



新一代健康危機：
香港學童身心健康研究調查

Health Crisis of Our New Generation:
Surveillance on
Youth Health Risk Behaviours



香港中文大學醫學院公共衛生學院
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Centre for Health Education and Health Promotion
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Professor Albert Lee March 26, 2002.

Director of Centre for Health Education and Health Promotion

ABSTRACT

New Health Crisis of Our Young Generation: Surveillance Finds Many School Children Are Emotionally Disturbed

A large-scale surveillance conducted by Centre for Health Education and Promotion of Faculty of Medicine of The Chinese University of Hong Kong revealed that many of our younger generation are emotionally disturbed and good school environment is conducive to the health of adolescents

This study on youth health risk behaviours was conducted in late 2001 on 1,906 primary school students and 5,286 secondary school students from 34 schools. It examined the self-rated academic performance, health status, life satisfaction and depressive symptoms in correlation with other youth health risk behaviours (i.e., physical inactiveness, unhealthy diet, smoking, alcohol drinking and taking illicit drug)

The key findings include:

- 27% of students disagreed that they had a satisfactory life.
- 26% of students felt hopeless and 10% felt lonely most of the time.
- 14.7% of students had considered suicide and nearly 10% had planned for it.
- Less than 40% would seek help from their parents. About one quarter of the surveyed students would seek help from teachers or social workers when they had suicidal thoughts.
- 35.8% of students had depressive symptoms.
- The median Life Satisfaction Score was found to be 19 on a scale of 5 to 30; with higher scores being more satisfied with life (in this study, the minimum score was 5, maximum score was 30, and 50% of the subject's score ranged from 15 to 23).

Depressive symptoms were found to be associated with a number of factors. Amongst those with depressive symptoms, only 31.7% performed exercise regularly whilst for those without depression, 68.3% did so. Around 25% of students with depressive symptoms had considered suicide and hurt themselves versus less than 10% of those without depressive symptoms. Those with depressive symptoms were more likely to have unhealthy eating habits, smoke, drink alcohol or take illicit drugs. They were also more likely to report being threatened at schools or involved in fighting.

Amongst those students who self-rated themselves with distinction in academic performance, only 23.2% had depressive symptoms whilst 55% of those with poor self-rated academic performance had such symptoms. Similarly, those who considered

themselves distinctive in academic performance had higher life satisfaction scores than those rating themselves poor in academic performance. Students who were taking regular exercise, healthy diet, non-drinkers, non-smokers, not taking illicit drugs, and not involved in fighting or receiving threats of being injured had higher life satisfaction scores. Father's employment status also affects the emotional state of the students, demonstrating that family is an important factor to the teenagers.

Schools, whose students had lower depression scores, were found to differ in certain aspects of school social environment and community partnership from those with higher depression scores. The aspects were: supportive social environment, school ethos enabling staff and students to have closer relationship, and follow up action plans for unforeseeable events and detailed discussion on special cases. These schools rewarded students for academic improvement, and participation in community services, thus a positive climate was created for youth development.

Centre for Health Education and Health Promotion conducted the first territory wide surveillance survey on student health in 1999. It found that over 10% of the students had their normal daily activities interfered because of their poor physical and emotional health. Over 50% of the school children did not perform vigorous exercise regularly. The results aroused the public's attention to the health of our young generation. This present study showed that the proportion of students feeling hopeless increased from 14% in 1999 to 25% in 2001.

This new study had further proved that the health of children and adolescents would affect their capacity to learn. As early as in 1998, the Centre launched the "Healthy Schools" (or known as Health Promoting Schools) Programme. The concept of Health Promoting School would help to develop a safe social and physical environment for the 'total population' of the school. The school environment has a direct impact on the self-esteem, educational achievement, and health of its pupils and staff. The Hong Kong Healthy Schools Award Scheme builds on the concept of health promoting school to encourage educational achievement, better health and emotional well-being; thereby supporting pupils in improving the quality of their lives. It also aims to promote staff development, parental education, involvement of whole school community, and linkage with different stakeholders so as to improve the health and well being of the pupils, parents, staff, and the community at large. With the increasing number of students having emotional problems and health risk behaviours, one needs to develop an integrated, holistic and school based approach to promote youth health. This study revealed that improving one's health would be beneficial to the emotional well being of the students and eliminate other risk behaviours.

中文摘要

新一代健康危機：調查發現香港學童情緒問題嚴重

一項由香港中文大學醫學院健康教育及促進健康中心進行的調查發現，我們新一代的情緒問題深受困擾，而一個良好的學校環境正對學童的身心健康有著莫大的幫助。

此項調查於二零零一年年底推行，主要對象為 34 所學校，當中包括 1,906 名小學生及 5,286 名中學生，年齡分別為十歲至十六歲，調查目的為了解現時學童的健康行為。此項調查評估了學童的成績、健康狀況、生活滿足感、抑鬱的徵狀，以及這些元素與其他健康行為的關連(如缺乏運動、飲食不均衡、吸煙、酗酒及濫用藥物等)。

調查主要發現以下問題：

- 27%的學童不同意其滿足和享受生活。
- 26%的學童表示時常感到絕望和孤單。
- 14.7%的學童表示曾考慮自殺，而 10%的學童則曾真正計劃自殺。
- 只有四份之一的學童在考慮自殺時會向老師或社工求助，而少於 40%的學童會向家長求助。
- 35.8% 的學童有出現抑鬱的徵狀。
- 生活滿足指數為 19，指數由 5 至 30，指數越高表示滿足感越大。(是次調查最低指數為 5 分，最高指數為 30 分，而一半學童的指數為 15 至 23)

學童的抑鬱徵狀與許多因素相關。發現有抑鬱問題的學童，只有 31.7%會定時做運動，而沒有抑鬱徵狀的學童則有 68.3%會定時做運動。此外，在有抑鬱徵狀的學童當中，25%曾考慮自殺和自毀，而沒有此類徵狀的學童則只有 10%曾考慮自殺和自毀。那些有抑鬱徵狀的學童通常會有較不健康的飲食習慣、吸煙、喝酒或濫用藥物，他們常在學校被恐嚇，甚至參與打鬥。

在自我評估學業成績的指數裏，認為自己成績優異者中只有 23.2%發現有抑鬱的徵狀，而認為自己成績差劣者則發現有 55%出現抑鬱的徵狀。同樣地，認為自己成績優異者較成績差劣者生活滿足感指數較高。此外，常做運動、有均衡飲食、不酗酒、不吸煙、不濫用藥物、沒有參與打鬥或沒有被別人傷害者，生活滿足感會較大。

抑鬱徵狀指數較低的學校與此類指數較高的學校在校風及社區關係兩方面有顯著的分別，當中包括：學校具有互相支持的氣氛；學校鼓勵教職員及學童建立

密切的關係；會為突發事件訂立跟進計劃；會詳細討論特別事件的處理方法。這些學校會對學生的優良表現加以表揚，如成績優異、熱心參與社會服務等，因此學校營造了一個良好的環境，有助學童的身心發展。

香港中文大學醫學院健康教育及促進健康中心於一九九九年進行一個全港性的學童健康問卷調查，當中發現 10% 的學生因為身體狀況欠佳及情緒問題而影響其日常社交活動。此外，50% 的學童沒有定時做運動。這些數字均引起社會的莫大關注，是次調查更顯示感絕望的學童由一九九九年的 14% 增加至 25%。

