# Loneliness, stress, self esteem and depression among Malaysian adolescents

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**Abstract**

The current study examined the degree of relationships between loneliness, stress and self-esteem with depression among adolescents. The respondents were 1407 secondary school adolescents aged between 13 to 17 years old from selected states in Malaysia. Data were collected by using a self-administered questionnaire. Adolescent depression was measured by Children Depression Inventory (CDI) (Kovacs, 1985) while stress was measured by Perceive Stress Scale (Cohen, 1983). Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) measured loneliness and Rosenberg Self-Esteem Scale (Rosenberg, 1965) measured self-esteem. The findings of the study showed that loneliness, stress and self-esteem have moderate significant relationships with depression and stress emerged as the strongest predictor of adolescent depression.

**Keywords:** Loneliness, Stress, Self Esteem, Depression

## Introduction

A large body of literature suggests that adolescence is a period of increased vulnerability to stressful life events such as depression (Stark, Hargrave, Hersh, Michelle, Herren & Fisher, 2008). Adolescence can be defined as the period between childhood and adulthood (10-19 years) (Dixon, Scheidegger, & Mcwhirter, 2009) which is usually marked by developmental changes in the physical, cognitive, and social-emotional capacities of adolescents (Erikson, 1963). In the view of Ollendick et al. (2003), adolescence is a demanding period in life cycle of a young person which may lead to depression. The contributory factors to adolescent depression are many and varied. Of the many contributory factors to adolescent depression, this study examined three of these contributory factors which are loneliness, stress and self esteem.

Researchers have asserted that loneliness is a more prevalent and serious problem among adolescents than any other age group (Hudson, Elek, & Campbell-Grossman, 2000). Loneliness can be described as a gnawing chronic disease without redeeming features which has long been recognized as a strong correlate of depressive symptoms (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006). The construct loneliness has been identified as a risk factor for depressive symptoms in both cross-sectional (Chou & Chi, 2004; Nolen-Hoeksema & Ahrens, 2002) and longitudinal (Heikkinen & Kauppinen, 2004) studies. Prior work revealed that the levels of loneliness and depressive symptoms may vary across the life span.
In an illustrative study, Nolen-Hoeksema and Ahrens (2002) investigated the levels of relationship between loneliness and depressive symptoms in 25- to 35-year-old, 45- to 55-

year-old, and 65- to 75-year-old adults. Despite variations across the life span, the association between loneliness and depressive symptoms appears to be stable (moderately and equivalently positive) across age (Nolen-Hoeksema & Ahrens, 2002) and ethnicity (Hojat, 1983). Nolen-Hoeksema and Ahrens (2002) noted that this finding suggests that concerns over close relationships are related to depressive symptoms at any point. In the view of Cacioppo et al. (2006), loneliness and depressive symptoms are intimately related but distinct constructs. In previous work, loneliness was defined as the experience of solitude, disconnection, and lack of closeness, which is often assessed with the revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) and usually conceptualized as a one-dimensional construct; this view has considerable support (Hartshome, 1993; Oshagan & Allen, 1992). Cacioppo, Hughes, Waite, Hawkley and Thisted (2006) reported loneliness as a unique risk factor for depressive symptomatology.

The accessible literatures also provide some support for this view. For instance, Alpass and Neville (2003) reported significant association between loneliness and depressive symptoms among 217 older men in New Zealand after controlling for variables such as age, education, income, and social support. A study by Hagerty and Williams (1999) also found a significant association between loneliness and depressive symptoms among undergraduates and patients with major depressive disorder after controlling for social support, social conflict, and sense of belonging.

The relationship between stressful life events and depression has equally been reasonably well established in both clinical and non clinical studies on depression (Lloyd, 1980). The term stress exposure refers to the exposure to various health related outcomes such as depression. The term implies that exposure to negative or stressful life event precedes and increases the risk for depression (Cole, Nolen-Hoeksema, Girgus, & Paul, 2006).

Studies conducted in the 1990's reveal that depressed mood and low self-esteem occur with disproportionately high prevalence among adolescents (Lewinson, Rhode, Seeley, & Andrews, 1993; Peterson et al., 1993). Also, recently emerging studies suggests that low self-esteem contributes to the development of depression (Orth, Robins, & Meier, 2009). Low self-esteem will also mean the development of a poor or negative self-image. Such beliefs can become a self-fulfilling prophecy of expecting to fail (Riddick, 1996).

