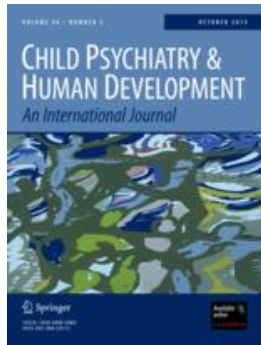




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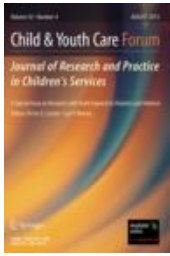
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A Randomized-Controlled Trial of the Triple P-Positive Parenting Program Seminar Series with Indonesian Parents

Agnes Sumargi · Kate Sofronoff · Alina Morawska

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Abstract There are limited evaluations of an evidence-based parenting program for parents from large developing countries, such as Indonesia. This study aimed to test the efficacy and acceptability of an evidence-based parenting program, the Triple P seminar series, among Indonesian parents. The level of child emotional and behavioral problems was the primary outcome of this study. Participants were 143 parents of children aged 2–12 years in Indonesia that were randomly allocated into the intervention ($n = 72$) or waitlist control group ($n = 71$). Participants, investigators, and data collectors were not blinded to the group assignment. A randomized-controlled trial was conducted with 143 parents of children aged 2–12 years in Indonesia. Results showed that parents in the intervention group reported a greater decrease in child behavioral problems ($d = 0.45$), dysfunctional parenting practices ($d = 0.69$), parental stress ($d = 0.44$), and a greater increase in parenting confidence ($d = 0.45$) in comparison to parents in the waitlist control group at post intervention. The intervention effects were maintained at 6-month follow up for parents in the intervention group. The program was deemed to be culturally appropriate as parents indicated high levels of acceptability and satisfaction with the program content. It is suggested that future studies include families with lower income and employ a more stringent design (e.g., using validated measures, multiple facilitators, and blinding).

Keywords Brief parenting program · Child emotional and behavioral problems · Parenting practices · Parental adjustment · Indonesian parents

Introduction

The prevalence rates of child mental, emotional, and behavioral problems are estimated at between 14 and 20 % worldwide [1]. In the last few years, there has been a focus on reducing the rates of child emotional and behavioral problems [2], particularly, since prevention is associated with lower cost than future intervention [1]. A number of parenting related factors have been associated with child emotional and behavioral problems including dysfunctional parenting practices, parental stress, parental self-efficacy, family relationships, and parental teamwork [3, 4].

Research has shown that behavioral parenting programs can change the risk and protective factors, and reduce the rates of child emotional and behavioral problems [1, 5]. The programs that have been found effective are programs that encourage parent–child interactions and the use of positive parenting strategies [6]. A meta-analysis of two behavioral interventions, the Parent–Child Interaction Therapy and Triple P-Positive Parenting Program, indicated that both programs improved parenting behavior and parental self-efficacy, as well as reduced parental stress and difficult child behavior [7]. The meta-analysis included efficacy studies that employed parent report, child observation and teacher report. Large effect sizes were found for most studies using parent report in both intervention programs. Additionally, behavioral intervention programs that were delivered to parents in the general population, such as parenting television series and parenting seminars, were found to be effective in improving child behavior,

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parenting practices and parental adjustment [8, 9]. Both studies utilized parent report and demonstrated moderate intervention effects. Considering their significant benefits, it is important that evidence-based parenting programs are widely disseminated to all families [2].

Triple P is a behavioral family intervention based on a social learning paradigm aiming to enhance parents' knowledge, skills, and confidence in order to prevent child emotional and behavioral problems [10]. The program is a multi-level interventions, from the Universal Triple P (level 1, media and communication strategy), Selected Triple P (level 2, brief parenting interventions), Primary Care Triple P (level 3, narrow-focused parenting programs), Standard Triple P (level 4, broad-focused parenting programs), to Enhanced Triple P (level 5, intensive family interventions [10]). The interventions have been found to be effective in improving parenting skills, parental adjustment, and child behavior with a range of effect size from small to moderate [11]. Many Triple P studies have focused on the efficacy of level 4 and 5 interventions [11, 12], and only more recently have the less intense levels undergone evaluation [9, 13]. This paper focuses on the evaluation of a brief Triple P intervention (level 2), the Triple P Seminar Series.

Triple P has been disseminated around the world to parents from various cultures. Australian parents have reported positive changes in their parenting styles, parental adjustment, parenting confidence, and child behavior problems following the implementation of Triple P multi-level system of interventions [14]. The evaluation of the Triple P Seminar Series with Australian parents also showed that the program was effective in reducing dysfunctional parenting practices and child behavior problems [9]. Parents in Japan and Hong Kong have indicated their satisfaction with Group Triple P and reported substantial improvement in parenting practices and child behavior after attending the program in comparison to parents in the waitlist-control group [15, 16]. Although the efficacy of Triple P has been well researched, the evaluation of the program for parents in developing countries is still limited. There is a need to evaluate the efficacy of evidence-based parenting programs in developing countries with a rigorous methodological design. A low-intensity parenting program might be suitable, as it is cost effective and time efficient [17].

