

Evaluation of the training program of a positive youth development program: Tin Ka Ping P.A.T.H.S. project in China

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Abstract

The present study investigated the participants' perceptions of a training program conducted in Tin Ka Ping P.A.T.H.S. Project in China using the subjective outcome evaluation approach. The participants (N = 151) completed an evaluation form at the end of the training program. Results showed that a very high proportion of the participants were satisfied with the training program in terms of program content, instructors, administrative arrangements, and their own performance. Several significant predictors of effectiveness of the training program were identified, including program quality, instructor quality, administrative arrangement, and participants' perceived self-performance. Perceived program quality also predicted overall satisfaction of the participants. Together with previous evaluation findings, the present study suggests that the Tin Ka Ping P.A.T.H.S. Project training program was effective and well received by colleagues in mainland China.

Keywords: Tin Ka Ping P.A.T.H.S. Project, training evaluation, adolescents, positive youth development

Introduction

With the implementation of one-child policy from 1978 to 2015 and the expanding urban-rural gap in China, adolescent developmental problems have been a critical issue for psychologists, educators, scholars, and the Government in China. Research on the mental health condition of only-child expanded at a remarkable rate in past 10 years. For instance, Hesketh and his colleagues (1) estimated that the suicide rate of adolescents in China was around three times the global average. Xing et al. (2) reported that Chinese adolescents with suicide attempts usually have family problems, such as improper parental rearing behaviour, parental divorce, and parental gambling problem. Moreover, it is estimated that over

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24 million (14.1%) adolescents in urban cities displayed symptoms of internet addiction (3). In addition, it also revealed that the adolescents from less developed areas in China have higher prevalence rates of youth internet addiction problem (14.8%) than those from high developed cities (8.4%) (3).

In view of the above observations, it is advocated that effective positive youth development (PYD) programs to strengthen the psychosocial competencies of adolescents are in urgent need in China. The PYD approach emphasizes that “problem-free is not fully prepared” and utilizes the ecological (person-in-environment) and strengths-based principles (4). It focuses on preventing a wide range of adolescent developmental problems, instead of merely preventing a single adolescent problem.

With particular reference to Hong Kong, adolescents are also facing different types of risk behaviour such as substance abuse, materialism, suicide, and bullying (5). As such, a PYD program entitled “P.A.T.H.S. to Adulthood: A Jockey Club Youth Enhancement Scheme” funded by Hong Kong Jockey Club Charities Trust was launched in 2004. The project comprised of two tiers programs. While the Tier 1 Program was a universal curriculum-based program based on 15 PYD elements identified in the effective programs, such as bonding, social competence, cognitive competence, and behavioural competence (6), the Tier 2 Program was developed for participants who were identified with greater psychosocial needs and tailor-made special programs were constructed. Multiple evaluation studies revealed that project in Hong Kong has received notable success in promoting holistic youth development and preventing problem behaviour among junior secondary school students (7-10).

Given the overwhelming success of project in Hong Kong, it is important to ask whether the program can promote the holistic development of adolescents in other Chinese communities. With the financial support from Tin Ka Ping Foundation, a project entitled “Tin Ka Ping P.A.T.H.S. Project” was implemented in four schools in East China, including Shanghai, Suzhou, Changzhou, and Yangzhou from 2011 to 2014, with good outcomes based on subjective and objective outcome evaluation (11, 12).

Despite the encouraging evaluation findings reported in four East China secondary schools (11,

12), we need to further understand the applicability of the program in other parts of China. Hence, a second phase of the Project P.A.T.H.S. designed for the junior secondary school students was implemented in more than 30 secondary schools in mainland China from the 2014-2015 academic year, with the first year as the preparatory year of a full-implementation stage.

Unlike other traditional youth prevention programs, this project emphasizes systematic training through experiential and reflective learning approaches. With respect to the training programs for the potential implementers of the project in Hong Kong, all potential implementers were expected to actively participate in the training process as students (13). Participants were given opportunities to reflect on their own values, teaching methods, and attitude towards adolescent development (14). Such an emphasis was also adopted in the training programs in mainland China. Specifically, four junior form training sessions were offered in Shanghai, Suzhou, and Chongqing in the preparatory year (2014-2015 academic year).

