

Project Title Enhancing Psychological Resilience to Manage Difficulties Positively and to Promote the Mental Health of Junior Secondary School Students: A pilot study	Project Number 2015/0426 (Revised)
	Theme Healthy Lifestyle and Positive Development of Students

(I) Needs Assessment and Applicant’s Capability

(i) Stress and mental health of adolescents in Hong Kong

Adolescence is a stage of development of autonomy, responsibility, and identity formation; adolescents face intense stress and conflicts during this period.^{1,2} The mental health of adolescents has become a major public health concern worldwide. Frequently reported mental health concerns include adjustment problems, maladaptive eating behaviors, emotional disturbance (anxiety, depression), and suicidal ideation.³ Negative experiences in childhood and adolescence are potentially implicated in the development of psychological distress and mental health problems among adolescents and adults.⁴ A review of the literature reveals that the sources of social environmental stress relating to negative life experiences include chronic poverty, overcrowded living environment, marital discord, low parental education, ineffective parenting, and social dependency.⁴

In Hong Kong, the psychological well-being of adolescents is challenged by the rapidly changing social environment.⁵ Wong⁶ examined perceived stressful life events among students in Hong Kong and found that both local and immigrant secondary school students regard the loss of support from teachers, friends, and relatives as the most stressful life event, followed by tension with teachers and interactions with schoolmates.⁶ Junior secondary students who experience changes in learning contexts after entering secondary schools face substantial stress induced by physiological, psychological, and social changes (e.g. their immediate physical development, evolving self-image, and academic and social grading systems).⁷ In addition, academic achievement is highly valued in Chinese society. Under this cultural context, Hong Kong students are under tremendous pressure to excel in their academic performance. Studies show that school children in Hong Kong experience considerably high levels of examination-induced anxiety.⁸ Psychological distress, together with adverse social conditions, may hinder the normal intellectual, social, and emotional development of the youth and thereby prolong and alter their path toward adulthood and increase their risk of developing mental health problems.⁹

(ii) School-based needs of the collaborating school

School. Secondary School is a Christian school located in the Wong Tai Sin district. The vision and mission of Secondary School is to provide a holistic education and thereby assist in student development through the provision of a positive and collaborative environment, especially for deprived students. The initiatives of “感恩校園” to cultivate students’ “thankful and giving” attitude have established a supportive environment for further work toward enhancing the positive development of students. The majority of students, especially those who come from low-income families, lack self-confidence and the determination / ability to overcome difficulties.

Family. At Secondary School, 60%–70% of the students come from families assisted by the Comprehensive Social Security Assistance program and parents engaging in elementary occupations, including jobs that require parents to work outside their living districts. Adolescence is particularly challenging for these students because they tend to encounter difficulties related to poverty, family relationships, and limited opportunities for success. Poverty places children and youth at a high risk of developing adjustment problems, such as poor academic performance, behavior problems, psychological distress, or even poor health.^{10,11} A study suggested that resilient children and youths living in poverty demonstrate positive outcomes despite their high risk status.¹¹

Parent-teacher partnering. Secondary School actively communicates with the parents via variety channels, including parents’ night, face-to-face interview, telephone conversation, student handbook.¹² Their Parent Teacher Association organizes regular meeting to share their parenting or teaching experience with each other. The association also provides a platform to strengthen relationship between parents and child through parent-child activities.

Culture. In the Chinese community, academic performance is highly emphasized. In order to fulfil the expectation of society and to ensure a bright and successful future, students are expected working hard to achieve excellent academic performance. It induces intense stress to the students. The School and the parents also received high pressure from society to drive the students towards academic achievement.

Considering the above, the Nethersole School of Nursing collaborated with Secondary School to organize the proposed Psychological Resilience Enhancement Program (PREP). The program supplements the existing curriculum for building resilience to enhance students’ ability to adapt to difficult circumstances beyond their control and enable them to continue to thrive.

(iii) Applicant's capability and readiness

The Nethersole School of Nursing of the Chinese University of Hong Kong is one of the leading nursing schools in Hong Kong. Our school focuses on high quality nursing education and research to enable our nurses and school members to make contributions to the improvement of the health of the people in Hong Kong. Our school has accumulated substantial experience in organizing health promotion programs that target the public and clinical populations through funding from education and competitive research grants. The development of the PREP for students, teachers, and parents, as well as its outcome evaluation, will be conducted by the Nethersole School of Nursing.

All parties possess substantial experience in carrying out government-funded projects related to enhancing effective teaching and learning for positive behavioral change and well-being.

One of the key project members is an experienced registered psychiatric nurse who has implemented projects on children and adolescents' health and has developed training program geared toward promoting a healthy lifestyle among children and their parents. The other project members are experienced researchers and statisticians who are responsible for conducting independent project evaluations by adopting stringent research methods and outcome measurements. This project is envisaged to provide evidence-based findings informing a large-scale implementation of the PREP in other secondary schools in Hong Kong.