此項調查進一步証實學童健康會影響其學習能力。早於一九九八年，中心推行了「健康學校」計劃，希望藉著此計劃建立健康促進學校，從而營造一個安全及舒適的物質和社會環境，學校環境對於學童及教職員的自尊、教育成就及健康均有莫大的影響，因此，一個健康的學校環境能讓學童在學校健康地發展。

有見及此，本中心為了進一步推廣健康促進學校的理念，於二零零一年推行了香港健康學校獎勵計劃，促進教育成就、身心健康，讓學童可改善其生活質素。此計劃旨在推廣職員發展、親職教育、全校參與以及與其他相關機構合作改善學童、家長、教職員和社區的健康。有見現時學童的情緒問題日益嚴重，我們實在需要發展一套綜合和全面的校本策略去促進學童健康。是次調查再次証明一種健康行為得到改善，是可以令其他情緒或生理上的問題有所改進的。

Chapter I

Introduction and Background

Introduction

Adolescents (defined by WHO as 10-19 years) are the future masters of our society, and 85% of them are living in developing countries (United Nation 1997). There are 1.2 billion adolescents worldwide, and they have been marginalized (WHO Western Pacific Region 2000). There is increasing recognition of health problems faced by young people and evidence to show increasing morbidity during teenage years (Macfarlane et al., 1987). Adolescence may be defined as the period within the life span when most of a person's biological, cognitive, psychological, and social characteristics are changing from what is typically considered childlike to what is considered adult-like (Lerner & Spanier 1980).

Adolescents are normally thought to be healthy, and deaths seems to be remote and unreal for them. However, World Health Organization (WHO) estimated that every year 1.7 million young men and women between the ages of 10 to 19 lose their lives, mostly due to accidents, suicide, violence, pregnancy-related complications and other illnesses that are either preventable or treatable. The risky behaviours of adolescents dominate the discussion of adolescent health.

In Hong Kong, the general pattern of mortality and morbidity among young people is similar to that of the United States and other developed countries (Department of Health, 1997-98; Health Education Authority, 1995; Lee et al, 1997). However, the health and health related behaviours of adolescents are rarely accorded with high priority, as adolescent health is not regarded as a priority health concern.

Centers for Disease Control and Prevention (CDC) has collaborated with other federal agencies to monitor the priority of youth health-risk behaviours that contribute to major causes of mortality, morbidity, and social problems amongst youth in the United States. These behaviours fall into six categories: (1) Behaviours that cause unintentional and intentional injuries (2) Tobacco use (3) Alcohol and other drug use (4) Sexual behaviours that result in HIV infection, other sexually transmitted diseases (STDs), and unintended pregnancies (5) Dietary behaviours and (6) Physical activities.

Health-Risk Behaviours

Nutrition and health

Nutrition is the basic support of our life, health and development. Adolescents grow rapidly and are also very active. Their nutrient needs are higher in many aspects than those of any other groups. Over 10% of 11-year-old boys and girls in Hong Kong were found to be obese and hyperlipidemic (Leung *et al* 1996). It might be due to the significant changes of lifestyle in Hong Kong. Leung *et al* (2000) showed that daily fat intake of Hong Kong Chinese children aged 1-7 years was much higher than that of their counterparts in mainland China.

Physical activities and health

Payne and Hahn (1986) have the view that young people appear to be much more mentally alerted after exercise and seem to be able to study much more efficiently. Researchers have consistently reported that adolescents who are less active are more likely to be smokers than those more active (Davis *et al* , 1997; Donato *et al*., 1997).

Tobacco

Nowadays, tobacco is the most widely distributed and commonly used drug in the world. Cigarette smoking among teenagers is now on the rise. They usually start their smoking habit before the age of 18.

The Hong Kong Council on Smoking and Health (COSH) had conducted two Youth Smoking and Health Survey in 1994 and 1999. Since 1994, the prevalence of current smoking had increased by 3-4 percentage points. The mean age at first smoking increased from 10.6 years in 1994 to 10.9 years in 1999. Nevertheless, 68% of the ever-smokers had already experienced smoking before 13 years old.

Alcohol

Alcoholic drinks help to relax social constraints and lower inhibitions. Higher levels of alcohol consumption are associated with the three leading causes of mortality among youth: accidental deaths, homicide, and suicide. In addition, higher levels of alcohol use are associated with other health-compromising behaviours, including unprotected sexual activity, with the attendant risks for teenage pregnancy and sexually transmitted diseases. Alcohol use is also commonly conceptualized as a “gateway” substance preceding the use of marijuana and then other illicit substances (e.g. Kandel, 1975).

Substance Abuse

In 2000, the Task Force on Psychotropic Substance Abuse that formed under the Action Committee Against Narcotics (ACAN) conducted a survey of drug use among 95,788 secondary students and found that 4.1 percent said that they had abused psychotropic substances. In addition, according to the Central Registry of Drug Abuse Forty-eight report, the proportion of psychotropic substance abusers had increased from 28.1% in

the first half of 2000 to 34.4% in the same period of year 2001. For young abusers aged below 21, an increase of 10.5 percentage points from 77.5% to 88.0% was observed in the corresponding period. At the same time, 36.6% of those aged under 21, had abused more than one type of drug.

Mental Health

The health behaviours most commonly studied were: nutrition; exercise; hygiene practices; sleeping patterns, alcohol, drug, and tobacco use; sexual and contraceptive behaviour and seat belt use (Kann et al., 1991; Krick & Sobal, 1990; Rossow & Rise, 1993). Most studies dealt with either one specific health behaviour such as smoking or condom use or focused on a group of behaviours such as eating, sleeping, exercise, and safety patterns. However, mental health is also important among young generation. Adolescent depression has been associated with poor psychological and academic outcomes and increased risk for substance abuse and suicide (Birmanher et al. 1996).

Up to one in five of the world's children is suffering from mental or behavioural problems according to the World Health Organization and the United Nations Children's Fund, two UN agencies (BBCI, 2002). A study revealed that 25% of general practice consultation by adolescents would be related to emotional problems (Beckinsale et al, 2001). The findings highlighted the emotional problems among children and adolescents.

Depression may be one of the most left out and under-treated psychological disorders of adolescence. This is a syndromal disorder that is not only just feeling sad, blue or down in the dumps. Reynolds (1990) noted that this disorder affected multiple areas of personal functioning, including the behavioural, emotional, somatic and cognitive

domains. It involves changes not only in mood, but also in almost every other area of the adolescent's life such as sleep, appetite, energy and general health.

During adolescence, the problem of depression such as antisocial behaviour may appear, and depressed youngsters are likely to have increasing difficulty in school, possibly dropping out altogether. Many depressed young people also abuse drugs and alcohol. Finally, depression increases the risk of suicide, a leading cause of death among older adolescents in US (Ingersoll & Goldstein, 1995).