Although most adolescents experience difficulty in developing positive self-concepts, research indicates that adolescents who maintain positive self-concepts with higher self-esteem tend to report more positive affective states (Pelham & Swann, 1989), greater wellness (Dixon Rayle, 2005), more life satisfaction (Myers & Diener, 1995) and fewer depressive symptoms (Tennen & Herzberger, 1987). Therefore, if adolescents have high self esteem, they may report lower levels of adolescent depression. The experiences of self worth to others differ for older female and male adolescents as well as for women and men (Dixon Rayle, 2005; Taylor & Turner, 2001). Dixon Rayle (2005) found that female high school adolescents perceived more self worth to their families than did male high school adolescents.

Documented studies on gender differences in both self-esteem (Kling, Hyde, Shower, & Buswell, 1999) and depression (Twenge & Nolen-Hoeksema, 2002) reveal that during early adolescence, more girls are affected than boys from depression. For instance, although boys experience a similar or even higher rate of depressive symptoms than do girls prior to adolescence, roughly twice as many girls as boys become depressed once they reach adolescence (Nolen-Hoeksema & Girgus, 1994; Peterson, Sarigiani, & Kennedy, 1991). Furthermore, research shows that girls have a greater vulnerability than boys to these

problems during adolescence (Nolen-Hoeksema, 1990), which may create gender differences in long term sequel. Therefore, it is essential to learn more about what factors affect these outcomes to design more effective treatment and prevention program. Although findings on gender differences are unequivocal across studies, some conjectures are apparent.

Understanding the variables that predict depression among teenagers especially the unique predictor is particularly important for the intervention and prevention of teenage depression given that teenage depression may not only be carried into later life stages but may also escalate over time (Kovacs, 1996). Therefore, the aim of this study was to further the understanding of loneliness, self esteem and stress during adolescence particularly how it relates to well-documented psychologically distressing experiences for adolescents such as depression. Specifically, we examined two general questions: (a) To what extent loneliness, stress and self esteem in combination explain the variation in adolescent depression? (b) What is the relative strength of loneliness, stress and self esteem as unique predictors of depression?

## Method

### *Location and respondents of the study*

The study was conducted in selected urban and rural daily secondary schools in Malaysia. Malaysia was clustered into five zones which are the North, Central, South and East zones of Peninsular Malaysia and East Malaysia as one zone. From each zone, one state was randomly selected. The selected states were Kedah (North zone), Selangor (Central zone), Johor (South zone), Pahang (East zone) and Sarawak (East Malaysia zone). From each state, two schools were selected to represent rural and urban schools as classified by the Malaysian Ministry of Education Malaysia (2007). A total of 1407 male (n=679) and female (n=728) students aged between 13 to 17 years old were selected as respondents of the study from the identified daily secondary schools.

### *Measures*

Adolescent Depression - Adolescent depression was measured by the Children Depression Inventory (CDI: Kovacs, 1985). The CDI consists of feelings and ideas grouped into 27 items. Respondents were asked to choose one sentence from each group of 27 items that best describe them for the past two weeks. The choices were given a score from 0 to 2. The scores were totaled so that high scores indicate high depression. The scale scores range from 0 to 54. The CDI has acceptable internal consistency, with a Cronbach alpha coefficient of .71. In the current study, the Cronbach alpha reliability for CDI is .79.

Stress – Stress was measured by Perceived Stress Scale (PSS) (Cohen, 1983). PSS is a 14 item self report questionnaire designed to measure the degree to which situations in one's life are appraised as stressful. The scores of the PSS are obtained by reversing the scores on positive items and then summing across all the scores for 14 items. The PSS scale scores range from 0 to 56 with high score represents high social stress. The PSS has acceptable reliabilities which range from .84 to .86. In the current study the Cronbach alpha coefficient is 0.55.

