

# Effects of Parenting Skills Training Program for Aggressive Behavior Reduction among School-aged Children: A Quasi-Experimental Study

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**Abstract:** Worldwide, improper parenting practices may induce behavioral problems in children, especially aggressive behavior. This quasi-experimental study examined the effects of a Parenting Skills Training Program on parents' intentions, and behaviours regarding modifying their sixth graders' aggressive behavior. Two secondary schools with similar contexts in Bangkok were purposively selected to be the experimental and comparison schools. Students with high aggressive behavioural scores were identified and recruited, as well as their parents into the study. Parents of students in the experimental group received five weekly two-hour lessons of parenting skills training, whereas the comparison group did not receive the training. The parents' intentions and behaviors regarding their child's aggressive behavior modification were measured by a self-reported questionnaire and their child's aggressive behaviors were assessed as well.

Results revealed that the parents in the experimental group had statistically significant higher mean scores of intentions and children's aggressive modification behavior across all time points of measurements than those in the comparison group. Compared to the comparison group, the experimental group also had a statistically significant reduction of children's aggressive behaviour at one week and one month after the Program. Nurses can apply this parenting skills training program to train the parents of school-aged children regarding aggressive behavior in the schools, childcare centers, pediatric units and communities with similar characteristics of populations, to prevent aggressive behaviors of their school-age children.

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## Background

Aggressive behavior in children occurs worldwide.<sup>1</sup> It consists of physical, verbal, and relational aggression. Kicking, stabbing, and shooting are physical aggression, whereas shouting, screaming, swearing, and bad name-calling are verbal aggression.<sup>2</sup> Relational aggression includes social rejection, and spreading

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rumours.<sup>3</sup> Childhood aggression causes emotional distress, physical injury;<sup>4</sup> decreased peer interactions;<sup>5</sup> development of negative outcomes later in adolescence and adulthood, such as delinquency, academic difficulty,<sup>6</sup> stress, truancy,<sup>7</sup> high costs of care/cures and rehabilitation,<sup>8</sup> and even death.<sup>9</sup>

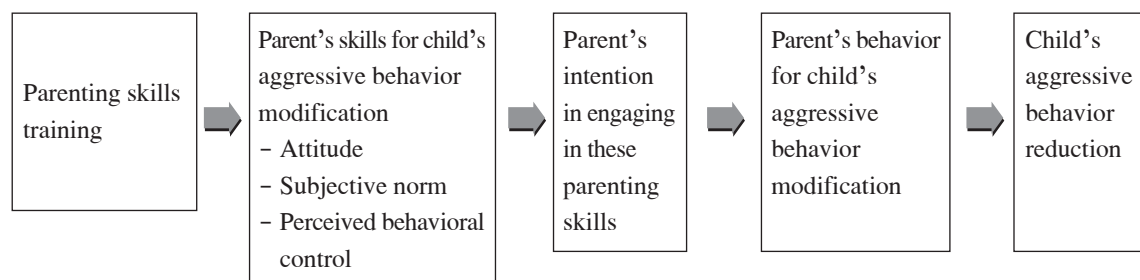
Sixty per cent of children 2 to 14 years old worldwide are the recipients of physical aggression by their caregivers resulting in their aggressive behavior development.<sup>10</sup> Children can learn and imitate this behavior from others and perceive it as social norm.<sup>10</sup> The aggressive behavior of the sixth graders should be assessed and modified because they are in the transition period from children to early adolescent.<sup>11</sup> This transition can cause stress, resulting in bullying behavior development to show their position in a new social structure,<sup>12</sup> such as a new school. The changes from elementary to middle school, and from child to adolescence as well as physical and hormonal changes can cause frustration, resulting in aggression in adolescents.<sup>13</sup> Tremblay<sup>14</sup> found that 14% of adolescents frequently used physical aggression at the beginning of adolescence.

Individual and environmental factors contribute to children's aggressive behavior development. Individual factors include neurotransmitter and hormonal changes; low intellectual and emotional quotients; frustration and stress; and some child lifeskills deficits. Environmental factors consist of family, school, community, and societal factors.<sup>15</sup> However, family factors are major causes of children's misconduct development.<sup>15</sup> Children living in an aggressive family environment can observe fighting or quarrelling among family members resulting in their aggressive behavioral development because they have role models for aggression utilization. Caring parenting skills expressed through parental warmth and guidance, are inversely associated with a child's aggression.<sup>16</sup> In addition, factors contributing to children's aggressive behavior development are poor parental monitoring, insufficient supervision, lack of parental support,<sup>3</sup> and improper use of discipline. An inappropriate role

model, poor parent-child interaction and communication, the use of strict, liberal and permissive childrearing parenting style, low parental education,<sup>17</sup> and socioeconomic status and domestic violence also precipitate children's aggression.

