

# Developing Resiliency in Children through Family-Based Life Skills Training Intervention: A Randomized Control Trial

Jeeraporn Kummabutr\*, Natthapat Buaboon, Chunjarabhorn Sinsiri

**Abstract:** Resilience skill in children is necessary to help them balance their stress during adverse conditions. This study examined the effects of the Family-Based Life Skills Training Intervention on the Resilience of Children. The program combined parent training with child life skills training. The study was conducted in a central province of Thailand from January-March 2014, where three elementary schools were randomly selected and all eligible 4<sup>th</sup> grade students and their parents were randomly assigned to either an experimental group (n = 80) or a control group (n = 82). Data were collected from all participants prior to implementation, and one week and two months after completed intervention via the Proactive Coping Inventory. The repeated measures ANOVA and the independent t-test were used to test the effect of the program.

The results indicated that participants in the experimental group had significantly higher resilience scores than before receiving the intervention and higher than those in the control group over time. The interaction effects of intervention by time on the resilience mean score changes were found. These findings suggest the intervention require an active parent involvement in child skills intervention to improve resilience skill. An implication for nursing practice is that school nurses should use the family-based intervention to develop child resilience skills but further research is required on the intervention over a longer duration.

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**Keywords:** Children, Family-based intervention, Parent participation, Resilience, Resilience Skills, Randomized Control Trial, Training program

## Introduction

Experiencing a disaster and terrorist event can cause directly posttraumatic stress reactions, depression, anxiety, and other emotional problems in people including children.<sup>1, 2</sup> When facing a traumatic or stressful life event, children can be adversely affected.<sup>3</sup> They are at risk for psychopathology and other difficulties both directly and indirectly,<sup>3</sup> such as learning problems, antisocial behaviors, and mental health problems that

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are often maintained into adulthood.<sup>4</sup> Similarly in Thailand, children and adolescent who experienced disasters such as the tsunami in 2004 and the flood crisis of 2011 also appeared to have poorer psychological well-being, with more reporting themselves as being unhappy, anxious, and lonely.<sup>5-8</sup> These adverse effects are viewed as the Iceberg phenomenon projected to require future adaptation and coping processes.<sup>4, 9-12</sup> Moreover, troubled family environments can also affect children. When parents struggle with negative events, children also share depression.<sup>13-16</sup> Parents and family can help children to recover from such adverse experiences.<sup>13, 15, 17</sup> The need to prepare children for exposure to stressful life events or traumatic events is particularly necessary in risky environments, but improving their skills to buffer those stressful events will not likely be sustained if their family remains unchanged. Unfortunately, little is known about how to prepare our children to develop resilience for handling and recovering the adverse effects of a natural threat stressor or life difficulties in the future in Thailand. Thus, this study aimed to determine the effect of combining parent training with a children's life skills training intervention program to develop their resilience.

## **Literature Reviews**

Resilience is viewed as strengths that help a person cope with stress or life difficulties. It is an individual's ability to balance in stress or adverse conditions by using positive emotion, and affective and cognitive outcomes. Literature reviews have indicated that resilience is built on three personal resources: an ability to coping and balancing one's own life (I CAN), self-esteem (I AM), and social support (I HAVE).<sup>9, 15, 18</sup>

The resilience of children can be developed through personal and social adaptation processes.<sup>11, 19</sup> In addition, some models use social support of family wellbeing and parent competence to support child

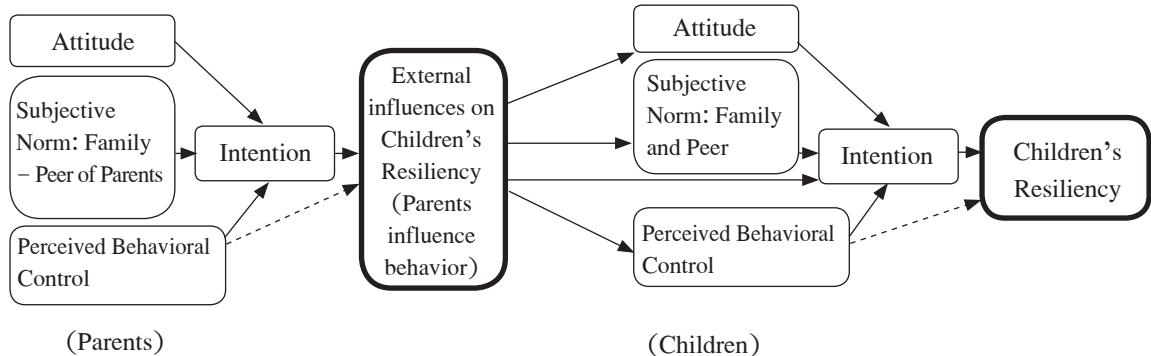
resilience.<sup>20, 23</sup> Using this approach, a family-based intervention, in combination with life skills training (LST), was provided for children when they faced with the difficult challenge of coping with stressful events such as disaster, terrorist or other traumatic events. Some content and methods in LST were used to facilitate children to develop those skills, while the parents were trained for training their child at home.<sup>9, 19</sup>

