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Evaluation of a community-based positive youth development program based on Chinese junior school students in Hong Kong

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Abstract: This study investigated students' evaluations of a positive youth development program entitled Project P.A.T.H.S. (Positive Adolescent Training through Holistic Social program) in Hong Kong. The participants were 19,790 Secondary 1, 2 and 3 students who joined this program at the extension phase of the project. They were required to complete a subjective outcome evaluation form to indicate their perceptions of the program content, instructors, and effectiveness. Results showed that the students evaluated this program positively. Amongst the students in the three grades, Secondary 1 students evaluated the program most favorably whereas Secondary 3 students had the relatively least favorable evaluation. In addition, the program content and instructors accounted for approximately 35% of the variance in program effectiveness. The findings generally imply the successful implementation of this program in the community-based phase.

Keywords: client satisfaction approach; positive youth development; Project P.A.T.H.S.; subjective outcome evaluation.

Introduction

The attention given to youth problems such as substance use and violence on or off campus is growing (1) and

numerous studies have been done to understand such adolescent development issues (2, 3). In response to the growing adolescent problems, many prevention and intervention programs have been designed and implemented, with some of them proven to be effective (1, 4).

Shek (2) investigated and reviewed adolescent developmental problems in Hong Kong, including substance abuse, adolescent crime especially shoplifting and stealing, adolescent mental health problems such as psychosis and anxiety, unhealthy life styles such as smoking and early sexual behaviors, family problems, and the growing number of those living in poverty or unemployed. To address adolescent problems and to promote holistic development among adolescents in Hong Kong, a program entitled P.A.T.H.S. (Positive Adolescent Training through Holistic Social program) initiated and sponsored by The Hong Kong Jockey Club Charities Trust was tailored for junior secondary school students. The program was initially launched in the 2005/2006 school year and lasted for 3 years. Because of its demonstrated effectiveness, the program was funded again for another 3 years commencing in the 2009/2010 school year. In 2013, a community-based project was launched.

Unlike many other youth programs that are based on prevention of adolescent problems and focus on adolescent pathologies, Project P.A.T.H.S. is based on the perspective of positive youth development that highlights youth's talents, strength, interests, and future potentials (5–7). Fifteen positive youth development constructs constitute the content of Project P.A.T.H.S., including personal qualities such as resilience and self-determination as well as numerous capacities such as cognitive and emotional competences (8). These 15 constructs, derived from 25 successful youth development programs, were identified by Catalano et al. (9) through reviewing 77 youth development programs in North America. The project is composed of the Tier 1 and Tier 2 programs. While the Tier 1 program is designed to promote the holistic development of Secondary 1 to 3 students in Hong Kong, the Tier 2 program is tailored for around one-fifth of the secondary students who have greater psychosocial needs (10). Before implementation of the program, the program instructors,

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who were mainly secondary school teachers and school social workers, were provided with a training program aiming at facilitating instructors' understanding of adolescent development and the project as well as helping them acquire the relevant attitude, knowledge, and skills and establishing supporting network among them. The effectiveness of the training program was reported by the instructors (11).

It has been shown that better positive youth development is associated with fewer problem behaviors and higher life satisfaction (12–14). Hence, promoting positive youth development is likely to reduce adolescent developmental problems. The effectiveness of Project P.A.T.H.S. has been evaluated in different ways, including objective evaluation of adolescents' improvement in positive youth development attributes after joining this program, students' and implementers' subjective evaluation of the program involving both quantitative and qualitative methods, process evaluation, interim evaluation, and student products such as students' weekly diaries and drawings (15). All these evaluation strategies provided support for the effectiveness of Project P.A.T.H.S. (7).

As Project P.A.T.H.S. has been found to be successful in promoting adolescent development (6, 7), another phase involving community-based programs was launched in 2013. For the community-based program, a number of children and youth centers supported by non-government organizations also provided the program of Project P.A.T.H.S. along with a number of schools. Students whose schools did not implement Project P.A.T.H.S. could register by themselves to participate in the program at these centers. To replicate the previous findings and to investigate whether the community-based program was effective among the program participants, we used the subjective outcome evaluation approach (also known as client satisfaction approach) to examine students' perceptions of the program content, instructors, and effectiveness.