From 2015-2016 to 2016-2017 academic year, the program was launched in over 30 secondary schools in China. In the 2015-2016 academic year, three training workshops targeting potential implementers of the junior and senior secondary programs were held in Zhaoqing, Shaoguan (in Guangdong province), and Changchun (in Jilin province), respectively. The evaluation findings of the training held in Zhaoqing and Shaoguan have been documented (15, 16).

In this paper, perceptions of the participants joining the training conducted in Changchun were examined. As the training was conducted during the summer holiday, the research team extended the training period from 3 days to 4 days. Therefore, more lesson demonstrations and in-depth sharing sessions from project schools were included. The contents of the third training workshop in Changchun are shown in the Appendix. There were several objectives of this training program: (a) to understand the concepts and rationale of PYD; (b) to understand the features of adolescent development and to develop positive attitudes towards adolescents; (c) to comprehend the rationales, design, implementation, and evaluation of the project; (d) to understand the contents and activities developed for the project; (e) to encourage

participants to review and obtain appropriate attitude, knowledge, and teaching skills to facilitate program implementation; and (f) to develop a self-help network among the participants.

Although the importance of prevention programs and PYD programs for adolescents have been highlighted in previous studies, the significance of training programs for implementers tends to be overlooked. Clarke (17) believed that training program should be treated as a key strategy to help trainees familiarize with the program philosophy and content, and strengthen their enthusiasm and support for the program. Fullan (18) also pointed out that the impact of shared meaning and collaboration from the implementers would determine the effectiveness of educational program. Shek and Sun (19) listed five key factors contributing to the success of the PYD program, including program, process, policy, people, and place (i.e., 5 P's). Amongst these factors, "people," which included both program participants and implementers, was identified as the most influential factor affecting the effectiveness of the project (19). As such, providing systematic and on-site training for the potential program implementers should be taken into account in program delivery. Moreover, since there are very few PYD programs in China, it is important to provide comprehensive support and resources to the project schools and implementers through all-rounded in-service training.

In addition, it is advocated that training evaluation is necessary in every training program. Training evaluation refers to "the process of determining the merit, worth, and value of things, or the product of that process" (20). In other words, it is a methodological approach for measuring a training program's achievement with regard to program design and content, and changes in trainees. Kirkpatrick's (21) four dimensional training evaluation model (i.e., reactions, learning, behaviour, and results) is widely used for understanding the purpose of in-service training evaluation. Training evaluation results can give scientific evidence to explain how the objectives of training program, content, and methods achieve the expected outcomes or benefits in the training (22). Furthermore, program developer can identify successful factors through evaluation and then improve program design and implementation in the future.

To date, several training evaluation studies of the project based on subjective outcome evaluation strategy have been conducted in Hong Kong (23-26). Comparatively speaking, there are still very few training evaluations conducted in Chinese communities. As reviewed by Yang and Guo (27), there were only 86 Chinese studies related to teacher training evaluations published in the last decade in 11 major Chinese or international databases. Besides, most of these studies simply focused on conceptual issues rather than investigating the efficacy of training programs. Most importantly, as the Project P.A.T.H.S. has moved to a full implementation stage, it is worth exploring the influence of its training program on potential implementers and collecting their feedbacks for further improvement.

The current study attempted to examine the effectiveness of the Project P.A.T.H.S. training program conducted in Changchun in August 2016. Similar to other training evaluation studies reported previously (15,16), there are three research objectives of this paper: 1) to explore potential implementers' viewpoints towards the training program in the areas of training content, instructors' quality, self-performance, and administrative arrangements; 2) to examine the predictors of perceived benefits through the training program from the perspective of the participants; 3) to investigate the predictors of overall satisfaction with the training program amongst the participants.

Methods

In the academic year of 2015/2016, the third training workshop of the Tin Ka Ping P.A.T.H.S. Project was held in Changchun, China. There were altogether 208 teachers from 35 junior and/or senior secondary schools registering to attend this 4-day workshop.

During the last session of the workshop in Day 4, the participants reflected on their gains through the training, and they were invited to complete an anonymous questionnaire regarding their evaluation on this training workshop. Because of transportation constraints, some participants had to leave earlier upon the completion of the training. Finally, a total of 151 questionnaires were collected, including 70 (46.4%) questionnaires completed by junior

secondary school teachers and 81 (53.6%) completed by senior secondary school teachers. Overall speaking, there were more female teachers ($N = 103$, 68.2%) than male teachers ($N = 48$, 31.8%) completing the evaluation after the training. Among all the respondents, 62.9% ($N = 95$) had over 10 years of teaching experience. In addition, the mean years of working experience of the respondents was 12.6 ($SD = 8.42$).

