

Subjective outcome evaluation of a positive youth development program targeting students with greater psychosocial needs

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Abstract

The Tier 2 Program of Project PATHS (Positive Adolescent Training through Holistic Social Programs) targets adolescents with greater psychosocial needs. The present study investigated participants' subjective evaluation of the Tier 2 Program based on a sample of 34,081 participants in the 2008–2009 school year. Results showed that participants held positive views toward the program and program instructors, and perceived the program as helpful to the development of students. Regarding correlates of subjective outcome findings, programs that adopted the approach of volunteer training were perceived to be more positive than the other three types of programs in terms of participants' subjective outcome evaluation; participants in higher grades rated the program more favorably and perceived the program as more effective than did participants from lower grades. These findings provide further support for the effectiveness of the Tier 2 Program for adolescents with special psychosocial needs.

Keywords: Chinese adolescents; positive youth development; Project PATHS; subjective outcome evaluation.

Introduction

In recent decades, there has been a heightened awareness of the impact of ecological factors at different levels on adolescent

development. In different ecological models of development, various risk and protective factors influencing adolescent psychological health have been proposed (1). Researchers have revealed that exposure to risk factors such as violence and poverty in childhood leads to maladjustments in the academic, personal, and interpersonal domains (2–4). On the other hand, exposure to multiple protective factors, such as peer support and warm family environment, promotes positive development of adolescents (5, 6). As a result, different youth programs targeting both risk and protective factors have been designed and implemented to promote adolescents' positive development (7–10). However, while numerous positive youth development programs have been implemented in Western contexts, particularly North America, there are very few studies of this kind conducted in different Chinese contexts (11–13). With specific reference to Hong Kong, there are several school-based intervention programs that were designed and implemented to promote adolescents' mental health and positive development, such as Understanding the Adolescent Project (UAP) and Emotional Intelligence Enhancement Project (SPREE) (14). Nonetheless, most of the programs were implemented on a relatively small scale (15). More importantly, systematic evaluation of such programs is lacking, which puts the effectiveness of the programs in question.

Against this background, Shek and colleagues developed a large-scale program entitled: Project "PATHS to Adulthood: A Jockey Club Youth Enhancement Scheme" to promote adolescent positive development in Hong Kong. The word "PATHS" denotes Positive Adolescent Training through Holistic Social Programmes. This project was designed for junior secondary school students, i.e., Secondary 1–3 (or Grades 7–9) students in Hong Kong (16), and included two tiers of programs. The Tier 1 Program adopts a universal prevention strategy targeting all students joining the program regardless of their risk status. Through the use of a structured curriculum-based approach, students learn competencies with reference to 15 positive youth development constructs (17): (a) promotion of bonding, (b) cultivation of resilience, (c) promotion of social competence, (d), promotion of emotional competence, (e) promotion of cognitive competence, (f) promotion of behavioral competence, (g) promotion of moral competence, (h) cultivation of self-determination, (i) promotion of spirituality, (j) development of self-efficacy, (k) development of clear and positive identity, (l) promotion of beliefs in the future, (m) provision of recognition for positive behavior, (n) providing opportunities for prosocial involvement, and (o) fostering prosocial norms.

On the other hand, taking a selective prevention approach, the Tier 2 Program was specifically designed for students with

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Received October 10, 2010; accepted December 11, 2010

greater psychosocial needs in different psychosocial domains. Students in the Tier 1 Program who are identified by teachers or parents as having greater psychological needs are invited to participate in the Tier 2 Program. In view of the diverse needs of the students and to create more flexibility for the workers, nongovernmental organizations (NGOs) which assist with the overall coordination and implementation of the project have the choice of designing appropriate programs that target the needs of the students based on the positive youth development constructs, goals, and objectives proposed in this project. Several commonly-used prototypes of the Tier 2 Program include: (a) mentorship programs involving alumni of the schools, (b) mental health promotion programs, (c) adventure-based counseling, (d) parenting programs, (e) service learning programs, and (f) resilience enhancement programs (18). Generally speaking, about $\frac{1}{5}$ of the adolescents and/or their parents of the Tier 1 participants participate in the Tier 2 Program.