The client satisfaction approach is used extensively in human service settings such as education, counseling, and medicine (16–18). For example, Dominici and Palumbo (19) developed a survey to explore students' subjective satisfaction with an e-learning course and used this survey to identify the important attributes of e-learning systems that may be related to students' satisfaction. Through the client satisfaction approach, Bolliger and Halupa (16) found that students were strongly satisfied with an online health education doctoral program and identified the satisfying aspects of the online courses. Using the Genetic Counseling Satisfaction scale, DeMarco et al. (17) found that women patients were satisfied with

a cancer genetic counseling and testing program and the satisfaction did not vary as a function of socio-demographic variables.

The client satisfaction approach helps to effectively capture clients' views toward a program, based on which the quality or effectiveness of the program may be inferred. While some scholars questioned this approach as clients' subjective opinions or satisfaction may not truly reflect the effectiveness of the programs (20–22), a few studies connected subjective evaluation with objective outcome evaluation and found that these two types of evaluation findings are highly related especially in the field of education: the degree of clients' satisfaction with a program was associated with the degree of positive changes brought by the program (18, 23, 24). During the initial phase of Project P.A.T.H.S., Shek (23) investigated both students' subjective evaluations and objective outcomes and found that students' improvement of youth development qualities after joining the program (objective outcomes) was closely related to their subjective satisfaction with the program.

Based on the existing literature, we held the assumption that students' subjective evaluations of a social program can potentially reflect the effectiveness of this program to some extent. As such, the client satisfaction approach was used again in this study to examine the quality of the Tier 1 Program of Project P.A.T.H.S. This study addressed the following specific research questions:

- Were the students satisfied with the community-based Tier 1 Program of Project P.A.T.H.S.?
- Were there any grade differences in students' subjective evaluations of the program? In accordance with the previous findings (15, 25), we posited that secondary students in higher grade level would be less satisfied with the program than did their younger counterparts (Hypothesis 1).
- Did program content and instructors contribute to program effectiveness? According to the previous findings (15, 25), we predicted that program content and instructor predicted the effectiveness of the program (Hypothesis 2 and Hypothesis 3, respectively).

Methods

The participants in the program were 19,790 secondary students. Among them, 13,595 students were in Secondary 1, 2,984 students were in Secondary 2, and 2,837 students were in Secondary 3. There were totally 42 projects in the community-based project. To deliver the Tier 1 program, 400 social workers and 280 teachers were involved.

Before program implementation, a briefing was conducted for the program implementers. After the Tier 1 Program was completed, the students were invited to complete the subjective outcome evaluation form (Form A). In the administration, confidentiality and anonymity were emphasized and consent was obtained from these participants. A total of 17,589 questionnaires were returned to the research team (12,411 from Secondary 1 level, 2461 from Secondary 2 level, and 2717 from Secondary 3 level), with an overall response rate of 88.88%.

Instruments

Form A was used to assess students' subjective evaluation of the program and it has four parts. Part 1 assesses the evaluation of the program content (10 items) and instructors qualities (10 items). Participants scored on a 6-point Likert scale on this part, with 1 indicating strongly disagree and 6 indicating strongly agree with the items. Part 2 examines the evaluation of program effectiveness (16 items). A 5-point Likert scale is used for scoring on this part; 1 indicates the program is unhelpful and 6 indicates the program is very helpful. Part 3 is composed of three items which assess students' willingness to recommend this course to others, willingness to participate in similar courses, and satisfaction with this course. Students scored from 1 to 4 on the first two items, with a higher score indicating stronger willingness to recommend/participate in the similar course. Students scored from 1 to 6 on the last item, with a higher score indicating higher satisfaction. Part 4 consists of four open-ended questions on students' comments on this course, but this part was not used for analysis in the current study.

Data analyses

Descriptive statistics based on percentage data were carried out to gauge the perceptions of the program participants. For the inter-relationships among the different domains of the assessment tool, Pearson correlations were conducted. Regarding the grade differences (i.e. Hypothesis 1), several one-way ANOVAs were conducted to examine the differences in the evaluations of program content, instructors, and effectiveness among students in different secondary grade levels. Finally, multiple regression analyses were conducted to explore the prediction of program effectiveness by program content and instructors (i.e. Hypothesis 2 and Hypothesis 3). SPSS 22.0 (SPSS for Windows, Chicago, IL, USA) were used for statistical analysis.