Instruments

The participants' perceptions of the training workshop were measured utilizing the Subjective Outcome Evaluation Questionnaire developed by Shek and his colleagues (24). The evaluation questionnaire consists of 33 items, including four subscales measured by 31 closed-ended questions and two open-ended questions.

Regarding the four subscales, each respondent was asked to rate the items on a 5-point Likert scale with responses ranging from "strongly disagree" to "strongly agree." The first subscale, comprising 16 items, measures participants' overall view of the program training content, including the perceived benefits of the program (9 items), perceived program quality (5 items) and satisfaction degree of participants (2 items). The second subscale investigates participants' perceptions of the instructors with 5 items. The third subscale, consisting of 4 items, assesses participants' reflections on their own performance. The fourth subscale focuses on participants' evaluations of the administrative arrangements of the training. The two open-ended

questions examine participants' most appreciated part of the training and their suggestion for the workshop.

The quantitative part of the questionnaire has demonstrated excellent internal consistency (Cronbach's $\alpha > .9$) in previous studies evaluating the training programs in Hong Kong (25, 26). The current study focused on the participants' perceptions by analyzing the data from the four subscales.

Results

Table 1 shows that the reliability measures for the total scale (Cronbach's $\alpha = .95$) and subscales of the Subjective Outcome Evaluation Questionnaire (Cronbach's alpha ranged from .66 to .93) had good reliability status. Although the alpha value for the overall satisfaction subscale was not high (Cronbach's $\alpha = .66$), it can be regarded as reasonable because there are only two items in this subscale.

Participants' perceptions of the program content, program instructors, their own performance and the administrative arrangements of the training are shown in Tables 2-5 respectively. The numbers and percentages of positive responses (scores equal to or above 4) to each item and subscale are presented. In general, the majority (over 80%) of the participants held a positive view regarding program benefits, program quality, program instructors, and the administrative arrangements. And taken as a whole, nearly 90% of the participants were satisfied with the workshop. However, relatively fewer participants (74.7%) expressed positive views about their self-performance, although the value was respectable.

Table 1. Means, standard deviations, Cronbach's alphas, and mean of inter-item correlations

| Subjective Outcome Evaluation Scales | <i>M</i> | <i>SD</i> | Cronbach's α | Mean Inter-Item Correlation |
|---|----------|-----------|---------------------|-----------------------------|
| Perception of the Training Program (16 items) | 4.42 | 0.43 | .93 | .47 |
| Perceived Benefits (9 items) | 4.44 | 0.44 | .89 | .49 |
| Program Quality (5 items) | 4.39 | 0.48 | .81 | .47 |
| Overall Satisfaction (2 items) | 4.33 | 0.54 | .66 | .49 |
| Perception of Program Instructor (5 items) | 4.49 | 0.46 | .85 | .54 |
| Perception of Self-Performance (4 items) | 4.15 | 0.53 | .81 | .52 |
| Perception of Administrative arrangements (6 items) | 4.44 | 0.49 | .91 | .65 |
| Total Scale (31 items) | 4.41 | 0.39 | .95 | .40 |

Table 2. Summary of the positive views (options 4-5) of the participants towards the training program

