Life Skills Development Among Junior Secondary Students in Hong Kong:

A Brief Report

Mantak Yuen & Eadaoin K.P. Hui
The University of Hong Kong, China

Patrick S.Y. Lau
Chinese University of Hong Kong, China

Raymond M.C. Chan
Hong Kong Baptist University, China

Norman C. Gysbers
University of Missouri-Columbia, USA

Peter M.K. Shea
The Hong Kong Council of the Church of Christ in China, China

Thomas K.M. Leung
Ching Chung Hau Po Woon Secondary School, China

August 2006

ACKNOWLEDGEMENTS

ABSTRACT

This paper reports results from a survey of 15,113 Hong Kong junior secondary students. The purpose of the study was to assess students' level of self-efficacy in applying life skills across four domains comprising academic development, personal development, social development, and career development. Students' level of self-efficacy in applying life skills was then analysed in relation to salient student characteristics. Findings indicated that the students perceive themselves to possess positive efficacy in applying life skills across the four domains. Students in the first year of secondary school (S.1) had higher scores in self-efficacy than those in S.2 and S.3. Girls appeared more confident than boys in their own ability to apply social skills and (within academic life skills) to think creatively and critically and to be involved actively in learning. Boys appeared more confident in applying personal life skills. The findings also indicated that interpersonal relationships within school, including students' relations with class-teachers, subject teachers, and other students, are associated significantly with students' self-efficacy in applying life skills in all areas.

Key Words: self-efficacy; life skills; Chinese; adolescent; career development; talent development

INTRODUCTION

In many part of the world, there is growing interest in the concept of 'education for life'. Students are now expected to master a set of generic transferable skills to enhance their functioning in various life roles such as learners, friends, siblings, parents, workers, and citizens (Education Commission, 2002; Gysbers & Hendersen, 2000). A student's 'life skills' comprise a set of everyday competencies that facilitate academic progress, personal and social development, and career planning (Yuen et al., 2003). Bandura's self-efficacy theory provides a sound conceptual framework for assessing students' beliefs concerning their own life skill competencies (Lapan, Gysbers, Multon, & Pike, 1997).

The purpose of this study was to assess students' level of self-efficacy in applying life skills across the four domains of academic development, personal development, social development, and career development, and then examine any relationships between students' level of self-efficacy, their personal characteristics, and factors within their schools.

The research questions generated for this study were:

1. How confident are secondary-age students in their own ability to apply life skills?

2. To what extent is students' life skill development positively related to student personal characteristics of gender, immigrant status, parent education level, interpersonal relationships in school, family relationships, time spent on leisure activities, and time spent on school and community extra-curricular activities?

The research questions are exploratory in nature. No previous data exist on students' beliefs about their own competence in applying necessary life skills. Similarly, the relationships

between level of competence and student personal characteristics have not been investigated previously. It was anticipated that higher levels of confidence and competence in applying life skills might be positively and reciprocally related to students' interpersonal relationships in school and family, and in students' willingness to be involved in community activities and extra-curricular activities. In addition, effective study skills in the academic domain, together with motivation to work towards a specific career goal, might also be related positively to overall competence in life skills.

Definition of Terms

Within this report the following terms are used fairly frequently. They represent key concepts associated with the areas of school life that provide the focus for this research study.

- *Life skills:* As indicated above, 'life skills' are the everyday competencies that facilitate academic progress, personal and social development, and career planning. Examples include: study skills, interpersonal relationship skills, self-management and leadership skills, and skills in problem solving (Yuen et al., 2003).

- *Self-efficacy:* This term is used to describe an individual's perception and beliefs concerning his or her own competence in a particular activity or endeavour (Bandura, 1997; McInerney & McInerney, 2002).

METHOD

Stage 1: Preparation

The preparatory stage involved several focus group meetings with students, conducted in three secondary schools. Each focus group comprised a sample of students (n = 18) from school

years S.1 to S.3. The purpose of these group meetings was to explore students' perceptions of the skills and behaviours they believe necessary for operating effectively in school, home and community. Students were also asked to provide real-life examples of these skills, and to suggest how such skills might be acquired. Finally students were asked to comment on how effective they perceive teachers to be in helping them acquire life skills (particularly for relating positively to teachers and peers). (See Appendix 1 for students' Focus Group discussion topics).

Focus group meetings for teachers and guidance personnel were conducted at the University of Hong Kong. These groups might be described as 'panels of experts' with knowledge and experience relevant to students' acquisition of life skills. These experts provided the researchers with insights into school-based factors that can contribute to students' development of life skills with particular reference to the enhancement of relations between students, teachers, and peers. They were also asked to comment on the nature of the guidance activities and levels of support for students provided in their schools. (See Appendix II for details of the issues raised with the teacher Focus Groups).

The data obtained from focus group discussions led to four tentative conclusions, namely:

(1)   Students' life skills in secondary school were confirmed to be important in four separate domains: academic, social, personal, and career orientation.

(2)   Students' self-confidence in applying life skills might be enhanced by their participation in specific learning experiences within the classroom and beyond.

(3)   In most schools, guidance and counseling activities are already provided that may positively influence students' life skills.

(4)   Teachers perceived that teacher support, peer support and policy support all contribute

to a positive school environment, which may influence students' acquisition and application of life skills.

Stage 2: Main Survey

Participants and Procedures

In May 2005, the Life Skills Development Project team in Hong Kong conducted a questionnaire survey of junior secondary students. Ninety-six schools had been randomly selected from the Education and Manpower Bureau's list of secondary schools in various regions of Hong Kong. Eighty-seven schools returned completed questionnaires (response rate of 90.63%). The main features of the schools in terms of funding, medium of instruction, and student gender are summarised in Appendix III.

In each school, classes of students were selected randomly to participate in the survey. In total 15,113 students completed the questionnaire (boys = 7,507; girls = 7,392; gender data missing on 214 students). Data indicated that the sample included students from the school years S.1 (42.1%), S.2 (30.0%), and S.3 (27.0%). Of the 15,113 students involved in the survey, 11,271 (74.6%) were born in Hong Kong. More than one fifth of the participants (24.2%) received textbook allowance, and 10.5% came from families on social security. Data collected on the educational level of participants' fathers and mothers revealed that 23.4% and 25.2% respectively had only primary or no education, 29.8% and 28.7% respectively had middle school education, 28.4% and 30.8% had high school education; and finally 12.2% and 9.8% respectively had some college education. Further details regarding student and family demographics are summarised in Appendix IV.