Results

The descriptive statistical findings and internal consistency reliability of Form A are presented in Table 1. Specifically, the Cronbach's α coefficients were 0.96 for evaluations of program content, 0.97 for evaluations of program instructors, and 0.97 for evaluations of program effectiveness. The overall α value for evaluations of program content, instructors, and effectiveness altogether was 0.98. The Cronbach's α coefficients obtained in this study indicate that Part 1 and Part 2 of Form A have good internal consistency reliability. These results are comparable with those reported in the previous studies (15, 25).

Tables 2–5 show the descriptive statistics based on the percentages of participants who evaluated the program positively. As indicated in Table 2, all items were scored 4 or above, which indicate positive evaluations by over 80% of the participants; 83.4% of the participants reported that they liked this program very much (item 10). The item on “clear objectives of the curriculum” got the highest positive rating of 87.4%. “Carefully planned activities” came second (86.4% positive rating), and “much peer interaction” and “well-designed curriculum” both came third (around 85.5% positive rating).

Regarding the evaluation of the program instructors (see Table 3), about 91% of the participants indicated that they had very positive evaluation of the instructor (item 10). The items that got the highest percentage of positive ratings were “the instructors were very involved” (90.9%), “the instructors were ready to offer help to students in need” (90.5%), “the instructors prepared the lessons well” (90.4%), and “the instructors encouraged students to participate in the activities” (90.4%).

As for the evaluation of the program effectiveness (see Table 4), 88.8% of the participants indicated that the program contributed to their overall development. With regard to the specific competencies that students improved most through the program, 89.0% participants indicated that they increased the competence in making sensible and wise choices, 88.9% participants strengthened the

Table 1: Mean, standard deviations, Cronbach's α , and mean of inter-item correlations.

	S1		S2		S3		Overall	
	M (SD)	α (mean ^a)	M (SD)	α (mean ^a)	M (SD)	α (mean ^a)	M (SD)	α (mean ^a)
Program content (10 items)	4.47 (0.94)	0.96 (0.69)	4.45 (0.95)	0.96 (0.71)	4.36 (0.92)	0.96 (0.69)	4.45 (0.94)	0.96 (0.69)
Program implementers (10 items)	4.73 (0.93)	0.97 (0.75)	4.70 (0.95)	0.97 (0.78)	4.62 (0.90)	0.97 (0.76)	4.71 (0.93)	0.97 (0.76)
Program effectiveness (16 items)	3.60 (0.84)	0.97 (0.69)	3.51 (0.85)	0.98 (0.72)	3.47 (0.84)	0.97 (0.70)	3.57 (0.85)	0.97 (0.70)
Total effectiveness (36 items)	4.16 (0.78)	0.98 (0.54)	4.10 (0.73)	0.97 (0.47)	4.03 (0.74)	0.97 (0.51)	4.13 (0.77)	0.98 (0.53)

S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level. ^aMean inter-item correlations.

Table 2: Descriptive statistics of the participants' evaluations on the program content.

	Respondents with positive responses (options 4–6)							
	S1		S2		S3		Overall	
	n	%	n	%	n	%	n	%
1. The objectives of the curriculum are very clear	10774	87.3	2160	88.3	2361	87.5	15295	87.4
2. The design of the curriculum is very good	10523	85.2	2124	86.7	2293	85.1	14940	85.4
3. The activities were carefully planned	10657	86.4	2142	87.6	2302	85.3	15101	86.4
4. The classroom atmosphere was very pleasant	10324	83.7	2091	85.6	2279	84.7	14694	84.1
5. There was much peer interaction amongst the students	10537	85.6	2075	85.1	2295	85.3	14907	85.5
6. I participated actively during lessons (including discussions, sharing, games, etc.)	10423	84.5	2036	83.3	2231	82.8	14690	84.1
7. I was encouraged to do my best	10316	83.6	1991	81.6	2195	81.5	14502	83.0
8. The learning experience I encountered enhanced my interest towards the lessons	10233	83.1	2009	82.4	2190	81.3	14432	82.7
9. Overall speaking, I have very positive evaluation of the program	10325	83.7	2063	84.3	2231	82.8	14619	83.6
10. On the whole, I like this curriculum very much	10296	83.6	2042	83.6	2214	82.2	14552	83.4

All items are on a 6-point Likert scale with 1, strongly disagree; 2, disagree; 3, slightly disagree; 4, slightly agree; 5, agree; 6, strongly agree. Only respondents with positive responses (options 4–6) are shown in the Table. S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

Table 3: Descriptive statistics of the participants' evaluations on the program instructors.

