

Does Self-Esteem Mediate the Relationship between Loneliness and Depression among Malaysian Teenagers?

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ABSTRACT

The current study examined the mediating role of self-esteem in the relationship between loneliness and depression among teenagers. The participants of the study were 242 teenagers (119 males and 123 females) aged 13 to 16 years, from selected secondary schools in the central zone (Selangor) of Malaysia (mean age = 14.67 years; SD = 1.27). Teenage depression was measured using Children Depression Inventory, while loneliness was measured using the Revised UCLA Loneliness Scale, and self-esteem was measured using the Rosenberg Self-Esteem Scale. The study discovered that self-esteem had negative and medium correlation with loneliness ($r = -.380, p < .01$) and depression ($r = -.497, p < .01$). The study further found a positive and medium correlation between loneliness and depression ($r = .493, p < .01$). Self-esteem was found to be both the unique predictor of depression and a partial mediator of the relationship between loneliness and depression. Thus, the findings of the study filled the gap in the existing literature on the relationship between loneliness and depression. Recommendations of the study centre on the need for counsellors and psychologists to educate parents on the need to aid the development of self-esteem among their teens.

Keywords: Self-esteem, loneliness, teenagers, depression

INTRODUCTION

Depression has become one of the most common mental disorders with high prevalence throughout a lifetime. About 50-75% of those diagnosed experience recurrent episodes within 10 years (American Psychiatric Association, 2000). Murray and Lopez (1996) indicated that depression is the leading cause of disability among individuals aged 18-44 years, and it will become the second foremost source of disease related disability among folks of all ages by the year 2020. In line with the above projections, scholars have advanced a number of behavioural paradigms to model depression.

However, most of these paradigms treat the disorder as a singular phenomenon. Diagnostic

and Statistical Manual of Mental Disorders (DSM-IVR) (American Psychiatric Association, 1994) has reflected multiple ways in which depressive syndromes may be expressed. For instance, major depression is characterized by anhedonia, coupled with four additional symptoms that are related to weight changes (decrease or increase), sleep disturbances (insomnia or hypersomnia), psychomotor retardation, fatigue, guilt, diminished cognitive functioning, and recurrent thoughts of death.

Nevertheless, not all teenagers exhibit all the symptoms, and the constellations of symptoms presented above. In line with Teasdale and Russell's (1983) differential activation theory, a depression-prone teenager's harmful self-

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schema is latent until it is triggered by sad mood, stressful events, or experiences that match the pessimistic schemas. Since teenagers vary in the extent to which their disinclined self-schemas are congruent with cynical mood and stressors, this difference is presumed to account for the diverse impact negative life events has on a teen's self-esteem (Franck & Raedt, 2007).

In the view of Kernis (2006), self-esteem can both lead to and result from clinical depression. Studies conducted in the 90's suggest that self-esteem fluctuation is a factor in the aetiology and maintenance of depression (Butler *et al.*, 1994; Roberts & Monroe, 1994). There is therefore evidence from both earlier and more recent studies (Lewinsohn *et al.*, 1981; Pelkonen, 2003) which suggests that low self-esteem is more prevalent among depressed teenagers. Recently, there has also been interest in whether self-esteem can predict a depression onset. However, a major problem exists in examining the relationship between self-esteem and depression. Self-esteem may be a part of the definition of an illness and in no way a causal. This issue was discussed in earlier articles (Ingham *et al.*, 1987) with the conclusion that, while low self-esteem might indeed be an early and long-lasting manifestation of depression, it is not synonymous with it and probably a sign of an enduring personality characteristic.

The findings by Franck *et al.* (2007), Simpson *et al.* (2010) reveal that low self-esteem on its own does not predict future depressive episodes. Nonetheless, it may do so in interaction with other factors, such as severe stress (Brown *et al.*, 1986). Ingham *et al.* (1987) discovered that prior psychiatric problem was another of such interactive factor. Though low self-esteem is regarded only as a psychiatric symptom, some adverse circumstances are necessary before the transition from dysphoria to outright clinical illness.

In the last 50 years, researchers have been interested in studying the relationship and consequences of loneliness (Heinrich & Gullone, 2006). From these studies, there have been divergent opinions on the notion of loneliness. However, most scholars agree that

loneliness represents a distressing situation that is occasioned by limited social relationships and the perception of being isolated (Savikko *et al.*, 2005; Victor *et al.*, 2000). Research has equally shown that loneliness can lead to the onset of anxiety and depression (Cacioppo & Hawkley, 2003). In the view of Wiseman *et al.* (2006), the early attachment types of teenagers serve as a working model of the level of relationship with others in their later life (Bowlby, 1982).

