

## Original Articles

# Is Teenage Obesity Associated with Depression and Low Self-Esteem?: A Pilot Study

PWK Mok, WHS Wong, PWH Lee, LCK Low

### Abstract

**Objectives:** A pilot study to explore the impact of perceived and actual overweight on self-esteem and depression in Hong Kong teenagers. **Methods:** A cross-sectional questionnaire study on 152 Chinese adolescents aged 12-16 was conducted in a secondary school in Hong Kong. Overweight was defined as a body mass index (BMI) above 90 percentile of age-adjusted BMI reference. The short form Beck Depression Inventory (BDI-13) and the Chinese version of Piers-Harris 2 Self-Concept Scale were used to measure depression and self-esteem respectively. **Results:** Our results showed that perceived overweight but not actual overweight female subjects had statistically significantly lower Piers-Harris score and higher depression score. Kruskal-Wallis test showed that depression was significantly more common in female teenagers who perceived themselves as being overweight but who were not actually overweight compared to those with normal BMI and body image. On the contrary, male teenagers who perceived themselves as thin were more at risk for lower Piers-Harris subscale scores. **Conclusions:** Our findings suggest that perceived body image has more detrimental impact on depression and self-esteem than actual body mass index in both male and female Hong Kong teenagers. This may reflect a probable influence from the mass media, advertisement, or prevailing societal values in over-promoting a slim body-image which may result in self-deprecating tendencies if female teenagers perceived themselves as being overweight. Health care professionals need to pay attention to body image perception rather than focusing solely on the physical build of teenagers.

**Key words** Adolescent; Obesity; Self-esteem; Depression

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### Background

Childhood and adolescent obesity has now become the most prevalent nutritional disorder in developed countries worldwide.<sup>1</sup> In the United States, the prevalence of childhood overweight tripled between 1980 and 2000.<sup>2</sup> Childhood obesity gives rise to long-term health problems and psychosocial problems. Severely obese children and adolescents in the United States have lower health-related quality of life (QOL) compared to children and adolescents who are healthy, with actual QOL approaching more similar to those being diagnosed as having cancer.<sup>3</sup> Adverse outcomes in childhood obesity include metabolic syndrome, type 2 diabetes mellitus, inflammation, cardiovascular

abnormalities and psychosocial abnormalities.<sup>4</sup> Overweight children had higher scores on subscales of social problems, delinquent behaviour, aggressive behaviour and externalising problems compared to non-overweight children.<sup>5</sup>

In the Netherlands, both parents and teachers reported more behaviour problems in overweight children, particularly in those younger than 13 years of age. Lower body-esteem was found in older overweight girls, whereas higher levels of body-esteem were found in older overweight boys.<sup>6</sup> Overweight female adolescents from the United States also seem to suffer from low self-esteem, though it may be mediated by negative body image.<sup>7</sup>

A descriptive analysis performed in 1991 found that nonwhite obese children from Pennsylvania scored particularly low on the Piers-Harris self-concept measures. Age, race, gender, and severity of obesity affected overall self-concept and individual subscale scores. Among the study subjects, younger girls (aged 8-11) and older males (aged 12-17) displayed the lowest level of self-concept. Self-concept theorists suggest that a negative self-image results from a lack of congruence or consonant fit between people's views of themselves and their perceptions about the way others see them.<sup>8</sup>

Another study on Dutch youths in 2006 reported that both body mass index (BMI) and body weight perception (BWP) were associated with internalising and externalising problem behaviour, social attention and thought problems. Multivariate analysis showed that BWP was more closely linked to problem behaviour than BMI. Adolescents who were either underweight or overweight but considered themselves in good shape had no more problems than the group with normal BMI and good BWP. The perception of being 'too thin' and particularly the perception of being 'too heavy' best predicted problem behaviour in both male and female adolescents. Overweight youngsters with an adequate perception of their weight had less somatic complaints compared to their normal-weight peers who perceived themselves as too heavy, but they showed higher social withdrawal, social problems, and anxiety/depression.<sup>9</sup>

The effect of obesity on psychological health in Hong Kong teenagers has not been fully explored. The aim of this pilot study is to shed light on this issue by comparing Piers-Harris self-concept scores and the short form Beck Depression scores among teenagers of different BMI. A further aim is to explore the discrepancy between perceived and actual overweight in Hong Kong teenagers.