Strengthening parenting to develop child resilience is considered to be protective and a most important factor.<sup>4,15</sup> In relation to family functioning, the child/parent relationship has been found to be the vital mediator factor for child resilience development.<sup>9,19</sup> Effective parenting provides buffers that diminish the effect of risk factors and help build resilience in children.<sup>9</sup> Parents can promote resilience in children through their communication, warm relationship, and the environment they provided, including positive conflict management and problem-solving situations.<sup>4,20</sup> Generally speaking, if parents want to achieve the goal of child resilience development they need to improve their ways of communicating and empowering children to be strong, and should also be a good role model.<sup>9</sup>

### **Theoretical framework**

Based on child developmental process and ecology system, the process of child resilience skill development has focused on social environment supported by family and parents.<sup>11, 19</sup> However, in this study the conceptual framework is based on resilience literature and the Theory of Planned Behavior (TPB).<sup>21</sup> See Figure 1 for a model of this. In keeping with TPB, the external influences of greatest interests are parents and parent-child interactions affecting child development.<sup>22</sup> The right side of the model is the traditional TPB, while the model's left side presents the effects of parents' behaviors and beliefs appear to be mediated through the child's perceived behavioral control or control beliefs and attitude.<sup>21, 22</sup> Theoretically, parents or family are viewed as the important referent of children.<sup>21, 22</sup> The parents' attitudes, subjective norms, self-efficacy, and intentions

are referred to as parents' perceptions of support for children's resiliency development. This concept was applied as the core construct of the intervention framework. This study aimed to examine the effects of a Family-Based Life Skills Training (F-LST) on the resilience of children. The following hypotheses were tested:



**Figure 1** The conceptual framework of the interventions.

## Method

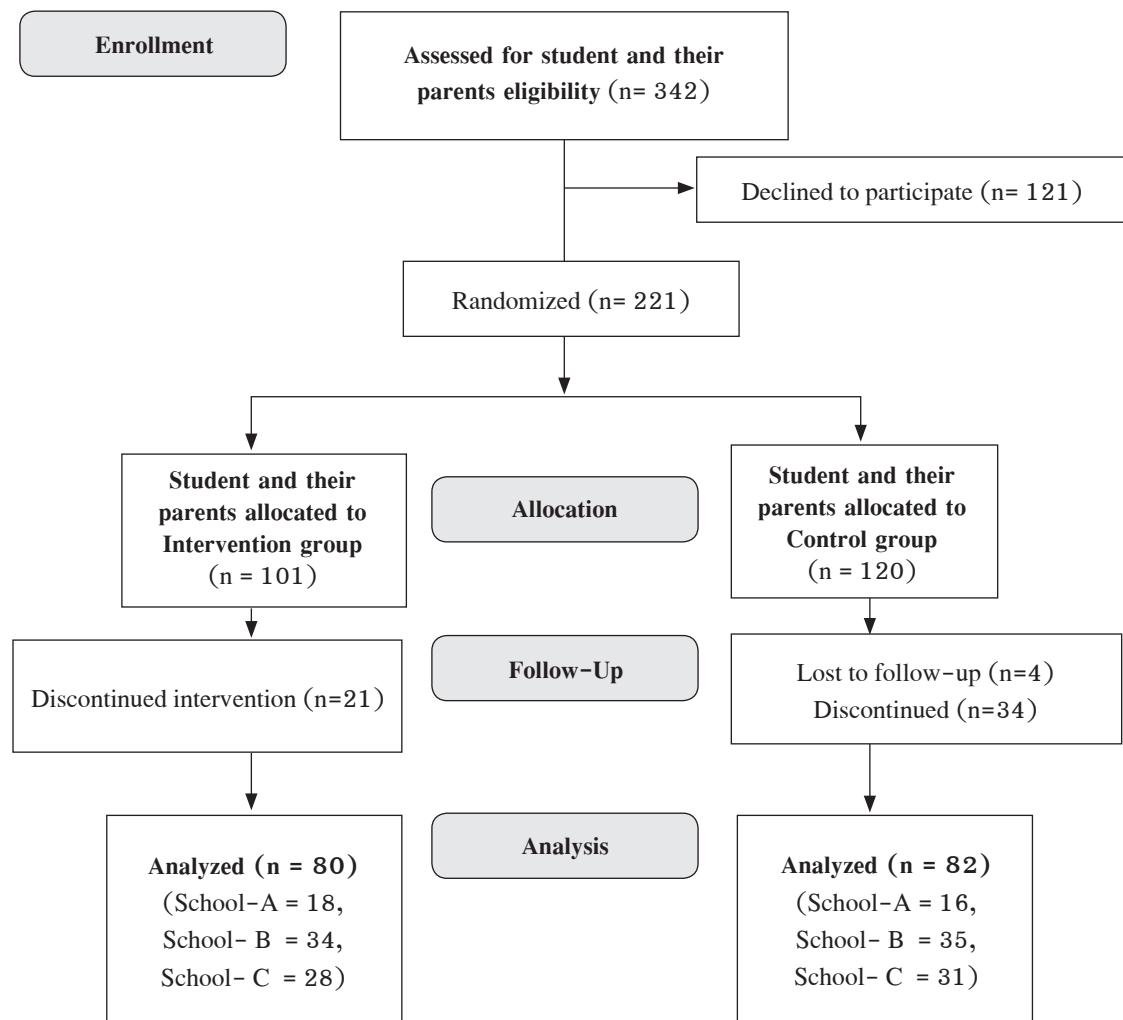
**Design:** This intervention study used a randomized controlled trial.