The students were asked to complete the *Life Skills Development Self-Efficacy Inventory,*

which includes the Academic Self-efficacy Scale (A-SES), Personal Self-efficacy Scale (P-SES), Social Self-efficacy Scale (S-SES), and Career and Talent Development Self-efficacy Scale (CTD-SES). Details are provided below.

Data Collection Instruments

The *Life Skills Development Self-Efficacy Inventory* was designed specifically for this study, and comprises 4 main scales covering academic, personal, social and career life skills, (see Appendix V). Each of the four main self-efficacy scales identified in Table 2 contains within it a number of smaller sub-scales representing different clusters of skills or behaviours. Each sub-scale contains 6 items together with a Likert-type rating scale (see Appendix V). The instruments were piloted with a sample of junior secondary students to check clarity and readability. Adequate evidence for validity and internal consistency of the instruments were obtained from the present samples (see Table 1).

Table 1. Psychometric Properties of *Life Skills Development Self-Efficacy Inventory* for Junior Secondary Students

Scale	Number of Items	Item Means	Reliability Cronbach Alpha	Fitness Index CFI	RMSEA
Academic self-efficacy	24	4.25	Total scale, 0.95 Sub-scales, 0.81-0.88	0.89	0.07
Personal self-efficacy	24	4.21	Total scale, 0.93 Sub-scales, 0.70-0.86	0.87	0.07
Social self-efficacy	48	4.37	Total scale, 0.97 Sub-scales, 0.77-0.89	0.81	0.07
Career and Talent Development Self-efficacy	18	4.31	Total scale, 0.94 Sub-scales, 0.85-0.87	0.92	0.08

Note: CFI = Comparative fit index; RMSEA = Root mean square error of approximation

Personal Data Form

Student characteristics were solicited by means of a personal data form included with the survey questionnaire. Students' school *grade levels* were coded using S1 = 4, S2 = 5, S3 = 6. *gender* was coded as male = 0, female = 1. Students were also asked to indicate the levels of their parents' education (reported separately for mothers and for fathers) selecting a description from 7 categories ranging from 'no formal education' through to 'university post-graduate education'. To quantify *Family Relationships* and *School Relationships* students were asked to respond to the following items: 1." My parents' relationship is…"; 2."My relationship with my father is …"; 3. "My relationship with my mother is …"; 4. "My relationship with my form-room teacher is…'; 5. "My relationships with subject teachers are …"; and 6." My relationships with peers in school are …". Students responded using a 6-point Likert-type scale where 1 = 'very poor' and 6 = 'very good'. The sum of the rating scores for items 1, 2, and 3 was used as the value for the *Family Relationships* variable, and the sum of items 4, 5, and 6 was used as the value for *School Relationships* variable. The estimate of internal consistency for this measure was high (*Family Relationships*, Cronbach alpha = .85; *School Relationships*, Cronbach alpha = .72). To measure involvement in various leisure activities, students were asked to estimate in minutes their average time spent daily in physical exercise, homework, revision, leisure reading, and computer games. Students were also asked to estimate in hours their average time spent per week in extra-curricular activities in school, outside school, and in voluntary service activities.

Analysis of Data

To answer the first research question, the means and standard deviations (SDs) for the total scores and for subscale scores were calculated, covering self-efficacy in the domains of academic development, personal development, social development and career development.

The second research question was answered by first conducting multivariate analysis of variance (MANOVA) followed by univariate ANOVA. Finally, hierarchical regression analyses were performed to further explore the interrelationships among student variables and confidence in self-efficacy.

RESULTS

In answer to the first research question, Table 2 reports the students' confidence in their own ability in applying the four domains of life skills. Given that the maximum rating score possible in any subscale is 36, scores above 26 can be taken as reflecting moderate to high confidence in one's ability to apply the skills in that domain. Mean self-ratings below 18 would suggest a definite lack of confidence in one's competence in that particular skill or behaviour.

As there are no sub-scale scores below 24 reported in Table 2 it would appear that the secondary school-age students in this study possess reasonably positive views of their own self-efficacy in the four life-skill domains. The results indicate that students perceived themselves as relatively effective in avoiding drugs, smoking, drinking, and obsessive use of computer games (mean = 30.01; SD = 4.69), in their involvement in learning (mean = 27.23; SD = 4.92), in boy-girl relationships (mean = 27.06; SD = 5.07), in respecting and accepting others (mean = 26.99; SD = 4.46), and in developing their own talents (mean = 26.14; SD = 5.20). They rated themselves as slightly less confident (but certainly not markedly so) in leadership skills, coping with bullying in school, time management in relation to study, effective application of specific study skills, and in their ability to communicate effectively. Refer to Appendix V to identify the exact questions students were asked in all these areas.

Table 2. Student Self-Efficacy in Applying Life Skills

Scale and Subscale	Mean	SD
Academic	102.07	17.98
Applying study skills	24.72	4.92
Time management	24.34	5.45
Creative and critical thinking	25.73	4.82
Involvement in learning	27.23	4.92
Personal	101.09	16.57
Positive self-concept	25.36	4.99
Problem solving	25.08	4.47
Self-management	25.16	4.74
Self reflection	25.38	4.53
Social	209.90	32.47
Communication skills	24.76	4.90
Respect and accepting others	26.99	4.46
Family responsibility	25.45	5.45
Boy-girl relationship	27.06	5.07
Conflict management	25.78	4.72
Coping with bullying	24.63	5.24
Leadership	24.46	5.44
Avoiding drugs, drinking and smoking	30.01	4.69
Career and Talent Development	77.51	14.25
Talent development	26.14	5.20
Work attitudes	25.51	5.03
Career exploration	25.80	5.18

Note: 1 = extremely lacking in confidence, 2 = not confident, 3 = a little lacking in confidence, 4 = confident, 5 = quite confident, 6 = extremely confident. As there are six items in each subscale, a subscale minimum score could be 6, and maximum score could be 36.