## Methods

This cross-sectional pilot study was carried out in a secondary school in Hong Kong. Self-administered anonymous questionnaires and informed consent forms were given to 210 Chinese first form students and their parents in April 2007. The study was approved by the principal of the secondary school and the Institutional Review Board of the University of Hong Kong and Hospital Authority Hong Kong West Cluster.

The available data from the West indicated that the mean and standard deviation of Piers-Harris score (total) in a non-white sample was 49.4 and 13.3 respectively in obese group and 59.9 and 10.0 respectively in control group.<sup>8</sup> As we take 90 percentile cut-off of age-adjusted BMI, the projected ratio of the two sample sizes of overweight and normal weight subjects was thus estimated to be equal to 9. We take the usual significance level of 0.05 and a power of 0.80. The sample size needed for comparing the means of two normally distributed samples of unequal size was estimated to be 134.<sup>10</sup>

One hundred and fifty-two students and their parents consented to participate in the study and the completed questionnaires were returned within one week, giving a response rate of 72.38%. The students with BMI above 90% of the age adjusted BMI would be defined as overweight.<sup>11</sup> Perceived body image was classified as 5 categories in the questionnaire. Those who regarded themselves as 'very thin', 'thin' and 'normal' were interpreted as 'perceived not overweight' whereas those who regarded themselves as 'overweight' and 'very overweight' were interpreted as 'perceived overweight'.

Depression was measured by the short form Beck Depression Inventory (BDI-13) which has been validated for use in Chinese populations.<sup>12-15</sup> This is a rapid screening tool consisting of 13 questions with a scoring scheme: no depression (0-4); mild depression (5-7); moderate depression (8-15); and severe depression (16 or above).

Self-esteem was measured by the validated Chinese version of Piers-Harris 2 Self-Concept Scale.<sup>16,17</sup> The scale consists of 60 yes-or-no answers. A total score (TOT) and scores of 6 sub-groups including behavioural adjustment (BEH), intellectual and school status (INT), physical appearance and attributes (PHY), freedom from anxiety (FRE), popularity (POP) and happiness and satisfaction (HAP) can be calculated.

The data were expressed as mean (sd), range and number (percentage) as appropriate. Further analysis of data was performed by chi-square test and analysis of variance followed by post-test Tukey and Kruskal-Wallis test.

## Results

There were 82 boys and 70 girls who participated in this study, and most were between 12 to 13 years of age

(Table 1). 16.7% of boys and 10% of girls were above 90 percentile of the age-adjusted BMI reference (Table 2). Chi-square test showed perceived overweight to be highly associated with actual overweight in both boys and girls (Table 3). For the discrepancy between perceived and actual overweight, 31 out of 142 (21.8%) subjects perceived themselves to be overweight while in fact they were not. Only two boys and none of the girls perceived themselves to be not overweight while being actually overweight.