(II) Goals and Objectives

The PREP is an educational program for junior secondary school students. Comprising a wide array of interactive activities, the program is structured to improve students' emotional management skills and cognitive-social skills, such as problem-solving skills, to enhance their resilience and promote their positive development according to their developmental needs. Considering the significant contribution of teachers and parents in providing a supportive environmental context to develop coping skills and resources necessary for enhancing the resilience of students, the program is designed to deliver an intensive module with the aim of creating a safe and caring environment and enhancing teacher and parental support for students. This project is a pilot study that also aims to examine the feasibility and acceptability of the PREP before its application in other secondary schools in Hong Kong.

(i) Mode of collaboration with the partner school / Service model of the PREP

The PREP for junior secondary school students is designed to address evidence-based needs of the collaborating school and is aligned with its existing curriculum. Meetings are conducted between the School Principal, representatives of the guidance team, teachers and social workers of the collaborating school, and the director and educators/researchers of the Nethersole School of Nursing for the development of the implementation plan.

Thorough discussions are conducted with the collaborating school to audit the evidence-based needs of the school (identified from the recent APASO results, school-based surveys, school-based development plans, observations by teachers, social workers and parents). Modules and contents designed to promote self-esteem, self-efficacy in handling stress and overcome difficulties/adversity are proposed to cater for the evidenced school-based needs of psychological resilience among junior secondary school students. Pre-tests using quantitative assessment questionnaires and focus group interviews with teachers and school social workers are conducted.

The CUHK project team will partner with key persons of the collaborating school in the design of intervention at the student, school and parent levels, as well as implementation of the PREP, and share with school personnel the pre and post-tests evidence for facilitating the designing of subsequent follow-up plan to enhance sustainability. School principal, the guidance team, teachers, education psychologist and social workers will collaborate throughout the preparation and implementation phases of the PREP in order to tailor the PREP contents to evidence-based needs, values and missions of the collaborating school.

(ii) Short-term objectives

The program is developed according to an evidence-based research that aims to enhance students', teachers', and parents' understanding of psychological resilience and its role in youth development.

The specific objectives related to students' perspectives include the following:

1. To enhance students' psychological resilience by improving their cognitive-social skills (e.g. problem-solving skills, communication skills, and positive self-view) and emotional management skills.
2. To help students cultivate positive self-esteem through their mastery of cognitive-social skills.
3. To reduce students' perceived stress levels by equipping them with emotional management skills.
4. To improve students' mental health by enhancing their psychological resilience.

(iii) Long-term objectives

1. Student perspective: Cognitive-social and emotional management skills to enhance resilience are transferrable to other stressful situations according to students' learning and developmental stages. The PREP equips students

with the ability to apply this capability to build resilience to late adolescence when they face stressful events, such as the preparation for the Hong Kong Diploma of Secondary Education Examination.

2. Environmental context: The PREP enhances capacity building in _____ Secondary School by equipping teachers with knowledge and supportive skills to facilitate students' development of psychological resilience through daily interactions with students and to develop an inclusive study environment.

(III) Targets and Expected Number of Beneficiaries

(i) Direct beneficiaries

The project will be conducted in a local secondary school (_____ Secondary School). All junior secondary school students (Forms 1–3, about 220 students) will be invited to participate in this project. Around 50 teachers who interact with these students will also be invited to participate in the project. About 400 parents of junior secondary school students will directly benefit from this project because all of them will be invited to participate in a seminar organized specifically for them.

(ii) Indirect beneficiaries

The information delivered in the seminars for the parents will be summarized and posted in the school website, which can be accessed by other parents to learn about resilience and ways to support teenagers in building psychological resilience throughout the project period. At the end of the project, joint school-university newsletters will be published, and a public seminar will be conducted to share the outcomes of the project and showcase the PREP and related teaching resource package. Approximately 300 teachers, social workers, school nurses and health professionals are expected to gain access to the information provided by the pilot study.

(IV) Conceptual Framework

(i) Resilience in youths

Resilience, which is a construct of positive youth development, has been suggested to be an attribute of the psychosocial well-being of adolescents.¹³ Resilience is the “process, capacity or outcome of successful adaptation despite challenges or threatening circumstances...good outcomes despite high risk status, sustained competence under threat and recovery from trauma”.¹⁴ This concept focuses not only on promoting the protective factors that enable individuals to face adversities in life but also on inhibiting the stress-induced risk factors predictive of negative outcomes.⁹ According to the concepts of the social ecology model, protective and risk factors exist in individual, family, and social environmental levels, and these varied levels interact. Resilience can be optimized by strengthening the protective factors at all interactive levels.⁹

A study suggested the existence of extensive protective factors at the individual level, including social competence, problem-solving skills, critical consciousness, autonomy, sense of purpose, intelligence, sociability, communication skills, and so on.⁹ Hence, intervention at this level should be focused on developing personal coping skills and resources to enhance resilience.¹⁵