In order to answer the first part of research question 2 (i.e. to what extent is students' life skill development related to student personal characteristics of gender, and school grade level) a multivariate analysis of variance (MANOVA) was applied using a 2 x 3 design (that is, 'boy vs. girl' : 'school grade levels S.1 vs S.2 vs S3'), with dependent variables of academic, social, personal, and career self-efficacy ratings. Significant main effects were found for gender

9

(Wilks' Lamda = .93, F (4,11224) = 226.01, p<.001, Partial Eta Squared = .075). In addition, the interaction effect of gender by grade was significant (Wilks' Lamda = .99, F (8,22448) = 2.13, p<.05, Partial Eta Squared = .001), suggesting that gender difference might vary with grade level and grade differences might vary with gender. Significant main effects were found also for grade level (Wilks' Lamda = .99, F (8,22448) = 20.11, p<.001, Partial Eta Squared = .007).

To investigate further the significant main and interaction effects, univariate analysis of variance (ANOVA) was conducted on each of the life skills self-efficacy subscales. Using the Bonferroni procedure to adjust for multiple comparisons (Tabachnick & Fidell, 2000), each ANOVA was evaluated at the .0125 (i.e. .05/4) level. The results indicated that girls reported higher levels of self-efficacy than boys in the social domain (F (1, 12786) = 56.56, p<.0125, Partial Eta Squared = .004; boys' mean = 207.75, SD = 34.07; girls' mean = 212.06, SD = 30.68) and higher in career decision efficacy (F (1, 14183) = 7.35 , p<.0125, Partial Eta Squared = .001; boys' mean = 77.21, SD = 14.88; girls' mean = 77.85, SD = 13.56) (see Table 3). However, boys rated their self-efficacy higher than the girls in the personal domain (F (1, 13870) = 148.29, p<.0125, Partial Eta Squared = .011; boys' mean = 102.82, SD = 16.78; girls' mean = 99.42, SD = 16.11).

Overall, there was no statistically significant difference between boys and girls in relation to academic life skills subscale (F(1, 14085) = 3.07 , p>.0125, Partial Eta Squared = .000), although girls did rate themselves somewhat higher than boys in applying creative and critical thinking, and in their involvement in the learning process.

It is interesting to note in Table 4 that in every single life-skill component assessed in the questionnaire students' confidence in their own self-efficacy seems to decline a little with

grade level. This trend is significant in the total score reported for the Social Life Skills Subscale (F (2, 12832) = 50.95, p>.0125, Partial Eta Squared = .008), Personal Life Skills Subscale (F (2, 13920) = 24.25, p>.0125, Partial Eta Squared = .003), Academic Life Skills Subscale (F (2, 14141) = 79.41, p>.0125, Partial Eta Squared = .011), and Career Life Skills Subscale (F (2, 14239) = 58.59, p>.0125, Partial Eta Squared = .008). *Post hoc* Scheffe test results indicated that S 1 students scored significantly higher than S2 and S3 students in academic, social, personal and career efficacy (p<.05).

Table 3. Gender Differences in Life Skills Self-Efficacy

Scale and Subscale		Mean	SD	Sig. p
Academic Development	Boys	101.84	18.86	
	Girls	102.37	17.01	
Applying study skills	Boys	24.78	5.16	
	Girls	24.66	4.68	
Time management	Boys	24.72	5.57	*
	Girls	24.45	5.32	
Creative and critical thinking	Boys	24.35	5.02	***
	Girls	25.88	4.61	
Involvement in learning	Boys	25.74	5.14	***
	Girls	26.70	4.60	
Personal Development	Boys	102.82	16.78	***
	Girls	99.42	16.11	
Positive self-concept	Boys	25.79	5.08	***
	Girls	24.92	4.85	
Problem solving	Boys	25.57	4.53	***
	Girls	24.61	4.34	
Self management	Boys	25.68	4.77	***
	Girls	24.64	4.63	
Self reflection	Boys	25.61	4.64	***
	Girls	25.16	4.38	

Scale and Subscale		Mean	SD	Sig. p
Social Development	Boys	207.75	34.07	***
	Girls	212.06	30.68	
Communication skills	Boys	24.32	5.07	***
	Girls	25.23	4.66	
Respect and accepting others	Boys	26.43	4.67	***
	Girls	27.57	4.13	
Family responsibility	Boys	25.10	5.47	***
	Girls	25.81	5.39	
Boy-girl relationships	Boys	26.92	5.41	***
	Girls	27.22	4.68	
Conflict management	Boys	25.89	4.90	**
	Girls	25.69	4.51	
Coping with bullying	Boys	24.68	5.41	
	Girls	24.58	5.05	
Leadership	Boys	24.46	5.59	
	Girls	24.46	5.26	
Avoiding drugs, drinking, and smoking	Boys	29.31	4.71	***
	Girls	30.74	4.56	
Career and Talent Development	Boys	77.21	14.88	**
	Girls	77.85	13.56	
Talent development	Boys	26.20	5.39	
	Girls	26.10	5.01	
Work attitudes	Boys	25.24	5.22	***
	Girls	25.79	4.82	
Career exploration	Boys	25.72	5.35	*
	Girls	25.90	4.98	

*p < .05, **p < .01, ***p < .001

Table 4 Grade Differences in Self-Efficacy in Applying
Life Skills

Scale and Subscale		Mean	SD	Sig. p
Academic Development	S.1	104.11	18.33	
	S.2	101.54	17.74	***
	S.3	99.55	17.29	
Applying study skills	S.1	25.29	4.98	
	S.2	24.51	4.86	***
	S.3	24.05	4.80	
Time management	S.1	24.89	5.56	
	S.2	24.25	5.35	***
	S.3	23.60	5.29	
Creative and critical thinking	S.1	26.02	4.98	
	S.2	25.66	4.73	***
	S.3	25.37	4.64	
Involvement in learning	S.1	27.87	4.84	
	S.2	27.03	4.94	***
	S.3	26.50	4.88	
Personal Development	S.1	102.13	17.06	
	S.2	100.83	16.40	***
	S.3	99.78	15.84	
Positive self-concept	S.1	25.72	5.04	
	S.2	25.32	4.98	***
	S.3	24.82	4.86	
Problem solving	S.1	25.20	4.60	
	S.2	25.04	4.40	**
	S.3	24.93	4.33	
Self management	S.1	25.56	4.84	
	S.2	24.98	4.71	***
	S.3	24.73	4.53	
Self reflection	S.1	25.56	4.67	
	S.2	25.35	4.46	***
	S.3	25.14	4.35	