**Table 1** Descriptions of the continuous variables of the Form 1 students

	Male			Female			Overall		
	N	Mean (sd)	Range	N	Mean (sd)	Range	N	Mean (sd)	Range
Age Overall	78	12.9 (0.99)	12-16	70	12.9 (0.9)	12-16	148	12.9 (0.93)	12-16
Height (in m)	64	1.60 (0.10)	1.4-1.8	59	1.55 (0.07)	1.34-1.7	123	1.58 (0.09)	1.34-1.8
Weight (in kg)	58	52.5 (15.1)	32-102	56	47.2 (7.4)	31-62	114	49.9 (12.2)	31-102
BMI (in kg/m <sup>2</sup> )	57	20.6 (5.67)	14-41.7	55	19.5 (2.8)	12.7-30	112	20.1 (4.50)	12.7-41.7
BDI-13 score	77	6.36 (7.89)	0-39	68	7.13 (6.3)	0-26	145	6.72 (7.16)	0-39
Piers-Harris (TOT)	70	38.4 (9.71)	6-60	59	38.1 (10.2)	14-59	129	38.3 (9.91)	6-60
Piers-Harris (BEH)	78	10.4 (2.85)	1-14	67	10.7 (2.7)	1-14	145	10.6 (2.79)	1-14
Piers-Harris (INT)	75	7.85 (3.43)	1-16	67	7.64 (3.62)	0-16	142	7.75 (3.51)	0-16
Piers-Harris (PHY)	78	4.45 (2.17)	1-11	67	4.31 (2.57)	1-11	145	4.39 (2.35)	1-11
Piers-Harris (FRE)	80	10.3 (3.23)	0-14	69	8.52 (3.6)	0-14	149	9.48 (3.53)	0-14
Piers-Harris (POP)	78	8.28 (2.27)	1-12	64	8.52 (2.2)	3-12	142	8.39 (2.25)	1-12
Piers-Harris (HAP)	79	7.03 (2.29)	0-10	68	6.87 (2.5)	1-10	147	6.95 (2.37)	0-10

TOT: total score; BEH: scores of 6 sub-groups including behavioural adjustment; INT: intellectual and school status; PHY: physical appearance and attributes; FRE: freedom from anxiety; POP: popularity; HAP: happiness and satisfaction

**Table 2** The distribution of perceived body image and actual overweight

	Male N (%)	Female N (%)	Overall N (%)
Perceived overweight	23 (31.1%)	24 (35.3%)	47 (33.1%)
Actual overweight*	13 (16.7%)	7 (10%)	20 (13.5%)

\* 'Actual overweight' is above 90 percentile cut-off of age-adjusted BMI

**Table 3** Chi-square test for perceived overweight and actual overweight among participants

	Male N (%)	Female N (%)	Overall N (%)
Not overweight and not perceived overweight (A)	49 (66.2%)	44 (64.7%)	93 (65.5%)
Not overweight but perceived overweight (B)	13 (17.6%)	18 (26.5%)	31 (21.8%)
Overweight and perceived overweight (C)	10 (13.5%)	6 (8.8%)	16 (11.3%)
Overweight but not perceived overweight (D)	2 (2.7%)	0 (0%)	2 (1.4%)
Chi square p-value	<b>0.000</b>	<b>0.001</b>	<b>0.000</b>

### Comparing Depression and Piers-Harris Scores by Analysis of Variance

The body build status of the subjects were categorised into 3 groups: (A) not overweight and perceived not overweight, (B) not overweight but perceived as overweight and (C) overweight and perceived as overweight. Analysis of variance showed statistically significantly lower Piers-Harris scores including total, behavioural adjustment, intellectual and school status, freedom from anxiety, and happiness and satisfaction in female subjects who were not overweight but who perceived themselves as being overweight (Table 4). No statistical differences in the total and subscores were found in the 3 groups of male teenagers.

The significant differences in the Piers-Harris total and subscores in the 3 groups of all study participants could be attributed to the findings in the female teenagers. Depression score by BDI-13 was significantly higher in girls who were not overweight but who perceived themselves as being overweight compared to girls with normal body weight and body image.