Children's behavior problems can be prevented by child training,<sup>18-20</sup> parent training,<sup>21-26</sup> and collaborative training.<sup>27-28</sup> Most of the parent training programs for children's behavior modification are based on Social Learning Theory. This theory focuses on children's behaviors learned through observation, imitation, and modelling from their parents.<sup>29</sup> This theory is not a full explanation for all behaviors, especially in cases when there is an absence of a model in the person's life to observe and imitate a given behavior.<sup>30</sup>

The Parenting Skills Training Program (PSTP) was developed for this study by the principal investigator (PI) and validated by five experts; two pediatric nursing instructors, a community health nursing instructor, a nurse and a clinical psychologist from the Child and Adolescent Mental Health Institute. The parents' caring, communicating, modelling, monitoring, and disciplining skills are the emphases in the PSTP. This Program is designed to change parents' behavioral, normative, and control beliefs in order to promote their attitudes and modify a child's aggressive. This includes increasing subjective norms; enhancing perceived behavioral controls; and encouraging parents' intentions to engage in modification of the child's behaviour. These changes were assumed to lead to an increase in parents' behavioral changes towards the child's aggressive behaviour, modify them, and result in their reduction. Our study adopted the Theory of Planned Behaviours (TPB) to be a framework (Figure 1). This theory postulates that changes in human behaviors are related to the changes of attitudes toward behaviors, subjective norms, perceived behavioral controls, and their intentions to engage in those behaviors. Information about using parent training to modify school-aged children's aggressive behaviors based on TOB is limited in Thailand.



**Figure 1:** Theoretical framework of the study

The hypotheses of this study were that:

1. The mean scores of intentions and behaviors regarding child's aggressive behavior modification of the parents of the sixth graders in the experimental group would be significantly higher than those in the comparison group at one week and one month after the training.

2. The mean scores of aggressive behaviors of the sixth graders in the experimental group would be significantly lower than those in the comparison group at one week and one month after the training.

**Study Aim:** To investigate the effectiveness of PSTP to increase parents' intentions and behaviors regarding aggressive behavior modification and the reduction of aggressive behavior in their sixth grade children.

## Method

### Design

Quasi-experimental with a two-group design.

### Participants and Settings

Participants were parents and their sixth grader children whose aggressive behavior scores were  $\geq 30$  measured by the questionnaire developed by Thongpan.<sup>32</sup> The sample size of this study was based on a previous study<sup>33</sup> using the formula for repeated measures design<sup>34</sup> with a significance level of .05, power of .80, and a within-treatment group correlation ( $\rho$ ) of .70. The estimated sample size was 36 participants per group. Previous research regarding parent training to improve children's behaviors showed a 34% dropout

rate.<sup>35</sup> Therefore, 50 pairs of children and parents were included in each group to ensure a sufficient number of participants with an estimated approximate 40% dropout.

The inclusion criteria for the sixth graders were Thai literacy, and no history of getting treatment for a childhood growth and development disorder. Two large schools in one district of Bangkok offering preschool-grade 9 programs under Bangkok Metropolitan Administration were purposively selected. These schools are located in suburban east Bangkok. Most of parents are farmers and employees in the local agricultural products business, as well as other businesses. In the first school, there were 58 students meeting the inclusion criteria, and 50 were randomly selected and assigned to experimental group, whereas, 62 students in the second school met the inclusion criteria, and 50 were randomly selected as the comparison group. There were 100 parents and their sixth graders who agreed to participate in this study (50 parents per each group).

### Instruments

There were five instruments used in this study:

**1. Two Demographic Questionnaires.** These were developed by the PI. The parents' questionnaire included age, marital status, educational level, occupation, family monthly income, and relationship with children. The demographic questionnaire for the children consisted of age, gender, grade, and whom they lived with.