Scale and subscale		Mean	SD	Sig. p
Social Development	S.1	213.03	33.45	
	S.2	209.20	31.98	***
	S.3	206.06	31.16	
Communication skills	S.1	25.16	5.07	
	S.2	24.63	4.80	***
	S.3	24.32	4.68	
Respect and accepting others	S.1	27.20	4.59	
	S.2	26.96	4.37	***
	S.3	26.70	4.32	
Family responsibility	S.1	25.80	5.53	
	S.2	25.45	5.44	***
	S.3	24.91	5.27	
Boy-girl relationships	S.1	27.27	5.20	
	S.2	27.10	4.99	***
	S.3	26.70	4.93	
Conflict management	S.1	26.12	4.85	
	S.2	25.77	4.59	***
	S.3	25.27	4.59	
Coping with bullying	S.1	25.28	5.35	
	S.2	24.39	5.20	***
	S.3	23.87	4.99	
Leadership	S.1	24.88	5.59	
	S.2	24.37	5.32	***
	S.3	23.90	5.27	
Avoiding drugs, drinking and smoking	S.1	30.39	4.66	
	S.2	29.76	4.70	**
	S.3	29.72	4.70	
Career and Talent Development	S.1	78.87	14.62	
	S.2	77.23	13.97	***
	S.3	75.74	13.74	
Talent development	S.1	26.73	5.27	
	S.2	26.03	5.11	***
	S.3	25.37	5.09	
Work attitudes	S.1	25.94	5.16	
	S.2	25.45	4.93	***
	S.3	24.92	4.87	
Career exploration	S.1	26.11	5.28	
	S.2	25.69	5.11	***
	S.3	25.45	5.05	

$*p < .05, **p < .01, ***p < .001$

To address the additional factors implicated in the second research question (parental education level, interpersonal relationships in school, family relationships, time spent on leisure activities, and time spent on extra-curricular activities) a stepwise regression analysis was conducted to investigate the amount of variance contributed by those predictor variables to students' life skills self-efficacy scores. The summary of basic data describing parental education status can be located in Appendix III. Basic data on students' interpersonal school relationships, family relationships, time spent on leisure activities, and time spent on school and community extra-curricular activities can be found in Appendix VI.

Using these data a regression analysis was conducted. Since grade and gender had effects on students' self-efficacy in the overall MANOVA results, grade and gender were included as predictors. The variables were added to the analysis in the following sequence: step 1. Gender and grade level; step 2. Mother's education, father's education; step 3. Family relationships, interpersonal relationships in school; step 4. Students' daily time spent in physical exercise, homework, revision, leisure reading, and computer games; and step 5. Students' weekly time spent in school extra-curricular activities, out of school activities, and volunteer services.

Table 5 shows the results from the regression analysis. Boys who are in S.1 rather than in S.2 and S.3 tended to have higher scores in academic, career, and in particular, personal life skills self-efficacy. Girls who are in S.1 rather than in S.2 and S.3 tended to have higher scores in social life skills self-efficacy. Fathers' and mothers' education levels yielded a significant main effect on students' self-efficacy, in particular, social development.

It is noteworthy that family relationships and school relationships were remarkably consistent predictors in students' self-efficacy, accounting for between 25% and 36% additional variance across the 4 domains after controlling for the effects of gender, grade, father's education and

mother's education. Students reporting good family relationships and good school relationships tended to have higher scores in self-efficacy, particularly in social life skills. School relations represented a significant predictor of students' academic efficacy, social efficacy, personal efficacy and career efficacy. Students who reported participating in extra-curricular activities and voluntary services tended to have higher self-efficacy scores, particularly in social development. Finally, it was noted that students' time spent on electronic games were negatively associated with their self-efficacy scores. Pearson correlation analyses showed significant but slight relations ($p<0.01$) among time spent on electronic games and academic ($r=-0.16$), personal ($r=-0.11$), social ($r=-0.16$) and career self-efficacy ($r=-0.15$).

Table 5
Hierarchical Regression Analysis for the Prediction of Students' Academic Self-Efficacy, Social Self-Efficacy, Personal Self-Efficacy, and Career Self-Efficacy Using Students Variables

Variable	Academic Self-efficacy		Personal Self-efficacy		Social Self-efficacy		Career and Talent Development Self-Efficacy	
	Beta	Change $R2$	Beta	Change $R2$	Beta	Change $R2$	Beta	Change $R2$
Step 1		0.010		0.010		0.013		0.007
Gender	-1.071**		-4.222**		1.435**		-0.354	
Grade	-1.024**		-0.094		-0.873**		-0.565**	
Step 2		0.011		0.012		0.013		0.010
Father's education	0.330*		0.382**		0.650*		0.249*	
Mother's education	0.491**		0.470**		1.091**		0.369**	
Step 3		0.329		0.249		0.335		0.283
Family relationships	0.920**		0.966**		1.852**		0.691**	
School relationships	3.769**		2.822**		6.854**		2.773**	
Step 4		0.025		0.022		0.018		0.027
Physical exercise	0.022**		0.035**		0.049**		0.031**	
Homework	-0.002		0.000		0.009		-0.002	
Revision	0.032**		0.018**		0.040**		0.024**	
Leisure reading	0.029**		0.011**		0.029**		0.012**	
Computer games	-0.018**		-0.014**		-0.029**		-0.013**	
Step 5		0.004		0.002		0.006		0.005
School extra-curricular activities	0.157**		0.098**		0.262**		0.107**	
Community extra-curricular activities	0.050		0.020		0.061		0.055	
Volunteer services	0.147*		0.098		0.368**		0.125**	

Note. $N=12299$. * $p<.05$, ** $p<.01$

DISCUSSION

In general, it is reassuring to find that students in school grades S1 to S3 in Hong Kong are reasonably confident in their own ability to apply essential life skills in the academic, personal, social and career domains. It does seem, however, that students' relatively high levels of self-efficacy in S1 tend to decline a little as they get older. As illustrated in Table 4, the younger students reported the highest degree of confidence across all life skill domains and in all subscales. This finding may reflect an increasing capacity for realistic self-appraisal as students gain more experience in life. It may also be a natural developmental feature of adolescence, where individuals begin to recognise more clearly and honestly their own strengths and weaknesses, and perhaps become a little less confident that they can 'do everything well'. Adolescence is a period when the individual's sense of personal identity is undergoing very many changes. McInerney and McInerney (2002, p.380) have remarked: "As children's notions of what constitutes effort, ability, achievement, success and failure develop over time, so also do their beliefs about their competencies".