According to South China Morning Post, more than 100 teenagers in Hong Kong had killed themselves in the past five years. This is four times the rate of people aged between 10 and 20 committing suicide in UK. It had been shown by studies that 25% to 40% of those adolescents with suicidal attempt had depressive symptoms (Shaffer et al, 1998; Shaffer et al, 2001). A study in Australia showed that about 80% of adolescents had consulted their family doctors before their suicidal attempts over the last one year. (Vassilas & Morgan, 1993). A study in Hong Kong also revealed that about 15% of students had consulted doctors more than 3 times in the previous 6 months (Lee et al, 2001a). This should provide the opportunity for screening of youth emotional problems during consultation with family doctors

In 1999, the Centre for Health Education and Health Promotion of CUHK conducted surveillance on over 26,000 students aged 10 to 19 (Lee et al, 1999). It was found that about 12% of students felt depressed and hopeless, and about 14% of students had considered suicide. Therefore the availability of such data especially on mental health would enable the health educators, public health practitioners and clinicians to plan appropriate screening and counseling for students at risk. It is even more important to

study the factors associated with emotional problems, and their impact on academic performance.

Chapter II

Methodology

Research Design

The present study was a cross sectional survey, aiming to explore the health status, psychosocial and physical well being of school adolescents.

Sample

A total of 7,192 Hong Kong students from 34 schools (16 primary schools and 18 secondary schools) participated in the study. Amongst them, 47.8% were male and 52.2% were female. All the participants were invited to complete the self-rating questionnaires on their academic achievement, health status, risk behaviour, eating habit, life satisfaction and depression.

Measurement

In this research, the questionnaire was partly adapted from Centers for Disease Control and Prevention – Youth Risk Behaviour Surveillance, Wessex Healthy Schools Award Scheme Students Evaluation Questionnaire. The questionnaire covered twelve areas. They were personal information including socio-demographic data and also perception of health and academic performance, oral health, personal safety, food/nutrition, body weight, physical activity, violence-related behaviours, mental health, smoking, alcohol drinking, drugs and sexual behaviours. In the area of mental health, the measuring instruments included the Satisfaction with Life Scale (LIFE) and the Depression Self-Rating Scale (DSRS). The Satisfaction with Life Scale (LIFE) was used to assess a person's judgment of his/her quality of life (Diener et al. 1985). Shek (1992a) translated this scale into Chinese and reported adequate reliability. The Depression

Self-Rating Scale (DSRS) was used to measure moderate to severe depression among young adolescents (Birleson, 1981; Asarnow & Carlson, 1985). It contained 18 items, which referred to affective, cognitive, and behavioural symptoms of depression. The cognitive developmental stage of children over the age of 7 years should be capable of making judgements about their feelings and behaviours (Piaget, 1954). It has been utilized amongst Chinese children with high reliability (Cheung, 1996). After several pilot testing, it was found that the primary students required someone to read out the questions for them to ensure reliability and validity.

Data Collection and Analysis

This present survey study was conducted between November and December, 2001.

Same groups of research assistants and trained student helpers went to the participating schools to conduct the survey. This ensured that all the questionnaires were collected back with strict confidence and without interviewers' bias.

The data on risk behaviours, self-rated health and academic performance and demographic data were tabulated and analysed by the SPSS package. The school children were classified by the level of education, that is primary and secondary. The educational background of parents was grouped into two categories: primary education or below, and secondary education or above. The occupation of parents was broadly classified as skilled and unskilled.

The Satisfaction with Life Scale (LIFE) and The Depression Self-Rating Scale (DSRS) were computed to illustrate the psychological well being of the students. LIFE, was analysed by ANOVA. The cut-off point of DSRS was 12 or 13. The mean DSRS score

of our Hong Kong sample was found to be higher than those identified in the non-clinical sample by Firth and Chaplin (1987). As a result, 13 was used as the cut-off point. Their association with other variables was also analysed. For DSRS, it was converted to become binary variables, having depressive symptoms or no depressive symptoms. Chi-square test of independence between depressive symptoms and other variables with 5% level of significance was conducted. Chi-square for trends was also performed to test for any significant linear association with variables of several categories. Multiple logistic regression was used to identify which health risk behaviours and/or socio-demographic characteristics were independent associating factors with depressive symptoms.

Chapter III Results

Part I Characteristics of Study Population

A total of 7,192 Hong Kong students from 34 schools participated in the study.

Table 3.1 Education Level of participants

<i>Education background</i>	<i>Number of students</i>	<i>%</i>
Primary	1906	26.5
Secondary	5286	73.5

Table 3.2 Gender of participants

<i>Gender</i>	<i>Number of students</i>	<i>%</i>
Male	3391	47.8
Female	3698	52.2

In this sample, the number of female students was 3698 (52.2%), slightly more than male students 3391 (47.8%).

Table 3.3 Geographic Distribution of the participants' school

<i>District*</i>	<i>Number of students</i>	<i>%</i>
Hong Kong and Kowloon (10)	2258	31.4
New Territories (East) (12)	2318	32.2
New Territories (West) (12)	2616	36.4

* () denotes number of schools

The majority of students were studying in the New Territories.

Table 3.4 Parents' Education Level

<i>Education level</i>	<i>Father's</i>		<i>Mother's</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Primary or below	1499	30.4	1680	33.1
Secondary or above	3430	69.6	3391	66.9

Majority of parents' educational level are secondary or above.

Table 3.5 Parents' Occupation

<i>Occupation</i>	<i>Father's</i>		<i>Mother's</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Office and skilled Workers (skilled)	2063	44.9	1475	74.9
Manual Workers (unskilled)	2534	55.1	493	25.1

More than half (55.1%) of the respondents' fathers were unskilled workers. On the other hand, the majority (74.9%) of their mothers were skilled workers.

Table 3.6 Place of Birth

<i>Place of Birth</i>	<i>Number of students</i>	<i>%</i>
Hong Kong	5568	78.8
Mainland China	1379	19.5
Others	115	1.7

The above table showed that the majority (78.8%) of the students were born in Hong Kong. The remaining (21.2%) students were born in mainland China or other countries.

Table 3.7 Self-rated Academic Results

<i>Self-rated academic result</i>	<i>Number of students</i>	<i>%</i>
Distinction	513	8
Credit	1152	17.9
Average	2993	46.5
Fair	987	15.3
Poor	795	12.3

Table 3.7 showed that 8% of students rated their academic results with distinction, 17.9% with credit, and 46.5% as average. Others rated their results as fair and poor (15.3% and 12.3% respectively).

Table 3.8 Self-rated Health Status

<i>Self-rated health status</i>	<i>Number of students</i>	<i>%</i>
Excellent	1038	14.6
Very good	1966	27.6
Good	1820	25.6
Fair	2053	28.9
Poor	237	3.3

More than half (53.2%) of the students rated their health status as very good or good, whilst 14.6% of students rated their health status as excellent. On the other hand, 28.9% and 3.3% of students thought their health status were fair and poor respectively.

Table 3.9 Psychological Well Being of the participants.

	N	Minimum	25th Percentile	Median	75th Percentile	Maximum
Life Satisfaction Score [✱]	7090	5	15	19	23	30
Depression Score [✱]	7101	0	8	11	15	34

Note: [✱] The Range of Life satisfaction score is 5 to 30. Higher score represents more satisfaction with life.