One important characteristic of the Project PATHS is its incorporation of a thorough evaluative component which allows researchers and practitioners to investigate the effectiveness of the program in a systematic manner. Various evaluation strategies used to evaluate the project include objective outcome evaluation, subjective outcome evaluation, process evaluation, interim evaluation, and qualitative evaluation such as group interviews, student diaries, case studies, and repertory grid tests (19–22). Existing evaluation studies of the Project PATHS have generally showed that both program participants and implementers held positive views about the program and perceived the program as beneficial to adolescent development (19, 23). Based on a longitudinally designed randomized group trial, researchers reported that compared with the control participants, the experimental participants showed better positive youth development indexed by different indicators (24) and exhibited lower levels of risk behaviors (25, 26).

Regarding the current evaluative studies on the Project PATHS, there are several observations. First, existing studies mainly focus on the evaluation of the Tier 1 Program, while there are relatively fewer evaluation studies of the Tier 2 Program. As mentioned, the Tier 1 Program employs a universal prevention strategy that targets all students joining the program, whereas the Tier 2 Program adopts a selective prevention strategy which targets adolescents with greater psychosocial needs. Therefore, it is important to understand the effectiveness of the Tier 2 Program on participants with greater psychosocial needs. Second, compared to objective outcome evaluation, less attention has been paid to subjective outcome evaluation in the broad field of program evaluation. There are several strengths of subjective outcome evaluation. First, it can be argued that program participants as the primary consumer of a treatment or program are in the best position to evaluate its worth (27). Second, subjective evaluation gives a comprehensive view of the findings (28), which allows researchers and practitioners to have a full understanding of the outcome. Third, subjective outcomes are correlated with and even predictive of the objective outcomes, as suggested in Shek's report (19). In the present context, due to

the flexibility of the design of the Tier 2 program, different programs with different target outcomes are designed and implemented, which makes it difficult to conduct objective outcome evaluations across schools. Therefore, using subjective outcome evaluation may be a good way to help researchers examine the implementation and outcomes of the Tier 2 Program. Against the above background, the purpose of the present study was to describe the perceptions of the participants of the Tier 2 Program in the 2008–2009 school year.

The present study attempted to compare the views of participants across different programs. Four major approaches used in all Tier 2 programs were identified in the previous studies. These include: (a) Type A: an approach that combines adventure-based counseling (ABC) and volunteer training and service (VTS); (b) Type B: adventure-based counseling (ABC) only; (c) Type C: volunteer training and service (VTS) only; (d) Type D: other approaches without elements of ABC or VTS (29). It is expected that by comparing participants' ratings of different type of programs, a participant-preferred approach can be identified, which would contribute to future program development and improvement.

As noted, the Project PATHS was designed for Secondary 1 through Secondary 3 students. It is known that students in different grades have different developmental needs and psychosocial characteristics. For example, Shek and colleagues (30) reported that due to the increased academic workload and social expectations, Secondary 3 students showed poorer mental health and adaptation skills relative to Secondary 1 and Secondary 2 students. Advanced cognitive development, prominently doubt on self-identity and conflicts in social circles, may also increase more pressure in older students. For example, in another study, adolescents' perceived problems in family function were shown to increase with age (31). Given these age-related characteristics of students, it would be meaningful to examine whether participants in different grades would have different views toward the program. Thus, the third purpose of this study was to investigate whether and how students in Secondary 1, Secondary 2, and Secondary 3 would perceive the Tier 2 Program in different ways.

To sum up, the present study attempted to (a) examine the subjective evaluation of the program based on a large sample of Secondary 1 through Secondary 3 students who were identified as adolescents with greater psychosocial needs; (b) to compare the perceptions of the Tier 2 Program across program approach; and (c) to investigate whether Secondary 1, Secondary 2, and Secondary 3 students may have different perceptions of the Tier 2 Program.

Methods

Participants and procedures

A total of 216 schools participated, including 197 schools in the Secondary 1 program, 198 schools in the Secondary 2 program, and 167 schools in the Secondary 3 program of the project, with 44,095 participants (16,452 Secondary 1 participants, 14,612 Secondary 2 participants, and 13,031 Secondary 3 participants). Among these participants, 39,636 were student participants, and 4459 were parents and teachers.