**Ethical Considerations:** Study approval was granted by the Second Thammasat University Ethics Committee for Research in Humans, No. 092/2013. All potential participants and their parents were informed about the study's purposes, the intervention program, confidentiality and anonymity issues, potential risks and benefits, what their voluntary enrolment entailed, and that they could withdraw from the study at any time without repercussion. The parents gave written informed consent for themselves and the children, and the children signed an assent form.

**Sample and Sampling:** One province located in the central of Thailand was purposely selected for the study, since this province faced severe flooding in 2011. The fourth-grade students and their parents from these selected schools, were living in the areas where floods had inundated the land. Multi-stage

1. The children receiving the F-LST have higher resilience mean scores at one week and two months after completing the program than before entering the program.
2. The children receiving the F-LST have higher resilience mean scores than those in the control group at one week and two months after completing the program.

random sampling was used to recruit three schools from this province. Initially, 342 families who were able to read and write Thai, living together in one household were recruited using drawing lots for the randomization list. Students who were being previously involved in a formal life skills development program and unable to attend at least 6 out of 8 sessions of the program sessions were excluded. The 221 eligible 4<sup>th</sup> grade students and parents were randomly assigned to either the experimental group ( $n = 101$ ) and control group ( $n = 120$ ). During the study, 21 of the experimental group student/parent dyads dropped out because of illness and uncompleted program (20.79 % attrition rate). In addition, 38 of the control group student/parent dyads dropped out because of moving to another school and only completed the pretest. Those completing the study were 80 student/parent dyads in the experimental group (school-A,  $n=18$ ; school-B,  $n=34$ ; school-C,  $n=28$ ), and 82 student/parent dyads in the control group (school-A,  $n=16$ ; school-B,  $n=35$ , school-C,  $n=31$ ). (see Figure 2).



**Figure 2** A consort flow diagram outlining participant recruitment and enrollment

The approximate sample size for the repeated measures design was determined based on statistical power analysis, at a significance level of .05, a desired power of .80, and the average correlation of the participants' responses to the number of repeated measures.<sup>30</sup> The sample size for two repeated measures design is at least 82 participants per group. An attrition rate of 20% of the sample size was added to each group. Thus, the minimum number of student/parent dyads needed in each group was 98.

**Instruments:** Three instruments were used in this study: The Demographic Data Questionnaire,

The Parents Demographic Data Questionnaire, and The Proactive Coping Inventory-Thai.

**The Demographic Data Questionnaire (DDQ)** was developed to obtain students' information about age, gender, religion, birth order, sibling, child rearing/living with, and family relationship.

**The Parents' Demographic Data Questionnaire (PDDQ)** was used to obtain parents' data, including their education, occupation, and family monthly income. The DDQ was reported by children and the PDDQ was recorded by parents at home and sent back to RAs (teachers).

**The Proactive Coping Inventory-Thai (PCI-Thai)** was used to measure resilience, since a strong indicator of resilience is the ability to cope with stress.<sup>24</sup> This instrument was originally developed by Greenglass et al.<sup>24</sup> and translated into Thai by Tatha et al.<sup>25</sup> It consists of 58 items with multi-dimension as follows: proactive coping 14 items, reflective coping 12 items, strategic planning 5 items, preventive coping 10 items, instrumental support seeking 8 items, emotional support seeking 5 items, and avoidance coping 4 items. Scoring of performance is done on a 4-point scale, 1=not true at all to 4=completely true. Item examples are: “When I face the problem or obstacle, I think in positive way” (proactive coping); and “I consult friend or other I trust, when I stress or need coping” (emotional support seeking). The resilience score is calculated by summing the response values across 58 items, with higher scores indicating higher resilience.<sup>25</sup>

The content validity of PCI-Thai was verified by 3 experts (one nursing faculty member with experience and skills in child cognitive behavioral strategies, using the TPB; and one educator and one psychologist, both experts in conducting life skills training interventions and resilience training interventions in schools). The item-content validity index (I-CVI) of the PCI-Thai ranged from .91-.93 and the scale-content validity index (S-CVI) values, using the averaging approach, was .92. Linguistic changes, based on the experts' opinions, were revised before pilot testing with 5 participants (fourth graders) to assure their understanding and then were again revised before implementation. The Cronbach's alpha, for this study was 0.88 and each category ranged between 0.74 – 0.86 as follows: (1) proactive coping ( $\alpha= 0.82$ ); (2) reflective coping ( $\alpha= 0.86$ ); (3) strategic planning ( $\alpha= 0.79$ ); (4) preventive coping ( $\alpha= 0.84$ ); (5) instrumental support seeking ( $\alpha= 0.79$ ); (6) emotional support seeking ( $\alpha= 0.76$ ); and (7) avoidance coping ( $\alpha=0.74$ ).

**Intervention:** The F-LST program consisted of two interventions, the Life Skills Training Program for Resiliency (LST-R) for the children; and Parent Training Program for Developing Resilient Children (PTP-RC).