Traditionally, family is an important development context for adolescent development.¹⁶ Factors such as parental warmth, encouragement, and support are regarded as protective.¹⁷ However, the current family environment is not as favorable as expected. According to the Social Development Index developed by the Hong Kong Council of Social Service,¹⁷ family solidarity has continued to drop in the past two decades. The increase in the number of single-parent families and domestic incidents (e.g. dispute, nuisance, annoyance, distress, or argument) can be risk factors that undermine resilience.¹⁶

The school is a fundamental institution for students who spend nearly one-third of their time in schools. Thus, schools offer an ideal environment to promote resilience by enhancing students' abstract intellectual abilities and their capacity to solve practical problems, which include difficulties encountered during the development of a healthy lifestyle. In a safe school environment, supportive peers, positive teacher influence, and many opportunities for success are regarded as protective factors.¹⁵ International and local studies have also demonstrated that a school-based health promotion program, which includes a modification of the school environment, results in a positive health change among students.^{18–20} Hence, promoting resilience in adolescents cannot be successful without the participation of schools.

(ii) Psychological resilience: A learned asset of positive development

Positive development, which focuses on the strengths, potentials, and talents of adolescents rather than on their deficits and pathologies, is an important component of holistic youth development.²¹ Resilience, as a construct of positive youth development, can be regarded as a factor of the psychosocial well-being of adolescents.¹³

According to the resilience framework,¹⁰ the process of person-environment interaction is influenced by environmental risks and protective factors, as well as by the internal capacity of people. Family and school are potential environmental factors that moderate the effects of individual vulnerabilities and environmental hazards on the adaptation of adolescents.²¹ Their internal capacities, including their cognitive and social competence (e.g. problem-solving and communication skills) and emotional stability (e.g. emotion management and empathy), influence how they interact with their environment.¹⁰ These interactions eventually affect their resilience building and life outcomes. Accumulated research evidence demonstrates that despite adversities, resilient adolescents are characterized by higher psychosocial and physical well-being, better academic achievements, and greater life satisfaction in comparison with normal adolescents.²³⁻²⁵ A high resilience level is associated with positive stress perception.²⁶ Literature reviews suggest that stress is associated with mental health problems, such as depression,²⁷ suicide ideation,²⁸ and sleep disturbance.²⁹ Australia has developed national strategies, including “Mind Matter,” to provide support to secondary schools and thereby enhance the resilience of the youth.³⁰ Figure 1 outlines the relationship among stress, resilience, and mental health.

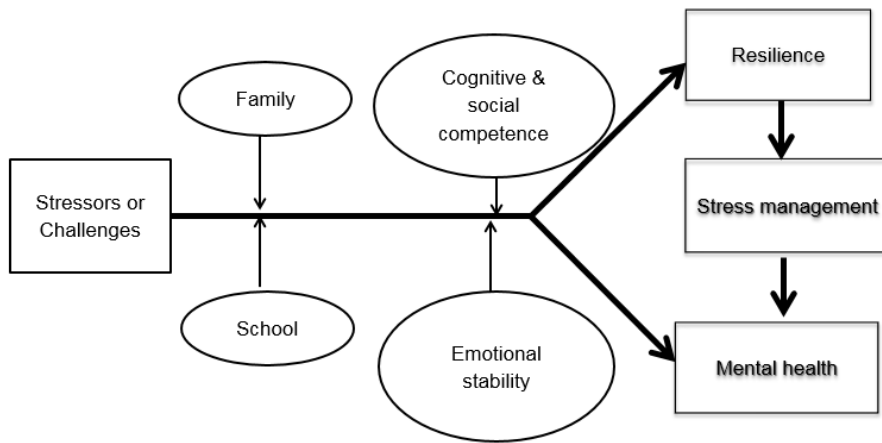


Figure 1. Relationship among stress, resilience, and mental health

Substantial opportunities to introduce school-based programs for enhancing the psychological resilience of students can be found. The proposed project is developed to address the positive developmental needs of students and complement the Personal and Social Development strand of the junior secondary education Personal, Social and Humanities Education KLA curriculum and improve the mental health of students.

(V) Implementation Plan with Timeline

(i) Implementation plan

This project is a 13-month pilot study that adopts a pre- and post-test design.

Psychological resilience enhancement program (PREP)

The PREP will comprise three main modules, namely, environmental context, emotional management, and cognitive and social competence, which are in line with the resilience framework.¹⁰ The first module targets teachers and parents to build a supportive environment while the second and third modules aim to develop the individual internal capacity of students. The program will be delivered by registered psychiatric nurse and experienced nurse educators and co-facilitated by teachers who have attended the workshops.

A. Module I - Environmental context (teacher- and parents-focused)

This module consists of two main themes, namely, building a safe and caring study environment and enhancing teacher and parental support for secondary school students. A series of train-the-trainer activities, including two workshops, experimental learning and reflective sharing sessions, will be provided for the teachers (Table 1a). One seminar will be organized for the parents (Table 1b).