### Comparing Depression Status by Kruskal-Wallis Test

The distribution of BDI-13 scores is summarised in Tables 5 and 6. Analysis by the Kruskal-Wallis test showed significant differences in the depression status between the three groups of female participants (Table 7). The mean

**Table 4** ANOVA for depression and Piers-Harris scores in the three groups of teenagers

	Not overweight and perceived not overweight (A)	Not overweight but perceived overweight (B)	Overweight and perceived overweight (C)	ANOVA p-value	Post test Tukey		
	Mean (sd)	Mean (sd)	Mean (sd)		(A) vs (B)	(A) vs (C)	(B) vs (C)
<b>Male</b>							
Piers-Harris (TOT)	38.5 (10.4)	38.6 (5.9)	35.3 (10.0)	0.633	-	-	-
Piers-Harris (BEH)	10.5 (3.2)	10.3 (3.3)	9.6 (2.4)	0.669	-	-	-
Piers-Harris (INT)	7.7 (3.7)	7.6 (3.0)	7.2 (3.2)	0.918	-	-	-
Piers-Harris (PHY)	4.6 (2.2)	4.4 (1.8)	3.6 (2.0)	0.383	-	-	-
Piers-Harris (FRE)	10.6 (3.3)	9.8 (2.6)	8.8 (3.5)	0.239	-	-	-
Piers-Harris (POP)	8.6 (2.1)	7.2 (2.1)	8.0 (2.9)	0.112	-	-	-
Piers-Harris (HAP)	7.1 (2.4)	7.1 (2.2)	6.4 (2.1)	0.7	-	-	-
BDI-13 score	6.0 (6.8)	5.5 (7.7)	7.5 (6.7)	0.769	-	-	-
<b>Female</b>							
Piers-Harris (TOT)	41.1 (9.1)	30.9 (10.4)	35.3 (9.2)	<b>0.0033</b>	<0.05	-	-
Piers-Harris (BEH)	11.5 (1.9)	8.7 (3.6)	11.2 (1.5)	<b>0.0005</b>	<0.05	-	-
Piers-Harris (INT)	8.7 (3.5)	5.6 (3.5)	6.3 (1.4)	<b>0.0055</b>	<0.05	-	-
Piers-Harris (PHY)	4.8 (2.6)	3.1 (2.4)	4.5 (1.9)	0.068	-	-	-
Piers-Harris (FRE)	9.5 (3.3)	6.7 (3.4)	6.7 (4.6)	<b>0.011</b>	<0.05	-	-
Piers-Harris (POP)	9.0 (2.3)	7.6 (1.8)	7.8 (2.9)	0.099	-	-	-
Piers-Harris (HAP)	7.4 (2.2)	5.5 (2.5)	6.7 (3.1)	<b>0.029</b>	<0.05	-	-
BDI-13 score	5.8 (5.6)	10.6 (6.7)	6.2 (7.5)	<b>0.024</b>	<0.05	-	-
<b>Overall</b>							
Piers-Harris (TOT)	39.7 (9.8)	33.9 (9.5)	35.3 (9.4)	<b>0.022</b>	<0.05	-	-
Piers-Harris (BEH)	11.0 (2.7)	9.3 (3.2)	10.2 (2.2)	<b>0.014</b>	<0.05	-	-
Piers-Harris (INT)	8.2 (3.6)	6.4 (3.4)	6.8 (2.6)	<b>0.038</b>	<0.05	-	-
Piers-Harris (PHY)	4.7 (2.4)	3.7 (2.2)	3.9 (1.9)	0.07	-	-	-
Piers-Harris (FRE)	10.1 (3.4)	7.9 (3.4)	8.0 (3.9)	<b>0.0045</b>	<0.05	-	-
Piers-Harris (POP)	8.7 (2.1)	7.4 (1.9)	7.9 (2.8)	<b>0.013</b>	<0.05	-	-
Piers-Harris (HAP)	7.2 (2.3)	6.2 (2.4)	6.5 (2.4)	0.089	-	-	-
BDI-13 score	2.9 (6.2)	8.4 (7.5)	7.0 (6.8)	0.182	-	-	-

TOT: total score; BEH: scores of 6 sub-groups including behavioural adjustment; INT: intellectual and school status; PHY: physical appearance and attributes; FRE: freedom from anxiety; POP: popularity; HAP: happiness and satisfaction; BDI-13: short form Beck Depression Inventory (13 items)