| Perceptions of the Program | | N | Agree (4) | | Strongly Agree (5) | | Positive Response (Options 4-5) | | M | SD |
|---|--|-----|-----------|------|--------------------|------|---------------------------------|------|------|------|
| | | | n | % | n | % | n | % | | |
| Perceived Benefits ^a | | 146 | | | | | 127 | 87.0 | 4.44 | 0.44 |
| 1. | It has strengthened my understanding of the nature of adolescent development. | 147 | 71 | 48.3 | 71 | 48.3 | 142 | 96.6 | 4.45 | 0.56 |
| 2. | It has helped me to cultivate positive attitude to adolescent development. | 147 | 55 | 37.4 | 90 | 61.2 | 145 | 98.6 | 4.6 | 0.52 |
| 3. | It has strengthened my understanding of positive youth development, including its concept, design and research. | 147 | 60 | 40.8 | 80 | 54.4 | 140 | 95.2 | 4.5 | 0.59 |
| 4. | It has helped me to understand the Project P.A.T.H.S., including its basic philosophy, design, implementation, and evaluation. | 147 | 62 | 42.2 | 74 | 50.3 | 136 | 92.5 | 4.43 | 0.63 |
| 5. | It has strengthened me to understand the content of the Project P.A.T.H.S. | 147 | 68 | 46.2 | 72 | 49.0 | 140 | 95.2 | 4.44 | 0.59 |
| 6. | It has helped me to acquire the attitude, knowledge and skills that are conducive to the successful implementation of the Project P.A.T.H.S. | 147 | 76 | 51.7 | 57 | 38.8 | 133 | 90.5 | 4.29 | 0.65 |
| 7. | It has helped me to establish self-help support network and share teaching experiences among the program participants. | 147 | 58 | 39.5 | 71 | 48.3 | 129 | 87.8 | 4.36 | 0.69 |
| 8. | It has promoted self-reflection. | 147 | 65 | 44.2 | 78 | 53.1 | 143 | 97.3 | 4.5 | 0.55 |
| 9. | It has helped me to recognize factors affecting teaching. | 146 | 71 | 48.6 | 67 | 45.9 | 138 | 94.5 | 4.4 | 0.59 |
| Program Quality ^a | | 145 | | | | | 121 | 83.4 | 4.39 | 0.48 |
| 1. | The training methods and activities are appropriate (e.g. lecture, games, group discussion). | 147 | 64 | 43.8 | 80 | 54.8 | 144 | 98.6 | 4.53 | 0.53 |
| 2. | Training time is appropriate. | 147 | 74 | 50.3 | 45 | 30.6 | 119 | 80.9 | 4.08 | 0.77 |
| 3. | It has met my expectation. | 147 | 73 | 49.7 | 54 | 36.7 | 127 | 86.4 | 4.23 | 0.67 |
| 4. | There was much peer interaction amongst participants. | 146 | 59 | 40.4 | 81 | 55.5 | 140 | 95.9 | 4.51 | 0.60 |
| 5. | Instructor(s) encouraged participants to do the best. | 147 | 53 | 36.1 | 88 | 59.9 | 141 | 96.0 | 4.55 | 0.60 |
| Overall Satisfaction ^a | | 145 | | | | | 130 | 89.7 | 4.33 | 0.54 |
| 1. | Overall speaking, I am satisfied with the training program. | 147 | 73 | 49.7 | 67 | 45.5 | 140 | 95.2 | 4.41 | 0.58 |
| 2. | I think participants are satisfied with the training program. | 145 | 72 | 49.7 | 55 | 37.9 | 127 | 87.6 | 4.25 | 0.68 |
| Perceptions of the Program (Whole Scale) ^a | | 143 | | | | | 116 | 81.1 | 4.42 | 0.43 |

Note: ^a Scores equal to or higher than 4 were treated as positive views.

Regarding perceived benefits, more than 90% of the respondents agreed or strongly agreed that they benefitted from the training, including a better understanding of adolescent development (96.6%) and positive youth development (95.2%), cultivation of positive attitude to adolescent development (98.6%), self-reflection (97.3%), and recognition of factors affecting teaching (94.5%). In addition, through the workshop, the teachers were more familiar with the project (92.5%), understood the content of the Tier 1 Program (95.2%), and acquired knowledge and skills implementing the program (90.5%). Nearly 90% of the respondents agreed that they established a self-help support network in the training.

The teachers in the training were also satisfied with the program quality. Almost all of them (98.6%) agreed that the training methods and activities were appropriate. They also held a positive view about peer interaction amongst teachers during the training (95.9%). Most participants had positive evaluation of program instructors. They agreed that the instructors were a professional team with good mastery of the curriculum (98%), clear understanding of the needs of the participants, profession attitude (98.6%) and good teaching skills (88.5%). The participants also showed positive response toward the administrative arrangements of the program. After the training, 96% of the teachers expressed their willingness to use theories and skills learned through this training workshop.