The mean number of students per school was 165.52 (ranged from 5 to 263 students), with an average of 4.62 classes per school (ranged from 1 to 8 classes). Among them, 43.42% of the respondent schools adopted the full program (i.e., 20-hour program involving 40 units) and 56.58% adopted the core program (i.e., 10-hour program involving 20 units). The mean number of sessions used to implement the program was 23.14 (ranged from 4 to 66 sessions). While 50.18% of the respondent schools incorporated the program into the formal curriculum (i.e., Liberal Studies, Life Education), 49.82% used other modes (i.e., using form teacher's periods and other combinations) to implement the program. The mean numbers of social workers and teachers implementing the program per school per form were 1.73 and 5.60, respectively.

The participants were invited to respond to the Subjective Outcome Evaluation Form (Form C), developed by the Research Team, immediately after completion of the Tier 2 Program. A total of 34,081 participants (mean=60.64 participants per school) responded to Form C and the overall response rate to the number of participants was 77.34%.

At the beginning of data collection, the purposes of the evaluation were explained, and the principle of confidentiality was repeatedly emphasized to the participants. The participants were asked to indicate their wish if they did not want to respond to the evaluation questionnaire (i.e., "passive" informed consent was obtained). All participants responded to all scales in the evaluation form in a self-administration format. Adequate time was provided for the participants to complete the questionnaire. To facilitate the program evaluation, the Research Team developed an evaluation manual with standardized instructions for collecting the subjective outcome evaluation data. In addition, adequate training was provided to the social workers during a 20-hour training workshops on how to collect and analyze the data using Form C.

Instruments

The Subjective Outcome Evaluation Form (Form C) designed by Daniel Shek and Andrew Siu (32) aims to measure the perceptions of participants toward Tier 2 Program. There are seven parts to this evaluation form:

- Participants' perceptions of the program, such as program design, quality of service, appropriateness of the program, and interaction among the participants (8 items).
- Participants' perceptions of the workers, such as the preparation of the workers, professional attitude and knowledge, and interaction with the participants (8 items).
- Participants' perception of the effectiveness of the program, such as promotion of different psychosocial competencies, resilience, and overall personal development (8 items).
- Things that the participants appreciated most (open-ended question).
- Opinion about the workers (open-ended question).
- Things that the participants learnt from the program (open-ended question).
- Areas that require improvement (open-ended question).

The present study focused on data from the first three measures, including participants' views on the program, views on the program instructors, and perceived effectiveness of the program. After collecting the data, the social work service providers were requested to input the data in an EXCEL file developed by the Research Team which would automatically compute the frequencies and percentages associated with the different ratings for an item. When the service providers submitted the reports, they were also requested to submit the softcopy of the consolidated data sheets. Psychometric properties of the three measures on the present sample are reported in Table 1.

Data analysis

First, descriptive statistics were employed to examine the perceptions of the program participants. Second, a multivariate analysis of variance (MANOVA) was performed to examine the effects of program approach and grade. Dependent variables were participants' scale scores on the three outcome evaluation measures, and predictor variables included program type and participant grade.

Results

Descriptive profile of Tier 2 Program implementation

The characteristics of the Tier 2 Programs implemented in the 2008–2009 academic year are summarized in Table 2, including information about participant number, program attendance, number of program aims and constructs, as well as the mean overall effectiveness. Among the four program approaches, Type A (ABC plus VTS) was the most widely employed approach, used in 446 out of 562 programs. This was followed by Type B (ABC only), adopted by 75 grades, and then Type C (VTS only) and D (approaches other than ABC or VTS). A total of 201 programs involved only students, 180 involved both students and parents, 86 involved both students and teachers, and 93 involved students, parents, and teachers. The average number of participants for different program types across different clientele ranged from 40.00 to 145.75, with the average program attendance ranged from 80.44% to 95.00%. The mean overall effectiveness of all Tier 2 Programs ranged from 4.29 to 5.02 on a 6-point Likert scale towards the positive side.

To depict participants' views toward the program, numbers and percentages of participants who reported positive ratings (rating of 4 or above on a 6-point scale) on items of the three outcome evaluation measures are summarized in Table 3. As can be seen in the table, excluding participants who did not respond to the items, 99.8% of the respondents had positive

Table 1 Psychometric properties of the subjective outcome evaluation measures.