	Respondents with positive responses (options 4–6)							
	S1		S2		S3		Overall	
	n	%	n	%	n	%	n	%
1. The instructor(s) had a good mastery of the curriculum	11030	89.4	2186	89.4	2415	89.5	15631	89.4
2. The instructor(s) was well prepared for the lessons	11182	90.6	2197	89.8	2424	90.0	15803	90.4
3. The instructor(s)' teaching skills were good	11057	89.7	2196	89.7	2390	88.6	15643	89.5
4. The instructor(s) showed good professional attitudes	11137	90.3	2200	89.9	2422	89.9	15759	90.2
5. The instructor(s) was very involved	11205	90.9	2226	91.0	2446	91.8	15877	90.9
6. The instructor(s) encouraged students to participate in the activities	11163	90.5	2207	90.2	2425	89.9	15795	90.4
7. The instructor(s) cared for the students	11049	89.6	2184	89.3	2354	87.4	15587	89.2
8. The instructor(s) was ready to offer help to students when needed	11179	90.7	2202	90.2	2423	90.0	15804	90.5
9. The instructor(s) had much interaction with the students	10947	88.7	2161	88.3	2351	87.3	15459	88.4
10. Overall speaking, I have very positive evaluation of the instructors	11248	91.1	2206	90.3	2436	90.4	15890	90.9

All items are on a 6-point Likert scale with 1, strongly disagree; 2, disagree; 3, slightly disagree; 4, slightly agree; 5, agree; 6, strongly agree. Only respondents with positive responses (options 4–6) are shown in the Table. S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

ability to distinguish between good and bad, and 88.4% participants raised the ability to resist harmful influences.

Table 5 shows the participants' positive views toward the program. Specifically, 82.8% of the participants indicated that they would recommend this program to their peers, 71.6% participants showed their willingness to join the similar program again, and 88.1% participants indicated their overall satisfaction with this program.

Bivariate correlation analyses were conducted to investigate the relationships among the evaluations of program content, instructors, and effectiveness. As can

been seen in Table 6, the evaluations of the three subscales were strongly correlated with one another ($r=0.73$, 0.57 , and 0.52 , respectively, between program content and instructors, content and effectiveness, and instructors and effectiveness).

One-way ANOVAs were conducted with the evaluation on program content, instructors, and effectiveness as dependent variables and grades as the independent variable. Results revealed that students in different grade levels evaluated the program content, instructors, and effectiveness differently. Post hoc comparison using t-tests

Table 4: Descriptive statistics of the participants' evaluations on the program effectiveness.

The extent to which the course (i.e. the program that all students have joined) has helped you	Respondents with positive responses (options 3–5)							
	S1		S2		S3		Overall	
	n	%	n	%	n	%	n	%
1. It has strengthened my bonding with teachers, classmates and my family	10461	84.9	2042	83.9	2212	82.6	14715	84.4
2. It has strengthened my resilience in adverse conditions	10721	86.9	2081	85.6	2252	84.2	15054	86.3
3. It has enhanced my social competence	10914	88.6	2098	86.3	2293	86.0	15305	87.9
4. It has improved my ability in handling and expressing my emotions	10765	87.5	2093	86.2	2264	84.9	15122	86.9
5. It has enhanced my cognitive competence	10811	87.7	2094	86.1	2294	86.1	15199	87.3
6. My ability to resist harmful influences has been improved	10948	88.9	2132	87.8	2296	86.5	15376	88.4
7. It has strengthened my ability to distinguish between the good and the bad	11012	89.4	2134	87.8	2325	87.5	15471	88.9
8. It has increased my competence in making sensible and wise choices	11025	89.5	2145	88.2	2321	87.3	15491	89.0
9. It has helped me to have life reflections	10742	87.2	2085	85.7	2272	85.4	15099	86.7
10. It has reinforced my self-confidence	10622	86.3	2059	84.6	2276	85.2	14957	85.9
11. It has increased my self-awareness	10778	87.5	2089	86.1	2303	86.6	15170	87.2
12. It has helped me to face the future with a positive attitude	10882	88.4	2106	86.6	2297	86.4	15285	87.8
13. It has helped me to cultivate compassion and care about others	10867	88.2	2110	86.8	2286	85.8	15263	87.7
14. It has encouraged me to care about the community	10689	86.9	2066	85.0	2272	85.3	15036	86.4
15. It has promoted my sense of responsibility in serving the society	10795	87.6	2085	85.9	2295	86.1	15175	87.1
16. It has enriched my overall development	10999	89.3	2155	88.9	2304	86.6	15458	88.8