Table 3. Summary of the positive views (options 4-5) of the participants towards the program instructor(s)

| Perceptions of the Program Instructor(s) | | N | Agree (4) | | Strongly Agree (5) | | Positive Response (Options 4-5) | | M | SD |
|--|--|-----|-----------|------|--------------------|------|---------------------------------|------|------|------|
| | | | n | % | n | % | n | % | | |
| 1. | The instructor(s) had good mastery of the curriculum. | 147 | 73 | 49.7 | 71 | 48.3 | 144 | 98.0 | 4.46 | 0.54 |
| 2. | The instructor(s) understood the needs of participants. | 147 | 69 | 46.9 | 60 | 40.8 | 129 | 87.7 | 4.29 | 0.67 |
| 3. | The instructor(s) showed good professional attitude. | 147 | 35 | 23.8 | 110 | 74.8 | 145 | 98.6 | 4.73 | 0.47 |
| 4. | The instructor(s)' teaching was clear and easy to understand. | 147 | 67 | 45.6 | 63 | 42.9 | 130 | 88.5 | 4.31 | 0.67 |
| 5. | Overall speaking, I have positive evaluation of the instructor(s)' teaching performance. | 147 | 46 | 31.3 | 98 | 66.7 | 144 | 98.0 | 4.65 | 0.52 |
| Total Scale ^a | | 147 | | | | | 134 | 91.2 | 4.49 | 0.46 |

Note: ^a Scores equal to or higher than 4 were treated as positive views.

Table 4. Summary of the positive views (options 4-5) of participants towards their own performance in training

| Perceptions of Self-Performance | | N | Agree (4) | | Strongly Agree (5) | | Positive Response (Options 4-5) | | M | SD |
|---------------------------------|--|-----|-----------|------|--------------------|------|---------------------------------|------|------|------|
| | | | n | % | n | % | n | % | | |
| 1. | I participated actively during discussion. | 151 | 80 | 53.0 | 37 | 24.5 | 117 | 77.5 | 4.01 | 0.72 |
| 2. | I am willing to apply the specific skills and theories learned from this training program. | 151 | 76 | 50.3 | 69 | 45.7 | 145 | 96.0 | 4.42 | 0.57 |
| 3. | After attending the training program, I have confidence in program implementation. | 151 | 85 | 56.3 | 49 | 32.5 | 134 | 88.8 | 4.21 | 0.63 |
| 4. | Overall speaking, I am satisfied with my performance. | 150 | 85 | 56.7 | 33 | 22.0 | 118 | 78.7 | 3.97 | 0.74 |
| Total Scale ^a | | 150 | | | | | 112 | 74.7 | 4.15 | 0.53 |

Note: ^a Scores equal to or higher than 4 were treated as positive views.

Table 5. Summary of the positive views (options 4-5) of participants towards administrative arrangements

| Perceptions of the Administrative Arrangements | | N | Satisfied (4) | | Very Satisfied (5) | | Positive Response (Options 4-5) | | M | SD |
|--|--|-----|---------------|---|--------------------|------|---------------------------------|------|------|------|
| | | | n | % | n | % | n | % | | |
| | | | 1. | Information obtained before attending the workshop. | 151 | 76 | 50.3 | 55 | | |
| 2. | Workshop assigned. | 150 | 74 | 49.3 | 64 | 42.7 | 138 | 92.0 | 4.35 | 0.62 |
| 3. | Location of the workshop. | 151 | 75 | 49.7 | 71 | 47.0 | 146 | 97.7 | 4.44 | 0.56 |
| 4. | Reception provided by training team (e.g. transportation arrangement, refreshments). | 151 | 59 | 39.1 | 88 | 58.3 | 147 | 97.4 | 4.56 | 0.55 |
| 5. | Facilities of the venue. | 151 | 64 | 42.4 | 82 | 54.3 | 146 | 96.7 | 4.51 | 0.56 |
| 6. | Overall speaking, I am satisfied with the administrative arrangement. | 151 | 61 | 40.4 | 89 | 58.9 | 150 | 99.3 | 4.58 | 0.51 |
| Total Scale ^a | | 150 | | | | | 130 | 86.7 | 4.44 | 0.49 |

Note: ^a Scores equal to or higher than 4 were treated as positive views.

To investigate whether there were differences between junior and senior secondary school teachers regarding their perceptions of the training workshop, a MANOVA analysis was performed. As demonstrated in Table 6, based on the omnibus F test, no statistically significant difference was found between the junior form and senior form programs in terms of the overall perception of the training ($F = 1.54$, $p > .05$).

The correlations among participants' perceptions of perceived benefits, program quality, instructor quality, self-performance and administrative arrangements were examined using Pearson correlation analyses. The findings shown in Table 7 demonstrate that all related variables were significantly and positively associated to different extent (r s ranged from .38 to .82, $ps < .001$). In addition, a strong relationship was observed between perceived benefits and program quality ($r = .82$, $p < .001$).