**2. The Parents' Intentions Questionnaire and Parenting Behaviours Questionnaire** were developed

by the PI from focus group interviews and a literature review, and development consisted of four steps: an elicitation study, questionnaire development, a pilot study, and finalization of the questionnaires. Five experts from family, psychiatric, pediatric, and behavioral sciences reviewed and validated them. The first questionnaire consisted of five items asking parents about their intentions to perform child aggressive behavior modification in the next one month and had a rating score ranging from 1–4 (the least to the most). An item example is “I intend to be the role model for my child in performing nonaggressive behavior”. A higher score indicates a higher level of intention to engage in parents’ behaviors for child’s aggressive behavior modification. The content validity index was 0.90. The Cronbach’s alpha coefficients in the pilot with 30 participants and actual study were 0.61 and 0.91, respectively.

The Parenting Behaviors instrument consisted of 20 items asking parents about their behaviors for child’s aggressive behavior modification, with four rating scales ranging from 1–4 (never to always). Higher scores indicate that parents perform more frequent behavior to prevent the child’s aggression. An item example is “I take time to do activities with my child such as playing sport, reading books, and telling a story”. The content validity index was 1.00. The Cronbach’s alpha coefficients in the pilot and actual studies were 0.84, and 0.86, respectively.

### 3. Child’s Aggressive Behavior Questionnaire

This used a self-reported aggression scale developed by Thongpan<sup>32</sup> consisting of 13 items of physical aggression and 12 items of verbal aggression

with a 5 rating scale of 0–4 (never to always). An item example is “I was punished by the teacher because I hit my friend”. The Cronbach’s alpha coefficients for aggression scale in the previous<sup>31</sup> and current studies were 0.91 and 0.81 respectively. The child’s aggressive behavioral scores of > 30 indicate that a child demonstrates aggressive behavior. Higher scores indicate higher levels of aggressive behavior.

### The Intervention Program

The PI developed the PSTP from a literature review and focus group interviews. There were five sessions, which focused on parent’s caring, communicating, modelling, monitoring, and disciplining skills for the child’s aggressive behavior modification based on TPB. This training program was reviewed and validated by five experts: two pediatric nursing instructors, a community health nursing instructor, a nurse and a clinical psychologist from the Child and Adolescent Mental Health Institute.

Five weekly, two-hour lessons were provided to the parents in the experimental group. The promotion of parents’ attitudes towards the use of nonaggression with children, an increase in cultural and social norms that support nonaggressive behavior, the empowerment for parents’ efficacy in the use of nonaggression with children were employed to lead to intentions to engage in the use of nonaggressive parenting skills with their children. Finally, these intentions can help parents sustainably develop their nonaggressive parenting skills resulting in children’s aggressive behavior reduction. The program and activities of parenting skills training are described in **Table 1**.

**Table 1** Program and activities of parenting skills training

Week / Session	Content and Activities
<b>Week 1:</b> Two hours Overview of the program and caring skill training	Introduce the program and arrange ice-breaking activities for 25 minutes to build relationships among the trainers and parents <b>Attitude (30 minutes):</b> Allow parents to do the role-play about the child who played games outside and came back home late during night time, always retaliated against family members when he was asked to change his behaviour. Let them reflect their feelings, beliefs; share their experiences; ask about what they learn from this role-play; then summarize the event

**Table 1** Program and activities of parenting skills training (cont.)

Week / Session	Content and Activities
Week 2: Two hours Communication skill training	<b>Subjective norm (30 minutes):</b> Discuss with parents about the persons who approve or disapprove of the caring parenting skill and their compliance to those persons, then summarize the events
	<b>Perceived behavioral controls (30 minutes):</b> Allow parents to discuss and share ideas about their supporting and inhibiting factors for caring parenting skill provision to their children, summarize the events, then provide knowledge and empower them to provide warmth, love, affection, and comfortable environment in their homes and how to overcome obstacles for doing caring skills with their children
	<b>Intention (5 minutes):</b> Admire parents for their participation in all activities, strengthen their intentions to engage in performing caring skills for child's aggressive behavior modification by giving them homework, and providing them feedback and some rewards
	Arrange ice-breaking activities for 5 minutes to strengthen relationships among them and ensure their intentions to perform caring skills for 15 minutes by discussing their homework, give rewards for parents who do homework and motivate the ones who do not do their homework.
Week 3: Two hours Modeling skill training	<b>Attitude (35 minutes):</b> Allow parents to do two role-plays about the thief who change his mind not to rob and hurt the family members, who talked politely with him, and two styles of meetings within family (effective and ineffective meetings). Ask them to discuss and share their feelings and ideas to each other, about what they learned from these role-plays, then summarize the events and tell them about the benefits of good speech & effective communication, and how to apply these role-plays with their children
	<b>Subjective norm (20 minutes):</b> Discuss with parents about the persons who approve or disapprove the use of effective communication within family and their compliance to those persons, and then summarize the events
	<b>Perceived behavioral controls (35 minutes):</b> Allow parents to discuss and share their ideas about their supporting and inhibiting factors for the use of effective communication with their children. Summarize what they say, provide knowledge about how to use I-message with children and let them practice. Discuss with them about how to overcome the obstacles for doing effective communication with their children
	<b>Intention (10 minutes):</b> Admire parents for their participation in all activities, strengthen their intentions to engage in the use of effective communication for child's aggressive behavior modification by giving them homework, and provide them feedback and some rewards
	Arrange ice-breaking activities for 5 minutes to strengthen their relationships, and ensure parents' intentions to perform communication skills for 15 minutes by discussing their homework, give rewards for parents who do homework and motivate the ones who do not do their homework