Loneliness - Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) was used to measure feelings of loneliness. The scale consisted of 20 items and respondents were asked to rate how often they felt the way described by the items on a scale ranging from 1 (*never*) to 4 (*often*). The responses to the 20 items are summed, producing a possible range of 20 to 80 item score with higher scores indicating greater loneliness. The scale has adequate psychometric properties and has been extensively validated (Russell et al., 1980; Anderson &

Harvey, 1988). The scale had high internal consistency with alpha of 0.94. The Cronbach's alpha coefficient for the scale in the present study was 0.81

Self Esteem - The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to assess global self-esteem, with higher scores indicating more positive self-regard. Each item was responded with 4-point Likert scale ranging from 1= strongly agree to 4= strongly disagree. The scale generally has high reliability, with test-retest correlations value between 0.82 and 0.88. The Cronbach's alpha of the scale in the present study was 0.67.

**Data analyses**

Descriptive statistics was used to describe the variables of the study. T-test was utilized to compare males and females scores on main variables of the study. Pearson correlation analysis was used to examine the association between loneliness, stress, self-esteem and depression. Hierarchical multiple regression analysis was used to identify independent variables that are useful in predicting adolescent depression.

***Descriptive findings***

The means and standard deviations for depression, stress, loneliness and self-esteem are presented in Table 1. The mean score for depression was below the cut-off point for the identification of depressive symptoms in normal population. Kovacs (1985) set a score of 20 as the mid-point to categorize depressed and non-depressed respondents. The mean score for stress was 28.13 indicating that respondents obtained average scale score when compared to scale score of 0 to 56. The mean score for loneliness (41.02) tend to fall in the lower end of the scale score (20 to 80). The mean self-esteem (28.06) score was on the higher end of the self-esteem scale score (10 to 40).

**Table 1: Means and standard deviations for main variables**

| Variable | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| Depression | 16.20 | 5.79 | 3.00 | 48.00 |
| Stress | 28.13 | 5.04 | 4.00 | 51.00 |
| Loneliness | 41.02 | 8.62 | 20.00 | 78.00 |
| Self-esteem | 28.06 | 3.69 | 11.00 | 38.00 |

Table 2 presents the distribution of respondents by categories of depression, stress, loneliness, self-esteem and gender. Majority of respondents (75.8%) were not depressed. Based on total scores, more than 50% of the respondents reported to have high social stress, high loneliness and high self-esteem. Similar pattern was found for loneliness and self-esteem by gender. More than halves of males and females were in the high category of loneliness and self-esteem.

**Table 2: Distribution of respondents by categories of depression, stress, loneliness, self-esteem and gender**

| Variable | Total | | Gender | | | |
|---|---|---|---|---|---|---|
| | | | Male | | Female | |
| | n | % | n | % | n | % |
| **Depression** | | | | | | |
| Non Depressed (<20) | 1066 | 75.8 | 550 | 81.0 | 516 | 70.9 |
| Depressed (≥20) | 341 | 24.2 | 129 | 19.0 | 212 | 29.1 |
| **Stress** | | | | | | |
| Low (<28) | 623 | 44.3 | 355 | 52.3 | 268 | 36.8 |
| High (≥28) | 784 | 55.7 | 324 | 47.7 | 460 | 63.2 |
| **Loneliness** | | | | | | |
| Low (<50) | 678 | 48.2 | 334 | 49.2 | 344 | 47.3 |
| High (≥50) | 729 | 51.8 | 345 | 50.8 | 384 | 52.7 |
| **Self-esteem** | | | | | | |
| Low (<25) | 603 | 42.9 | 263 | 38.7 | 340 | 46.7 |
| High (≥25) | 804 | 57.1 | 416 | 61.3 | 388 | 53.3 |

***Gender differences in depression, stress, loneliness and self-esteem***

T-tests were conducted to determine the differences in depression, stress, loneliness and self-esteem between male and female respondents. Female respondents obtained higher scores in depression, stress and loneliness compared to males (Table 3). Males obtained higher self-esteem scores than females. The differences in scores between males and females were significant for depression (t= -4.35, p≤.00), stress (t=-8.69, p≤.001), and self-esteem (t=-3.99, p≤.001).