Table 6. The comparison between junior and senior secondary school participants on the perceptions of the training program

| Subjective Outcome Evaluation Scales | Senior | | | Junior | | | F |
|---------------------------------------|--------|------|-----|--------|------|-----|---------|
| | N | M | SD | N | M | SD | |
| Program Content (16 items) | 66 | 4.48 | .40 | 77 | 4.36 | .45 | 2.78 |
| Perceived Benefits (9 items) | 66 | 4.51 | .42 | 80 | 4.37 | .45 | 3.81 |
| Program Quality (5 items) | 67 | 4.45 | .42 | 78 | 4.33 | .52 | 2.29 |
| Overall Satisfaction (2 items) | 67 | 4.42 | .54 | 78 | 4.26 | .54 | 2.98 |
| Program Instructor (5 items) | 67 | 4.51 | .44 | 80 | 4.47 | .48 | .36 |
| Perceived Self-Performance (4 items) | 69 | 4.30 | .49 | 81 | 4.02 | .54 | 11.16** |
| Administrative Arrangements (6 items) | 70 | 4.52 | .45 | 80 | 4.37 | .51 | 3.5 |
| Total Scale (31 items) | 65 | 4.47 | .36 | 76 | 4.34 | .40 | 3.6 |

Note: ** $p < .01$.

Table 7. Pearson correlations among the key evaluation components

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|--|--------|--------|--------|--------|--------|---|
| 1. Perceived Benefits (9 items) | - | | | | | |
| 2. Perceived Program Quality (5 items) | .82*** | - | | | | |
| 3. Instructor Quality (5 items) | .64*** | .60*** | - | | | |
| 4. Self-Performance (4 items) | .54*** | .50*** | .38*** | - | | |
| 5. Administrative Arrangements (6 items) | .65*** | .61*** | .51*** | .51*** | - | |
| 6. Overall Satisfaction (2 items) | .69*** | .76*** | .50*** | .44*** | .58*** | - |

Note: *** $p < .001$.

Table 8. Multiple regression analyses predicting perceived benefits and overall satisfaction

| Predictors | Perceived Benefits | | | | Overall Satisfaction | | | |
|-----------------------------|--------------------|-----------|---------|----------------|----------------------|-----------|---------|----------------|
| | <i>B</i> | <i>SE</i> | β | R ² | <i>B</i> | <i>SE</i> | β | R ² |
| Perceived Program Quality | 0.53 | .06 | .57*** | .74 | 0.64 | .11 | .55*** | .60 |
| Instructor Quality | 0.15 | .06 | .15** | | 0.03 | .09 | .023 | |
| Self-Performance | 0.10 | .04 | .12* | | 0.04 | .07 | .03 | |
| Administrative Arrangements | 0.15 | .06 | .16** | | .16 | .09 | .14 | |
| Perceived Benefits | | | | | .13 | .13 | .11 | |

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

To investigate the predictors of perceived benefits of the participants and the factors associated with their overall satisfaction, two multiple regression analyses were performed. The findings in Table 8 show that program quality ($\beta = .57, p < .001$), instructor quality ($\beta = .15, p < .01$), self-performance ($\beta = .12, p < .05$) and administrative arrangements ($\beta = .16, p < .01$) could significantly predict the perceived effectiveness of the program, with program quality being the strongest predictor of perceived benefits. Program quality also predicted overall satisfaction of the participants ($\beta = .55, p < .001$). However, other factors, including instructor quality, self-performance, administrative arrangements, and perceived benefits did not significantly contribute to the overall satisfaction.

Discussion

To promote the holistic and positive development in Chinese adolescents, the Project P.A.T.H.S. was transplanted to mainland China and has been implemented in over 30 secondary schools across the country (12, 29). Obviously, in-service training offered to school teachers is regarded as an indispensable part of this large scale implementation, because teachers usually play a crucial role in implementing the program in the front line (28, 30). In the training conducted in Changchun, participants showed enthusiasm towards the training by positive registering, learning, discussing, reflecting and sharing. In the present study, subjective outcome evaluation was used to examine the efficacy of this training program.