All items are on a 5-point Likert scale with 1, unhelpful; 2, not very helpful; 3, slightly helpful; 4, helpful; 5, very helpful. Only respondents with positive responses (options 3–5) are shown in the Table. S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

with a Bonferroni correction indicated that evaluation of total effectiveness (including the three factors regarding program content, instructors, and effectiveness) of Secondary 1 students was the highest, whereas that of Secondary 3 students was lowest. Specifically, Secondary 1 and 2 students did not evaluate the program content and instructors differently, but they evaluated these aspects higher than did Secondary 3 students. Although no difference was found in the program effectiveness evaluated by Secondary 2 and 3 students, Secondary 1 students evaluated the program effectiveness higher than did Secondary 2 and 3 students. The findings are presented in Table 7. Generally speaking, Hypothesis 1 was supported.

Multiple regression analyses were performed with perceived program effectiveness scores as the dependent variable and program content and instructor scores as the independent variables. As shown in Table 8, among the students in all the three grade levels, program effectiveness scores were contributed positively by program content scores (Secondary 1: $\beta=0.45$, $p<0.001$; Secondary 2: $\beta=0.28$, $p<0.001$; Secondary 3: $\beta=0.33$, $p<0.001$; all: $\beta=0.37$, $p<0.001$) and program instructor scores (Secondary 1: $\beta=0.22$, $p<0.001$; Secondary 2: $\beta=0.14$, $p<0.001$; Secondary 3: $\beta=0.25$, $p<0.001$; all: $\beta=0.20$, $p<0.001$). Program content and instructors accounted for around 35% of the variance in program effectiveness scores in all students, and they accounted for approximately 40%, 18%, and

32% of the variance in program effectiveness scores in Secondary 1, 2, and 3 students, respectively.

Discussion

Using the client satisfaction approach, this study explored students' evaluation of the Tier 1 Program of Project P.A.T.H.S. in its extension phase. The findings indicate that students were highly satisfied with this program: the satisfaction rates on every dimension of the program content, instructors, and effectiveness were over 80%. This suggests that the program content was well designed and clearly delivered to students, the instructor implemented the program well, and the program was potentially effective in promoting the positive development qualities among the students. The satisfaction findings also suggest that the majority of participants would like to recommend this course to their friends and attend similar courses again in the near future. These findings are generally consistent with those reported in the school-based programs in the initial phase and extension phase of the project (15, 25).

In addition, among the three subscales of program content, instructors, and effectiveness, participants indicated their highest satisfaction with the program instructor. As can be seen, the percentage of the participants who

Table 5: Other aspects of subjective outcome evaluation based on the participants' perception.

If your friends have needs and conditions similar to yours, will you suggest him/her to join this course?

Respondents with positive responses (options 3–4)							
S1		S2		S3		Overall	
n	%	n	%	n	%	n	%
10228	83.4	2009	82.9	2127	79.9	14364	82.8

The item is on a 4-point Likert scale with 1, definitely will not suggest; 2, will not suggest; 3, will suggest; 4, definitely will suggest. Only respondents with positive responses (options 3–4) are shown in the Table. S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

Will you participate in similar courses again in the future?

Respondents with positive responses (options 3–4)							
S1		S2		S3		Overall	
n	%	n	%	n	%	n	%
8915	72.6	1716	70.7	1819	68.2	12450	71.6

The item is on a 4-point Likert scale with 1, definitely will not participate; 2, will not participate; 3, will participate; 4, definitely will participate. Only respondents with positive responses (options 3–4) are shown in the Table. S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

On the whole, are you satisfied with this course?

Respondents with positive responses (options 4–6)							
S1		S2		S3		Overall	
n	%	n	%	n	%	n	%
10851	88.7	2141	88.3	2244	84.8	15236	88.1

All items are on a 6-point Likert scale with 1, very dissatisfied; 2, moderately dissatisfied; 3, slightly dissatisfied; 4, satisfied; 5, moderately satisfied; 6, very satisfied. Only respondents with positive responses (options 4–6) are shown in the Table. S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

were satisfied with the instructors reached 90%, and each dimension on the instructor scale reached above 88% satisfaction rate; the figures were higher than those on the program content and effectiveness scales, further implying that the training for the program instructors was successful. As has explained earlier, the training program aimed at advancing instructors' comprehension of adolescent developmental issues and Project P.A.T.H.S. as well as helping instructors learn the pertinent attitude, knowledge, and skills so that they would better deliver the program to adolescents. After the training program,

Table 6: Pearson correlations among program content, instructors, and effectiveness.