**Table 3: Results of t-test for all variables by gender**

| Variable | n | Mean | t value |
|---|---|---|---|
| **Depression** | | | -4.35*** |
| Male | 679 | 15.51 | |
| Female | 728 | 16.85 | |
| **Stress** | | | -8.69*** |
| Male | 679 | 26.95 | |
| Female | 728 | 29.23 | |
| **Loneliness** | | | -1.36 |
| Male | 679 | 40.69 | |
| Female | 728 | 41.33 | |
| **Self-esteem** | | | 3.99*** |
| Male | 679 | 28.46 | |
| Female | 728 | 27.68 | |

Note: ** p ≤ 0.001

***Correlations between variables***

Results of bivariate correlation analysis for the variables examined in the present study are displayed in Table 4. All variables were significantly correlated with each other. Stress was highly correlated with depression (r =.505, p≤.01). Respondents who reported to have higher stress scores tended to have higher depression scores. Loneliness (r =.476, p≤.01) and self-esteem (r = -.465, p≤.01) had moderate and significant correlations with depression. Loneliness had a positive and direct relationship with depression. Respondents who reported high loneliness also reported high depression.

**Table 4: Correlation matrix for all the variables**

| Variables | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Depression | - | .505** | .476** | -.465** |
| *2.* Stress | | - | .390** | -.434** |
| 3. Loneliness | | | - | -.386** |
| 4. Self-esteem | | | | - |

Note: ** p ≤ 0.01

The results reveal that self-esteem had an inverse significant relationship with depression. Those with high self-esteem tend to have lower depressive symptoms. Table 4 also shows moderate correlations between stress and loneliness (r = -.390, p≤.01), stress and self-esteem (r = -.434, p≤.01), and loneliness and self-esteem (r = -.386, p≤.01). Respondents with higher stress scores had higher loneliness and lower self-esteem scores. Loneliness was inversely related with self-esteem. This indicates that respondents with higher loneliness, has lower self-esteem.

***Predictors of depression***

Hierarchical regression was used to determine the significant predictors of depression among respondents. Based on the strength of bivariate correlations between all variables, stress was the first independent variable to enter regression model, followed by loneliness and self-esteem. Results of the analysis of Model 1, 2 and 3 are presented in Table 5. R is significantly different from zero at the end of each step.

Table 5: **Results of Hierarchical Regression of Stress, Loneliness and Self-esteem on Depression**

| | Beta | R | $R^2$ | F | $R^2$ Change |
|---|---|---|---|---|---|
| Model 1 | | | | | |
| Stress | .505*** | .505 | .255 | 481.212*** | .255 |
| Model 2 | | | | | |
| Stress | .377*** | .589 | .347 | 372.789*** | .092 |
| Loneliness | .329*** | | | | |
| Model 3 | | | | | |
| Stress | .299*** | .622 | .387 | 295.371*** | .040 |
| Loneliness | .270*** | | | | |
| Self-esteem | -.231*** | | | | |

Note: ** * - $p \leq 0.001$

In Model 1, after entry of stress in the equation, R=.505, F(1, 1405)=481.212, $p \leq 0.001$. Stress had a high significant (Beta=.505, $p \leq 0.001$) unique contribution in predicting depression among respondents. About 25.5% of the variability in depression could be predicted by knowing scores on stress. After step in Model 2, with loneliness added to the prediction of depression by stress, $R^2$=.347, F(2, 1404)=372.789, $p \leq 0.001$. Thus, addition of loneliness variable in the equation results in an increase in $R^2$ by .092 from .255 to .347. Stress and loneliness jointly accounted for 34.7% of the variance in adolescent depression. In Model 2, loneliness was a significant unique predictor (Beta=.329, $p \leq 0.001$) of depression. In Step 3, self-esteem was added to the regression equation to determine if differences in self-esteem were related to depression after differences in stress and loneliness had been statistically accounted for. The results show that $R^2$=.387, F(3, 1403)=295.371, $p \leq 0.001$. An addition of self-esteem to the regression equation improved $R^2$ by .040 from .347 to .387. Therefore, after accounting for stress and loneliness, differences in self-esteem contributed significantly to variations in depression. Stress, loneliness and self-esteem altogether predicted about 38.7% of the variation in depression. Stress emerged as the strongest unique predictor (Beta=.299, $p \leq 0.001$) of depression, followed by loneliness (Beta=.270, $p \leq 0.001$), and self-esteem (Beta=-.231, $p \leq 0.001$).