When looking at gender differences in this study, it is important to remember that with such a large sample of students it is relatively common to find that very small differences between mean scores on particular questionnaire items or subscales prove to be statistically significant. One must not lose sight of the fact that many of the differences reported in Tables 3 and 4 (for example) *are* small, and one must guard against over zealous interpretation of data. Partington (1995) warns that for most comparisons between boys and girls on such measures there is a considerable overlap in scores, even when statistically significant differences are found. With this caution in mind, it can be seen that in this study girls appeared to be more confident than boys in applying social life skills. This is evident in their slightly higher scores in communication, respecting and accepting of others, and in boy-girl relationships. Perhaps this

15

finding is not surprising because other studies have found adolescent girls to be more perceptive of, and interested in, human relationships than are boys of the same age (e.g. Gilligan, 1982), and girls are often said to be more advanced in language and social skills (Ormrod 2003). Girls in this study were also slightly more confident about their efficacy in applying life skills in the careers domain, particularly in relation to work attitudes.

By way of contrast, boys were a little more confident than girls in applying personal life skills where they recorded slightly higher (significant) mean scores above the girls in all subscales covering self-concept, problem solving, self-management and self-reflection. If this is a genuine difference it may be a result of the upbringing of boys both in home and at school, whereby they are possibly given greater opportunity to develop autonomy, and are typically given more positive feedback about their achievements than are girls (Partington, 1995).

Although some significant differences were found between boys and girls in their relative level of confidence in applying life skills, this finding does not lead us to make any recommendation for differentiated treatment. As stressed already, the differences tended to be small, and although interesting to note, they are educationally unimportant. We agree with Partington (1995, p.181) when he concludes that, "Our examination of gender-linked differences [in their study] has uncovered no compelling evidence which indicates that teachers should treat boys and girls differently".

The findings from the regression analysis indicate that 'interpersonal relationships in school' are a significant factor contributing to the enhancement of students' confidence in applying life skills across the four domains. Of course, it is impossible to tell from this study whether the students who feel highly confident about their own ability to apply necessary life skills in the academic, personal, social and career domains develop that confidence *because* they also have

positive relationships with teachers and peers in school — or whether their efficacy in applying life skills leads them also to develop good relationships with teachers and other students. Which comes first? Or is there a *reciprocal* relationship between effective life skills and positive relationships in school? If it had been found that positive relationships in school predicted efficacy only in the social domain, the reciprocity would be easy to understand. It is less easy to interpret why positive relationships in school also predict academic self-efficacy, personal self-efficacy, and self-efficacy in making career decisions and choices. However, the implications from this finding must be that schools have a strong responsibility to do all that is possible to foster positive interpersonal relationships between teachers and students and among students themselves. Progress in this direction may well have indirect benefits in terms of students' enhanced acquisition of other life skills that are essential for personal, academic and career growth.

It is also important to investigate further the possibility that deficits in life skills in the academic and personal domains may impede the formation of positive interpersonal relationships in school. For example, there is some evidence that students with learning difficulties in the academic domain also experience problems in forming easy friendships in school and may also develop negative attitudes toward school (e.g. Hutchinson, Freeman & Bell, 2002; Kavale and Forness, 1996). There is little doubt that the development of life skills should be a very high priority for such students. It is in such areas that school counseling and guidance services or activities have a particularly important role to play.

In relation to the minor finding that students who spend longer time on computer games tend to have somewhat lower self-efficacy scores in life skills might indicate that some students are using computer games as a form of escape from less than satisfying social and academic experiences in school. Their level of activity and their personal control over events are possibly

much higher (and therefore more satisfying) when engaged in computer games than during typical academic activities in the classroom. Computer games may also provide a form of compensation for students who are lacking in social and interpersonal skills. But at the same time, solitary playing of computer games does nothing to foster a student's social development. These issues would need to be explored more fully, perhaps by observation of (and individual interviews with) students who report the highest amount of time spent on computer games.

Limitation of the Study

Any study that uses the strategy of self-reporting by students to obtain raw data is open to some criticism. When asked, 'How confident are you in applying life skills in this area?" did the students in this study simply respond in a way that would present themselves in the most positive light? Self-worth theory suggests that most individuals will act in ways to protect their own self-image (Covington, 1992) and this may have influenced students' responses in this study. However, the fact that students completed the *Life Skills Development Self-Efficacy Inventory* anonymously should have minimized any tendency toward 'self-aggrandisement' in their responses.

References

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

Covington, M. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. Cambridge, MA: Harvard University Press.

Education Commission (2002). *Learning for life, learning though life: Reform proposals for the education system in Hong Kong*. Hong Kong: The Education Commission.

Gilligan, C. (1982). *In a different voice*. Cambridge, MA: Harvard University Press.

Gysbers, N. C. (2003). Improving the life skills curriculum and the comprehensive guidance program: Concepts and strategies. In M. Yuen, P. S. Y. Lau, and associates (Eds.), *Life skills development and comprehensive guidance program: Theories and practices* (pp.22-35). Hong Kong: Life Skills Development Project, Faculty of Education, The University of Hong Kong.

Gysbers, N. C., & Hendersen, P. (2000). *Developing and managing your school guidance program*. Alexandria, VA: American Counseling Association.

Gysbers, N. C., & Hendersen, P. (2006). *Developing and managing your school guidance and counseling program*. Alexandria, VA: American Counseling Association.