The first workshop for teachers will be composed of seminar and interactive group activities to enhance their understanding of the importance of the psychological resilience of students and the means of contributing to student resilience through daily interactions. Strategies for creating a caring environment will also be discussed. Although family and school are the two major environmental attributes that contribute to the development of the psychological resilience of students, the second workshop will focus not only on developing close connections with students but also on enhancing communication and collaboration with families. Teachers will act as co-facilitators in the sessions for the parents and

students. Thus, the two workshops will be conducted at the beginning of the project. On completion of these workshops, teachers are equipped to act as co-facilitators in the student modules.

One seminar will be organized for the parents. In addition to the introduction to psychological resilience and its importance to children, effective communication strategies with adolescents will be discussed. Shek³¹ demonstrated that parental psychological control exerts a negative influence on adolescents' skill mastery and life satisfaction. Thus, increasing the awareness of parents about psychological control, which includes constraining expressions, invalidating personal feelings, excessive control and love withdrawal³², will be another focus of the seminar. Parents also contribute significantly to the shaping of the lifestyle of their children.³³ Therefore, information on healthy lifestyle in the family context will also be disseminated in the workshop.

Table 1a . Themes, content, and delivery mode of the PREP: Environmental context module (For teachers)

Target audience	Themes	Contents	Key modes of delivery	Personnel involved	Implementation
All teachers	Building an inclusive study environment	<p>Resilience and you</p> <ul style="list-style-type: none"> • What is resilience and its importance to students • Fostering positive attitude in face of adversities and failure • Role of teachers in students' resilience development • Creating a learning environment that facilitates resilience development <p>Promoting an inclusive attitude</p> <ul style="list-style-type: none"> • Self-acceptance and accepting others • Appreciating strengths of self and others • Creating an inclusive study environment • Promoting acceptance of students with different backgrounds/abilities • Reinforcing pro-social behavior 	1-hour Seminar and group discussion	Registered psychiatric nurse and project assistant	Aug – Oct 2017
	Skills enhancement for strength-based approach	<p>Facilitate effective communication with students</p> <ul style="list-style-type: none"> • Implement effective instructional skills • Explain the importance of resilience to students • Develop rapport with students and establish a respectable image • Affirm students' abilities • Encourage students' participation and stimulate students' ideas • Emotion regulation during discussions with students with disciplinary problems <p>Build a supportive relationship with parents</p> <ul style="list-style-type: none"> • Understand the information needs of the parent community (e.g. their role in secondary school) • Develop strategies that facilitate communication with parents (e.g. consider school community demographics, cultural needs and linguistic needs) • Explore new methods to encourage parental engagement through existing events at school 	1-hour workshop: Role play and group discussion	Registered psychiatric nurse and project assistant	
Teachers involving Module Two and Three	Experiential learning	<ul style="list-style-type: none"> • Co-designing classroom group activities for Modules Two and Three • Co-facilitating classroom group activities for Modules Two and Three • On-site coaching by registered psychiatric nurse for using strength-based approach in communication and facilitation for enhancing self-efficacy and resilience 	Authentic learning with on-site coaching	Registered psychiatric nurse and project assistant	
	Reflective	<ul style="list-style-type: none"> • Group sharing reflective discussion on the 	1-hour	Principal	

	sharing	<ul style="list-style-type: none"> experience of strength-based facilitative approach in enhancing students' psychological resilience Case sharing on the process of facilitating students' resilience development 	<i>workshop:</i> Reflective learning	investigator and registered psychiatric nurse	
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Table 1b . Themes, content, and delivery mode of the PREP: Environmental context module (For parents)

Target audience	Themes	Contents	Key modes of delivery	Personnel involved	Implementation
Parents	Building a safe and caring environment and enhancing support to children	Resilience and you <ul style="list-style-type: none"> What is resilience and its importance to their children Role of parents in the resilience development of their children Creating a home environment that facilitates resilience development <ul style="list-style-type: none"> Understand psychological control and its influence on children's well-being Establish strategies to communicate with children Promote healthy lifestyle: sleep hygiene, nutritional and dietary practice, and physical activities that can be practiced at home 	1.5-hour seminar and group activities	Registered psychiatric nurse and project assistant Co-facilitated by school teachers	Nov 2017 – Jan 2018

B. Module II - Emotional management (student-focused)

This module will coach students to recognize their feelings, thoughts, behaviors, and their relationships while developing emotional control skills. Students are expected to gain the knowledge and skills necessary to recognize emotions, heighten their awareness of the importance of being mindful of other people's thoughts and feelings, and challenge unhelpful thoughts that lead to negative consequences. The entire module will consist of three workshops in the form of a large group seminar (student assembly) and class activities. Group discussion worksheets will be prepared. A sample of this module is shown in Appendix 2. The details of this module are outlined in Table 2.