According to Bowlby (1982), safe attachment models reflect the relationships with caregivers which emphasize warmth, respect for autonomy, sense of trust in the self, and the caregivers (Shaver & Mikulincer, 2002). Secure teenagers tend to form intimate and close relationships with others, social groups and are therefore less lonely compared to insecure ones (Wiseman *et al.*, 2006). Recently emerging studies indicated that attachment insecurity is correlated and linked with loneliness (Wiseman *et al.*, 2006).

Moreover, numerous scholars have sought to establish the complex relationships between self-esteem and depression (Kernis, 2006; Teasdale & Russell, 1983; Roberts & Monroe, 1994) and between loneliness and depression (Cacioppo & Hawkley, 2003; Heinrich & Gullone, 2006). It was suggested that self-esteem variation is a factor in both the aetiology and maintenance of depression (Butler *et al.*, 1994; Roberts & Monroe, 1994). Therefore, in the present study, it was hypothesized that loneliness could affect depression through self-esteem (see Fig. 1).

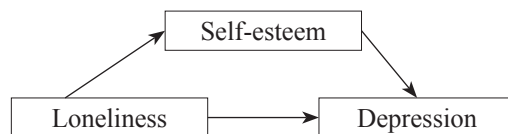


Fig. 1: The mediator role of self-esteem in the relationship between loneliness and depression

Although there have been studies on the unique predictor of teenage depression, none has sought to identify the sole predictor of teenage depression from self-esteem and loneliness.

Emerging studies from Malaysia indicate that self-esteem development may be attributed to the participation in theatre performance. According to Yee *et al.* (2005), youths who participated in theatre performances exhibited higher levels of self-esteem than their colleagues who were not.

In a recent study by Cheng and Yusoff (2010) on self-esteem among 522 adolescents in the Klang Valley, Malaysia, the scholars revealed a moderated predictive relationship between social support and depression. However, despite the fact that some of these studies were conducted within the Malaysian hemisphere (Yee *et al.*, 2005; Cheng & Yusoff, 2010), none has examined the mediating effects of self-esteem in the relationship between loneliness and depression, either within the country or globally. Hence, there is a need to respond to the research questions highlighted below.

Research Question

In line with the above, the current study therefore, responded to the following research concerns:

1. What uniquely predicts teenage depression, self-esteem, or loneliness?
2. Does self-esteem mediate the relationship between loneliness and depression?

MATERIALS AND METHODS

Participants

Two hundred and eighty teenage respondents were eligible for the study. Of this number, 38 were dropped due to incomplete responses. Therefore, the final analysis comprised of 242 teenagers (119 males, 123 females) from the rural and urban schools in the central zone of Selangor, Malaysia. The participants were given a booklet each. The booklets contained all the instruments used in the study. The respondents were Malays (88.84%), Chinese (4.13%), Indians (6.20%) and of other races (0.83%). Their ages ranged from 13 to 16 years ($M=14.67$; $SD=1.27$). The specific age choice was made

because emerging studies from other parts of the globe highlight the importance of these periods in the life course of adolescents (Newman & Newman, 2009).

Procedure

A trained research assistant administered the battery of instruments which included the measures for self-esteem, loneliness, and depression. The data were collected in classrooms during a two-hour period. The participants were given information regarding the research and the voluntary nature of their contribution after meeting the research sample criteria. The permission to collect the necessary data was granted by the Malaysian Ministry of Education.

Due to the difficulty or impossibility of listing all the members of the target population and to select a sample from among them, the country was clustered into five zones and one state was randomly selected from each of the zones. The selected states were Kedah (North zone), Selangor (Central zone), Johor (South zone), Pahang (East zone) and Sarawak (East Malaysia zone). From each state (zones), schools were selected based on the classification of the Malaysian Ministry of Education (2007) for either rural or urban schools.

Hence the schools were chosen randomly for all the zones from a list of schools with all the students within the age bracket of the study in the selected schools included in the sample. From the central zone of Malaysia, Selangor was selected. Within the state, two rural and three urban schools were randomly selected. These schools therefore served as the sample for the central zone of Malaysia. The total number of schools sampled amounted to five. The data for the study were collected within the schools using the cluster sampling technique. The current study was a part of a larger study which was conducted in selected urban and rural daily secondary schools in Malaysia.