**Table 1** Program and activities of parenting skills training (cont.)

Week / Session	Content and Activities
	<p><b>Attitude (30 minutes):</b> Allow parents to share their strengths, weaknesses, the aggressive behaviors used with children, and behaviors which they wanted to improve, ask the volunteers to read the story and do the role-play about how the crabs taught their kids, then ask them about what they learned from this story and how to apply it with children</p> <p><b>Subjective norm (25 minutes):</b> Discuss with parents about the persons who approve or disapprove about acting as the role model for using nonaggressive behavior with children, and their compliance to those persons.</p> <p><b>Perceived behavioral controls (35 minutes):</b> Allow parents to discuss and share ideas about their supporting and inhibiting factors for being the role model in the use of nonaggressive behavior with their children. Ask them to give examples of people who were their role models, provide them knowledge, and let them practice about how to control emotions.</p> <p><b>Intention (10 minutes):</b> Admire parents for participation in all activities, strengthen their intentions to be the role model for their children by giving them homework, and provide them feedback and some rewards.</p>
<b>Week 4:</b> Two hours Monitoring skill training	<p>Arrange ice-breaking activities for 5 minutes to strengthen their relationships, and ensure parents' intentions to perform modelling skill for 15 minutes by discussing their homework. Give rewards for parents who do homework and motivate the ones who do not do their homework.</p> <p><b>Attitude (35 minutes):</b> Allow parents to observe the things in the room within 10 minutes then ask them to explain what they saw, encourage them to reflect this situation and what they learned from this activity, then explain to them observation techniques and how to apply to their children</p> <p><b>Subjective norm (20 minutes):</b> Discuss with parents about the persons who approve or disapprove about their monitoring parenting practice with their children, and their compliance to these persons.</p> <p><b>Perceived behavioral controls (35 minutes):</b> Allow parents to discuss and share ideas about supporting and inhibiting factors for monitoring their children's behaviors, then give them the situation of the child who had problems with friends when studying in the school. Let them discuss how to monitor the child in this situation, then summarize this event</p> <p><b>Intention (10 Minutes):</b> Admire parents for participation in all activities, then strengthen their intentions to monitor their children by giving them homework, and provide them with feedback and some rewards.</p>
<b>Week 5:</b> Two hours Disciplining skill training	<p>Arrange ice breaking activities for 5 minutes to strengthen their relationships, and ensure parents' intentions to perform monitoring skills for 15 minutes by discussing their homework, give rewards for parents who do homework and motivate the ones who do not do their homework.</p> <p><b>Attitude (35 minutes):</b> Ask parents about what they do when children make mistakes, then let them do the role-play about the family with children who do not have self-discipline. Ask them to reflect their ideas regarding this situation and what they learn from this event.</p>



**Table 1** Program and activities of parenting skills training (cont.)

Week / Session	Content and Activities
	<p><b>Subjective norm (20 minutes):</b></p> <ul style="list-style-type: none"> <li>– Discuss with parents about the persons who approve or disapprove about their discipline used with their children, and their compliance to these persons</li> </ul> <p><b>Perceived behavioral controls (35 minutes):</b></p> <p>Allow parents to discuss and share ideas about supporting and inhibiting factors for disciplining to correct children's behaviors, then let them discuss the situation of family with children who have behavior problems and low self-discipline, summarize the event, and provide them information about positive discipline techniques.</p> <p><b>Intention (10 minutes):</b></p> <ul style="list-style-type: none"> <li>– Admire parents for participation in all activities, strengthen their intentions to use positive discipline with their children by giving them homework, and provide them feedback and some rewards</li> </ul>

#### Ethical considerations

The Institutional Review Board, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, approved this study (No. MURA2015/545). The participants were informed about the study objectives and processes, confidentiality, risks, benefits, and their rights. They were able to ask questions and withdraw from the study at any time. Consents and agreements were obtained from parents and their children, with school authorities' permission for data collection.