Variable	1	2	3
1. Program content (10 items)	–		
2. Program instructors (10 items)	0.73 ^a	–	
3. Program effectiveness (16 items)	0.57 ^a	0.52 ^a	–

^ap<0.001.

Table 7: One-way ANOVA comparing the evaluations on the program of participants in different grade levels.

	Sum of squares	df	Mean square	F
Program content				
Between groups	26.52	2	13.42	15.20 ^a
Within groups	15173.96	17191	0.88	
Total	15200.49	17193		
Program instructors				
Between groups	27.86	2	13.93	16.09 ^a
Within groups	14961.15	17283	0.87	
Total	14989.01	17285		
Program effectiveness				
Between groups	45.52	2	22.76	31.85 ^a
Within groups	12158.35	17013	0.72	
Total	12203.87	17015		
Total effectiveness				
Between groups	34.23	2	17.11	29.16 ^a
Within groups	9683.79	16500	0.59	
Total	9718.02	16502		

^ap<0.001.

Post hoc tests (multiple comparisons)

Dependent variable	(I) Grade	(J) Grade	Mean difference (I–J)	Std. error
Program content	S1	S2	0.01	0.02
	S1	S3	0.11 ^b	0.02
	S2	S3	0.10 ^b	0.03
Program instructors	S1	S2	0.03	0.02
	S1	S3	0.11 ^b	0.02
	S2	S3	0.08 ^a	0.03
Program effectiveness	S1	S2	0.09 ^b	0.02
	S1	S3	0.13 ^b	0.02
	S2	S3	0.04	0.02
Total effectiveness	S1	S2	0.05 ^a	0.02
	S1	S3	0.13 ^b	0.02
	S2	S3	0.07 ^a	0.02

S1, Secondary 1 level; S2, Secondary 2 level; S3, Secondary 3 level.

^ap<0.001. ^bp<0.01.

the instructors provided their evaluations, which showed that the training program achieved the purposes and the instructors also showed increase in their self-reflection,

Table 8: Multiple regression analyses predicting program effectiveness by program content and instructors.

	Predictors		Model	
	Program content	Program instructors	R	R ²
	β^a	β^a		
S1	0.45 ^b	0.22 ^b	0.63	0.40
S2	0.28 ^b	0.14 ^b	0.43	0.18
S3	0.33 ^b	0.25 ^b	0.57	0.32
Overall	0.37 ^b	0.20 ^b	0.59	0.35

^aStandardized coefficients. ^b $p < 0.001$.

confidence and self-efficacy in implementing the program (11). The findings of this study somewhat echo the effectiveness of the training program and the authenticity of instructors' evaluation. A few researchers contended that a preparatory training program is significant to the success of an adolescent development program, as it may improve instructors' integrity, confidence, and ability in implementing the program for their students (26, 27). It is even argued that the effectiveness and positive evaluation of Project P.A.T.H.S. is partially attributed to the training program for instructors, which largely improving the instructors' capability of implementing Project P.A.T.H.S. (11). Given the effectiveness and importance of the training program, we suggest that similar training programs for instructors should be provided for adolescent development projects.

Consistent with the previous findings, the present study also showed that there were grade differences in the subjective outcome evaluation findings. The ANOVA results showed that Secondary 1 students evaluated the program most positively, whereas Secondary 3 students' evaluations were least positive, hence giving support to Hypothesis 1. Specifically, Secondary 1 and 2 students evaluated the program content and instructors more positively than did their Secondary 3 counterparts; Secondary 1 students also evaluated the program effectiveness more positively than Secondary 2 and 3 students. Shek and Law (25) proposed three possible explanations for this observation. First, the program for the Secondary 1 students provides comparatively more opportunities for experiential learning which results in the relatively more favorable perception among the Secondary 1 students. Second, as the program is helpful for Secondary 1 and 2 students to adapt to their early secondary school life, this may contribute to the observed grade effect. Third, the higher grade students were typically at their rebellious age and they were more critical and skeptical

about the youth development constructs delivered in the program. In addition, we also point out that the program content might be more novel to Secondary 1 students and they were therefore more likely to regard the program as important. As older Secondary 2 and 3 students had more life experiences, it was more likely that they had already heard about these youth development constructs. However, it is noteworthy that although there were grade differences, all the students generally evaluated the program positively.