Measures

Each booklet contained a number of validated scales and demographic questions. The respondents were asked to provide details of their age, gender, number of siblings and other statistical information.

Depression

Children Depression Inventory (CDI: Kovacs, 1985) is a 27-item Likert-type measure that assesses children's perceptions of the severity of specific cognitive, affective, behavioural, and depressive symptoms which they experienced in the past two weeks, was used to measure depression. A score of 0, 1, or 2 was given to each item, with a score of 2 representing the most severe choice. The CDI has been used with school-age children and is the most widely used measure of childhood depression (Kazdin, 1990). The 27-items of the CDI range from 0 to 54, with higher scores associated with higher depressive symptoms. Some examples of the questions in the instrument include "I am sad", "Nothing will ever work out for me", and "I do everything wrong". Kovac (1985) set a score of 20 as the cut-point for the identification of depressive symptoms in a normal population. Some psychometric studies of the CDI have shown high degrees of internal consistency, test-retest reliability, and construct validity in non-clinical populations (Cole *et al.*, 2000). According to Kovac (1983), the CDI has acceptable internal consistency, with a Cronbach alpha (α) coefficient of 0.71. In the current study, the Cronbach alpha (α) was 0.77.

Loneliness

Loneliness was assessed using the Revised UCLA Loneliness Scale (Russell *et al.*, 1980). Each item on the 20-item scale was rated on a 4-point Likert scale ranging from never to often. Ten items were reverse scored, and the total scores ranged from 20 to 80. Higher scores indicate greater loneliness. Some examples of the questions in the scale include: "I lack companionship", "There is no one I can turn

to", and "I am no longer close to anyone". Evidence of reliability and validity of the scale are presented in numerous studies (Russell, 1996). The internal consistency of the scale in the present study was 0.76.

Self-esteem

Self-esteem was measured using the Rosenberg Self-Esteem Scale, which has been shown to be a valid and reliable instrument. The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) assesses self-esteem globally. Some examples of the questions included: "At times I think I am no good at all" "I feel I do not have much to be proud of" and "I certainly feel useless at times". Each item is rated on a 4-point scale ranging from strongly disagree to strongly agree. The higher the score obtained in the RSE, the greater the levels of self-esteem. The scale has been widely used in several studies. The internal consistency in the present study was 0.67.

Data Analysis

The data for all the three research instruments were numerically scored and quantified. Each of the quantitative scores was entered into SPSS version 17 for analysis. Inferential and descriptive statistical tests were also performed. In more specific, regression analysis was applied to determine the mediating role of self-esteem in the relationship between loneliness and depression and the unique predictor of teenage depression. Descriptive statistics were used to calculate means, standard deviation (SD), and range. The interpretation of correlation was based on Cohen's (1988, pp. 79-81) guideline that stipulates $r = .10$ to $.29$ as a small correlation, $r = .30$ to $.49$ as a medium correlation and $r = .50$ to 1.0 as a large correlation.

RESULTS AND DISCUSSION

The participants for the current study were from 13 to 16 years ($M = 14.67$ years, $S.D = 1.27$) of age, and they comprised 49.2% males and 50.8% females. Most of the respondents for the study

(95; 39.26%) have between four to five siblings in their families. Table 1 reveals the correlation between measures of self-esteem, loneliness, depression, and demographic factors. The table suggests that there is a negative and medium correlation between self-esteem and loneliness ($r = -.380, p < .01$) with low self-esteem associated with high loneliness.

In addition, the table further illustrates a negative and medium correlation between self-esteem and depression ($r = -.497, p < .01$), with low self-esteem associated with a high level of depression. Furthermore, the table suggests a positive and medium correlation between loneliness and depression ($r = .493, p < .01$), implying that the higher the level of loneliness, the level of depression will be higher as well. More so, the table also reveals a positive and small correlation between the number of siblings and depression ($r = .180, p < .01$), with a high number of siblings associated with a high level of depression.