#### Data collection

The PI coordinated with the school administrators and the sixth graders' teachers to contact their parents in order to explain to them the research objectives and processes, confidentiality, risks, benefits, and participants' rights. Parents who agreed to participate in this study were asked to sign the consent forms for themselves and their children, then the parents filled out the questionnaires as the baseline data. The parents in the experimental group attended the parenting skills training, whereas those in the comparison group were on the waiting list for receiving the PSTP after this study was completed. At one week and one month after the training, the outcomes of parents and their sixth graders for both the experimental and comparison groups were measured.

#### Data analysis

The demographic data of both groups were analysed by descriptive statistics. Chi-square was used to examine the differences in parents' marital status, education, occupation, income, and relationship with children between experimental and comparison groups as a baseline. It was also used to examine the differences in the child's genders and GPA between both groups before the PSTP intervention. The independent *t*-test was used to examine the differences in the ages of children and parents between the two groups. The differences in parents' intentions and behaviors between both groups at baseline were also analysed by independent *t*-test. Two-Factor Design Repeated Measures Analysis and Multiple Comparisons were used to analyse data related to the hypotheses of the study.

#### Results

##### *Demographic characteristics of parents and their sixth graders*

Of the parents, 72% in the experimental group and 60% in the comparison group were married. The educational level of both groups was below bachelor degree (84% and 88% in experimental and comparison groups respectively) and 61% of parents had a combined family monthly income of ≤ 20,000 baht (637 USD).

The majority of parents in both groups were employees and a few were civil servants, and 63%, 24%, and 13% were mothers, fathers, or grandparents respectively. The average ages of parents in the experimental and comparison groups were  $43.30 \pm 7.87$  and  $42.60 \pm 8.20$  years respectively. There were no significant differences in parents' marital status, education, occupation, family monthly income, relationship with children, and age between the experimental and comparison groups,  $p > .05$  (Table 2).

Most of the children were males. The ratio of males to females was 29: 21 and 28: 22 in experimental and comparison groups respectively. Many of them had a GPA of  $> 3.00$  but a few had GPA  $< 2.00$ . The average ages of children in experimental and comparison groups were  $11.82 \pm 0.39$  and  $11.98 \pm 0.43$  respectively. There were non-significant differences of age, gender, and GPA between the experiment and comparison groups,  $p > .05$  (Table 2).

**Table 2** Comparison of demographic characteristics of the sixth graders and their parents between the experimental and comparison groups

Demographic	Exp. Gr. No. (%)	Comp Gr. No. (%)	$X^2$	$t$	$p$ -value
<b>Child</b>					
<b>Gender</b>			0.41	–	.840
Boy	29 (58)	28 (56)	–	–	–
Girl	21 (42)	22 (44)	–	–	–
<b>GPA</b>			9.102	–	.059
Below 2.00	2 (4)	3 (6)	–	–	–
2.00–2.50	12 (24)	3 (6)	–	–	–
2.51–3.00	8 (16)	5 (10)	–	–	–
3.01–3.50	15 (30)	16 (32)	–	–	–
3.51–4.00	13 (26)	23 (46)	–	–	–
<b>Mean child's age</b>	11.82 (0.39)	11.98 (0.43)	–	1.958	.053
<b>Parent</b>					
<b>Marital status</b>			1.928	–	.381
Marriage	36 (72)	30 (60)	–	–	–
Widow	7 (14)	8 (16)	–	–	–
Separation	7 (14)	12 (24)	–	–	–
<b>Parental education</b>			1.123	–	.570
Below bachelor	42 (84)	44 (88)	–	–	–
Bachelor	7 (14)	6 (12)	–	–	–
Above bachelor	1 (2)	–	–	–	–
<b>Parent's occupation</b>			1.788	–	.780
Employee	31 (62)	34 (68)	–	–	–
Merchant	9 (18)	7 (14)	–	–	–
Own business	4 (8)	2 (4)	–	–	–
Civil servant	2 (4)	1 (2)	–	–	–
Other	4 (8)	6 (12)	–	–	–
<b>Family monthly income (in Thai Baht)</b>			9.48	–	.220
$\leq 20,000$	24 (48)	37 (74)	–	–	–
20,001 – 25,000	9 (18)	6 (12)	–	–	–
25,001 – 30,000	5 (10)	4 (8)	–	–	–
30,001 – 35,000	5 (10)	1 (2)	–	–	–