Regarding the inter-relationships amongst the different domains of the scale, the findings indicate that the program content and instructors were associated with program effectiveness. The correlation coefficients showed that program effectiveness were highly related to both program content and instructors. These findings are generally consistent with the findings in previous studies (15, 25).

Concerning the prediction of perceived program effectiveness by program content and instructors, multiple regression analyses showed that these two predictors significantly predicted perceived program effectiveness. These findings give support to Hypothesis 2 and Hypothesis 3. In addition, results also indicated that the predictive power of program content and instructors for program effectiveness was highest among Secondary 1 students but lowest among Secondary 2 students. However, such a tendency was not shown in two earlier studies that suggested comparable predictions among all the three grade levels of students (15, 25). Also, the prediction of program effectiveness by program content and instructors was moderate in this study, whereas that in the two previous studies were substantial (above 65%) (15, 25). Therefore, follow-up studies are necessary to explore whether other factors may contribute to program effectiveness. Qualitative studies can also help to explain the reasons for grade differences in the degree to which program effectiveness was predicted by program content and instructors found in this study.

In conclusion, this study shows that students were satisfied with the program in all the three aspects of program content, instructors, and effectiveness. This study indicates that the Tier 1 program was implemented successfully, and the course content, design, and implementation of this program can be adopted for different adolescent populations. Besides, secondary students in lower grade level tended to be more satisfied with the program than did their older counterparts in higher grade level (Hypothesis 1), although the levels of satisfaction were high in all three grades. Furthermore, both program content and instructors were identified as predictors of

perceived benefits of the program. These findings are consistent with earlier findings on student subjective evaluation of the Tier 1 program of Project P.A.T.H.S. (15, 25). Practically speaking, the present findings suggest that the Tier 1 Program conducted in the community-based program context was equally successful as compared to the school-based program context. Although schools were still engaged in the community-based program, school involvement was more flexible and other students could join the programs in the integrated children and youth centers.

However, this study also has several limitations. First, it only assessed students' subjective evaluations of the program. Although this approach is commonly used, it is possible that students' perceptions may not precisely reflect the real situation. To address this limitation, future studies using objective outcome evaluation are needed to show the real life effectiveness of this program and also to indicate the validity of students' subjective evaluations shown in this study. Second, this study only explored the program content and instructors as predictors of program effectiveness. Although they are demonstrated to be strong predictors, more than half of the variance in program effectiveness could not be accounted for by these two factors. Especially among Secondary 2 students, the two factors only contributed to program effectiveness to a moderate extent. Therefore, future studies are necessary to explore the other factors that affect the effectiveness of this program. Third, while this study showed grade differences in the evaluation of this program and the prediction of program effectiveness by the program content and instructors, it did not provide explanations for grade differences. Therefore, future studies should include qualitative data to elicit rich and in-depth data that can cogently explain grade differences in the evaluation found in this study. Fourth, this study did not indicate the long-term effectiveness of this program. Hence, future studies are needed to investigate students' positive changes some time later after the completion of the program. Finally, although previous studies have demonstrated the psychometric properties of the Form A (28), further analyses should be carried out to investigate the dimensionality of Form A. This would be exciting in view of the large sample size of the study.