Table 2. Themes, content, and delivery mode of the PREP: Emotional management module

Target participants: Form 1 to Form 3 students

Themes	Contents	Key modes of delivery	Learning approach	Duration	Personnel involved	Implementation
Emotional management module	Understanding the relationship between feeling, thoughts, and behaviors under ABCD principles ³⁴ <ul style="list-style-type: none"> Antecedents Belief Consequence Do 	Student assembly	Didactic (knowledge transfer, stimulating awareness and thoughts)	80 mins	Registered psychiatric nurse; Co-facilitated by school teacher	Nov 2017 (one session)
ABCD: The way you act	Understanding emotion <ul style="list-style-type: none"> Types of positive and negative emotions (e.g. happiness, frustration, shame) Awareness of negative emotions and their intensity Empathy skills (i.e., responses to other people's emotions) 	Class activities	Small group discussion (skill transfer through video vignette* discussion, role play)	35 mins per class	Registered psychiatric nurse and project assistant Co-facilitated by school teacher	Dec 2017 (12 classes) #
Be the master of your emotions	Develop healthy emotion management strategies <ul style="list-style-type: none"> Helpful and unhelpful thinking 	Class activities	Small group discussion (skill transfer)	35 mins per class	Registered psychiatric nurse and	Dec 2017 (12 classes) #

	<ul style="list-style-type: none"> • Positive self-talk • Use of emotional expressions • Adaptive measures 		through video vignette* discussion, role play)		project assistant Co-facilitated by school teacher	
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Total 12 classes: 4 classes for each form (S1, S2, S3); 15-26 students per class.

***Video vignette: Handling academic related stress and mental hygiene**

Key contents: emotion and reaction identification, expression and empathy skills (ABCD principles)

C. Module III - Cognitive and social competence (student-focused)

Cognitive and social competence learning focuses on the promotion of cognitive-social skills that allow students to succeed in school.³⁴ Students are expected to gain the knowledge and skills necessary to recognize their own strength, which enhances their interests and motivation to solve problems through a generalized cognitive-affective-behavioral response set, develop step-by-step problem-solving skills, and establish and maintain social relationships constructively. The entire module will consist of three workshops in the form of a large group seminar (student assembly) and class activities. Group discussion worksheets will be prepared. A sample worksheet of this module is shown in Appendix 3. The details of this module are outlined in Table 3.

The different developmental needs of students are addressed in Forms 1–3, with the role play and discussion tailored to their situations, such as the transition from primary to secondary school for Form 1 students and transition to senior secondary education for Form 3 students.

Table 3. Themes, content, and delivery mode of the PREP: Cognitive and social competence module

Target participants: Form 1 to Form 3 students

Themes	Contents	Key modes of delivery	Learning approach	Duration	Personnel involved	Implementation
Cognitive and social competence module	Promotion of physical and mental well being “eating well, sleeping well and thinking well” in relation to puberty and physical growth	Student assembly	Didactic (knowledge transfer, stimulating awareness and thoughts)	80 mins	Registered psychiatric nurse; Co-facilitated by school teacher	Apr 2018 (one session)
Positive self-view	<ul style="list-style-type: none"> • Identify one’s strengths and weaknesses • Cultivate a positive sense of self through strength-based activities -Self-reflection -Students share their experience, and the psychiatric nurse debrief from the perspective of positive psychology 	Class activities	Small group discussion (skill transfer through video vignette* discussion, role play)	35 mins per class	Registered psychiatric nurse and project assistant Co-facilitated by school teacher	May 2018 (12 classes) #
Effective problem-solving and communication skills	<ul style="list-style-type: none"> • Recognize and display social cues (e.g. facial expressions and body language) • Social skills in different social scenarios (e.g. meeting friends, strangers, and people from different backgrounds and saying “no”) • Introduction to step-by-step problem-solving techniques 	Class activities	Small group discussion (skill transfer through video vignette* discussion, role play)	35 mins per class	Registered psychiatric nurse and project assistant Co-facilitated by school teacher	May 2018 (12 classes) #

	-Problem definition and formulation- Alternative generation and decision making -Outcome evaluation • Establishing a supporting system, fostering help seeking attitude and skills as well as channels for seeking help					
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Total 12 classes: 4 classes for each form (F1, F2, F3); 15-26 students per class.

***Video vignette: Interpersonal conflicts**

Key contents: Communication and social skills in different social circumstances (interactions with persons of opposite sex, strangers, parents, persons with different ethnicities and social views, persons with offensive behaviors)

(ii) Timeline

The PREP comprises a module for teachers and parents, and such module will be implemented before the commencement of the modules for students. Table 4 outlines the project timetable.

Table 4. Project timetable

	Project period			
	Q1	Q2	Q3	Q4
	May-Jul 2017	Aug-Oct 2017	Nov 2017-Jan 2018	Feb-May 2018
Program refinement	X			
Hiring and training of program staff	X			
Preparation of program material	X			
Video vignette production	X	X		
Briefing session	X			
Program delivery				
● Module I: Environmental context module (for teachers and parents)		X	X	
● Module II: Emotional management module (for students)			X	
● Module III: Cognitive and social competence module (for students)				X
Evaluation				X
Report write-up and dissemination				X

(VI) Teachers' and Principals' Involvement in the Project

The principal and teachers of Secondary School possess solid experience in secondary school education. The principal will act as program advisor and coordinator to ensure that the program fits their school curriculum in addition to the input of the teachers of the Life and Society class. The class teachers of the junior forms will also receive training in the workshops and act as co-facilitators in the students' modules. The class teachers are familiar with the needs of the students and will thus be able to provide invaluable feedback during group activities.