[✱] The clinical cut-off point for depression scores is 13. Scores below or equal to 13 indicated absence of depressive symptoms while scores above 13 indicated various degrees of depressive symptoms in students. Depression score is 0 to 36.

The median life satisfaction score was 19 and the median depression score was 11.

Table 3.10 Students with Depressive Symptoms

Depressive symptoms	Number of students	%
No	4560	64.2
Yes	2541	35.8

The results showed an alarming percentage of students with depressive symptoms (35.8%).

Table 3.11 Emotional Health Status

	Number of students	%
Felt hopeless	1858	26.1
Hurt himself / herself	1051	14.7
Have considered suicide	1047	14.7
Planned suicide	689	9.7
Have attempted suicide	303	4.3

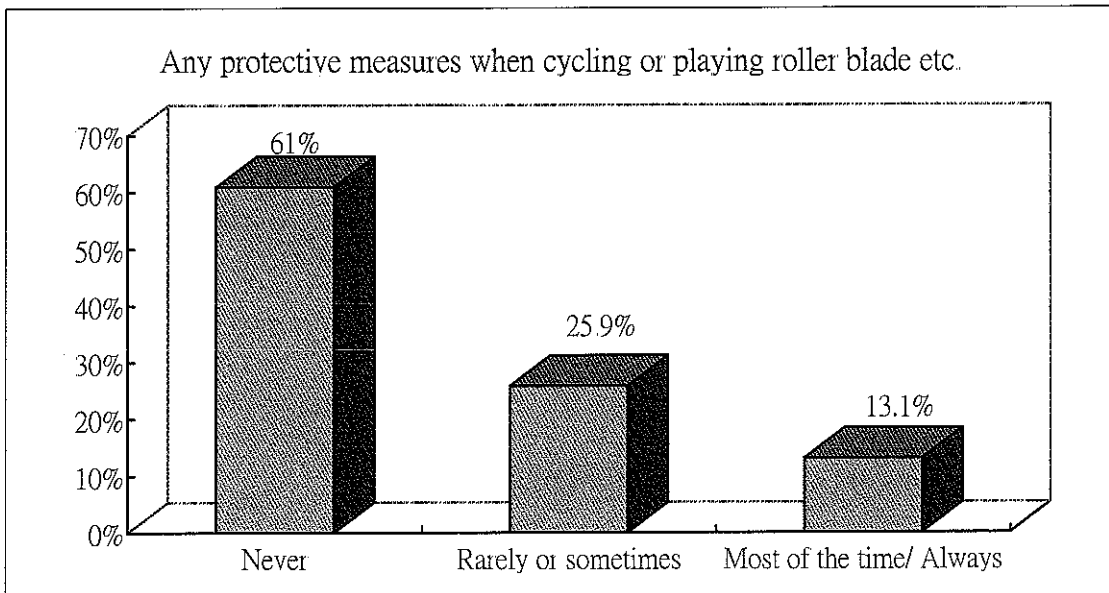
Table 3.12 Source of help when the Adolescents had suicidal thought

Source of help	Numbers of students	%
Friends or classmates	305	63.9
Parents	182	38.2
Teachers	121	25.4
Social workers	111	23.3

Note: [†] Suicidal Thought is defined as having either one of the followings: feeling hopeless, self-harm, having considered suicide, planned suicide and actually attempted suicide.

Majority of subject tended to seek help from their friends or classmates when they had suicidal thoughts. Around 40% of subject would seek help from their parents when they feel suicidal.

Figure 3.1 Protective Measures taken during Play



61% of the students did not use any personal protection when they engaged in some outdoor activities such as cycling or roller-skating.

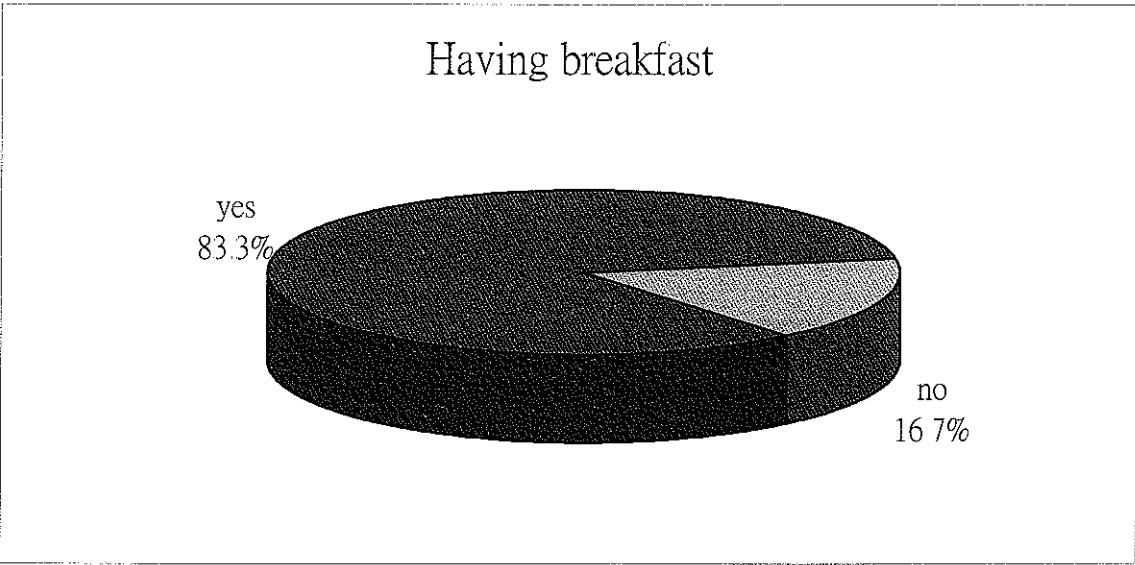
Table 3.13 Consumption of Fresh Fruits/ Vegetables

<i>Daily consumption of Vegetables/ Fruits</i>	<i>Number of students</i>	<i>%</i>
More than 5 servings per day	618	8.6
More than 3 servings per day	2061	28.8
Less than 1 serving per day	2072	29