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References

1. Guerra NG, Williams KR. Implementation of school-based wellness centers. *Psychol Schools* 2003;40:473–87.
2. Shek DTL. Adolescent developmental issues in Hong Kong: relevance to positive youth development programs in Hong Kong. *Int J Adolesc Med Health* 2006;18:341–54.
3. Steinberg L, Morris AS. Adolescent development. *Ann Rev Psychol* 2001;52:83–110.
4. Wright PM, Li W, Okunbor E, Mims C. Assessing a novel application of web-based technology to support implementation of school wellness policies and prevent obesity. *Educ Info Technol* 2012;17:95–108.
5. Damon W. What is positive youth development? *Ann Am Acad of Polit Soc Sci* 2004;591:13–24.
6. Shek DTL, Sun RCF. Development of a positive youth development program in Hong Kong. In: Shek DTL, Sun RCF, editors. *Development and evaluation of positive adolescent training through holistic social programs (PATHS)*. Singapore: Springer, 2013:29–52.
7. Shek DTL, Sun RCF. The Project P.A.T.H.S. in Hong Kong: development, training, implementation, and evaluation. *J Pediatr Adolesc Gynecol* 2013;26:S2–9.
8. Shek DTL, Ma HK, Sun RCF. Development of a new curriculum in a positive youth development program: the project P.A.T.H.S. in Hong Kong. *ScientificWorldJ* 2011;11:2207–18.
9. Catalano RF, Berglund ML, Ryan JAM, Lonczak HS, Hawkins JD. Positive youth development in the United States: research findings on evaluations of positive youth development programs. 2002. Available at: [http:// aspe.hhs.gov/hsp/PositiveYouth-Dev99/](http://aspe.hhs.gov/hsp/PositiveYouth-Dev99/).
10. Shek DTL, Lee TY. Helping adolescents with greater psychosocial needs: subjective outcome evaluation based on different cohorts. *ScientificWorldJ* 2012;2012:694018.
11. Shek DTL. Qualitative evaluation of the training program of the project P.A.T.H.S. in Hong Kong. *Int J Adolesc Med Health* 2010;22:425–35.
12. Sun RCF, Shek DTL. Life satisfaction, positive youth development and problem behaviour among Chinese adolescents in Hong Kong. *Soc Indic Res* 2010;95:455–74.
13. Sun RCF, Shek DTL. Positive youth development, life satisfaction and problem behaviour among Chinese adolescents in Hong Kong: a replication. *Soc Indic Res* 2012;105:541–59.
14. Sun RCF, Shek DTL. Longitudinal influences of positive youth development and life satisfaction on problem behaviour among adolescents in Hong Kong. *Soc Indic Res* 2013;114:1171–97.
15. Shek DTL, Sun RCF. Participants' evaluation of the Project P.A.T.H.S.: are findings based on different datasets consistent. *ScientificWorldJ* 2012;2012:187450.
16. Bolliger DU, Halupa C. Student perceptions of satisfaction and anxiety in an online doctoral program. *Distance Educ* 2012;33:81–98.
17. DeMarco TA, Peshkin BN, Mars BD, Tercyak KP. Patient satisfaction with cancer genetic counseling: a psychometric analysis of the Genetic Counseling Satisfaction Scale. *J Genet Couns* 2004;13:293–304.
18. Richardson M, Katsakou C, Priebe S. Association of treatment satisfaction and psychopathological sub-syndromes among

- involuntary patients with psychotic disorders. *Soc Psychiatry Psychiatr Epidemiol* 2011;46:695–702.
19. Dominici G, Palumbo F. How to build an e-learning product: factors for student/customer satisfaction. *Bus Horizons* 2013;56:87–96.
 20. O'Neal PD. Methodological problems associated with measuring consumer satisfaction in mental health field. *Aust Soc Work* 1999;52:9–15.
 21. Walsh T, Lord B. Client satisfaction and empowerment through social work intervention. *Soc Work Health Care* 2004;38:37–56.
 22. Weinbach RW. *Evaluating social work services and programs*. Boston, MA: Allyn Bacon, 2005.
 23. Shek DTL. Subjective outcome and objective outcome evaluation findings: insights from a Chinese context. *Res Soc Work Prac* 2010;20:293–301.
 24. Trotter C. What does client satisfaction tell us about effectiveness? *Child Abuse Rev* 2008;17:262–74.
 25. Shek DTL, Law MYM. Evaluation of the Project P.A.T.H.S. based on the client satisfaction approach: view of the Students. *J Pediatr Adolesc Gynecol* 2014;27:S2–9.
 26. Perry CL, Murray DM, Griffin G. Evaluating the statewide dissemination of smoking prevention curricula: factors in teacher compliance. *J School Health* 1990;60:501–4.
 27. Ross JG, Luepker RV, Nelson GD, Saavedra P, Hubbard BM. Teenage health teaching modules: impact of teacher training on implementation and student outcomes. *J School Health* 1991;61:31–4.
 28. Shek DTL, Ma CMS. Validation of a subjective outcome evaluation tool for participants in a positive youth development program in Hong Kong. *J Pediatr Adolesc Gynecol* 2014;27:S43–9.