**Table 5** Distribution of depression status categorised by BDI-13 among study subjects

BDI-13	Male	Female	Overall
	N (%)	N (%)	N (%)
No depression	42 (54.5%)	29 (42.6%)	71 (49.0%)
Mild depression	16 (20.8%)	15 (22.1%)	31 (21.4%)
Moderate depression	8 (10.4%)	13 (19.1%)	21 (14.5%)
Severe depression	11 (14.3%)	11 (16.2%)	22 (15.2%)
Total	77	68	145

BDI-13: short form Beck Depression Inventory (13 items)

**Table 6** Distribution of depression status among the three groups of teenagers

	Not overweight and perceived not overweight	Not overweight but perceived overweight	Overweight and perceived overweight
	N (%)	N (%)	N (%)
<b>Male</b>			
No depression	25 (54.3%)	8 (61.5%)	4 (40%)
Mild depression	9 (19.6%)	3 (23.1%)	3 (30%)
Moderate depression	7 (15.2%)	0 (0%)	1 (10%)
Severe depression	5 (10.9%)	2 (15.4%)	2 (20%)
<b>Female</b>			
No depression	21 (50%)	4 (22.2%)	4 (66.7%)
Mild depression	9 (21.4%)	4 (22.2%)	1 (16.7%)
Moderate depression	8 (19.0%)	4 (22.2%)	0 (0%)
Severe depression	4 (9.5%)	6 (33.3%)	1 (16.7%)
<b>Overall</b>			
No depression	46 (52.3%)	12 (38.7%)	8 (50%)
Mild depression	18 (20.5%)	7 (22.6%)	4 (25%)
Moderate depression	15 (17.0%)	4 (12.9%)	1 (6.3%)
Severe depression	9 (10.2%)	8 (25.8%)	3 (18.8%)

**Table 7** Kruskal-Wallis test for depression status

		Not overweight and perceived not overweight	Not overweight but perceived overweight	Overweight and perceived overweight	Kruskal-Wallis Test
		Mean Rank	Mean Rank	Mean Rank	p-value
Depression status	Male	34.79	32.08	39.75	0.603
	Female	30.56	42.78	26.25	<b>0.034</b>
	Overall	64.90	77.26	67.13	0.266

rank was significantly higher in the female students who were not overweight but who perceived themselves as being overweight. There was no significant difference among the groups in male subjects.

#### **Independent Sample T-test for Perceived Thinness**

We further explored whether boys who perceived

themselves to be thin were vulnerable to depressed mood or lower self esteem. We categorised teenagers who regarded themselves as 'very thin' and 'thin' as 'perceived thin', whereas the 'normal', 'overweight' and 'very overweight' as 'perceived not thin' and the data were analysed with an independent sample t-test (Table 8). Significantly lower behavioural adjustment and lower

**Table 8** Independent sample t-test for psychological effects of perceived thinness

	Male			Female		
	Perceived thin Mean (sd)	Perceived not thin Mean (sd)	p-value	Perceived thin Mean (sd)	Perceived not thin Mean (sd)	p-value
Piers-Harris (TOT)	32.8 (11.8)	39.1 (8.9)	0.058	39.75 (6.2)	37.78 (10.8)	0.619
Piers-Harris (BEH)	8.73 (3.9)	10.7 (2.6)	<b>0.035</b>	11.56 (1.5)	10.60 (2.9)	0.335
Piers-Harris (INT)	6.4 (3.3)	7.9 (3.4)	0.206	9.22 (3.0)	7.45 (3.7)	0.178
Piers-Harris (PHY)	3.5 (1.5)	4.58 (2.2)	0.136	4.0 (2.1)	4.4 (2.7)	0.684
Piers-Harris (FRE)	9.91 (4.2)	10.3 (3.0)	0.728	8.89 (2.7)	8.47 (3.8)	0.750
Piers-Harris (POP)	8.2 (2.5)	8.17 (2.3)	0.966	9.33 (2.3)	8.35 (2.2)	0.227
Piers-Harris (HAP)	5.64 (2.9)	7.25 (2.1)	<b>0.033</b>	7.13 (1.8)	6.81 (2.6)	0.740
BDI-13 score	6.64 (6.4)	5.92 (6.9)	0.75	5.78 (4.5)	7.3 (6.6)	0.499