Note. 1 serving of vegetable/fruit means ¾ bowl of vegetables or 1 fruit

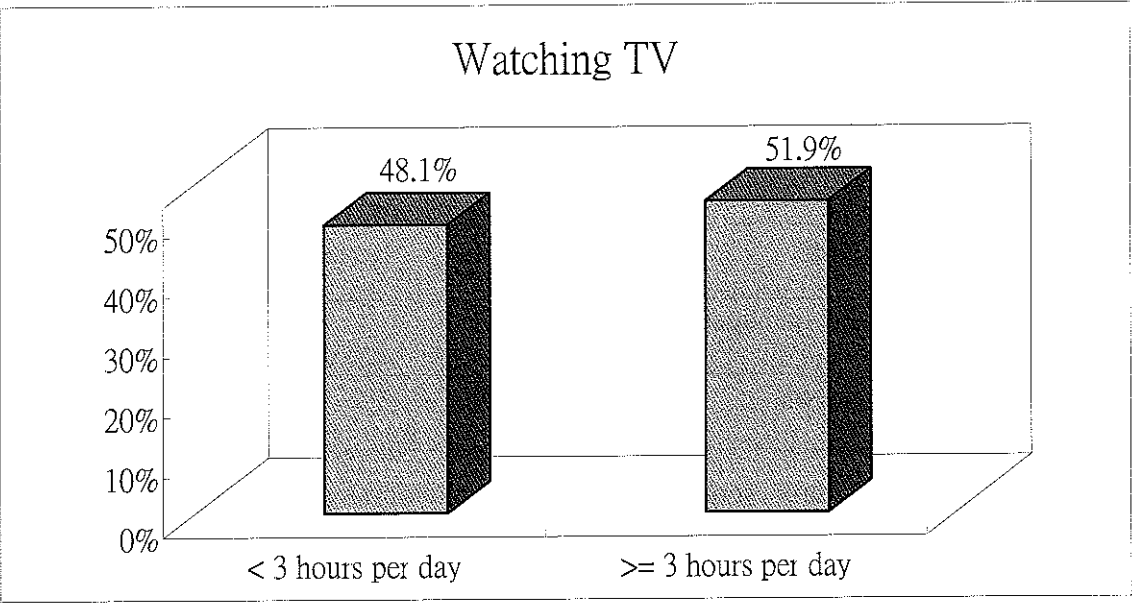
The daily consumption of vegetables/fruit remained low, and only 28.8% had more than 3 servings of vegetables/fruit per day.

Figure 3.2 Breakfast eating habits



16.7% of students did not have a habit of eating breakfast.

Figure 3.3 Time Spent on Watching Television



More than half (51.9%) of the students watched television more than three hours per day.

Table 3.14 Regular Exercise by the students

Regular exercise	Number of students	%
Yes	3562	49.9
No	3570	50.1

Note: Regular exercise is defined as doing either one of the following: at least 3 times a week of vigorous exercise at least 20 minutes or mild exercise at least 30 minutes each time

In Table 3.14, it was noted that only half (49.9%) of the students had the habits of performing regular exercises.

Table 3.15 Pattern of unsociable behaviours

<i>Unsociable behaviours</i>	<i>Number of students</i>	<i>%</i>
Being threatened in school	349	4.9
Involved in fighting	1101	15.4
Injured due to fighting	207	2.9
Property being stolen/damaged	1870	26.2
Being sexually harassed	1265	17.8

In Table 3.15, the three serious unsociable behavioural problems at schools were stealing (26.2%), sexual harassment (17.8%) and fighting (15.4%).

Table 3.16 Youth Health Risk Behaviours

	<i>Number of students</i>	<i>%</i>
Smoke cigarettes at least once in past 30 days	618	8.7
Had at least one drink of alcohol in past 30 days	1380	19.6
Tried illicit drugs	374	5.2
Had sexual intercourse	225	3.3

This study results revealed that 8.7% and 19.6% of students smoke at least one cigarette and had at least one drink of alcohol in the past 30 days respectively. A minority of the students (5.2%) tried illicit drugs and 3.3% had sexual intercourse.

Table 3.17 Pattern of Illicit Drug Use

	<i>Primary</i>	<i>Secondary</i>
Cough syrup (without doctor prescription)	4.9%	1.6%
Sniff organic solvents	2.1%	2.0%
Ecstasy	0.7%	1.4%
Tranquillizers	0.5%	0.5%
Heroin	-	0.3%
Cannabis	-	1.0%
Ketamine	0.3%	1.4%
Phentermine	-	0.5%
Cocaine	-	0.3%

The main illicit drugs that were taken by the students were cough syrup (without doctor's prescription) and organic solvents. It would appear that these problems are more serious amongst the younger age group. The picture here suggested that older school children were able to access drugs easier and were more liable to use them than the younger ones.

This study revealed that out of the 225 students who have had sexual experience, 34.6% started at the age of eleven or below whilst 65.4% began between the age of 12 to 16 years of age. Among those who had experienced sexual intercourse, 45.9% of these sexually active students had only one sexual partner, but 54.1% had more than one partners. 30.8% of these students drank alcohol or used drugs before they had sexual intercourse. 36.5% of these sexually active students did not use any contraceptive methods when they had sexual intercourse. This revealed a great potential risk of unwanted pregnancy and sexually transmitted diseases.

Part II Association between adolescents' psychological well being and other variables

Table 3.18 Relationship between Self-Rated Academic Results and Depressive symptoms

<i>Self-rated academic results *</i>	<i>Depressive symptoms</i>	<i>No depressive symptoms</i>
Distinction	23.2%	76.8%
Credit	25.2%	74.8%
Average	33.1%	66.9%
Fair	45.4%	54.6%
Poor	55%	45%

p value < 0.001 Linear-by-linear association < 0.001

Depressive symptoms were correlated with self rated academic performance in a linear trend. Adolescents with depressive symptoms were more likely to have poor academic results.

Table 3.19 Relationship between Regular Exercise and Depressive symptoms () denotes row %

<i>Regular exercises *</i>	<i>Depressive symptoms</i>	<i>No depressive symptoms</i>
Yes	1120 (31.7%)	2410 (68.3%)
No	1405 (39.8%)	2129 (60.2%)

p value < 0.001

Note. Regular exercise is defined as doing either one of the following: at least 3 times a week of vigorous exercise at least 20 minutes or mild exercise at least 30 minutes each time

The study demonstrated that lower proportion of students had depressive symptoms if they performed regular exercise with statistical significance (31.7% vs. 39.8%) This indicated that doing exercise could help the adolescents to be psychologically healthier.

“*” - There is a significant association between 2 variables at 0.05% level of significance.

Table 3 20 Relationship between Healthy Diet and Depressive symptoms

	<i>Depressive symptoms</i>	<i>No depressive symptoms</i>	<i>p value</i>
Have more than 5 servings of vegetable/fruit per day	7.9%	8.9%	0.15
Have more than 3 servings of vegetable/fruit per day *	24.5%	31.3%	<0.001

Among the 40% of students who did not have depressive symptoms, a significantly higher percentage (31.3%) had more than 3 servings of vegetables/fruit per day. This might reflect that a less depressive adolescent appears to have a healthier diet.

Table 3 21 Relationship between Risk Behaviours and Depressive symptoms

	<i>Depressive symptoms</i>	<i>No depressive symptoms</i>	<i>p value</i>
Have fizzy drinks at least once per day *	17.2%	13.8%	< 0.001
Have sugary drinks at least once per day *	25.9%	22.3%	0.001
Smoking *	13.9%	5.7%	< 0.001
Drink alcohol *	25.2%	16.5%	< 0.001
Tried illicit drugs *	8.1%	3.6%	< 0.001

A significantly higher percentage of the depressive students had fizzy drinks and sugary drinks at least once per day, smoking, drank alcohol and tried illicit drugs. A depressive adolescent appeared to have a less healthy lifestyle.

Among those students who had depressive symptoms; 44.3% of them felt hopeless, 25.4% had hurt themselves, 26.4% had considered suicide whilst 19.4% had planned to commit suicide, and 9.4% had actually attempted suicide. The figures significantly reflected that adolescents suffering from emotional problems had greater chance of suffering from depression too.

“*”- There is a significant association between 2 variables at 0.05% level of significance.