**Table 2** Comparison of demographic characteristics of the sixth graders and their parents between the experimental and comparison groups (cont.)

Demographic	Exp. Gr. No. (%)	Comp Gr. No. (%)	$X^2$	$t$	$p$ -value
35,001 – 40,000	3 (6)	1 (2)	–	–	–
40,001 – 45,000	1 (2)	–	–	–	–
45,001 – 50,000	2 (4)	1 (2)	–	–	–
> 50,000	1 (2)	–	–	–	–
<b>Relationship with child</b>	0.835	–	.659		
Father	12 (24)	12 (24)	–	–	–
Mother	30 (60)	33 (66)	–	–	–
Other	8 (16)	5 (10)	–	–	–
<b>Mean parent's age</b>	43.30 (7.87)	42.60 (8.20)	–	0.436	.664

**Result of hypothesis testing**

At the pre-test, parents' intentions and behaviors regarding their child's aggressive behavior modification, and child's aggressive behavior were not statistically different between the experimental and comparison groups (**Table 5**).

*Parents' intentions for performing child's aggressive behavior modification*

Two-Factor Design Repeated Measures Analysis revealed a statistically significant difference in parents'

intentions across the time points of measurements between the experimental and comparison groups, (**Table 3**). In addition, results showed a statistically significant effect of time points of measurements on parents' intentions in within subjects. Results also showed a statistically significant interaction effect between time points of measurements and the groups in within-subjects effect,  $p < .01$  (**Table 3**).

**Table 3** Two-Factor Design Repeated Measures Analysis for parents' intentions and behaviors for child's aggressive behavior modification

Source	SS	df	MS	F	$p$ - value
<b>Parent's Intentions</b>					
<b>Between subjects</b>					
Group	89.62	1	89.62	18.44	.000**
Error	476.29	98	4.86		
<b>Within subjects</b>					
Time	61.55	2	30.77	19.75	.000*
Time*group	65.79	2	32.89	21.12	.000**
Error (time)	305.33	196	1.56		
<b>Parent's Behaviors</b>					
<b>Between subjects</b>					
Group	615.04	1	615.04	19.72	.000**
Error	3,056.70	98	31.19		
<b>Within subjects</b>					
Time	815.45	2	407.72	53.80	.000**
Time*group	802.62	2	401.31	52.96	.000**
Error (time)	1,485.27	196	8.39		

\*\* $p < .01$

Furthermore, there was a statistically significant difference in parents' mean intentional scores measured at one week and one month after the training between the experimental and comparison groups,  $p < .01$  (Table 5). In addition, we also found that the difference of mean intentional scores between both groups measured at one month was larger than that of one week (Table 5).

#### *Parent behaviors for child's aggressive behavior modification*

The Two-Factor Design Repeated Measures Analysis of parents' behaviors for performing childrens' aggressive behavior modification demonstrated a statistically significant difference in the parents' behaviors across the time points of measurements between the experimental and comparison groups (Table 3). In addition, results showed a statistically significant effect of time points of measurements on parents' behaviors in within-subjects. There was also a statistically significant interaction effect between

the time points of measurements and the groups in within-subjects effect,  $p < .01$  (Table 3) and in parents' mean behavioral scores measured at one week and one month after the training between the experimental and comparison groups,  $p < .01$  (Table 5). It was also found that the difference of mean behavioural scores between both groups measured at one month was larger than that of one week (Table 5).

#### *Child's aggressive behaviour*

Two-Factor Design Repeated Measures Analysis indicated a statistically significant difference in the child's aggressive behavior across the time points of measurements between the experimental and comparison groups (Table 4). In addition, within-subjects' effect showed a statistically significant effect of time points of measurements on the child's aggressive behaviors,  $F(2, 196) = 120.01$ ,  $p < .01$ . It also revealed a statistically significant interaction effect between time points of measurements and the groups in within-subjects' effect,  $p < .01$ .