	Cronbach's α	Mean inter-item correlation	Inter-scale correlation	
			Views about the instructor	Perceived program effectiveness
Views about the program	0.99	0.91	0.94	0.92
Views about the instructor	0.99	0.93	–	0.90
Perceived program effectiveness	0.99	0.92	–	–

Table 2 Summary of the characteristics and effectiveness of Tier 2 Program in 2008–2009 school year.

Main program approach	Clientele	Average no. of participants	Average program attendance (%)	Average no. of program aims indicated in the reports	Average no. of constructs indicated in the reports	Mean of overall effectiveness
Adventure based counseling approach and volunteer training and services (Type A) (n=446)	a (n=160)	45.26	81.9408	2.22	5.79	4.6744
	b (n=146)	101.16	80.4392	2.44	8.72	4.4874
	c (n=71)	77.25	88.1500	2.88	10.13	4.4068
	d (n=69)	127.38	88.5500	1.87	8.88	4.2860
Adventure based counseling approach only (Type B) (n=75)	a (n=25)	50.68	81.6718	2.07	6.73	4.6464
	b (n=23)	61.04	84.5791	2.83	6.17	4.6706
	c (n=10)	104.22	94.7144	2.78	5.67	4.4406
	d (n=17)	145.75	88.6900	2.50	7.00	4.5218
Volunteer training and services only (Type C) (n=27)	a (n=8)	53.99	81.0563	2.15	7.24	4.6884
	b (n=9)	90.90	80.5760	2.20	6.20	4.4200
	c (n=4)	94.75	94.9975	3.25	5.00	4.6611
	d (n=6)	40.00	86.8300	1.00	12.00	4.7596
Other approaches (Type D) (n=14)	a (n=8)	65.01	84.7191	2.01	5.93	4.6227
	b (n=4)	110.71	80.6135	2.29	4.82	4.3930
	c (n=1)	127.33	91.3550	2.17	6.67	4.3447
	d (n=1)	55.00	93.0000	1.00	5.00	5.0241

a, Only students involved; b, students and parents involved; c, students and teachers involved; d, students, parents and teachers involved.

Table 3 Participants' positive ratings on the three outcome evaluation measures.

	n (positive view) ^a	%	n (negative view) ^a	%	n (total responses)
Participants' view on the program					
1. The activities were carefully planned.	31,308	99.8	75	0.2	31,383
2. The quality of the service was high.	31,360	99.6	113	0.4	31,473
3. The service provided could meet the participants' needs.	31,528	99.6	113	0.4	31,641
4. The service delivered could achieve the planned objectives.	31,877	99.8	75	0.2	31,952
5. Participants could get the service they wanted.	30,963	99.3	221	0.7	31,184
6. Participants had much interaction with other participants.	32,300	99.8	75	0.2	32,375
7. Participants would recommend others who have similar needs to participate in the program.	29,746	99.3	221	0.7	29,967
8. On the whole, participants were satisfied with the service.	32,102	99.3	221	0.7	32,323
Total mean score	31,741	99.8	75	0.2	31,816
Participants' view on the program instructor					
1. The worker(s) had professional knowledge.	33,187	99.8	75	0.2	33,262
2. The worker(s) demonstrated good working skills.	32,932	100.0	0	0	32,932
3. The worker(s) were well prepared for the program.	32,997	100.0	0	0	32,997
4. The worker(s) understood the needs of the participants.	32,805	99.3	221	0.7	33,026
5. The worker(s) cared about the participants.	33,019	99.8	75	0.2	33,094
6. The worker(s)' attitudes were very good.	32,869	99.8	75	0.2	32,944
7. The worker(s) had much interaction with participants.	32,034	99.8	75	0.2	32,109
8. On the whole, participants were satisfied with the worker(s).	33,124	100.0	0	0	33,124
Total mean score	32,997	100.0	0	0	32,997
Participants' perceived effectiveness of the program					
1. The service has helped participants a lot.	29,892	99.9	38	0.1	29,930
2. The service has enhanced participants' growth.	31,520	100.0	0	0	31,520
3. In the future, participants would receive similar service(s) if needed.	30,301	99.5	146	0.5	30,447
4. Participants have learnt how to help themselves through participating in the program.	31,805	100.0	0	0	31,805
5. Participants have had positive change(s) after joining the program.	31,478	100.0	0	0	31,478
6. Participants have learnt how to solve their problems through participating in the program.	31,750	99.9	38	0.1	31,788
7. Participants' behavior has become better after joining this program.	29,100	100.0	0	0	29,100
8. Those who knew the participants agree that this program has induced positive changes in them.	30,097	99.9	38	0.1	30,135
Total mean score	31,292	100.0	0	0	31,292