Table 3.22 Relationship between Social behaviours and Depressive symptoms

<i>Unsociable behaviours</i>	<i>Depressive symptoms</i>	<i>No depressive symptoms</i>	<i>p value</i>
Being threatened in school *	7.9%	3.1%	< 0.001
Involved in fighting *	20.7%	12.3%	< 0.001
Injured due to fighting *	4.5%	1.9%	< 0.001
Property being stolen/damaged *	33.3%	22.2%	< 0.001
Being sexually harassed *	24.8%	13.8%	< 0.001

Significantly higher percentages of those depressive students were subjected to being bullied at schools.

Table 3.23 Relationship between place of birth and Depressive symptoms

	<i>Place of Birth*</i>		<i>p value</i>
	Hong Kong	Mainland China	
<i>Depressive symptoms</i>	34.8%	39.7%	0.001
<i>No depressive symptoms</i>	65.2%	60.3%	

This result reflected that teenagers born elsewhere not only have to cope with educational matters but with adapting to new environment as well.

Table 3.24 Relationship between Father's working status and Depressive symptoms

	<i>Father's working status*</i>		<i>p value</i>
	Unemployed	Employed	
<i>Depressive symptoms</i>	39.1%	34.1%	0.005
<i>No depressive symptoms</i>	60.9%	65.9%	

Father's employment status affects the teenagers' moods showing that family is important to the teenager.

“*”- There is a significant association between 2 variables at 0.05% level of significance.

Table 3.25 Relationship between Social behaviours and Life Satisfaction

	<i>Life satisfaction mean score</i>		<i>p value</i>
	<i>Yes</i>	<i>No</i>	
Being threatened in school *	17.13	18.65	< 0.001
Involved in fighting *	17.41	18.79	< 0.001
Injured due to fighting *	17.25	18.61	0.001
Property being stolen/damaged *	17.61	18.92	< 0.001
Being sexually harassed *	17.40	18.83	< 0.001

At the same time, students who were being bullied had lower life satisfaction mean score with statistical significance

Table 3.264 Relationship between Emotional Status and Life Satisfaction

	<i>Life satisfaction mean score</i>		<i>p value</i>
	<i>Yes</i>	<i>No</i>	
Felt hopeless *	16.66	19.26	< 0.001
Hurt himself / herself *	16.90	18.87	< 0.001
Have considered suicide *	15.29	19.08	< 0.001
Planned suicide *	15.54	18.90	< 0.001
Attempted suicide *	15.41	18.72	< 0.001

The life satisfaction scores of those students who had emotional problems, were significantly lower, especially for those who had considered, planned or even actually attempted suicide.

“*”- There is a significant difference in life satisfaction mean score at 0.05% level of significance

Table 3 27 Relationship between Healthy Lifestyle and Life Satisfaction

	<i>Life satisfaction mean score</i>		<i>p value</i>
	<i>Yes</i>	<i>No</i>	
Perform regular exercises *	19.01	18.15	< 0.001
Have more than 5 servings of vegetable/fruit per day *	19.86	18.46	< 0.001
Have more than 3 servings of vegetable/fruit per day *	19.23	18.31	< 0.001
Drink 100% fruit juice at least once per day	18.93	18.52	0.056

Note: 1 serving of vegetable/fruit means ¾ bowl of vegetables or 1 fruit

From Table 3 27, the students who had healthy lifestyle such as doing exercises regularly, consume enough vegetables and fruit were more satisfied with their lives with statistical significance.

Table 3 28 Relationship between Health Risk Behaviour and Life Satisfaction

<i>Health Risk Behaviour</i>	<i>Life satisfaction mean score</i>		<i>p value</i>
	<i>Yes</i>	<i>No</i>	
Have fizzy drinks at least once per day *	18.04	18.66	0.001
Have sugary drinks at least once per day *	18.30	18.65	0.031
Smoke cigarettes *	16.93	18.74	< 0.001
Drink alcohol *	17.73	18.77	< 0.001
Take illicit drugs *	17.10	18.65	< 0.001

Table 3.28 showed that life satisfaction mean score was significantly positively associated with healthy behaviours.

“*”- There is a significant difference in life satisfaction mean score at 0.05% level of significance.

Table 3 29 Relationship between self rated Academic Results and Life Satisfaction

<i>Self-rated academic results *</i>	<i>Life satisfaction mean score</i>
Distinction	20.29
Credit	19.32
Average	18.93
Fair	17.55
Poor	16.26

p value < 0.001 Linear-by-linear association < 0.001

Life satisfaction score was also significantly affected by self rated academic results in a linear trend. Those adolescents who rated themselves high, were more satisfied with their lives.

“” - There is a significant difference in life satisfaction mean score at 0.05% level of significance.*

Part III Association between depressive symptoms and other factors

Table 3 30 Factors associated with Depressive symptoms analysed by multi-variate analysis

<i>Factors affecting depression</i>	<i>Odds ratio (95% confidence interval)</i>
Academic result (Good vs. Poor)	0.45 (0.39,0.52)
Health status (Good vs. Poor)	0.41 (0.36,0.47)
Regular exercises (Yes vs. No)	0.74 (0.65,0.84)
Perception of being too fat/slim (Yes vs. No)	1.57 (1.33,1.85)

Note: Regular exercise is defined as doing either one of the following: at least 3 times a week of vigorous exercise at least 20 minutes or mild exercise at least 30 minutes each time

Those students who had self rated good academic results, self rated good health status and also performing regular exercises were less likely to be depressive. On the other hand, those who perceived themselves as being too fat or too slim were more likely to have depressive symptoms. The results are statistically significance. These results showed that students' self esteem affects their lifestyle and educational performance.

Chapter IV

Analysis on social environment and community partnership of schools

Difference in school profile between students from schools with highest and lowest depression scores

Those schools whose students had low depression scores, when compared with those whose students had high depression scores, some difference could be observed. They differ in certain aspects of school social environment and community partnership.

Schools whose students with low depression scores, had explicit guidelines for disciplinary action. Teachers would also discuss special cases and work out the management strategies. Those students who had improvement in academic performance, and actively participated in community and school activities were rewarded. They all had programmes for leadership training.

These schools had organized activities to promote close relationship between staff and students, and also amongst staff themselves. They all had programmes to encourage sharing amongst students and mutual support.

A larger number of these schools had laid down procedures to handle emotional

problems of students and also follow up action plan like sudden death or accident of a student. At the same time they would notify staff of those students with special needs and the corresponding supporting measures.

A higher proportion of schools, whose students had low depression score, had mobilised parents as volunteers and also involved in the planning for school health promotion activities. Resources available in the community would be introduced and students were encouraged to use them. They were also encouraged to participate in community health promotion activities. Teachers would seek help from their community partners if necessary. They also established network with other schools and organised joint school health education and health promotion activities. Those schools would also allow general public or community organizations to use the school venues for activities and also promoted health related activities outside school hours.

Chapter V Comparison with other studies

In year 1999, we conducted a health risk behaviour survey among 26,111 primary and secondary students (Lee et al, 1999). Three schools in the 1999's study also participated in this 2001's study. Hence, we would like to compare the health risk behaviours among the students of these three schools.