TOT: total score; BEH: scores of 6 sub-groups including behavioural adjustment; INT: intellectual and school status; PHY: physical appearance and attributes; FRE: freedom from anxiety; POP: popularity; HAP: happiness and satisfaction; BDI-13: short form Beck Depression Inventory (13 items)

happiness and satisfaction scores were noted in male subjects who perceived themselves as 'thin' compared to those who perceived themselves as being not thin.

## Discussions

The results showed that female teenagers displayed lower self-esteem, in various scales including overall self-concept, behavioural adjustment, intellectual and school status, freedom from anxiety, and happiness and satisfaction, if they perceived themselves to be overweight regardless of whether or not they were actually overweight. Although the scores for physical appearance and popularity seemed to be lower in the perceived overweight group, this association was not significant. This may be due to the small sample size of selected subgroup of subjects included in the study.

Depressed mood was prevalent among the teenagers in our study. However, Coyne et al cited a number of studies in which the majority of subjects having elevated scores on BDI did not actually suffer from clinical depression when followed up with a full clinical assessment and interview.<sup>18</sup> Self-report measures like the BDI-13 in the normal population may assess general nonspecific distress or negative affectivity rather than specific depressive states. Although some depressive symptoms such as sadness or dysphoria are relatively common, rates of diagnosable depression are comparatively rare.<sup>19,20</sup> The Adolescent Depression Rating Scale (ADRS) may discriminate better between adolescents with and without depression.<sup>21</sup> However, a validated Chinese version of ADRS is not yet available. In Akron Children Hospital, Ohio, USA, a screening study for adolescent depression using the BDI-2nd edition was performed on 351 patients aged 13-19 who

presented to the Emergency Department reported a similar prevalence. Participants reported minimal (n=192, 55%), mild (n=52, 15%), moderate (n=41, 11%), or severe depressive symptoms (n=66, 19%). A substantial proportion of patients with nonpsychiatric chief complaints reported moderate or severe depressive symptoms.<sup>22</sup>

Our data indicated that compared to girls with normal weight and perceived normal weight a significantly higher depression score was obtained by female subjects who were not overweight but who perceived themselves as being so. Further testing (Kruskal-Wallis test) also showed that complaints of depressive symptoms were significantly more common in female students who were not overweight but who perceived themselves as being overweight.

Our data also indicated that self-esteem and self-concept were more likely to be affected by their perception of body build in females than in males. This pattern has also been reported in overseas studies. However, we did not see the effect of actual obesity on self-esteem, which is different from the result of the study from Pennsylvania in 1991.<sup>8</sup> Our study showed that perceived body image was more important than actual overweight. This may reflect the impact of the mass media, advertisement, or societal values in over-promoting the desirability of a slim body-image, which may result in self-deprecating feelings if female teenagers perceived themselves to be overweight even though physically they may not be so.

It had also been shown that the perception of being 'too thin' was associated with internalising and externalising problem behaviour in both male and female adolescents.<sup>9</sup> In our sample we have found that overweight was more common in males (16.7%) than in females (10%). Yet, males who perceived themselves to be overweight did not show higher depression and lower self-concept scores.

Interestingly, we found significantly lower behavioural adjustment and lower happiness and satisfaction scores in male subjects who perceived themselves as 'thin'. We also noted a trend (although not significant) pointing to lower Piers-Harris scores and higher BDI-13 score in male teenagers who perceived themselves as thin. Further study with a bigger sample size and power is needed to confirm this issue.