**1. The Life Skills Training Program for Resiliency (LST-R)**, based on key constructs from the TPB, was developed by the principal investigator (PI), and provided information promoting resiliency development in children. It consisted of eight sessions, 40 minutes each, which introduced the program and gave training for five skills of resilience development. These were self-esteem, critical thinking, decision-making and problem-solving, coping with stress, and self-regulation.<sup>4,19</sup> The eight sessions, were presented by 1–2 RAs (teachers) per group each week, and involved activities focused on the development of each skill and a homework assignment was provided to students each week. A new life skill was presented each week. Each session was sequentially organized into three major components: a) promoting a positive attitude toward each skill by way of giving information about the advantage of and need for the skill; b) increasing subjective norms by focusing on peer and parental norms related to each skill; and c) developing self-efficacy and promoting intention to carry out each skill by practicing the methods for developing each skill. All program sessions were presented in a school classroom in the home-room hour (see Table 1).

Homework was developed by the PI. The objectives were to facilitate parents and child to participate in the program at home. This homework was designed to assist and encourage parents to know and understand their children's attitudes, norms perceptions, self-efficacy and intentions, and in turn, encourage children to know and understand their parents' attitudes, norm perceptions, self-efficacy and intentions in life skills development for resiliency in while completing the work sheets. It was provided to the children every week and sent back to the research team the following Monday.

**Table 1** Schedule and Content of LST-R and PTP-RC Program

<b>LST-R Session/Content</b>	<b>Time Schedule</b>	<b>PTP-RC Session/Content</b>
<ul style="list-style-type: none"> <li>- Preparing the intervention program</li> <li>- Setting up the program schedule with school.</li> <li>- Preparing the children by introducing the program and activities in program.</li> <li>- Doing baseline (pre-test) data collection.*</li> </ul>	Before intervention	
<b>Session II: Developing Self-esteem Skill</b>	<b>1<sup>st</sup> Week</b>	<p><b>PTP-RC Session:</b> The content consisted of presenting how to support the development of resilience skill and five life skills supported resilience skills. In addition, the program presented guidelines for appropriate parental child-rearing skills for promoting and supporting children's: a) attitudes toward resilience and five life skills; b) subjective norms; c) self-efficacy; and, d) intention to develop those resilience and five life skills.</p> <ul style="list-style-type: none"> <li>- Complete homework assignment on self-esteem skill with children.</li> </ul>
	<b>2<sup>nd</sup> Week</b>	
<b>Session II: Developing Critical Thinking Skill</b>	<b>3<sup>rd</sup> Week</b>	<ul style="list-style-type: none"> <li>- Complete homework assignment on critical thinking skill with children.</li> </ul>
	<b>4<sup>th</sup> Week</b>	
<b>Session III: Developing Decision-making &amp; Problem Solving Skills I</b>		<ul style="list-style-type: none"> <li>- Complete homework assignments on decision-making &amp; problem-solving skills on general problems or stress with children.</li> </ul>

**Table 1** Schedule and Content of LST-R and PTP-RC Program (Continued)

LST-R Session/Content	Time Schedule	PTP-RC Session/Content
<ul style="list-style-type: none"> <li><b>Homework assignment 3:</b> Children and their parents recorded, in separate columns, on one sheet of paper, their perceptions, feelings, values, and needs regarding decision-making and problem solving skills on general problems as well as stressful life or traumatic event, and ways to develop and maintain both skills.</li> </ul> <p><b>Session IV: Developing Decision-making &amp; Problem Solving Skills II</b></p> <ul style="list-style-type: none"> <li><b>Class training:</b> Abilities to evaluate information from various sources, make informed decisions based upon advantages/disadvantages, determine the results of decisions made, find constructive solutions to problems, and determine alternative solutions.</li> <li><b>Homework assignment 4:</b> Children and their parents recorded, in separate columns, on one sheet of paper, their perceptions, feelings, values, and needs regarding decision-making and problem solving skill on disaster, other natural threat stress and terrorism, and ways to develop and maintain both skills.</li> </ul>	5 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Complete homework assignments on decision-making &amp; problem-solving skills on disaster, other natural threat stress and terrorism situation with children.</li> </ul>
<p><b>Session V: Developing Coping with Stress Skill</b></p> <ul style="list-style-type: none"> <li><b>Class training:</b> Ability to handle tension, anxiety and stress, and learn healthy coping strategies.</li> <li><b>Homework assignment 5:</b> Children and their parents recorded, in separate columns, on one sheet of paper, their perceptions, feelings, values, and needs regarding coping with stress skill, and ways to develop and maintain the skill.</li> </ul>	6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Complete homework assignment on coping with stress skill with children.</li> </ul>
<p><b>Session VI: Developing self-regulation Skill</b></p> <ul style="list-style-type: none"> <li><b>Class training:</b> Abilities to perform, monitor, and control personal behaviors as well as negative reactions, emotions, or thoughts, altering them in accordance with the demands of the situation and emotional self-control</li> <li><b>Homework assignment 6:</b> Children and their parents recorded, in separate columns, on one sheet of paper, perceptions, feelings, values, and needs regarding the generosity skill, and ways to develop and maintain the skill.</li> </ul>	7 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Complete homework assignments on self-regulation skill with children.</li> </ul>