The collaborating School Principal, together with Director of the Nethersole School of Nursing will oversee the design, implementation and evaluation phases of the PREP. The collaborating school's education psychologist will take an advisory and consultant role for the contents and delivery process. The collaborating school's social workers and the guidance team will take a co-designer role in the preparation and implementation processes based on students' characteristics and learning needs in each class.

(VII) Budget**Total requested funding (HKD): \$414,600**

Breakdown	HK\$	HK\$
Staff Cost		
- Project assistant (part-time) (\$13,500/2 for 12 months, including 5% MPF)	85,050	
- Registered psychiatric nurse (part-time) (total of HK\$200/h for 18 h/week for 12 months and 5% MPF)	196,409	
- Two student helpers (total HK\$55/h for 800 h over 12 months)	44,000	325,459
Services		
- Licensing fee and manual for the 12-item General Health Questionnaire	4,000	
- Production of video vignettes	20,000	24,000
General Expense		
- Stationery/Photocopying/ Travel/Printing costs/ Mailing costs/Miscellaneous	6,072	
- Audit fee	5,000	11,072
Other Expenses		
- 15% Overhead Charge for University	54,069	54,069
Total		414,600

Justification of requirement

1. Research staff: The manpower requested in this proposed project is essential in carrying out the daily research work.
 - A part-time project assistant will be hired for 12 months with the following responsibilities:
 - i. Providing administration support for project implementation and liaison with the school
 - ii. Assisting the nurse in preparing educational materials and video vignettes
 - iii. Conducting data collection and data entry
 - iv. Assisting in the focus group interview and monitoring the quality of the verbatim transcription
 - v. Assisting the principal investigator in the data analysis and report writing

The project assistant is required to have experience in conducting projects in a secondary school.
 - A part-time research nurse, who must be a registered psychiatric nurse with at least three years of experience, will be hired for 12 months and be responsible for the following:
 - i. Facilitate activities in modules I to III
 - ii. Development of the teaching and learning materials of the PREP and writing of video scripts
 - iii. Logistics of the project (collaboration with the school, conduct of workshops, and data entry and analysis)
 - Two student helpers will support the small group activities as co-facilitators and assist in verbatim transcription and script writing for the video vignettes.
2. General expense for consumables for traveling, printing and stationary will also be required
3. Production of video vignettes
 - i. Purpose:
 - For students in the PREP
 - To provide a real-life case scenario that highlights common stressful, emotional, and interpersonal situations that are commonly encountered in one's school life, peer relationships, and family interactions.
 - To generate discussions and facilitate role play in the contexts of communication, emotional, control skills, as well as problem solving.

For school teachers (staff development purpose)

- To serve as an internal staff development resource. Video vignettes, accompanied by lesson plans' discussion points and trainers' guide, will be given to the school for future train-the-trainer purposes. Approximately 60 teachers of the school are expected to benefit from the video vignettes.

ii. Contents:

Two scenario-based video vignettes will be produced.

- Video A: handling academic-related stress and mental hygiene
Emotion and reaction identification, expression, and empathy skills (ABCD principles)
- Video B: inter-personal conflicts
Communication and social skills in different social circumstances (interactions with persons of the opposite sex, strangers, parents, persons with different ethnicities and social views, persons with offensive behaviors)

iii. Video production cost breakdown:

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|-------------------------------------|----------|
| ■ Pre-production work: | \$4,000 |
| - Script enhancement | |
| - Production management | |
| ■ Production work | \$16,000 |
| - Video shooting | |
| - Shooting crew | |
| - Actors | |
| - Video editing with visual effects | |

(VIII) Expected Project Outcomes

Complement to the existing Personal, Social, and Humanities Education curriculum

The PREP can benefit the existing junior secondary school curriculum. The program is expected to cultivate students' positive self-value, enhance their resilience, reduce their stress levels, and improve their mental health. Teachers are expected to establish rapport and close connection with students and understand the importance of psychological resilience and their roles in influencing students' resilience.

(IX) Project Evaluation

(i) Outcome evaluation

The effectiveness of the PREP will be examined by administering an identical set of quantitative assessment questionnaires before (pre-test) and after (post-test) the program implementation. Demographic data will be collected using a questionnaire to provide contextual information for interpretation and comparison. To eliminate researchers' bias, a separate team of researchers who are not involved in the PREP planning and implementation will conduct an independent project evaluation. Evaluation schedule is developed in collaboration with the collaborating school to avoid potential stress relating to examination events.