Hutchinson, N. L., Freeman, J. G., & Bell, K. S. (2002). Children and adolescents with learning disabilities: Case studies of social relations in inclusive classrooms. In B. Y. L. Wong & M. Donahue (2002). *The social dimensions of learning disabilities* (pp.189-214). Mahwah, NJ: Erlbaum.

Kavale, K., & Forness, S. (1996). Social skills deficits and learning disabilities: A meta-analysis. *Journal of Learning Disabilities, 29*, 226-237.

Lapan, R. T., Gysbers, N. C., Multon, K. D., & Pike, G. R. (1997). Developing guidance competency self-efficacy scales for high school and middle school students. *Measurement and Evaluation in Counseling and Development, 30*, 4-31.

McInerney, D. M., & McInerney, V. (2002). *Educational psychology: Constructing learning* (3rd ed.). Sydney: Prentice Hall.

Ormrod, J. E. (2003). *Educational psychology: Developing learners* (4th ed.). Upper Saddle River, NJ: Merrill-Prentice Hall.

Partington, G. (1995). Human diversity and schools: Culture and gender. In F. Maltby, N. Gage & D. Berliner (Eds.), *Educational psychology: An Australian and New Zealand perspective* (pp.154-215), Brisbane: Wiley.

Tabachnick, B. G., & Fidell, L. S. (2000). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.

Yuen, M., Shea, P. M. K., Leung, T. K. M., Hui, E. K. P., Lau, P. S. K., Chan, R. M. C. (2003). Enhancing students' life skills development. In M. Yuen, P. S. Y. Lau, and associates (Eds.), *Life skills development and comprehensive guidance program: Theories and practices* (pp. 5-21). Hong Kong: Life Skills Development Project, Faculty of Education, The University of Hong Kong.

Appendix I

Student Focus Group Discussion Guide

[Note: The text below is a translation. The questions and topics were presented in written Chinese].

Life Skills

1. What are the 'life skills' that you use to make you successful and happy in school, at home, and in the community? Please elaborate with concrete examples in areas related to academic development, personal-social development, career development, talent development?

2. How have you acquired or developed these life skills at home, in school, and in the community? Please elaborate with concrete examples? In areas related to academic development, personal-social development, career development, and talent development?

3. What guidance activities do you find most useful for life skills development? What activities do you think are less useful?

4. What do the teachers do that you find useful for developing your life skills? What would you suggest teachers to do more of, to help you develop life skills necessary for success and happiness in school and at home?

5. What activities do you suggest the school should implement that would enhance your life skills development? Any additional comments or suggestions?

Social Relationship Skills

6. What guidance activities do you find most useful for enhancing your *social relations* with class-teachers, subject teachers, and peers?

7. What do teachers do that you find most useful in developing your relations with teachers and peers?

8. What would you suggest teachers should do more of to help you develop good human relations in school and at home?

9. What activities would you suggest the school should implement that would enhance your relations with class-teachers, subject teachers and peers? Any additional comments or suggestions?

Appendix II

Teacher Focus Group Discussion Guide

1. In your school, what are the positive factors contributing to the enhancement of students' self-confidence in apply life skills in the academic, social, personal and career domains?

2. In your school, what are the positive factors contributing to the enhancement of the relations between students with class-teachers, subject teachers and peers?

3. In your school, what are the positive factors contributing to the enhancement of class-teachers' perceptions of the level of implementation of program activities in the domain of guidance curriculum, individual planning, responsive services, and system support?

4. In your school, what are the positive factors contributing to the enhancement of class-teachers' perceptions of the school guidance climate in the domains of teacher support, peer support, and policy support?

5. Concluding thoughts and implications. Please comment on other important issues and observations from the data.

6. List two or three possible implications for student development, guidance and counseling in your school.

Appendix III

Summary of School Characteristics for the Whole Sample (N=87 Schools)

	Frequency	%
School Type		
1. Government	3	3.4
2. Aided	76	87.4
3. Direct Subsidies	6	6.9
4. Others	2	2.3
Medium of Instruction		
1. Chinese	63	72.4
2. English	24	27.6
Student Gender		
1. Boys	6	6.9
2. Girls	10	11.5
3. Co-educational	71	81.6

Appendix IV

Student and Family Characteristics

Students: n = 15,113	Frequency	%
Grade		
S1.	6358	42.1
S.2	4530	30.0
S.3	4075	27.0
Missing data	150	1.0
Gender		
Boys	7507	49.7
Girls	7392	48.9
Missing data	214	1.4
Immigrant status		
Born in HK	11271	74.6
Not born in HK	3634	24.0
Missing data	208	1.4
Social security		
Family receiving	1592	10.5
Family not receiving	13227	87.5
Missing data	294	1.9
Textbook allowance		
Receiving	3663	24.2
Not receiving	11116	73.6
Missing	334	2.2
Mother's educational Level		
No formal education	758	5.0
Primary	3051	20.2
Junior secondary	4337	28.7
Senior secondary	4649	30.8
Postsecondary	688	4.6
University	682	4.5
Postgraduate	108	0.7
Missing data	840	5.6
Father's educational Level		
No formal education	593	3.9
Primary	2961	19.6
Junior secondary	4499	29.8
Senior secondary	4290	28.4
Postsecondary	624	4.1
University	1048	6.9
Postgraduate	176	1.2
Missing data	922	6.1

Appendix V

The Life Skills Development Inventories (Junior Secondary Form)
(Yuen et al., 2005)

Academic Self-Efficacy Scale

Please read the following statements carefully and indicate how much confidence you have in performing these skills or behaviours. Please circle the appropriate number for each statement to describe your degree of confidence.

1 = extremely lacking in confidence, 2 = not confident, 3 = a little lacking in confidence, 4 = confident, 5 = quite confident, 6 = extremely confident

I am confident that I can......