**Table 1** Schedule and Content of LST-R and PTP-RC Program (Continued)

LST-R Session/Content	Time Schedule	PTP-RC Session/Content
<b>Session VII: Developing Resilience Skill I</b> - <b>Class training:</b> Abilities to recognize their personal worth/strengths, to balance in stress or adverse conditions by using positive emotion, affective and cognitive outcome, and to identify their abilities for developing resilience skill focused on stressful or traumatic life event and ways to develop and maintain this skill. - <b>Homework assignment 7:</b> Children and their parents recorded, in separate columns on one sheet of paper, their perceptions, feelings, values, and needs regarding resilience skill focused on stressful or traumatic life event, and ways to develop and maintain the skill.	8 <sup>nd</sup> Week	- Complete homework assignment on resilience skill focused on stressful or traumatic life event with children.
<b>Session VIII: Developing Resilience Skill II</b> - <b>Class training:</b> Abilities to recognize their personal worth/strengths, to balance in stress or adverse conditions by using positive emotion, affective and cognitive outcome, and to identify their abilities for developing resilience skill focused on stress from disaster and other natural threat, and terrorism and ways to develop and maintain this skill. - <b>Homework assignment 8:</b> Children and their parents recorded, in separate columns, on one sheet of paper, their perceptions, feelings, values, and needs regarding resilience skill focused on stress from disaster and other natural threat, and terrorism, and ways to develop and maintain the skill.	9 <sup>th</sup> Week	- Complete homework assignments on resilience skill focused on stress from disaster and other natural threat, and terrorism with children.

\* Baseline (pre-test) – Doing data collection before implementation 1 week

Immediately after completed intervention – Doing data collection after completed intervention 1 week

Two months after completed intervention – Doing data collection after completed intervention 8 weeks

**2. The Parent Training Program for Developing Resilient Children (PTP-RC)**, was developed by the PI based on Theory of Planned Behavior (TPB), and focused on promoting and providing information on parenting skills and resiliency development for supporting the children at home. To further facilitate parents' knowledge and abilities related to program content, the researcher developed a parent handbook.

The purpose of this was to provide parents with printed information regarding the content presented in the PTP-RC sessions, and which could be used as a self-study reference.

The PTP-RC (see Table 1) was provided to parents in a one day-training period at the school on the weekend, using 3 cycles, 1 cycle per 20–30 parents. Strategies used in the session included: coaching;

role playing; group discussion; and reinforcement. The training sessions addressed specific ways to develop each of the skills being presented in the LST-R, integrated with the essential child-rearing skills (i.e., parent-child relationship, parent-child communication, parental monitoring and supervision, parental modeling, and mentoring). The PTP-RC sessions were offered and organized one week before the LST-R started in two major components: a) cognitive restructuring related to knowledge about those five skills and child resiliency development (CRD) and parents' child rearing skills (PCRS); and, b) developing and practicing all those skills, at home, support for CRD. The rationale for starting the parent training program (PTP-RC), prior to the start of the child training program (LST-R), was to help the parents to begin learning about and practicing their child-rearing skills related to their children's resilience skills development.

The content of the programs and the parents' handbook were reviewed by 3 experts. They recommended the sequence of each session be adjusted, and changes made in the learning activities so these were more easily understood by children in the LSR-R and parents in the PTP-RC to fit within a one-hour timeframe. The content validity index (CVI) of the LST-R, PTP-RC, and parents' handbook was .98, .99, and .97 respectively.

**The control condition:** refers to the standard care provided to all students routinely at the schools. It was 50-minutes routine guidance, consisting of ways to academic success, addressing students' needs, and school regulations, taught by teachers. However, parents did not receive this program.

**Procedure:** The study was undertaken during January–March 2014. Prior to beginning the research process, five RAs were trained by the researcher in objectives and the protocol of the LST-R, including process and construction in the learning hour focused on participatory learning and group processes, key words and the materials used in each session. The students completed the PCI-Thai version and DDQ, at the school. One week after administration of the

questionnaire, the LST-R and PTP-RC were implemented. The experimental groups received the LST-R plus the 50-minutes routine guidance, while the control group received only the 50-minute routine guidance. Each group was in a separate room with each group being directed by RAs. To ensure that RAs were complying with the intervention protocol, the researcher randomly observed, on three occasions, what was taking place during the intervention implementation. All participants were asked to assess the outcome measures (the PCI-Thai version) at baseline and at the end of the first week and the 2<sup>nd</sup> month after completing the LST-R program. Completion of this questionnaire took approximately 60 minutes.

**Data Analysis:** Descriptive statistics were used to analyze demographic characteristics. Chi-square and independent t-test were used to evaluate differences between the experimental and control groups. The normality, homogeneity of variance, homogeneity of variance-covariance matrix, and compound symmetry of the dependent variable data was tested. Repeated measures ANOVA was employed to test change over time in each group, and the difference between groups with the exception of the demographic variables.

## Results

### Sample Demographic Characteristics

The student participants were 9–10 years old and of early school age with the distribution of sex, age, number of siblings and birth order of both groups nearly the same. The majority of the sample in both groups lived with their father and mother and sibling and the majority of them were reared by both their father and mother. With regard to the parents, distribution of both groups was nearly the same, including gender, marital status, occupation, and education. No significant differences in all demographic variables were found using statistical testing ( $p > .05$ ) (see Tables 2 & 3).