The present research findings demonstrate overall success of the training program. Consistent with the previous training programs conducted in Hong Kong and other mainland cities, the program received very positive feedbacks from the participants (25, 26, 28). Overall, the quantitative evaluation results showed that a very high percentage of the participants were satisfied with the program content, instructors, and administrative arrangement. A majority of the participants agreed they gained a higher level of competence in teaching PYD curriculums through this training and are optimistic about the implementation of the project in the future. The present study also replicated previous evaluation findings towards which both junior and senior high school teachers held positive views (15). Thus, we concluded that the training program was well-received in mainland China. As some studies suggest a positive correlation between subjective outcome and objective outcome evaluation findings (31-33), it is conjectured that teachers might possibly perform well in their actual teaching. Future studies should examine whether teachers' positive perceptions of the training predict successful objective outcomes of the project in mainland China.

The present study also identified factors that contributed to a successful training program. Participants perceived program quality as the strongest predictor of their perceived program benefits and their overall satisfaction, which was in line with the findings of previous trainings in mainland China (34-36). The participants in Changchun training demonstrated an overall satisfaction with the quality of the program. This finding suggests that in future training programs, training implementers may use the Changchun training design as a reference. This would include using more interactive training methods and activities, being sensitive to teachers' needs and expectations, and encouraging peer interaction and self-reflection. In addition to the perceived quality of program and instructor, participants' self-performance and administrative arrangements of the training were also found to be important predictors of perceived program benefits. Hence, it is important for the trainers to have a holistic view when designing the training, and to take all these program components, including program quality, instructor quality, self-performance and administrative arrangements, into account (37).

Although the present study provides strong evidence that the training in Changchun is beneficial to the program participants, some limitations should be noted. First, subjective outcome evaluation in the present study was limited to quantitative data only. Although the quantitative approach is cost-effective and it favors objectivity, representativeness and generalization, qualitative approach is an important alternative or complementary evaluation method which can help to develop an in-depth understanding of the program benefits (38). Thus, qualitative evaluation of subjective outcomes (e.g., in-depth individual interview and focus group interview) should be included in future research to generate an integrated picture of effectiveness. Second, in addition to subjective evaluation, objective outcome evaluation is also recommended which can give a better understanding of training effectiveness in implementing the project in mainland China. Third, other factors that could affect participants' subjective evaluation of training, such as teachers' previous training attendance record and program implementation experiences, should be included in future studies. Despite the limitations above, the favorable evaluation findings suggest that the Changchun training program for the Project P.A.T.H.S. is well received in mainland China.

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Ethical compliance

The authors have stated all possible conflicts of interest within this work. The authors have stated all sources of funding for this work. If this work involved human participants, informed consent was received from each individual. If this work involved human participants, it was conducted in accordance with the 1964 Declaration of Helsinki. If this work involved experiments with animals, it was conducted in accordance with the related institutions' research ethics guidelines.

Appendix. Content of the third training program in the 2015-2016 academic year in Changchun, China

Junior Group

| Day 1 (6.5 hours) | |
|---|---|
| Themes and Objectives | Activities Conducted |
| a) Introduce the latest progress of the Tin Ka Ping P.A.T.H.S. Project in the full implementation phase (2015-2016); b) Offer opportunities for junior and senior school delegates, principals, and teachers to share their experiences; and c) Familiarize the participants with the teaching units related to the constructs of “Cognitive Competence” (CC). | 1. Introduce the Tin Ka Ping P.A.T.H.S. Project and the professional team; 2. Introduce the training schedules of the Project; 3. Guide the participants how to use the updated teaching materials and other online resources on the website; 4. Introduce the Co-Walker Scheme; 5. Report the results of evaluation of the second training program in Shaoguan; 6. School sharing from Changchun on the implementation progress of senior programs; 7. Warm-up activities; 8. Lecture on the constructs of “Cognitive Competence” (CC) and the contents of units; 9. Sharing session from participatory schools. |
| Day 2 (6.5 hours) | |
| Themes and Objectives | Activities Conducted |
| a) Offer opportunities for schools from Changchun and other participatory schools to share their teaching experiences and demonstrate teaching techniques; and b) Familiarize the participants with teaching method of the Tin Ka Ping P.A.T.H.S. Project. | 1. Warm-up activities; 2. Lesson demonstrations by experienced school teachers from participating schools; 3. Group discussion and Q&A session. |
| Day 3 (6.5 hours) | |
| Themes and Objectives | Activities Conducted |
| a) Familiarize the teachers with the constructs and teaching units; b) Clarify participants’ questions on project implementation; and c) Familiarize the participants with the teaching units related to the constructs of “Moral Competence” (MC) and “Self-Determination” (SD) d) Familiarize the participants with teaching method of the Tin Ka Ping P.A.T.H.S. Project. | 1. Warm-up activities; 2. Group discussions on “How to be a good P.A.T.H.S. teacher?”, “How to teach a good lesson of P.A.T.H.S.?”; and “How to implement P.A.T.H.S. much better?” 3. Lecture on the constructs of “Moral Competence” (MC) and the contents of units; 4. Sharing session from participatory schools. |
| Day 4 (6.5 hours) | |
| Themes and Objectives | Activities Conducted |
| a) Familiarize the teachers with the constructs and teaching units; b) Clarify participants’ questions on project implementation; c) Familiarize the participants with teaching method of the Tin Ka Ping P.A.T.H.S. Project; and d) Familiarize the participants with the teaching units related to the constructs of “Self-Determination” (SD), “Spirituality” (SP), and “Clear and Positive Identity” (ID). | 1. Warm-up activities; 2. Lecture on the constructs of “Self-Determination” (SD) and the contents of the unit; 3. Lecture on the constructs of “Spirituality” (SP) and the contents of the unit; 4. Lecture on the constructs of “Clear and Positive Identity” (ID) and the contents of the unit; 5. Sharing session from participatory schools; 6. Interactive lecture on the teaching technique (Stress and fatigue for teachers); 7. Introduce the evaluation results of 2015/16 academic year; 8. Wrapping up and self-reflection; and 9. Conclusion. |