There are a number of limitations in the present study. Concerns might be raised that first form students from a secondary school may not be representative of all Hong Kong teenagers as sampling was convenient and not random. Self-reported weight and height may also be a source of error.<sup>23</sup> The weighing scales used may vary in different families. Calculation of age-adjusted BMI was based on reported age. One could not control for the accuracy of the answers in self-reported questionnaires with 78 questions such as that used in this study. The short form Beck Depression Inventory (BDI-13) is not a gold standard to estimate adolescent depression. Although the Chinese version of Piers-Harris 2 Self-Concept Scale is an excellent tool to measure self-concept of Chinese, a comprehensive picture of psychological health cannot be achieved by one questionnaire alone. Confounding factors such as ethnicity, socioeconomic status, academic or sports performance, peer and family influence were not measured in the study. We hope that future studies can overcome the above limitations.

## Conclusions

Our results not only showed lower self-esteem score but also increased complaints of depressive symptoms in female teenagers who perceived themselves as overweight but who were actually not overweight. Health care professionals need to pay attention to the psychological aspect rather than focusing solely on the physical obesity for Hong Kong teenagers. Further studies, which may include other potential confounding factors such as ethnicity, socioeconomic status, academic performance, peer and family influence in a larger cohort of teenagers with a wide range of age will be needed to explore the issue further.

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## Appendix: Questionnaire

各位同學，你們好！香港大學正進行一項關於學童心理健康和肥胖的研究，請同學們完成問卷後交回班主任，多謝你們的參與。

### 第一部份：個人資料

1. 你的年齡是 \_\_\_\_\_ 歲
2. 你的性別是：(1) 男 (2) 女
3. 你的身高是 \_\_\_\_\_ cm，你的體重是 \_\_\_\_\_ kg
4. 你覺得你的體型：  
(1) 非常消瘦 (2) 消瘦 (3) 標準 (4) 肥胖 (5) 非常肥胖

### 第二部份：心理健康資料

以下的部分有十三題以四句為一組的敘述，請細讀每一組敘述，然後自每組選出最能形容你在今天 / 過去一星期（包括今天）的感受的句子，並圈上句旁的數字。如果在一組敘述中有超過一句適合你的敘述，請一一圈上（即可圈多過一個選擇）。請讀完全組四句才進行這一組敘述的選擇。

- |                         |                           |
|-------------------------|---------------------------|
| 1. 0 我不感到悲哀             | 2 我想自殺                    |
| 1 我感到悲哀                 | 3 如果我有機會，我會自殺             |
| 2 我常常很悲哀，而我又不能很快改變悲哀的心情 |                           |
| 3 我的悲哀和不快樂實難忍受          | 8. 0 對其他人，我沒失去興趣          |
|                         | 1 對其他人，我比以前已較少興趣          |
| 2. 0 我對將來並不特別感到沮喪       | 2 對其他人，我已失去大部份興趣          |
| 1 我對將來感到沮喪              | 3 對其他人，我已失去全部興趣           |
| 2 我感到我沒有什麼可以期待的         |                           |
| 3 我感到將來是無望的，而且情形不會好轉    | 9. 0 我和以前一樣能作出決定          |
|                         | 1 我比以前較多延遲作決定             |
| 3. 0 我不感到我是失敗者          | 2 我比以前有更大困難去下決定           |
| 1 我感到我比一般人更失敗           | 3 我再不能作任何決定               |
| 2 當我回顧一生，我可見的是很多的失敗     |                           |
| 3 我感到我是一個完全失敗的人         | 10. 0 我不感到我的外表比以前差        |
|                         | 1 我擔心我看起來是老了，或是已沒有吸引力了    |
| 4. 0 我和以往一樣從各方面得到滿足     | 2 我感到我的外型有長久的改變，使我看來沒有吸引力 |
| 1 我不如以往一樣能享受事物的樂趣       | 3 我相信我看來醜陋                |
| 2 我再不能從任何事物得到真正的滿足      |                           |
| 3 所有事物都使我感到厭煩和不滿        | 11. 0 我能如以往一樣做事           |
|                         | 1 我需要更費力才能開始做一些事          |
| 5. 0 我不特別感到內疚           | 2 我需要強烈驅策自己才能做任何事         |
| 1 有很多時間我感到內疚            | 3 我不能做任何事                 |
| 2 大部分時間我感到內疚            |                           |
| 3 任何時間我都感到內疚            | 12. 0 我不比平常易感到疲倦          |
|                         | 1 我比以往容易感到疲倦              |
| 6. 0 我對自己不感到失望          | 2 做幾乎任何事也可使我感到疲倦          |
| 1 我對自己失望                | 3 我太疲倦，不能做任何事             |
| 2 我討厭自己                 |                           |
| 3 我憎恨自己                 | 13. 0 我食慾不比平時差            |
|                         | 1 我食慾不如以往的好               |
| 7. 0 我沒有自殺的思想           | 2 現在我食慾比較差                |
| 1 我有自殺的思想，不過我不會實行       | 3 我不再有任何食慾了               |