**Table 2** Comparison of Sample Demographic Characteristics between the two Groups

Demographic	Experimental Group (N=80)	Control group (N=82)	Total (N=162)
	n (%)	n (%)	n (%)
<b>Gender</b>			
Boy	45 (56.3)	49 (59.8)	94 (58.0)
Girl	35 (43.8)	33 (41.9)	68 (42.0)
	$\chi^2 = 3.54$ df= 1 $p= .76$		
<b>Religion</b>			
Buddhist	80 (100.0)	82 (100.0)	162 (100.0)
<b>Siblings</b>			
None	15 (18.8)	13 (15.9)	28 (17.3)
Yes	65 (81.2)	69 (84.1)	134 (82.7)
	$\chi^2 = .24$ df= 1 $p= .63$		
<b>Birth order</b>			
First-born child	27 (33.8)	25 (30.5)	52 (32.1)
Middle-born child	11 (13.8)	15 (18.3)	26 (16.0)
Last-born child	27 (33.8)	30 (36.6)	57 (35.2)
Single child	15 (18.8)	12 (14.6)	27 (16.7)
	$\chi^2 = 1.16$ df= 3 $p= .76$		
<b>Living With</b>			
Mother and father	65 (81.2)	69 (84.1)	134 (82.7)
Mother or father or other relatives	15 (18.8)	13 (15.9)	28 (17.3)
	$\chi^2 = .24$ df= 1 $p= .63$		
<b>Family Relationship</b> (as child perception)			
Good	52 (65.0)	57 (69.5)	109 (67.3)
Not Good	28 (35.0)	25 (30.5)	53 (32.7)
	$\chi^2 = .38$ df= 1 $p= .54$		

**Table 3** Comparison of Parents Demographic Characteristics between the two Groups

Demographic	Experimental Group (N=80)	Control group (N=82)	Total N=162)
	n (%)	n (%)	n (%)
<b>Father Education</b>			
Below bachelor degree	40 (50.0)	36 (43.9)	76 (46.9)
Bachelor degree and above	40 (50.0)	46 (56.1)	86 (53.1)
	$\chi^2 = .61$ df= 1 $p= .44$		
<b>Mother Education</b>			
Below bachelor degree	51 (63.8)	54 (65.9)	105 (64.8)
Bachelor degree and above	29 (36.3)	28 (34.1)	57 (35.2)
	$\chi^2 = .08$ df= 1 $p= .78$		
<b>Family Income (Baht/month; 31 Baht = 1 USD)</b>			
20,000	46 (57.5)	40 (48.8)	86 (53.1)
> 20,000 – 40,000	22 (27.5)	24 (29.3)	46 (28.4)
> 40,000	12 (15.0)	18 (21.9)	30 (18.5)
Mean (SD)	24,462.50 (17055.34)	28,329.27 (18592.48)	26,419.75 (17899.90)
Median	18,000.00	20,000.00	18,000.00
	$t = 1.38$ , df = 160, $p = 0.17$		

### Effect of F-LST intervention (LST-R & PTP-RC)

At baseline assessment, the mean scores of resilience in the experimental group were not significantly different from the control group. At one week and two months after the completion of the program, the mean scores of resilience in the experimental group were significantly higher than those of the control group ( $p < .05$ ) (see Table 5).

A significant difference was found in resilience mean scores over time between the two groups ( $p < .05$ ) as well as the interaction effects of treatment by time on the resilience mean score changes ( $p < .05$ ). Moreover, the results showed significant effects of time for at least one pair across time points of measurements on the resilience mean scores after the interventions

( $p < .05$ ) indicating that the scores of the experimental group were substantially increased from baseline to the follow-up after completing the intervention (see Table 4). The findings showed the resilience mean scores of the experimental group increased at one week after the completion of the program, however, the slope at the second month tended to decrease but was still higher than those of the control group (see Figure 3). In addition, post-hoc pairwise comparisons showed that resilience scores in the experimental group changed significantly in each of measurement over time after the intervention compare to the baseline ( $p < .05$ ). On the other hand, there was no significant change in the resilience scores of the control group across three time measurements (see Table 5).

**Table 4** Mean Score Differences, Across Time, for the Resilience Scores

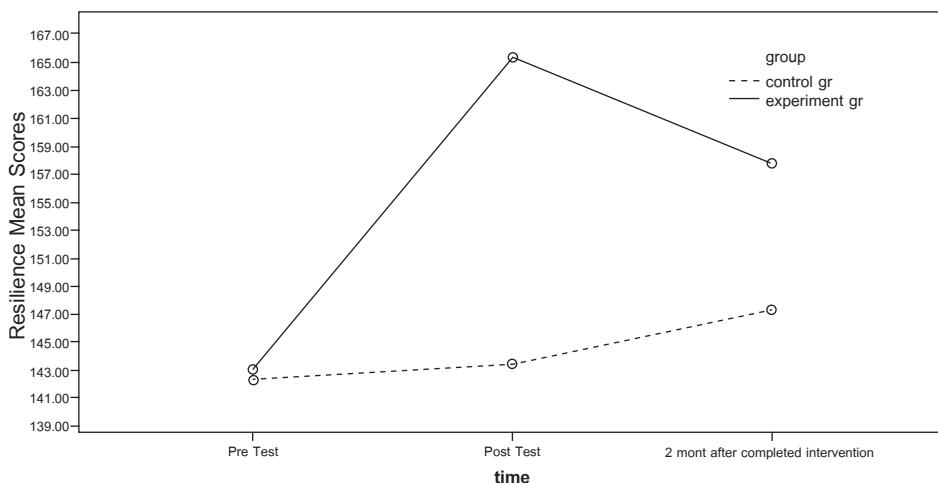
Source of Variation	SS	df	MS	F <sup>r</sup>	p
Between subjects					
Groups	14629.27	1	14629.27	12.23	.000
Error	191343.57	160	1195.90		
Within subjects					
Time	4979.43	2	2489.73	10.51	.001
Time × Group	9261.13	2	4630.57	19.55	.000
Error	75812.30	320	236.91		