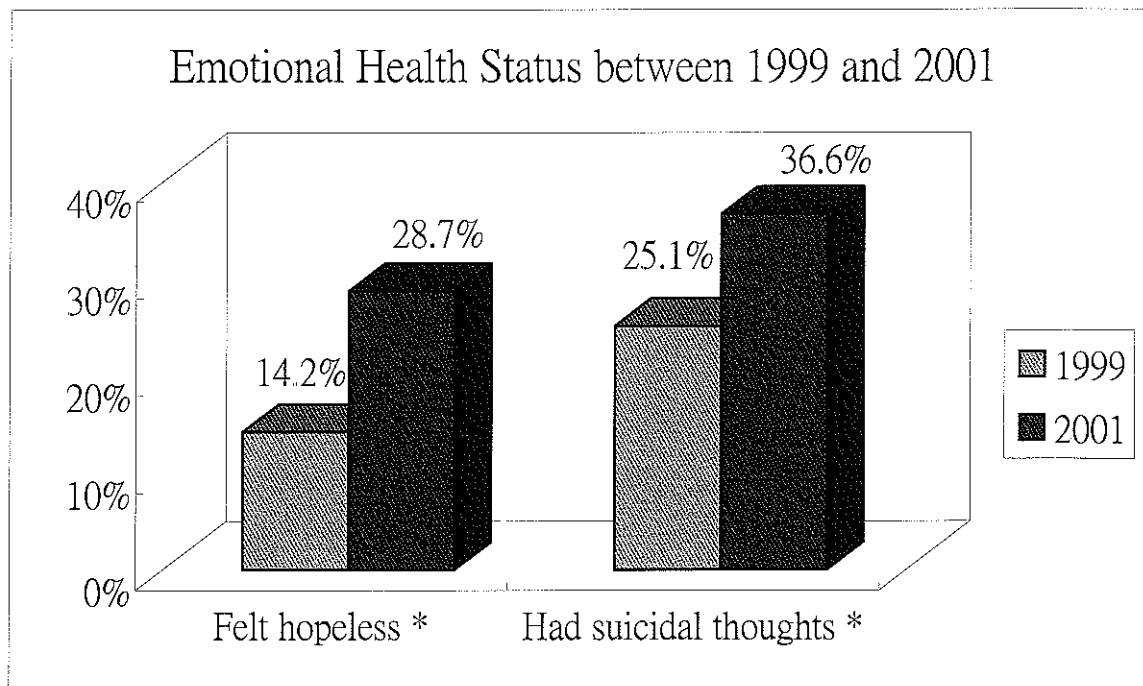
Table 5.1 Comparison of Healthier and Less Healthy Lifestyle between 1999 and 2001 Survey Studies

	Survey Year	
	1999	2001
Perform regular exercises *	37.2%	51.4%
Have more than 5 servings of vegetable/fruit per day	8.5%	8.9%
Have more than 3 servings of vegetable/fruit per day	26.2%	28.9%
Drink 100% fruit juice at least once per day	13.5%	11.9%
Smoke cigarettes	11.2%	11.9%
Drink alcohol *	12.2%	18.2%
Tried illicit drugs	5.1%	6.2%

From Table 5.1, it was noted that there were statistical significance in the exercises habits of the adolescents but more students drank alcohol in year 2001. Although the other behaviours were not statistically significant, we could also note that these adolescents had consumed more vegetables and fruit, but unfortunately more smoked cigarettes and tried illicit drugs.

“”- There is a significant association between 2 variables at 0.05% level of significance.*

Figure 5.1 Comparisons of Emotional Health Status between 1999 and 2001 Survey Studies



Note: [†] Suicidal Thought is defined as having either one of the followings: feeling hopeless, self-harm, having considered committing suicide, planning how to commit suicide and actually committing suicide

Fig. 5.1 showed that more adolescents felt hopeless and having suicidal thoughts in year 2001 with statistical significance. This alarming figure indicated that the new generation was unhappy.

“*”- There is a significant association between 2 variables at 0.05% level of significance.

Chapter VI Conclusion

A substantial high proportion of students suffered from emotional problems and depressive symptoms reflecting the new health crisis of the young generation. Adolescents face a lot of changes and challenges as they are at the crossroad between childhood and mature adults. They can easily get role confusion if they are unable to establish social identities. It is therefore not difficult to understand that going through adolescence can be quite stressful. Stress will lead to physical and emotional illness. If the adolescents cannot develop coping strategies, consequence of stress will occur. Self-efficacy and social support have been found to be the potential resources for stress reduction. However this study revealed that 26% of students felt hopeless and nearly 15% considered suicide and hurting themselves. However only 25% of students would seek help from teachers or social workers when they had suicidal thoughts. The results reflect the inadequacy of coping mechanism and social resources for the students when they face problems. This can lead to problems such as depression and unhealthy lifestyles.

Amongst the students with depressive symptoms, higher proportion of them were smokers, alcohol drinkers, illicit drugs users, having unhealthy eating habits, having

suicidal thoughts, and at risk of violent injuries. All these factors were highly associated with statistical significance. Students who performed regular exercise and have healthy eating habits had higher life satisfaction scores with statistical significance. A statistical significance in life satisfaction scores, was found amongst those students with risk health behaviours such as smoking, drinking, taking illicit drugs, and frequent consumption of fizzy or sugary drinks. Health risk behaviours were found to be associated with depression and unsatisfactory life scores. Students with high self-rating academic results had higher life satisfaction scores. On the other hand, very few students with depressive symptoms rated themselves highly in terms of academic performance. Multivariate analysis showed that good academic results, good health status, and regular exercise were associated with lower odd ratios of being depressed. Perception of being too fat or too thin was associated with higher odds ratio of being depressed. Therefore healthy lifestyles, and improved self-confidence and self-esteem are all important factors associated with mental well-being and life satisfaction. Family has an important part to play in the teenagers' transitional period. Parental support and parent's moral can significantly affect the teenagers emotional state.

Although the proportion of students performing regular exercise had increased from

1999 to 2001 with statistical significance; the proportion of students drinking alcohol, and having depressive symptoms had also increased with statistical significance. This reflected on the poor coping strategies of adolescents when faced with stress and challenges during the transition period from childhood to adulthood. Supportive social environment and greater utilization of community resources would help healthy youth development. Those schools having the lowest proportion of students with depressive symptoms can demonstrate this. These schools have created a supportive social environment and school ethos towards the development of a closer relationship among staff and students, and follow up action plans for unforeseeable events and detail discussion on special cases. Rewarding students with academic improvement and participation in community services have created a positive climate for youth development. Greater use of community resources and closer partnership with community to promote health would help to improve the emotional well being of students. Again those schools with lowest proportion of students with depressive symptoms have established good community partnership.

Chapter VII Recommendation

As early as in 1950, the World Health Organization (WHO) noted, “to learn effectively, children need good health”. This study has further strengthened the evidence to demonstrate that the health of children and adolescents constitutes a major factor affecting their capacity to learn (Allensworth, 1997). The school environment has a direct impact on the self-esteem, educational achievement, and health of its pupils and staff (Hopkins, 1987; Sammons, 1994). Programme experiences and research findings from all regions in the world (WHO, 1999) suggested that adolescents need accurate information about their health and development, life skills to avoid risk-taking behaviour, counselling, acceptable and affordable health services, and safe and supportive environment. It has also been suggested that health behaviours early in life are the best predictors of health behaviours in adulthood (Gadin & Hammarstrom 2002).