The outcome measures for students are as follows:

- *Psychological resilience* will be measured using the Resilience Subscale of the modified Chinese Positive Youth Development Scale (RE-CPYDS).³⁶ The RE-CPYDS comprises six items. Students will be asked to rate the items on a six-point Likert scale (1 = strongly disagree, 6 = strongly agree). High scores denote high levels of resilience. The psychometric properties of the modified CPYDS have been examined among Hong Kong Chinese junior secondary school students with adequate reliability (Cronbach's alpha = 0.82).²⁴
- *Self-esteem* will be measured using the Chinese Rosenberg Self-Esteem Scale (CRSES).³⁷ The scale comprises 10 items rated on a four-point Likert scale (1 = strongly agree, 4 = strongly disagree). High scores indicate high levels of self-esteem. The CRSES is a reliable tool for Hong Kong Chinese secondary school students with a Cronbach's alpha of 0.77.³⁸
- *Perceived stress* will be measured using the Chinese version of the 10-item Perceived Stress Scale (CPSS-10).⁵ The scale will be used to assess the degree of stress experienced by students over the past month on a five-point Likert scale (0 = never, 4 = very often). Low scores denote low levels of perceived stress. The CPSS-10 has been used among Hong Kong Chinese secondary school students with a Cronbach's alpha of 0.68.⁵
- *Mental health* will be measured using the Chinese version of the 12-item General Health Questionnaire (GHQ-12), which was developed to assess people's psychological distress and to detect non-psychotic psychiatric symptoms.³⁹ Students will be asked to rate the items on a four-point Likert scale (0 = less than usual, 3 = much

more than usual). High scores indicate great psychological disturbance. The GHQ-12 is a reliable tool for Hong Kong Chinese secondary school students with a Cronbach's alpha of 0.87.^{8,40}

Data analysis will be conducted by an independent statistician who is not involved in the project planning and implementation. Descriptive statistics will be performed to summarize the demographic characteristics and outcome variables via mean and standard deviation or via frequency and percentage, whichever is appropriate. All continuous outcome variables will be examined for normality with the Kolmogorov–Smirnov test. Appropriate transformations will be conducted to deal with skewed data, the purpose of which is to transform the data appropriately such that they conform to normality, which in turn increases the validity of the associated statistical analysis. A paired t-test will be performed to compare any change in the outcome variables before and after the PREP. The intention-to-treat principle will be adopted in the data analyses. All data analyses will be performed using the statistical software SPSS.

(ii) Process evaluation

Focus group interviews will be conducted at the beginning and end of the program. The teachers and school social workers will be asked to comment on the content, activities, and delivery method of the PREP. Suggestions for improving the program and the means to facilitate its incorporation into the school curriculum will also be obtained. The focus group will be conducted by a trained research nurse following the developed semi-structured interview guide.

Interview data will be analyzed via qualitative content analysis by two experienced qualitative researchers. Strategies to achieve trustworthiness include triangulation of data in the analysis process, member checking, and peer debriefing. In addition, a decision trail with all audiotaped files, verbatim transcripts, and materials related to the analysis process, as well as the data reconstruction products, will be maintained to increase the clarity of the analysis process for the research team.

(X) Sustainability of Project Outcomes

The participating teaching team is expected to gain increased awareness of the importance of psychological resilience in the positive development of secondary school students. A supportive environment would then be created to enhance the psychological resilience of students. Teachers who have attended workshops will act as co-facilitators of the program. Therefore, they are equipped with the skills to conduct workshops for students or incorporate individual modules into their class using the developed notes and worksheets.

Strategies to enhance sustainability of the project:

1. The CUHK project team will partner with key persons of the collaborating school in the design of intervention at the student, school and parent levels, as well as implementation of the PREP, and share with school personnel the pre and post-tests evidence for facilitating the designing of subsequent follow-up plan to enhance sustainability.
2. Follow up plan upon completion of the project for achieving long-term objectives

Long-term objectives	Follow-up plan upon completion of the project
<u>Student perspective:</u> To transfer the learned cognitive-social and emotional management skills in PREP to other stressful situations in late adolescence such as preparation of major examination (HKDSE)	Establishing on-going partnership between CUHK team with the collaborating school's guidance team as external advisory member for incorporating strength-based activities to enhance student resilience.
<u>School environmental context:</u> Capacity building of school teachers to facilitate an acceptance and inclusive study environment and enhance students' development of resilience through daily interaction	To integrate key elements of the PREP into the collaborating school's school-based student support / guidance initiatives (eg. '感恩校園') for cultivating a supportive, respectful learning environment to enhance "coping and recovery from failure /adversity".