Note: <sup>r</sup> = Two-way repeated measure ANOVA

**Table 5** Multiple Pairwise Comparisons of the Resilience Scores across the Three Time Periods in both Experimental and Control Groups (N= 162)

Resilience Scores	Baseline	At the Program	Two Month	P-value <sup>b</sup>		
	(1)	End (2)	After (3)	1vs2	1vs3	2vs3
	Mean (SD)	Mean (SD)	Mean (SD)			
- Experimental group	143.03 (21.00)	165.35(25.21)	157.79 (29.19)	.000*	.000*	.003*
- Control group	142.28 (20.64)	143.45 (22.08)	147.29 (19.37)	.495	.029*	.107

Note: <sup>b</sup> = Bonferroni Test, \* p < .05



**Figure 3** Mean scores of resilience by group

## Discussion

Results indicated that the F-LST intervention was effective in enhancing child resiliency. Firstly, it may be due to parent involvement in the intervention. Parents are a powerful influence on cultivating child value and behaviors.<sup>4, 9</sup> The PTP-RC mobilized parents to coach and reinforce their child's resilience at home. Using this approach was believed to provide the strength to family and children when they faced with the stressful events such as disaster, terrorist or other traumatic events.<sup>4,16,17</sup>

Additionally, group discussion and role playing in this parent training program prepared them to empower and communicate with their child, understand their children's thoughts, feelings, and reactions. All were discussed; experiences and perceptions were shared in a group process in the example scenarios. In completing the work sheets with the children, the parents and children discussed and developed further insight into their own child's thinking, needs, and behaviors. Support from parents and teacher enhances perceived self-efficacy in a child's resiliency. This in turn fosters successful adaptation and reduces stress and depression. As described earlier, the intervention supported parents to be the one who can support children with both

emotional and physical temperament. This finding is consistent with previous findings<sup>14,27</sup> which promoted parenting skills included parent-child communication, parental monitoring and supervision, and parental modeling for child behaviors improvement. The parenting program produced significant benefits for both parent and child behaviors after completing intervention.<sup>26</sup>

The second possible explanation regarding the effectiveness of the F-LST intervention is related to the life skill developmental processes based on cognitive and psychological approach. The intervention focused on providing resiliency information and how to promote development in children with involved skill; role playing; group discussion; and, extended practice of a skill through homework assignments. The homework assignments facilitated children's thinking process on resilience development at home. Improving thinking process in training may result from the cognitive approach that developed knowledge and skill practices. Teaching life skills such as conflict resolution and cooperation would help children navigate environmental challenges.<sup>19</sup> Moreover, those approaches emphasized problem-solving, coping, and interpersonal skills enabled children to encounter stressful life event in their social environments. In addition, psychological

approach in child training supported and integrated mechanisms of proactive coping development that is major part of the resiliency.<sup>7, 9, 10</sup>

In addition, in the current context in 2014, Thai children learn and pick up the stress reactions from the impact of terrorism and disasters and people around them. Thais including children have encountered stressful life events like disaster such as flooding, earthquakes, landslides, and tsunami or act of terrorism as coup, protest and other social conflict issue for a long time. Unavoidably, children also involved in those events both directly in the affected community and indirectly through watching the event on television. Experiencing a disaster, stressful life may be the concrete lesson learns of life or the real experiences that the children learn and practice. Moreover, they learned how to cope with and handle stress and emotional from their parents from “real world” conditions.

At 2 months after intervention, decreasing resilience scores in the experimental group and increasing scores in the control group were observed. However, the post-hoc pairwise comparisons still showed significantly higher resilience scores in the experimental group than that of the control group. This may be the effect of the intervention was not able to sustain the resilience for longer period of time in the experiment group. While the control group’s improvement might be the learning experiences during data collection in that they learned from answering questions. Similarly, the maturation process may occur from several repeated measures.<sup>28, 29</sup>

## **Limitation**

This study has limitations. Firstly, a longer time period is required to determine program’s effectiveness since resilience may take some time to develop in different children. Secondly, the children and their parents were representative of middle class families living in urban areas in Thailand. Thus, the findings may not be generalized to children and their parents who have differing characteristics. Future researchers need to consider obtaining a more diverse

sample and a longitudinal study would be in order to better test the outcomes of the intervention.

## **Conclusion and Implications for Nursing Practice**

This family-based life skill training intervention program showed positive result on children’s resilience skills. Thus, school nurses can implement this program with active involvement of both school teachers and parents. School nurses themselves might need education regarding the importance of and need for resilience training before helping children to develop resilience, and the curriculum for health disciplines generally needs attention in this regard today. Lastly further studies need to be undertaken to determine the appropriate time for the program’s implementation with children and for effectiveness measurement.