1.SS	Apply important study skills such as note-taking, summarizing, memorizing, using reference materials.	1	2	3	4	5	6
2.TM	Design my own study timetable, and act accordingly.	1	2	3	4	5	6
3.CC	Reflect upon the possible ways of tackling school tasks, and the consequence.	1	2	3	4	5	6
4.IL	Establish harmonious working relationship with classmates.	1	2	3	4	5	6
5.SS	Ask questions actively in class.	1	2	3	4	5	6
6.TM	Know how to value, and make use of, time.	1	2	3	4	5	6
7.CC	View new information and ideas from a new angle.	1	2	3	4	5	6
8.IL	Establish good working relationship with teachers.	1	2	3	4	5	6
9.SS	Master skills for collecting information on Internet.	1	2	3	4	5	6
10.TM	Manage my study time appropriately.	1	2	3	4	5	6
11.CC	Express myself very clearly in class.	1	2	3	4	5	6
12.IL	Value the resources and facilities in the school.	1	2	3	4	5	6
13.SS	Apply effective answering techniques in exams and tests.	1	2	3	4	5	6

14.TM	Finish allocated work within the specified time.	1	2	3	4	5	6
15.CC	Differentiate subjective opinion from objective facts.	1	2	3	4	5	6
16.IL	Participate in extra-curricular activities.	1	2	3	4	5	6
17.SS	Use reading comprehension skills effectively	1	2	3	4	5	6
18.TM	Plan my approach before I start schoolwork.	1	2	3	4	5	6
19.CC	Generate a number of ways to solve problems.	1	2	3	4	5	6
20.IL	Support and obey the regulations of school and classroom.	1	2	3	4	5	6
21.SS	Write clearly and effectively to convey my meaning.	1	2	3	4	5	6
22.TM	Arrange my leisure time properly.	1	2	3	4	5	6
23.CC	Be curious about the things around me.	1	2	3	4	5	6
24.IL	Help teachers, school and classmates actively.	1	2	3	4	5	6

Subscales:

Study skills = SS (items 1, 5, 9, 13, 17, 21); Time management – TM, (items, 2, 6, 10, 14, 18, 22); Critical and creative thinking = CC (items 3, 7, 11, 15, 19, 23); Involvement in Learning = IL (items, 4, 8, 12, 16, 20, 24).

Personal Self-Efficacy Scale

Please read the following statements carefully and indicate how much confidence you have in performing these skills or behaviours. Please circle the appropriate number for each statement to describe your degree of confidence.

1 = extremely lacking in confidence, 2 = not confident, 3 = a little lacking in confidence, 4 = confident, 5 = quite confident, 6 = extremely confident

I am confident that I can......

1.PS	Recognise my own ideals in life.	1	2	3	4	5	6
2.PB	Positively search for ways to solve problems.	1	2	3	4	5	6
3.SM	Follow sound eating habits and balanced diet.	1	2	3	4	5	6
4.SR	Be clear about what is in my mind.	1	2	3	4	5	6
5.SR	Recognise my strengths.	1	2	3	4	5	6
6.PB	Stay calm when facing problems.	1	2	3	4	5	6
7.SM	Keep myself happy.	1	2	3	4	5	6
8.SR	Set myself clear goals.	1	2	3	4	5	6
9.PS	Know my own capability.	1	2	3	4	5	6
10.PB	Generate lots of ways to solve one problem.	1	2	3	4	5	6
11.SM	Maintain my weight.	1	2	3	4	5	6
12.SR	Plan the ways to achieve my goals step by step.	1	2	3	4	5	6
13.PS	Make good use of my strengths.	1	2	3	4	5	6
14.PB	Recognise the main sources of stress.	1	2	3	4	5	6
15.SM	Spend pocket money responsibly.	1	2	3	4	5	6
16.SR	Evaluate the things that I do.	1	2	3	4	5	6
17.PS	Be satisfied with myself.	1	2	3	4	5	6
18.PB	Identify the influences of stress on myself.	1	2	3	4	5	6
19.SM	Plan when to take a rest.	1	2	3	4	5	6
20.SR	Listen to and refer to the opinion of others.	1	2	3	4	5	6
21.PS	Be assured of my abilities.	1	2	3	4	5	6
22.PB	Stay optimistic when facing problems.	1	2	3	4	5	6
23.SM	Maintain exercise habit.	1	2	3	4	5	6
24.SR	Have the courage to keep evaluating myself.	1	2	3	4	5	6

Subscales:

Positive self-concept = PS (items 1, 5, 9, 13, 17, 21); Problem solving = PB (items, 2, 6,10, 14, 18, 22); Self-management = SM (items 3, 7, 11, 15, 19, 23); Self-reflection = SR (items, 4, 8, 12, 16, 20, 24).

Social Self-Efficacy Scale

Please read the following statements carefully and indicate how much confidence you have in performing these skills or behaviours. Please circle the appropriate number for each statement to describe your degree of confidence.

1 = extremely lacking in confidence, 2 = not confident, 3 = a little lacking in confidence, 4 = confident, 5 = quite confident, 6 = extremely confident

I am confident that I can......

1.CS	Express myself clearly in English.	1	2	3	4	5	6
2.RA	Respect what my classmates think.	1	2	3	4	5	6
3.FR	Be concerned about my family, and help them actively.	1	2	3	4	5	6
4.BG	Establish a friendship with the opposite sex.	1	2	3	4	5	6
5.CM	Anticipate possible conflicts among the classmates before it is too late.	1	2	3	4	5	6
6.CB	Tell the teachers if I know a classmate is being bullied.	1	2	3	4	5	6
7.LS	Lead my classmates to discuss together.	1	2	3	4	5	6
8.AD	Resist taking drugs.	1	2	3	4	5	6
9.CS	Express my feelings.	1	2	3	4	5	6
10.RA	Stand in others' shoes, and consider the feelings of my classmates.	1	2	3	4	5	6
11.FR	Communicate with my family by effective means.	1	2	3	4	5	6
12.BG	Recognize the difference between friendship and romance.	1	2	3	4	5	6
13.CM	Solve any misunderstanding among my classmates so as to avoid conflict.	1	2	3	4	5	6
14.CB	Express my feelings with courage when my classmates are being bullied.	1	2	3	4	5	6
15.LS	Be capable of organizing and planning activities.	1	2	3	4	5	6
16.AD	Resist smoking.	1	2	3	4	5	6
17.CS	Express myself in Putonghua.	1	2	3	4	5	6
18.RA	Cooperate and accomplish games with classmates.	1	2	3	4	5	6
19.FR	Manage any problem in family relationships calmly.	1	2	3	4	5	6
20.BG	Understand how to get along with the opposite sex.	1	2	3	4	5	6
21.CM	React appropriately to the circumstances when facing conflict.	1	2	3	4	5	6
22.CB	Keep calm to solve the problem if you know your classmates are being bullied.	1	2	3	4	5	6