Senior Group

| Day 1 (6.5 hours) | |
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| Themes and Objectives | Activities Conducted |
| a) Introduce the latest progress of the Tin Ka Ping P.A.T.H.S. Project during the full implementation phase (2015-2016); b) Familiarize the teachers with the constructs and teaching units. | 1. Introduce the Tin Ka Ping P.A.T.H.S. Project and the professional team; 2. Warm-up activities; 3. Introduce the training schedules of the Project; 4. Guide the participants how to use the updated teaching materials and other resources of Tin Ka Ping P.A.T.H.S. Project; 5. Introduce the Co-Walker Scheme; 6. Report the results of the second training program evaluation; 7. Lecture on the constructs of “Social Competence (SC)” and the contents of the unit; 8. Lecture on the constructs of “Emotional Competence (EC)” and the contents of the unit; 9. Lecture on the constructs of “Behavioral Competence (BC)” and the contents of the unit; 10. Sharing session from participatory schools; 11. Group discussion and Q&A session. |
| Day 2 (6.5 hours) | |
| Themes and Objectives | Activities Conducted |
| a) Offer opportunities for school delegates to share their implementation experiences and teaching plans; and b) Familiarize the participants with teaching method of the Tin Ka Ping P.A.T.H.S. Project. | 1. Lesson demonstration by school teachers from participating schools; 2. Group discussion and Q&A session. |
| Day 3 (6.5 hours) | |
| Themes and Objectives | Activities Conducted |
| a) Familiarize the teachers with the constructs and teaching units. b) Clarify participants’ questions on project implementation; and c) Familiarize the participants with teaching method of the Tin Ka Ping P.A.T.H.S. Project. | 1. Warm-up activities; 2. Lecture on the constructs of “Cognitive Competence” (CC) and the contents of the unit; 3. Lecture on the constructs of “Self-Efficacy” (SE) and the contents of the unit; 4. Lecture on the constructs of “Moral Competence” (MC) and the contents of the unit; 5. Lecture on the constructs of “Behavioral Competence” (BC) and the contents of the unit; 6. Group discussion on “How to be a good P.A.T.H.S. teacher?”, “How to teach a good lesson of P.A.T.H.S.?” and “How to implement P.A.T.H.S. much better?” |
| Day 4 (6.5 hours) | |
| Themes and Objectives | Activities Conducted |
| a) Familiarize the teachers with the constructs and teaching units; b) Clarify participants’ questions on project implementation; and c) Familiarize the participants with teaching method of the Tin Ka Ping P.A.T.H.S. Project. | 1. Warm-up activities; 2. Lecture on the constructs of “Behavioral Competence” (BC) and the contents of the unit; 3. Lecture on the constructs of “Social Competence” (SC) and the content of the unit; 4. Lecture on the constructs of “Resilience” (RE) and the contents of the unit; 5. Sharing session from participatory schools; 6. Interactive lecture on the teaching technique (Stress and fatigue for teachers); 7. Introduce the evaluation results of 2015/16 academic year; 8. Wrapping up and self-reflection; and 9. Conclusion. |

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