**Discussion and conclusion**

The study found that in general, female adolescents experience more negative affective states compared to male adolescents. Female adolescents tended to have higher social stress, lower self-esteem, and higher depressive symptoms than male adolescents. These findings tend to indicate that females are more vulnerable to psychological problems than males during adolescence. The gender differences in depression, stress and self-esteem are consistent with findings of past studies (e.g. Dixon Rayle, 2005; Peterson, Sarigiani, & Kennedy, 1991; Twenge & Noleh-Hoeksema, 2002; Windle, 1992).

The results of Pearson correlation analysis showed that stress and loneliness had a positive and significant influence on depression among adolescents. Adolescents who experienced greater stressful life situation were lonelier. The significant negative relationship between self-esteem and depression indicated that adolescents with higher self-esteem, had lower tendency to be depressed. Amongst the three independent variables examined, stress had the strongest bivariate correlation with adolescent depression. The bivariate correlations findings support other researchers who examined adolescent depression and stress (Abela & D'Alessandro, 2002; Kostelecky & Lempers, 1998; Cole et al., 2006), loneliness (Cacioppo et al., 2006; Chou & Chi, 2004; Heikkinen & Kauppinen, 2004).

When all the independent variables were hierarchically entered into the regression equation, stress, loneliness, and self-esteem appeared as significant contributors of depression among adolescents. Loneliness had a significant incremental effect on depression after the effect of stress was accounted for. After accounting for the effects of stress and loneliness, self-esteem also had a significant incremental effect in influencing depression. In summary, the present findings denote that perceived social stress, loneliness, and self-esteem are critical factors in the development of depression among adolescents.

Depression among adolescents was associated with increased perceived social stress, feelings of loneliness and decreased self-esteem. These associations are in agreement with many past findings on the same issues. The findings implied that stress, loneliness and low self-esteem are risk factors for depression among adolescents. Internal emotional deficiency may function as a personal vulnerability factor to depression, and thus significantly impinge on the well-being of adolescents. Therefore, greater importance should be given to the presence of social stress, loneliness and low self-esteem during adolescence with the aim of increasing the possibility for adolescents to grow and functions encouragingly across their life span. Factors that interfere with the development of positive self-esteem and promote the manifestations of stress and loneliness must be obliterated for the prevention of emotional and psychological distress among adolescents. Adolescents who are stressful, lonely and have low self-esteem may lack social support, social skill and have interpersonal deficiency.

**References**

Abela, J.R.Z., & D'Alessandro, D.U. (2002). Beck's theory of depression: A test of the Diathesis-stress and causal mediation components. *British Journal of Clinical Psychology,41*(2), 111-128.

Alpass, F. M., & Neville, S. (2003). Loneliness, health and depression in older males. *Aging & Mental Health, 7,* 212–216.

Cacioppo, J. T., Hughes, M. E., Waite, L, J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: Cross-sectional and longitudinal analyses. *Psychology and Aging, 21,* (1), 140-151.

Chou, K., & Chi, I. (2004). Childlessness and psychological well-being in Chinese older adults. *International Journal of Geriatric Psychiatry, 19,* 449–457.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24,* 385-396.

Cole, D.A., Nolen-Hoeksema, S., Girgus, J., & Paul, G. (2006). Stress exposure and stress generation in child and adolescent depression: A latent trait-state-error approach to longitudinal analyses. *Journal of Abnormal Psychology, 115,* (1), 40-51.

Dixon Rayle, A. (2005). Adolescent gender differences in mattering and wellness. *Journal of Adolescence, 28,* 753-763.

Dixon, A. I., Scheidegger, C., & Mcwhirter, J. J. (2009). The adolescent mattering experience: Gender variations in perceived mattering, anxiety, and depression. *Journal of Counseling & Development, 87,* 302-310.

Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York: Norton.

Hagerty, B. M., & Williams, R. A. (1999). The effects of sense of belonging, social support, conflict and loneliness on depression. *Nursing Research, 48,* 215–219.

Hartshorne, T. S. (1993). Psychometric properties and confirmatory factor analysis of the UCLA Loneliness Scale. *Journal of Personality Assessment, 61,* 182-195.

Heikkinen, R., & Kauppinen, M. (2004). Depressive symptoms in late life: A 10-year follow-up. *Archives of Gerontology and Geriatrics, 38,* 239–250.