23.LS	Call on and encourage other classmates to join activities.	1	2	3	4	5	6
24.AD	Resist overindulging in playing computer games.	1	2	3	4	5	6
25.CS	Express myself with confidence.	1	2	3	4	5	6
26.RA	Listen to classmates' opinions patiently.	1	2	3	4	5	6
27.FR	Talk freely with my family members.	1	2	3	4	5	6
28.BG	Stand in others' shoes and consider the feelings of the opposite sex.	1	2	3	4	5	6
29.CM	Maintain positive social relationship even in a conflict.	1	2	3	4	5	6
30.CB	Face a problem optimistically if I know my classmates are being bullied.	1	2	3	4	5	6
31.LS	Manage any conflicts generated when leading an activity.	1	2	3	4	5	6
32.AD	Be considerate about the influence of smoking on myself, my friends and my family.	1	2	3	4	5	6
33.CS	Express my opinions appropriately.	1	2	3	4	5	6
34.RA	Get along genuinely with my classmates	1	2	3	4	5	6
35.FR	Use appropriate ways to express my feelings to my family.	1	2	3	4	5	6
36.BG	Express my feelings and opinions to the opposite sex.	1	2	3	4	5	6
37.CM	Keep a positive attitude when facing a conflict.	1	2	3	4	5	6
38.CB	Step in to help classmates if they are bullied.	1	2	3	4	5	6
39.LS	Allocate the work appropriately to group members when leading an activity.	1	2	3	4	5	6
40.AD	Be aware of the harmful influence of drug abuse on myself, my friends and my family.	1	2	3	4	5	6
41.CS	Express myself by body language such as eye and gesture.	1	2	3	4	5	6
42.RA	Listen to classmates' feelings with patience.	1	2	3	4	5	6
43.FR	Stand in others' shoes and consider the feelings of my family.	1	2	3	4	5	6
44.BG	Listen to the feelings of the opposite sex.	1	2	3	4	5	6
45.CM	Positively search for reconciliation when in conflict with classmates.	1	2	3	4	5	6
46.CB	Have the courage to express my feelings and opinions if I am bullied by classmates.	1	2	3	4	5	6
47.LS	Help to accomplish the group goal in cooperative activities.	1	2	3	4	5	6
48.AD	Be considerate about the harmful influence on myself, my friends and my family of spending too long playing computer games.	1	2	3	4	5	6

Subscales:

Communication skills = CS (items 1, 9, 17, 25, 33, 41); Respect and accept others = RA (items, 2, 10, 18, 26, 34, 42); Family responsibility – FR (items 3, 11, 19, 27, 35, 43); Boy-girl relationship = BG (items, 4, 12, 20, 28, 36, 44); Conflict management – CM (items 5, 13, 21, 29, 37, 45); Coping with bullying = CB (items, 6, 14, 22, 30, 38, 46); Leadership skills – LS (items 7, 15, 23, 31, 39, 47); Avoiding drugs, drinking, smoking, and computer-game excesses = AD (items 8, 16, 24, 32, 40, 48),

Career and Talent Development Self-Efficacy Scale

Copyright (c) 2006 Mantak Yuen, Eadaoin K.P. Hui, Patrick S.Y. Lau, Raymond M.C. Chan, Norman C. Gysbers, Peter M.K. Shea, & Thomas K.M. Leung

Please read the following statements carefully and indicate <u>how much confidence you have</u> in performing these skills or behaviours. Please circle the appropriate number for each statement to describe <u>your degree of confidence</u>.

1 = extremely lacking in confidence, 2 = not confident, 3 = a little lacking in confidence, 4 = confident, 5 = quite confident, 6 = extremely confident

I am confident that I can......

1.TD	Explore my capabilities in academic subjects.	1	2	3	4	5	6
2.WA	Work autonomously.	1	2	3	4	5	6
3.CE	Explore my career path and goal.	1	2	3	4	5	6
4.TD	Recognise my potential strengths in extra-curricular activities.	1	2	3	4	5	6
5.WA	Have the courage to take up responsible tasks.	1	2	3	4	5	6
6.CE	Cultivate my interests according to the career I choose.	1	2	3	4	5	6
7.TD	Achieve the academic goal I set myself.	1	2	3	4	5	6
8.WA	Work systematically on allocated tasks.	1	2	3	4	5	6
9.CE	Understand the pre-requisites of different jobs.	1	2	3	4	5	6
10.TD	Choose recreational activities in which I am interested.	1	2	3	4	5	6
11.WA	Finish allocated work on time.	1	2	3	4	5	6
12.CE	Understand the relationship between subjects that I am studying and my career path.	1	2	3	4	5	6
13.TD	Actively participate in different kinds of activities and contests to enhance my experience.	1	2	3	4	5	6
14.WA	Take the initiative to help others.	1	2	3	4	5	6
15.CE	Understand the relationship between the present campus life, further study and future career.	1	2	3	4	5	6
16.TD	Achieve the goals set in extra-curricular activities.	1	2	3	4	5	6
17.WA	Allocate time appropriately for studying, playing and taking rest.	1	2	3	4	5	6
18.CE	Inform others of the job that I would like and have confidence in.	1	2	3	4	5	6

Subscales:

Talent development – TD (items 1, 4, 7, 10, 13, 16); Work attitudes – WA (items, 2, 5, 8, 11, 14, 17); Career exploration – CE (items 3, 6, 9, 12, 15, 18).

Appendix VI

Means and Standard Deviations obtained from Personal Data Forms

A. Family and School Relationships

	Mean	SD
Family Relationships	13.99	3.01
School Relationships	13.69	2.25

B. Students' Self-Reported Use of Time Spent on Various Activities

Daily activities (minutes)	Mean	SD
Physical exercises	36.05	45.28
Homework	57.00	49.94
Revising school subjects	35.87	42.70
Leisure reading	33.90	43.42
Electronic games	88.49	98.35
Weekly activities (hours)		
School extra-curricular activities	2.38	4.83
Community extra-curricular activities	1.91	4.28
Voluntary services	0.71	2.71