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## การพัฒนาความสามารถในการปรับฟื้นคืนสภาพจิตใจในกลุ่มเด็กผ่าน โครงการพัฒนาทักษะชีวิต: ผลการทดลองโดยใช้ครอบครัวเป็นฐาน

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**บทคัดย่อ :** การปรับตัวและทักษะการจัดการความเครียดถือเป็นความสามารถในการปรับฟื้นคืนสภาพจิตใจ (Resilience) ในกรณีผู้เด็กและเยาวชนเด็กที่มีภาระทางสุขภาพรุนแรงในชีวิต หรือเหตุการณ์ร้ายแรงในชีวิต และเป็นทักษะที่จำเป็นที่ต้องเตรียมความพร้อมในเด็ก การศึกษาครั้งนี้เป็นการศึกษาผลของโปรแกรมการอบรมทักษะชีวิตเพื่อพัฒนาความสามารถในการปรับฟื้นคืนสภาพจิตใจในกลุ่มเด็กวัยเรียนโดยใช้ครอบครัวเป็นฐานโดยทำการทดลองแบบสุ่มและมีกลุ่มควบคุม (Randomized Control Trial: RCT) ในโปรแกรมที่สร้างขึ้นโดยผู้วิจัยที่เน้นการอบรมทักษะชีวิตในเด็กวัยเรียนควบคู่ไปกับการอบรมพ่อแม่เพื่อพัฒนาความสามารถในการปรับฟื้นคืนสภาพจิตใจในบุตรของตนในกลุ่มเด็กวัยเรียนและพ่อแม่ใน 3 โรงเรียนที่ถูกสุ่มอย่างง่ายจากโรงเรียนทั้งหมดในพื้นที่ที่เคยประสบเหตุภัยธรรมชาติน้ำท่วมในเดือนมกราคม-มีนาคม 2557 กลุ่มตัวอย่างถูกสุ่มโดยการสุ่มพ่อแม่เพื่อเข้ากลุ่มแบบสุ่มสมบูรณ์เป็นรายบุคคล เพื่อเข้ากลุ่มทดลองและกลุ่มควบคุม เพื่อให้เข้าร่วมโครงการวิจัย มีโอกาสเท่ากัน โดยที่นักเรียนจะถูกคัดเข้ากลุ่มต่างๆตามพ่อแม่ของตนเอง นักเรียนที่เข้าร่วมในโปรแกรมศึกษาปีที่ 4 พร้อมทั้งพ่อแม่ที่มีคุณสมบัติตรงกับปัจจัยการคัดเข้าและอินยอมเข้าร่วมโปรแกรมถูกสุ่มเข้ากลุ่มทดลองซึ่งประกอบด้วยนักเรียน 80 คนและพ่อแม่ และกลุ่มควบคุมจำนวน 82 คนและพ่อแม่ นักเรียนกลุ่มทดลองได้รับการอบรมทักษะชีวิตเพื่อพัฒนาความสามารถในการปรับฟื้นคืนสภาพจิตใจในขณะที่กลุ่มพ่อแม่ได้รับการอบรมพ่อแม่เพื่อพัฒนาความสามารถในการปรับฟื้นคืนสภาพจิตใจในบุตรวัยเรียนไปพร้อมกัน ด้านกลุ่มควบคุมได้รับการดูแลแบบปกติ โดยทำการเก็บข้อมูลในนักเรียนทั้ง 2 กลุ่ม ด้วยแบบวัดด้วยเครื่องมือ The Proactive Coping Inventory: PCI ก่อนได้รับโปรแกรมและภายหลังโปรแกรมลินสุด 1 สัปดาห์และ 2 เดือน การวิเคราะห์ข้อมูลส่วนบุคคลด้วยสถิติเชิงพรรณนา และวิเคราะห์ผลของโปรแกรมด้วยสถิติการวิเคราะห์ความแปรปรวนร่วม ความแปรปรวนทางเดียวและสองทางแบบบัดช้า

ผลการวิจัยพบว่า คะแนนความสามารถในการปรับฟื้นคืนสภาพจิตใจในเด็กวัยเรียนกลุ่มทดลองสูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญต่อผลตระยะเวลาที่วัดผลการศึกษาทั้งเมื่อหลังการอบรมเสร็จสิ้น 1 สัปดาห์และเมื่อ 2 เดือนหลังสิ้นสุดการอบรม จากผลการศึกษาแสดงให้เห็นว่า โปรแกรมการอบรมทักษะชีวิตเพื่อพัฒนาความสามารถในการปรับฟื้นคืนสภาพจิตใจในกลุ่มเด็กวัยเรียนโดยใช้ครอบครัวเป็นฐานที่ศึกษานี้ สามารถพัฒนาทักษะความสามารถในการปรับฟื้นคืนสภาพจิตใจหรือความความแข็งแกร่งในเด็กวัยเรียนได้ ผลจาก การศึกษาครั้งนี้ชี้ให้เห็นว่า พยาบาลอนามัยโรงเรียนควรใช้กลยุทธ์การมีส่วนร่วมของครอบครัวในการพัฒนาทักษะต่างๆในเด็กวัยเรียน อย่างไรก็ตามการวิจัยครั้งต่อไปควรติดตามผลกระทบระยะยาวข้างหน้าเพื่อจะประเมินผลของโปรแกรมในระยะยาว

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**คำสำคัญ :** เด็กวัยเรียน การใช้ครอบครัวเป็นฐาน การมีส่วนร่วมของพ่อแม่ ความแข็งแกร่งทางจิตใจ ทักษะความสามารถในการปรับฟื้นคืนสภาพจิตใจ การวิจัยเชิงทดลองแบบสุ่ม โครงการอบรม

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