable is correlated with the outcome.
Step 2: Show that the initial variable is correlated with the mediator.
Step 3: Show that the mediator affects the outcome variable by controlling the initial variable.
Step 4: To establish a complete mediation, the effect of the initial variable on the outcome variable controlling for the mediator should be zero.

However, James and Brett (1984) rationalized that if there is a complete mediation, step 3 should be modified by not controlling the initial variable. Therefore, Pearson correlation was used to meet steps 1 and 2, while path analysis was employed to meet steps 3 and 4. The version 18 of both SPSS and AMOS were used in the analytical data process.

For the path analysis, the AMOS model-fitting programme adopted the maximum likelihood estimation to generate the model since each observed variable met the normality assumption by obtaining a value below absolute 2 and 7 for skewness and kurtosis, respectively (Curran *et al.,* 1997). The direct path from the perceived parental warmth to depression was fixed to zero so as to meet step 3. For self-esteem to be considered as a complete mediator, the direct path from the perceived parental warmth to depression had to be insignificant when the path was freed. In order to evaluate the goodness of fit for the model of early adolescent's depression, the root mean square error of approximation (RMSEA) with a cut-off value of less than .06 and the comparative fit index (CFI) with a cut-off value of .95 or above was reported to be considered as a good fit (Hu & Bentler, 1999). The chi-square statistic was not reported due to its sensitivity to large sample sizes (Hox & Bechger, 1998; Kline, 2005; Schreiber, 2008).

RESULTS

Relationships between Perceived Parental Warmth, Self-esteem and Depression

Table 1 indicates that the relationships between perceived parental warmth, self-esteem and depression were statistically significant at .01 level. Based on the general accepted rule of thumb (Tabachnick & Fidell, 2001), all the correlations were below .70. As hypothesized, perceived parental warmth was positively correlated

with self-esteem. In relation to depression, perceived parental warmth was negatively weak, while self-esteem had a stronger negative relationship. Hence, steps 1 and step 2 to establish mediation were met since the initial variable (perceived parental warmth) was correlated with the outcome (depression) and the mediator (self-esteem).

The Role of Self-esteem as a Mediator

When the direct path from the perceived parental warmth to depression was fixed to zero, the data were found to be acceptably fit

to the model (RMSEA = .055; CFI = .990; p = .023), as shown in Fig.3. The squared multiple correlation (R^2) for self-esteem and depression was .08 and .20, respectively. The values indicated that about 8% of the variability in adolescents' self-esteem could be explained by perceived parental warmth, while self-esteem could explain 1/5 of the variability in adolescents' depression.

Table 2 summarizes the standardized direct and indirect effects of perceived parental warmth, self-esteem and depression. The direct effect of self-esteem to depression

TABLE 1
Intercorrelations between perceived parental warmth, self-esteem and depression

	M	SD	1	2	3
1. Perceived parental warmth	42.31	8.44	(.86)		
2. Self-esteem	28.62	3.96	.288**	(.67)	
3. Depression	10.83	8.04	-.181**	-.446**	(.86)

Figures in parentheses are coefficient alpha.
** $p < .01$.
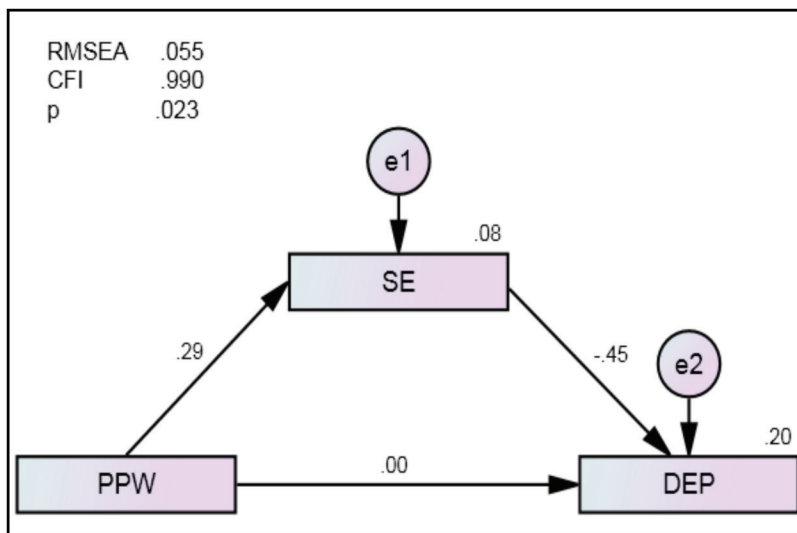
Note: PPW = perceived parental warmth, SE = self-esteem, DEP = depression

Fig.3: Standardized path for the model of early adolescent's depression.

without controlling for perceived parental warmth met the requirement in step 3 to establish mediation. Thus, the indirect effect from perceived parental warmth to depression through self-esteem was a negative effect.

When the path from perceived parental warmth to depression was freed, a saturated model was generated. As mentioned earlier, for self-esteem to be a complete mediator, the direct path from perceived parental warmth to depression has to be insignificant. The results revealed that the path had an estimate of -.054, with $p = .022$. Thus, self-esteem is a complete mediator in the relationship between perceived parental warmth and depression.

DISCUSSION

The purpose of the present study was to examine the relationships between perceived parental warmth, self-esteem and depression. Additionally, the study explored the role of self-esteem as a mediator between perceived parental warmth and depression.