^aPositive view = rating of 4 or above on a 6-point scale; negative view = rating below 4 on a 6-point scale.

views on the program. Specifically, 99.3% of the participants were satisfied with the service and 99.6% of the participants felt that the quality of the service was high. Second, almost all participants had positive views towards the program workers.

Table 4 Mean scores of views of program, views of instructor, and perceived program effectiveness for participants at different grades and in schools adopting different program approaches.

	Views on program	View on instructor	Program effectiveness
S1 Participants	4.55	4.75	4.52
S2 Participants	4.61	4.81	4.54
S3 Participants	4.66	4.86	4.60
Type A	4.59	4.80	4.55
Type B	4.60	4.79	4.57
Type C	4.65	4.87	4.59
Type D	4.59	4.78	4.50

Each item was rated on a 6-point Likert scale, with scores of 4 and above meaning positive views.

For example, 99.8% of the respondents agreed that the workers had professional knowledge and 99.3% of the respondents felt that the workers understood the needs of the participants. Third, most participants perceived the program as effective in different aspects. For example, all participants indicated that the program enhanced their growth and reported positive changes after joining the program. Besides, mean scores of the three scales for different types of program and for participants in different grades are presented in Table 4.

Participants' perceptions of Tier 2 program adopting different approaches

Results of MANOVA showed a significant main effect of program type, Wilk's $\Lambda=0.982$, $F(9, 102197)=67.67$, $p<0.001$, $\eta^2=0.01$, indicating that program type was a significant predictor of participants' views on the program, their views on program instructors, as well as their perceived effectiveness of the program. Post hoc analyses of this main effect using

Tukey's test were performed to further identify mean differences across groups. For participants' view on the program, significant mean differences were found between the Type C program and the other three types of program ($p < 0.001$). The Type C program was rated more positively than the Type A, B, and D programs. Significant mean difference was also found between the Type B and the Type D program, with the Type B program being perceived as more favorable than the Type D program ($p < 0.05$). For participants' views on program instructor, significant mean differences were found between the Type C programs and all other program types at the $p < 0.001$ level, with instructors in the Type C program being rated more positively than instructors in other program types. For participants' perceived effectiveness of the program, significant differences were again found between the Type C program and all other program types ($p < 0.001$). In addition, significant differences were also found between the Type B program and the Type A and D programs ($p < 0.001$), and between the Type A and the Type D programs ($p < 0.001$). With an average rating of 4.59, Type C was perceived as the most effective program, followed by the Type B, Type A, and Type D programs.

Ratings about Tier 2 program of participants in different grades

MANOVA results also revealed a significant main effect of student grade on the three outcome variables, Wilk's $\Lambda = 0.990$, $F(6, 68134) = 58.54$, $p < 0.001$, $\eta^2 = 0.01$. Further post hoc analyses showed that Secondary 3 students held more positive views toward the program and the instructors and perceived the program as more effective than did Secondary 1 and Secondary 2 students ($p < 0.001$). Moreover, Secondary 2 students rated the program and instructors more positively and perceived the program as more effective than Secondary 1 students ($p < 0.001$). The findings suggest that the higher the students' grade, the better the subjective evaluation of the participants.

Discussion

The current study examined the Tier 2 Program of the Project PATHS in terms of participants' subjective perceptions of the program, the instructor, and effectiveness of the program. The results offer important information about the implementation of Tier 2 Program during the academic year 2008–2009. Consistent with previous evaluative studies of the project, Tier 2 Program participants generally had positive views on the program and the program instructors, and perceived the program as effective in promoting their positive development. In contrast to the previous studies in which schools were used as the units of analyses, the results of the present study provide further support for the effectiveness of the Tier 2 Program for adolescents with special psychosocial needs using a large sample of participants.