**Table 4** Two-Factor Design Repeated Measures Analysis for child's aggressive behavior

Source	SS	df	MS	F	p - value
<b>Between subjects</b>					
Group	862.40	1	862.40	10.94	.001**
Error	7728.19	98	78.86		
<b>Within subjects</b>					
Time	2309.36	2	1154.68	120.01	.000**
Time*group	1918.75	2	959.37	99.71	.000**
Error (time)	1885.89	196	9.62		

\*\*  $p < .01$

**Table 5** Multiple comparisons of mean differences of parents' intentions and behaviors; and child's aggressive behavior across three time points of measurements between the experimental and comparison groups

Variable	Experiment (1) M (SD)	Comparison (2) M (SD)	Mean difference (1 - 2)	p - value
<b>Parent's Intentions</b>				
Pre - test	15.80 (2.86)	15.12 (2.58)	0.68	.214
Post - test 1	17.24 (2.33)	15.20 (2.49)	2.04	.002**
Post - test 2	18.02 (1.93)	15.06 (2.29)	2.96	.000**
<b>Parent's Behaviors</b>				
Pre - test	58.28(6.57)	57.82 (6.46)	0.46	.725
Post - test 1	64.10 (5.76)	57.82 (6.33)	6.28	.000**
Post - test 2	66.00 (4.22)	57.86 (6.31)	8.14	.000**

**Table 5** Multiple comparisons of mean differences of parents' intentions and behaviors; and child's aggressive behavior across three time points of measurements between the experimental and comparison groups (cont.)

Variable	Experiment (1) <i>M (SD)</i>	Comparison (2) <i>M (SD)</i>	Mean difference (1 - 2)	<i>p</i> - value
Child's Aggressive Behavior				
Pre - test	39.70 (9.73)	38.60 (9.48)	1.10	.568
Post - test 1	29.98 (8.99)	37.96 (9.28)	-7.98	.001**
Post - test 2	27.38 (8.67)	38.12 (9.21)	-10.74	.000**

\*\* $p < .01$ , \* $p < .05$

Pre - test: data were collected before the training.

Post - test 1: data were collected at one week after the training.

Post - test 2: data were collected at one-month follow up

Adjustment for multiple comparisons: Bonferroni

From multiple comparison, the mean aggressive behavioral scores of children in the experimental group measured at one week and one month after the training were statistically and significantly lower than those children in the comparison group,  $p < .01$  (table 5).

In conclusion, the findings of the study supported both hypotheses.

## Discussion

The findings in this study showed a statistically significant increase in parents' intentions and behaviors regarding their child's aggressive behavior modification. The interaction processes in the training aimed to adjust parents' attitudes toward the use of all five parenting skills, promoting parents' subjective norm on the use of these skills, increasing parents' perceived behavioral control on the use of all these skills and encouraging parents' intentions to perform these five parenting skills. Moreover, the program encouraged parents in the experimental group to perform nonaggressive behavior resulting in children's aggressive behavior reduction.

The increased parents' intentions, which in turn caused an increase in parents' behaviors, resulted in reduction of children's aggressive behavior. This result was in accordance with the study of Sedlar.<sup>36</sup>

Parents' behaviors influence the behaviors of children. Our findings are also consistent with a previous study<sup>37</sup> in adolescents who used self-control and had parents opposing aggression that reported less aggressive behavior, and the perceived behavioral control was the most effective predictor of intention and aggressive behavior prevention.<sup>38</sup>

These findings suggest that parenting skills, including caring, communicating, modelling, monitoring and disciplining training based on TPB is able to reduce the child's aggressive behavior. The results are in contradiction to a study that found non-significant differences in reducing children's aggressive behavior.<sup>39</sup> However, there were two differences between the current study and the study by Caldwell et al<sup>39</sup>, the condition of parents and the time of measurement for the post-test. In our study, parents lived with their children, and the post-test measurements were one week and one month after the training, whereas Caldwell et al. found 23% of parents never lived with their children, while 77% lived with them for some time. Exposure to domestic violence can increase adolescents' risks for aggressive behavior and delinquency.<sup>40</sup> In addition, the post-test in the latter study was measured immediately after the training that was provided to these parents for two months. However, the parent training used in this study was

effective in the reduction of children's behavior problems, which was in accordance with parent training based on Social Learning Theory<sup>22, 33</sup> and parent training that was non-theory based.<sup>23</sup>

### Limitations of the Study

This study has a limitation in that only two schools in Bangkok were purposively selected, thus generalization of the study is limited. However, the children met inclusion criteria in each school were randomly selected into either experimental or comparison group.