Hojat, M. (1983). Comparison of transitory and chronic loners on selected personality variables. *British Journal of Psychology, 74,* 199–202.

Hudson, D.B., Elek, S.M., & Campbell-Grossman, C. (2000). Depression, self-esteem, loneliness, and social support among adolescent mothers participating in the new parents' project. *Adolescence, 35,* 139, 445-453.

Kling, K.C., Hyde, J.S., Shower, C.J., & Buswell, B.N.(1999). Gender differences in self esteem: A meta analysis. *Psychological Bulletin*, *125*,470-500.

Kostelecky, K.L., & Lempers, J.D. (1998). Stress, family social support, distress, and well-being in high school seniors. *Family and Consumer Research Science Journal, 27*(2), 125-145.

Kovacs, M. (1983). *The Children's Depression Inventory: A self rated depression scale for school aged youngsters.* Unpublished manuscript, University of Pittsburgh School of Medicine.

Kovacs, M. (1985). The children's depression inventory. *Psychopharmacology Bulletin, 21*, 995-998.

Kovacs, M. (1996). The course of childhood-onset depressive disorders. *Psychiatric Annuals, 26,* 326-330.

Lewinson, P.M., Rhode, P., Seeley, J.R., & Andrews, J.A. (1993). Adolescent psychopathology: Prevalence and incidence of depression and other DSM-III-R disorders in high school students. *Journal of Abnormal Psychology*, *102*, 133-144.

Nolen-Hoeksema, S. (1990). Sex differences in depression. Standford. CA: Standford University Press.

Nolen-Hoeksema, S. (1994). An interactive model for the emergence of gender differences in depression in adolescence. *Journal of Research on Adolescence*. *4*, (4), 519- 534.

Nolen-Hoeksema, S., & Ahrens, C. (2002). Age differences and similarities in the correlates of depressive symptoms. *Psychology and Aging, 17,* 116–124.

Ollendick,T. H., Seligman, L. D., Goza, A, B., Byrd, D. A., & Singh, K, (2003). Anxiety and depression in children and adolescents: A factor-analytic examination of the tripartite model. *Journal of Child and Family Studies, 12,* 157-170.

Orth, U., Robins, R W., Meier, L. L. (2009). Disentangling the effects of low self-esteem and stressful events on depression: Findings from three longitudinal studies. *Journal of Personality and Social Psychology,* 97(2), 307–321.

Oshagan, H., & Allen, R. L. (1992). Three loneliness scales: An assessment of their measurement properties. *Journal of Personality Assessment, 59,* 380-409.

Pelham, B. W., & Swann, W.B. (1989). From self-conceptions to self-worth: On the sources and structure of global self-esteem. *Journal of Personality and Social Psychology, 57,* 672-680.

Petersen, A.C., Sarigiani, P.A., & Kennedy, R.E. (1991). Adolescent depression: Why more girls? *Journal of Youth and Adolescence, 20*, 247-271.

Peterson, A.C., Compas, B.E., Brooks-Gunn, J., Stemmler, M., Ey, S., & Grant K.E. (1993). Depression in adolescence. *American Psychologist, 48*, 155-168.

Riddick, B. (1996). *Living with dyslexia: The social and emotional consequences of specific learning difficulties*. London: Routledge.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Russell, D., Peplau, L.A., & Cutrona, C.E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology, 39*, 472-480.

Stark, K.D., Hargrave, J.L., Hersh, B., Michelle, G., Herren, J. & Fisher, M. (2008). Treatment of childhood depression. In Abela J.R.Z., & Hankin B.L (Ed.), *Handbook of depression in children and adolescents*. New York: Guilford Press.

Taylor, J. R., & Turner, R. J. (2001). A longitudinal study of the role and significance of mattering to others for depressive symptoms. *Journal of Health and Social Behavior, 42,* 310-325.

Twenge, J., & Nolen-Hoeksema, S. (2002). Age, sex, race, socioeconomic status, and birth cohort differences on the children's depression inventory: A meta-analysis. Journal of Abnormal Psychology, 111, 578–588.

Windle, M. (1992). A longitudinal study of stress buffering for adolescent problem behaviors. *Developmental Psychology, 28*(3), 522-530.

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