The second goal of the current study was to compare participants' ratings on different types of programs which may help

program designers to identify the most participant-preferred program approach. Results showed that the Type C program (volunteer training and service only) received the highest rating among the four program approaches. Participants viewed the Type C program and the instructors more positively, and perceived the Type C program as more effective compared to other program types. It is noteworthy that the most popular type of program offered by social workers and teachers in the present study was the Type A program that combines adventure-based counseling and volunteer training and service, employed by over 80% of the schools. However, the Type A program was perceived as less effective than both the Type C and the Type B (adventure-based counseling only) programs. This may be due to the fact that the approach of volunteer training and service (Type C) is a relatively mature technique in youth intervention program, with a long history that can be dated back to the 1960s. In comparison, the adventure-based counseling technique was adopted as a major theory for social programs only recently. In addition, while research findings have shown that engaging in volunteering service was beneficial to the positive development of adolescents, the effectiveness of the adventure-based approach is not definitive (24). These findings along with the present results suggest that more studies should be conducted to look into the values of adventure-based counseling programs and identify ways to improve the application of this approach in youth programs. Moreover, researchers need to pay attention to the inconsistency between program implementers' choice of program types and participants' preferred program approach, as identified in the present study. These issues should be taken into account in future program development.

In this study, we also compared participants' subjective evaluations across three school grades (Secondary 1, Secondary 2, and Secondary 3). The rationale behind the comparison was that characteristics in adolescents of different age may lead them to perceive the program differently. Results showed participants in higher grades rated the program more favorably and perceived the program as more effective than participants in lower grades. It has been proposed that as age increases adolescents suffer from more pressures both internally (e.g., cognitive growth and confused self identity) and externally (e.g., conflict with peers and families). For example, Shek (31, 33) reported that the existential well-being, sense of mastery, and life satisfaction in secondary school students decreased from Secondary 1 to Secondary 3, whereas problems in family functioning increased from Secondary 1 to Secondary 3. As youth who are at higher risks are more likely to benefit from development programs than youth at lower risks (34), it is possible that participants in senior grades who were more vulnerable to psychological problems than participants in junior grades also learned more from the program. Another possibility may be that students in higher grades participated in the program earlier than young students, and have already benefited from their previous attendance of the program. Therefore, students in higher grades reported more favorable perceptions of the program than did those in lower grade (i.e., accumulated favorable perceptions).

There are several limitations in the present study. The first limitation is a relatively low overall response rate (77.34%) on the Subjective Outcome Evaluation Form (Form C). There are three plausible reasons for the low response rate. First, participants withdrew from Tier 2 Program before completion. Second, participants were absent from the last session and did not complete the evaluation form. Third, some schools did not invite the adult participants to respond to the evaluation form. Future studies are suggested to notify and invite adult participants to complete the evaluation form, as well as to encourage participants to attend the last session of the program. The second limitation is that details on participant composition are not available. Although each program is categorized as having one of the four participant composition (i.e., students only, students and parents, students and teachers, students, parents, and teachers), the exact number of each type of participant within individual program is not available, making it impossible to examine whether different participant groups (such as parents or students) may have different views toward the program.

To sum up, the present study provided a general picture of the implementation and subjective outcome of the Tier 2 Program of the Project PATHS from the perspective of the participants. The study evidenced the worth of the Tier 2 Program in that it is perceived positive by almost all the participants. The Type C program (volunteer training and service) was identified as the most preferred program by the participants. Which also indicated a discrepancy regarding the preferred program type between the program deliverer (social workers and teachers) (Type A) and the recipient (participants). Finally, the study revealed the relationship between grade and subjective outcome evaluation. These findings have important implications for the design of positive youth development program in the future. In conjunction with other evaluation findings (35, 36), the present study suggests that the Project PATHS can promote development of adolescents in Hong Kong.

Conflict of interest statement

Authors' conflict of interest disclosure: The authors stated that there are no conflicts of interest regarding the publication of this article.

Research funding: None declared.

Employment or leadership: None declared.

Honorarium: None declared.

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