Correlational findings revealed that perceived parental warmth, self-esteem and depression were significantly related with each other. The findings support that parental warmth is closely linked to self-esteem and depression (Restifo et al.,

2009). The negative relationship between perceived parental warmth and self-esteem with depression emphasizes the fact that adolescents who lack of parental warmth and have low self-esteem will have higher tendency to experience depression. In addition, the positive relationship between perceived parental warmth and self-esteem indicated that adolescents who perceived their parents to respond positively will develop high self-esteem.

Even though self-esteem has been suggested to play a supporting role, it is of equal importance for early adolescents who perceive their parents to be lacking in parental warmth. Although the study conducted by Garber et al. (1997) indicated self-worth to partially mediate the relations between maternal acceptance and depression, the present study investigated on both maternal and parental warmth. The findings from this study suggest that paternal warmth is essential in the emotional development of early adolescents. This suggestion is consistent with the finding of Bean et al. (2006) who found a significant direct path from paternal support to depression, while the direct path for maternal support was insignificant.

With regards to the theoretical framework, the findings in the study

TABLE 2
Standardized effects of adolescent's self-esteem and depression

Outcome	Determinant	Direct	Indirect
Depression	Perceived parental warmth	-	-.129
	Self-esteem	-.446	-
Self-esteem	Perceived parental warmth	.288	-

support Beck's (1967, 1974) notion that disapproval of self is the core factor of depression. Self-esteem was found to be strongly related to depression and it has the strongest direct effect in the mediation model. The indirect effect of perceived parental warmth to depression through self-esteem also supported the mediation model produced in PARTheory. These findings indicate that depression is motivated by perceived parental warmth and self-esteem. Furthermore, 20% of variance explained for depression indicated the important roles of perceived parental warmth and self-esteem in the development of depression among early adolescents.

CONCLUSION

As a summary, depression is one of the common mental health disorders and it has become a concern to the mental health professionals as well as policy makers. Nonetheless, the pathway to depression remains unclear in Malaysia. Thus, based on the findings from the present study, it is evident that perceived parental warmth and self-esteem are factors contributing to depression among early adolescents. For early adolescents, developing their self-esteem was found to be important in avoiding depression. Their self-esteem can be encouraged by parents though expressing adequate parental warmth. Yet, for those who lack parental warmth, self-esteem indeed plays the role of buffering the negative consequences of depression. Therefore, mental health practitioners and policy makers should create awareness on

the importance of self-esteem to individuals and parents in preventing depression.

Another discovery to be highlighted in the present study is the examination of parenting by two individuals (father and mother). Hence, when researchers examine parenting in a two-parent family, they should consider both parents instead of one. The effect of one parent in a two-parent family on adolescent's development may be biased in terms of adolescents choosing sides between their father and mother. If a mother is the primary caregiver in the family, then adolescents would perceive their father to be lacking of warmth, and vice versa. Therefore, the cooperation of parenting between father and mother is essential to develop adolescent's self-esteem and to avoid the development of depression among early adolescents.

IMPLICATIONS

Although cognitive behavioural therapy is a common approach in treating depression, self-learned emotional regulation strategies such as cognitive reappraisal can be taught to adolescents in school. Cognitive reappraisal refers to the modification of thoughts in a situation (Gross & John, 2003). As revealed in the study on the influence of perceived parental warmth to depression, adolescents who perceived themselves as lacking parental warmth could be taught to modify their perception towards the situation from the thought of not being a worthy individual to the thought that lacking parental warmth does not devalue their sense of worth. Thus, mental health

professionals can formulate a training programme for adolescents to modify their dysfunctional thoughts, which would reduce the vulnerability of experiencing depression as well as increasing their self-esteem.

LIMITATIONS AND RECOMMENDATIONS

Several limitations were identified in the present study. First, various dimensions of self-esteem were not taken into account when determining the role of self-esteem as a mediator. For instance, Openshaw *et al*. (1984) suggested that the influences of parental support on the various dimensions of self-esteem would differ. Ang *et al*. (2006) also noted that the unidimensionality of self-esteem might not be applicable in an Asian school-based sample. Meanwhile, findings from the Youth in Transition study (Owens, 1994) supported the notion that a bidimensional construct of self-esteem should be encouraged in self-esteem studies. Hence, future research examining the role of self-esteem should include the different elements of self-esteem.

Another limitation worth noting is the unexplored differences on depression and the model of early adolescent's depression between females and males. It is clear that the pathway to depression differs between females and males (Nolen-Hoeksema, 2001). Their way of coping with the lack of parental warmth also differs in such a way that females tend to be more emotional (Operario, Tschann, Flores, & Bridges, 2006), while males tend to be more behavioural. Thus, cross-sample attenuation

is encouraged to extend the exploration of gender differences in the pathway to depression.

Finally, it is important to mention the limitation of self-reported data. Parental warmth was a perceived construct in the present study which might have neglected the obvious truth of the actual parenting. Although children's report has been proven more valid than parent's report (Gonzales *et al.,* 1996), some studies have revealed that adolescents tend to assess on certain family characteristics negatively compared to their parents (Ohannessian *et al.,* 2000). This negative perception on parental warmth may have inflated the insignificant direct effect from perceived parental warmth to depression. Therefore, future studies should include an inter-rater assessment to capture actual parenting.

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