**Appendix: Questionnaire (cont)**

## 第三部份：我對自己的看法 (PIERS-HARRIS 2)

1. 我的同學取笑我	是	否	31. 我喜歡現在的我	是	否
2. 我是一個快樂的人	是	否	32. 我感到許多事都沒有我的份兒	是	否
3. 我很難結交朋友	是	否	33. 我有漂亮的頭髮	是	否
4. 我常常感到傷心	是	否	34. 在學校裡我常常主動幫手	是	否
5. 我是聰明的	是	否	35. 我希望我不是現在的樣子	是	否
6. 我是害羞的	是	否	36. 我討厭上學	是	否
7. 當老師叫我的名字時，我會變得緊張	是	否	37. 我是最後一批被選中參加運動與遊戲項目的	是	否
8. 我的外貌使我變得困擾	是	否	38. 我常常代人很差	是	否
9. 在運動與遊戲項目中，我常擔任隊長	是	否	39. 同學認為我的主意很好	是	否
10. 當學校有測驗時，我會感到憂慮	是	否	40. 我是不快樂的	是	否
11. 我是不受歡迎的	是	否	41. 我有很多朋友	是	否
12. 我在學校操行良好	是	否	42. 我是開朗的	是	否
13. 事情出錯的原因通常是由我引起的	是	否	43. 我對很多事情都一無所知	是	否
14. 我帶給家人麻煩	是	否	44. 我長得好	是	否
15. 我是強壯的	是	否	45. 我經常與人打架	是	否
16. 我是家中重要成員	是	否	46. 我在男孩子當中很受歡迎	是	否
17. 我容易放棄	是	否	47. 我身邊的人都欺負我	是	否
18. 我的學業成績好	是	否	48. 我的家人對我感到失望	是	否
19. 我做很多壞事	是	否	49. 我有一張可愛的臉孔	是	否
20. 在家裡我的行為惡劣	是	否	50. 當我長大後，我會成為一個重要人物	是	否
21. 我做功課做得慢	是	否	51. 在運動與遊戲項目中，我只是旁觀而不參與	是	否
22. 我是班裡重要的成員	是	否	52. 我忘記我學過的東西	是	否
23. 我是緊張的	是	否	53. 我容易與人相處	是	否
24. 我能站在全班同學面前發表一個好的報告	是	否	54. 我在女孩子當中很受歡迎	是	否
25. 上課是我常常發夢	是	否	55. 我擅長閱讀	是	否
26. 我的朋友喜歡我的主意	是	否	56. 我常感到害怕	是	否
27. 我經常惹麻煩	是	否	57. 我跟其他小孩是不一樣的	是	否
28. 我是幸運的	是	否	58. 我會想一些壞的念頭	是	否
29. 我經常擔憂	是	否	59. 我容易哭	是	否
30. 我的爸爸媽媽對我期望過高	是	否	60. 我是一個好人	是	否

~~~~ 全部問題已經答完，多謝你 ~~~~