The concept of health promoting school was first identified at a World Health Organization conference in the early eighties and has been advocated as an effective approach to promote health in schools (Young, 1989; Smith, 1992; Nutbeam, 1987). It embodies a holistic, whole school approach to personal and community health promotion in which a broad health education curriculum is supported by the

environment and ethos of the school (Parsons, 1996). Such a comprehensive approach has been widely accepted by school health professionals as an effective and important method of implementing school health (Kolbe, 1986; Pigg, 1989; Seffrin, 1992; Nutbeam, 1992). It has been suggested that well developed school health promotion programs are more effective in encouraging children to adopt health enhancing behaviours and in reducing health compromising behaviours (Hawkins, 1990; Green, 1991).

In Hong Kong, the concept of health promoting school has only been adopted by a few schools, and is making progress with many challenges (Lee *et al*, 2000; Lee *et al*, 2001b). The Centre for Health Education and Health Promotion of The Chinese University of Hong Kong (CUHK) has offered a training course in the form of Professional Diploma in Health Promotion and Health Education. Encouraging schools in Hong Kong to adopt comprehensive approach to health promotion is not an easy task given the current climate of over-emphasis on public examination results. The gap between practice and “what ought to be” is greater for health education than for most other areas in the school curriculum (Seffrin, 1992). The WHO and Education Department together with The Centre for Health Education and Health Promotion of CUHK launched “The Hong Kong Healthy Schools Award Scheme” in 2001

(Appendix). This is the first territory wide 'Healthy Schools' movement that gained recognition from WHO Western Pacific Region.

The Hong Kong Healthy Schools Award Scheme builds on the concept of health promoting school to encourage educational achievement, better health and emotional well-being; thereby supporting pupils in improving the quality of their lives. It provides a structured framework for the development as well as a system of monitoring progress and recognition of achievement. It also aims to promote staff development, parental education, involvement of whole school community, and linkage with different stakeholders so as to improve the health and well-being of the pupils, parents and staff, and the community at large. The concept of Health Promoting School would help to develop a safe social and physical environment for the 'total population' of the school.

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Appendix

The Hong Kong Healthy Schools Award Scheme

Background

According to the World Health Organisation (WHO), health is defined as a state of complete physical, mental and social well-being, and not merely the absence of disease. Substantial evidence indicates that health is a major factor affecting the learning capacity of a person. Most schools are involved in some form of health education, but teaching and learning efforts have largely been confined to the formal curriculum leading to public examinations at the expense of influences on students in shaping and improving their health status. Health education should embrace the knowledge, belief and behaviour related to the promotion, maintenance and restoration of health in individual, in family, in school and in society; as well as health service activities. In this respect, an effective health promotion programme should involve partnership between agents of education, medical and social services.

Schools providing a place of enjoyment and peace are more likely to produce students with enhanced health and educational outcomes. However, students with health compromising behaviour are more likely to feel alienated from school and to value continued education less than their peers. As such, school plays a very important role in health education and promotion at the crucial stage of childhood and adolescence, covering development of personal character, values, skills, attitude and physique, in addition to imparting knowledge.

What is a Health Promoting School?

In 1986, the World Health Organisation first initiated the concept of health-promoting school in the Ottawa Charter for Health Promotion. A health promoting school is a place where all members of the school community work together to provide students with integrated and positive experiences and structures which promote and protect their health. It embodies a holistic, whole school approach to personal, family and community health promotion in which a broad health education curriculum is supported by health services, environment and ethos of the school.

What is Healthy Schools Award Scheme?

The Scheme is administered by the Centre for Health Education and Health Promotion of the Faculty of Medicine of The Chinese University of Hong Kong and has gained endorsement from the WHO Western Pacific Regional Office(WPRO). The Hong Kong Subsidized

Secondary Schools Council, the Subsidized Primary Schools Council and the Hong Kong Special Schools Council have pledged full support. The WHO/WPRO and Education Department will also be the awarding bodies together with Centre for Health Education and Health Promotion of The Chinese University of Hong Kong.

During 1995, a set of guidelines on the establishment, improvement and maintenance of health promoting schools was produced and endorsed by WHO's member states. The framework of the guidelines consisted of components and checkpoints for health promoting schools in six areas including:

- ☞ School health policies
- ☞ School physical environment
- ☞ School social environment
- ☞ Community relationships
- ☞ Personal health skills
- ☞ Health services

The Hong Kong Healthy Schools Award Scheme builds on the concept of health promoting school to encourage educational achievement, better health and emotional well-being; thereby supporting pupils in improving the quality of their lives. It provides a structured framework for the development as well as a system of monitoring progress and recognition of achievement. A panel of experts in health and education locally and overseas have refined a set of guidelines that would be applied to schools in Hong Kong.

What are the aims of the Award Scheme?

The aims of the Award Scheme are to promote staff development, parental education, involvement of whole school community, and linkage with different stakeholders so as to improve the health and well-being of the pupils, parents and staff, and the community at large.

How would Healthy Schools Award Scheme benefit the schools?

The Healthy Schools Award Scheme would foster physical, psychological and social development of children. From which values and attitudes such as responsibility, commitment and respect for others are necessary for developing goals in life and learning. The Scheme would encourage teaching and learning of other values-oriented studies such as life education, affective education, environmental education and media education. It adds value to the curriculum development.

The Award Scheme would benefit the whole school community in a number of ways:

a) For schools

- ☞ Improve students' performance in academic and non-academic areas

- ☞ Positively promotes the school's ethos
- ☞ Changes curriculum contents and activities from mono-disciplinary to inter-disciplinary
- ☞ Pedagogy becomes discovery learning rather than didactic learning
- ☞ Structure of teaching/learning becomes flexible rather than fixed structural units
- ☞ Involvement of the whole school community and strengthens links among parents, principal, school staff (teaching and non-teaching), pupils, governors and community partners
- ☞ Enhance reputation and status through recognition under the Award Scheme
- ☞ Gain opportunities to link with and share good practice with other schools

b) For Students

- ☞ Achieve better academic results within a setting that supports their health and well-being
- ☞ Gain access to a wide range of support services and adds value to their personal and social development
- ☞ More confident, more motivated and creative and have the skills and information to make important life and health choices, hence assuming greater control of their own future

c) For school staff

- ☞ Greater support and professional development for staff
- ☞ Teachers become more interdependent and co-operative (better team-spirit)
- ☞ Concern more about the health of staff

d) For the Community

- ☞ Physically and mentally healthy young people can contribute to the community with their best and become good citizen
- ☞ Grasp the interest and contribution of young people to provide support
- ☞ Form closer ties with the schools to provide support

How to Achieve the Healthy Schools Award?

All secondary schools, primary schools and special schools are welcomed to join the Award Scheme. Three levels of award are available – bronze, silver and gold. Each will be obtained by amassing a given number of points. Participating schools are given a choice of components to work on. Participating schools are required to finish the assessment including all the six areas for marking.

A certificate, jointly validated by the WHO Western Pacific Region, The Chinese University of Hong Kong, and the Education Department of the Hong Kong SAR Government, will be presented to the school. Schools with the Award may display an

appropriate logo on their stationary and within the school building.

How can we contact the Centre?

For inquiries, please contact

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