3. A series of train-the-trainers activities is developed for teachers before implementation of Modules Two and Three. This includes:

- A seminar will be conducted by a registered psychiatric nurse for introducing the concept of resilience and roles of teachers in creating an inclusive and acceptance study environment for students' resilience development (Module One – teacher's component);
 - One workshop will be conducted for skills enhancement in fostering strength-based approach in developing supportive relationships with students and their parents (Module One – teacher's component).
 - Experiential learning opportunity will be provided through co-facilitating the in-class activities in Module One (parents session), Two and Three (student sessions).
 - A teachers' reflective sharing session on the experience of strength-based facilitative approach in enhancing students' psychological resilience will be conducted by the principal investigator and the registered psychiatric nurse.
 - A set of teaching and learning materials, including lecture notes, interactive video vignettes, and worksheets, will be developed for use by teachers and students in the PREP.
4. The information delivered in the workshop for parents will be summarized and posted on the school websites. It can be accessed by parents who can learn how to support their children in building psychological resilience.
 5. After determining the effectiveness of the program through this pilot study, further studies will be conducted in other secondary schools. In this way, a school-based resilience enhancement program can be developed.

(XI) Dissemination/Promotion of Project Outcomes

This pilot study examines the feasibility, acceptability, and effectiveness of the PREP. The project results will be disseminated through the website and newsletter of the Nethersole School of Nursing and Secondary School at the end of the program. The research papers related to the program components and program effectiveness will be submitted to local and international refereed journals within one year after the completion of the program.

A website will be designed specifically for this project, which will be embedded in the Nethersole School of Nursing, CUHK website for public access after completion of the project. Project objectives, summary of project protocol, and key evaluation findings will be disseminated through the website to increase visibility and transferability of knowledge and experiences. The project website will be maintained for at least 2 years. The cost of maintaining the website will be responsible by the Nethersole School of Nursing, CUHK.

(XII) Asset Usage Plan

Not applicable to this project.

(XIII) Report Submission Schedule

My organization commits to submit proper reports in accordance with the following schedule:

Project Management		Financial Management	
Type of Report and covering period	Report due date	Type of Report and covering period	Report due date
Progress Report 1/5/2017 - 31/10/2017	30/11/2017	Interim Financial Report 1/5/2017 - 31/10/2017	30/11/2017
Final Report 1/5/2017 - 31/5/2018	31/8/2018	Final Financial Report 1/11/2017 - 31/5/2018	31/8/2018

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For facilitator use

活動名稱： 表情不見了，你還明白我嗎？	活動形式： 小組討論 (每四位同學一組)
活動目的： 讓學生們練習通過肢體語言去識別的情緒。	活動資源： 雜誌，報紙的相片，互動教學影片
預期成果： 學生們能提高了解別人想法和感受的重要性。	活動時間： 二十分鐘

1. 每四位同學分為一組 (盡量不要讓熟絡的朋友坐在一起)。
2. 給每個小組一張已遮蔽人們的臉的照片 (你可以使用便條正方形或可移動貼紙)，讓同學們以姿勢和肢體語言來判斷情緒。
3. 每組有 5 分鐘時間去回答以下問題，並需要把答案寫下：
 - i. 照片中的人可能是什麼情感？
 - ii. 有什麼線索可找出這些情緒？
 - iii. 相中人在思考什麼以致他們有這樣的情感？
 - iv. 有什麼事件/情況能引發這些想法？
4. 把貼紙移除，看看學生會否改變他們的想法？
5. 全班討論 (十分鐘)：
 - i. 什麼情緒是最容易閱讀？哪些是最難的？為什麼？
 - ii. 是不是容易就能猜到相中人在想什麼？為什麼？
 - iii. 你是否能夠猜到是什麼樣的事件或情況而引發這思想和感情？為什麼？
 - iv. 把貼紙移除後，有什麼其他信息由面部表情提供？
 - v. 除了身體語言能溝通我們正在思考和感覺外，還有其他方法嗎？

Appendix 2. A sample worksheet of group activities of Cognitive and Social Competence module (adopted from SenseAbility³⁴)

For facilitator use

活動名稱： 你有強項嗎？	活動形式： 小組討論 (每四位同學一組)
活動目的： 讓學生們互相幫助，以確定個人的優勢和特質。	活動資源： 黑板，紙，筆，互動教學影片
預期成果： 學生們能改善自我意識，更新專注自己優勢的能力。	活動時間： 二十分鐘

1. 在黑板上寫下一些學生可確定彼此的優勢和素質的範疇，如：
“禮貌”，“尊重他人”，“體貼”，“應變力”，“創造力”，“幽默感”，“執著”等
 2. 每四位同學分為一組 (盡量不要讓熟絡的朋友坐在一起)。
 3. 每組有 10 分鐘時間，在您所選擇的範疇中識別並列出各組員的優點和強項。
 4. (需向學生強調一點：這並不是一個對同學們的評審，而是了解什麼可能被視為缺點或弱點，及找出別人的優點和強項。)
 5. 十分鐘後進行全班討論：
 - i. 是否很容易識別組員的素質？是不是比確定自己的素質更容易？為什麼？
 - ii. 你的優點和強項清單上有沒有任何形容是令你感到意外的呢？為什麼？
 - iii. 你有什麼方法可以定期提醒你自己的長處和強項呢？
 6. 最後，讓學生交換他們分析，並請學生與家長分享這些令人鼓舞的文件。
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