In line with the first objective of the study, a two-predictor multiple linear regression model was proposed to explain the variation of depression. The two predictors were loneliness (x1) and self-esteem (x2). The equation of the proposed multiple linear regression model is as follows:

$$Y (\text{outcome}) = b_0 + b_1(X_1) + b_2(X_2) + e$$

Where:

- Y = Teenage Depression
- b0 = Constant (Intercept)
- b1-2= Estimates (Regression coefficients)
- X1 = Loneliness,
- X2 = Self-esteem, and
- e = Error

To test the extent to which the research data supported the MLR model of teenage depression, the enter regression method was used. The two predictor variables, namely, loneliness ($\beta = .355, p \leq .05$) and self-esteem ($\beta = -.362, p \leq .0001$), fully supported the proposed two predictor multiple linear regression model, as depicted in the coefficient table (see Table 2). The estimate of the model coefficients for b0 was 18.812, b1 was .263, and b2 was -.585. Therefore, the estimated model is as shown below:

$$Y \text{ (Teenage Depression)} = 18.812 + .263 (X_1) + -.585 (X_2) + e$$

The R-squared of 0.36 implied that the two-predictor variables explained about 36% of the variance in depression. The ANOVA table reveals that the F-statistics ($F=65.683$) is large and the corresponding p -value is significant ($p \leq .05$), indicating that the slope of the estimated linear regression model line is not equal to zero and confirming that there is a linear relationship

TABLE 1
The correlations between measures of self-esteem, loneliness, depression and demographic factors

Measures	1	2	3	4
1. Self esteem	-			
2. Loneliness	-.380**	-		
3. Depression	-.497**	.493**	-	
4. Number of Siblings	-.079	.071	.180**	-
M	28.34	42.07	13.29	4.47
SD	3.68	8.03	5.95	1.96
Min	18.00	28.00	0	1
Max	38.00	68.00	31	12
α .	.67	.76	.77	

Correlation is significant at the 0.01 level (2 tailed)

TABLE 2
Multiple Regression Analysis on the Predictor of Depression

Variables	B	Std. Error	Beta	t value	p value
Constant	18.812	3.637		5.173	.000
Loneliness	.263	.042	.355	6.318	.000
Self-esteem	-.585	.091	-.362	-6.440	.000

Note: R= 0.59, R²= 0.36, Adj. R²= 0.35.

TABLE 3
The Multi-Collinearity Diagnostic for the of Predictor of Depression

	Eigen value	Condition Index	Variance Proportions		
			Constant	Loneliness	Self esteem
1	2.959	1.000	.00	.00	.00
2	.036	9.076	.00	.49	.15
3	.005	25.216	1.00	.50	.85

Note: Dependent variable is teenage depression

between teenage depression and the two-predictor variables.

As depicted in Table 2, the largest beta coefficient was for self-esteem, i.e. -.362. This means that the variable made the strongest unique contribution in explaining the dependent variable (depression), when the variance explained by the other predictor variable in the model was controlled for. The finding also suggests that one standard deviation decrease in self-esteem is followed by -.362 standard deviation increase in depression. The Beta value for loneliness is second (.355).

The above findings indicate that loneliness and self-esteem are important in explaining the variations of depression. Based on the collinearity diagnostic table obtained (Table 3), none of the model dimensions had a condition index above the threshold of 30.0, and none had a tolerance value smaller than 0.10, and a variance inflation factor (VIF) statistics less than 10.0. These indicated that there was no multi-collinearity problem among the predictor variables of the model. Since no multi-collinearity problem existed between the predictors included in the model and the assumptions of normality, the equality of

variance and linearity were all met, and it was reasonable to conclude that the final estimated multiple regression models to explain depression was proper.

In consonance with the second objective, Baron and Kenny (1986) argued that three conditions must exist for mediation to occur. First, the independent variable (loneliness) must be significantly related to the dependent variable (depression), in the absence of the mediator (self-esteem). Second, the independent variable (loneliness) must be significantly related to the mediator (self-esteem). Finally, the mediator (self-esteem) must be significantly related to the dependent variable (depression). Furthermore, the addition of the mediator (self-esteem) into the regression model must reduce (partial mediation) or eliminate (full mediation) the initial effect of the independent variable (loneliness) on the dependent variable (depression). In the present study, zero-order correlations (see Table 1) indicated that the first three criteria for mediation effects had been met.