Also, this study used a quasi-experimental design with repeated measures, thus the threat to internal validity may come from the short time between each measurement (one week and one month after the training). Moreover, the follow-up was only one month. However, the strength of this study is that there is no difference in the environment of the two schools. This program can be applied and implemented in the schools that have similar characteristics with the studied schools.

### Conclusion and Implications for Nursing Practice

The parenting skill training in this study was found to be effective in increasing parents' intentions to engage in behaviors to reduce children's aggressive behavior modification one week and one month after the training. Therefore, this parenting skills training program can be implemented with the parents of the sixth graders in other schools. In addition, nurses can use this program to work with parents of children with aggressive behavior in order to improve their behaviors. The participants from other settings may need to be taken into consideration for further parent training. It is recommended that further research be conducted in Thailand on the efficacy of this program in the long term.

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## ผลของการอบรมทักษะของพ่อ แม่ ต่อการปรับเปลี่ยนพฤติกรรมก้าวร้าวของบุตรที่อยู่ในวัยเรียน

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**บทคัดย่อ:** การศึกษาถึงการทดลองที่มีการวัดซ้ำเพื่อศึกษาผลของโปรแกรมการอบรมทักษะ พ่อ แม่ เพื่อการปรับเปลี่ยนพฤติกรรมก้าวร้าวของบุตร ต่อพฤติกรรมก้าวร้าวในนักเรียนชั้นประถมศึกษาปีที่ 6 ความตั้งใจ และพฤติกรรมของพ่อ แม่ ที่จะปรับเปลี่ยนพฤติกรรมก้าวร้าวของบุตร สองโรงเรียน สังกัดกรุงเทพมหานคร ถูกเลือกเป็นโรงเรียนทดลอง และโรงเรียนเปรียบเทียบ นักเรียนที่มีคะแนน ก้าวร้าวตั้งแต่ 30 คะแนน ในโรงเรียนทดลอง สุ่มมา 50 คนจาก 62 คนและในโรงเรียนเปรียบเทียบ สุ่มมา 50 คนจาก 58 คน เพื่อเป็นกลุ่มทดลองและกลุ่มเปรียบเทียบตามลำดับ พ่อ แม่ของนักเรียนในกลุ่มทดลองจะได้รับการอบรมทักษะ พ่อ แม่ ครั้งละ 2 ชั่วโมง เป็นเวลา 5 สัปดาห์ ส่วนพ่อ แม่ ในกลุ่ม เปรียบเทียบจะได้รับการอบรมทักษะของพ่อ แม่ภายหลังจากสิ้นสุดการวิจัย

ผลการศึกษาพบว่าคะแนนของพ่อแม่ในกลุ่มทดลองในส่วนของ ความตั้งใจ และพฤติกรรมที่จะปรับเปลี่ยนพฤติกรรมก้าวร้าวของบุตรภายหลังการอบรมสูงกว่า คะแนนของพ่อแม่ในกลุ่มเปรียบเทียบอย่างมีนัยสำคัญทางสถิติ นักเรียนในกลุ่มทดลองมีคะแนนก้าวร้าวลดลงอย่างมีนัยสำคัญทางสถิติ ภายหลัง การอบรมพ่อ แม่ 1 สัปดาห์ และ 1 เดือน เมื่อเปรียบเทียบกับนักเรียนในกลุ่มเปรียบเทียบ พยาบาลสามารถนำโปรแกรมการอบรมทักษะของพ่อ แม่ เพื่อลดพฤติกรรมก้าวร้าวในเด็กวัยเรียนไปใช้ในการอบรมพ่อ แม่ ที่มีบุตรในวัยเรียนในโรงเรียน ศูนย์การเลี้ยงเด็ก แผนกเด็ก และชุมชนที่ประชากรมีลักษณะเหมือนกับการศึกษานี้

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**คำสำคัญ:** การปรับเปลี่ยนพฤติกรรมก้าวร้าว การอบรมทักษะของพ่อ แม่ เด็กวัยเรียน ทฤษฎีพฤติกรรมตามแผน

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