The functional measure of loneliness was correlated with depression ($r = .49, p < .01$) (Table 1). In addition, loneliness was significantly correlated with the mediator

self esteem ($r = -.38, p < .01$). More so, the mediator self esteem was equally and significantly correlated with the dependent variable depression ($r = -.51, p < .01$). The hierarchical regression analyses were used to examine the relations between self-esteem and depression, after controlling for the effects of loneliness. As the outliers can considerably distort relationships between the predictor and outcome variables, it is necessary to identify and evaluate the influence outliers may have on regression equations (Neter *et al.*, 1989). Cook's distance measure was used to examine the influence the outlines might have on the model. However, after the examination, Cook's distance measure did not identify any problem with the model (Cook & Weisberg, 1982).

The results indicated that the variance explained by loneliness was 24%, $F(1, 240) = 76.92, p < .001$. The total variance explained by the model as a whole was 36%, $F(2, 239) = 65.68, p < .001$. After controlling for the effect of self-esteem on depression, the relationship between loneliness and depression ($\beta = .49, p < .000$) was significantly reduced ($\beta = .35, p < .000$). The true value of self-esteem was estimated to lie between the lower value of $-.764$ and the upper value of $-.406$, with 95% confidence. This was mainly because zero was not included in the 95% confidence interval. The finding suggested that the effect of loneliness through self-esteem was considerably different from zero at $p < .000$ (Table 4). Therefore, self-esteem was found to partially mediate the

relationship between loneliness and depression in the sample.

CONCLUSION

This study is the first to critically examine the mediating role of self-esteem in the relationship between loneliness and depression. Although some previous studies (Simpson *et al.*, 2010) have used self-esteem as a mediator, none examined the concept in the above regard. The major finding of this study was that self-esteem could partially mediate the relationship between loneliness and depression. The contribution of the finding of this study to the existing theories lies in the fact that both loneliness and self-esteem can predict depression. Conversely, the combination of both constructs could have deleterious consequences on teenagers. The study revealed that self-esteem contributed more to the prediction of teenage depression.

Following the devastating and dilapidating consequences of low self-esteem on teenage psycho-social health, parents worldwide are enjoined to extol their teenager's accomplishments, even small ones, show interest in their behaviour, schemes, or troubles and react tenderly when their teens behave well. These measures will allow the parents to gain the trust and confidence of their teens, which increases their self-esteem. Essentially, parents should avoid behaviour that could lower their teen's self-esteem, such as shouting or criticizing them, particularly in front of other teenagers or

TABLE 4
Hierarchical regression of loneliness and self-esteem on depression

Model	R2	F	B	95% CI	
				Lower	Upper
Step 1 Loneliness	.24	76.92	.493	.283	.447
Step 2 Loneliness	.36	65.68	.355	.181	.345
Self-esteem			-.362	-.764	-.406

Note: Beta weights are from the final step of the regression equations and represent the unique contribution of each variable. $p < .10$; $p < .05$; $p < .01$.

referring to them, as dull or sluggish. Statements such as these may become counterproductive, and therefore trigger the feelings of low self worth in their teens.

In line with the existing literatures, this study revealed that self-esteem is significantly related to depression, indicating that self esteem is associated with high levels of depression (Butler *et al.*, 1994; Kernis 2006; Pelkonen, 2003; Roberts & Monroe, 1994). Contemporary literature reveals that mental health may be closely associated with high self-esteem considered a mental health safety factor (Ni *et al.*, 2009). The current finding has extended the previous studies by supporting the notion that high self-esteem serves as a safety factor associated with lower levels of depression among teenagers. In considering the results of this study, several issues are clear.

The present findings provide promising empirical support for the proposed model in this study, although the researchers acknowledge some limitations. First, the data in this study were gathered at one point in time. The subjects' perception may have been influenced by covariate factors. Thus, the interpretation of the results is constrained by the cross-sectional nature of the data. Second, given that the entire instrument used in the study were self-reports, the respondents might have answered according to their own opinion. However, despite these limitations, this study demonstrated that teenage self-esteem was very important in their successful passage from childhood to adulthood.

Finally, the inference from the study suggests a need for counsellors and psychologists to educate parents on the need to encourage high self-esteem among teenagers. The development of self-esteem is highly necessary, particularly within the context of the current study to prevent adolescents from dangerous affiliations which may hamper their aspirations in life. Future research may solicit information from parents and teachers to enhance results. Ultimately, more questions about this relationship were left unanswered. This provides fruitful avenues for

upcoming investigation. Overall, there is an evident need to carry out further inquiries on the role of self-esteem among young teenagers in dealing with a variety of transition and interpersonal issues.

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