Indonesia is a developing country in South-East Asia and the fourth most populous country in the world [18]. There were approximately 61 million families and the number of children below the age of 5 was about 30 in every 100 families [19]. To date, no evidence-based parenting program is available in Indonesia. The existing parenting programs, such as Bina Keluarga Balita (BKB), a parenting program established by Indonesian government,

targets only mothers of young children [20]. Participating mothers reported that the program was important but most of them had not implemented the parenting practices introduced in the program [21]. Other studies show that parent participation in BKB was positively related to child developmental outcomes [22, 23], however, these studies lacked methodological rigor, as they did not use standardized child developmental measures and were based on ex post facto designs (e.g., comparing two existing groups that did or did not participate in the program).

A recent survey with 273 Indonesian parents residing in Indonesia and Australia indicated that Indonesian parents frequently employed parenting practices that when used in isolation are ineffective in dealing with child misbehavior; standalone practices such as making the child apologize for his or her misbehavior, giving the child a lecture for his or her misbehavior, and shouting at their child [24]. Similar to the results of this study, Australian parents also often used ineffective parenting practices, particularly shouting at their child. Shouting has been found to be positively associated with child behavior problems [25].

The result of the Indonesian survey also showed that most parents (81 %) had not participated in any parenting program in the past 12 months and many (44 %) were unaware of the availability of parenting programs. Nonetheless, 78 % of parents intended to participate in a parenting program if one was available in the future and parents preferred to have a brief parenting program [24].

A brief format of Triple P has been trialed with 30 Indonesian parents residing in Australia [26]. Parents attended a 90-min Triple P seminar, *The Power of Positive Parenting*, in Indonesian. Minor changes were made in graphic materials and the use of culturally relevant examples. The program was found to be culturally acceptable and efficacious in reducing the occurrence of permissive parenting style ($d = 0.47$) and child emotional and behavioral problems ($d = 0.44$). The effectiveness of the program was maintained at 3-month follow up [26]. The results of this pilot trial are promising but need further extension. The study had a small sample size and low intensity of the intervention (i.e., a single seminar instead of three seminar deliveries), and there was no control group for comparison. Due to the results of the previous study, a larger scale trial in Indonesia was needed to investigate if these promising results could be extended to parents residing in Indonesia. Limitations with respect to the sample size and design of the study were addressed by conducting a randomized-controlled trial that involved a large number of parents.

The purpose of this study was to examine the efficacy of the Triple P seminar series with parents in Indonesia using a randomized-controlled trial. It was hypothesized that the

intensity of child emotional and behavioral problems, dysfunctional parenting practices, parental stress, family relationship problems and teamwork problems would significantly decrease, while parenting confidence would significantly increase for parents in the intervention group. It was also expected that parents would report high cultural acceptability and satisfaction with the program.

Method

Participants

Participants in this study were 143 Indonesian parents (94 % mothers) who had a child aged 2–12 years old (50 % boys). The age of parents and child on average were 37.01 ($SD = 5.88$) and 6.34 years old ($SD = 3.02$), respectively. Most parents were married (97 %) and the number of children per family was 2.13 ($SD = 0.97$). Sixty seven percent of parents had additional caregivers for their child, such as grandparents (49 %) and housemaids (51 %). The ethnic backgrounds of most parents were Javanese (64 %) and Chinese (24 %). More than half the parents had completed a university degree with undergraduate (55 %) or postgraduate qualifications (19 %). The rest had a diploma (13 %) and secondary education (13 %). Fifty-seven percent of parents worked full-time and 19 % worked part-time. Only 13 % of parents were unemployed and 11 % had home-based employment. Most parents were able to meet their household expenses (73 %) and could afford to buy some (77 %) or most of the things they wanted (4 %). The majority of parents (81 %) had not participated in any parenting program in the last 12 months. Table 1 shows demographic characteristics of parents in the intervention and waitlist control group.

Recruitment

The primary and secondary outcomes of this study were the level of child behavior and emotional problems and parenting practices, respectively. Parenting confidence and parental adjustment (i.e., parental stress, family relationships, and parental teamwork) were the additional outcomes. The primary endpoint was child emotional and behavioral problems at post intervention. A medium effect size was expected in accord with previous studies [9, 26].

The estimated number of participants was determined using a power analysis program, G*Power 3 [27]. For a study with two groups assessed at pre and post intervention and a medium effect size (Cohen's $f = 0.25$) at a significance level of 5 % (two tailed) and a power of 80 %, the sample size required was 64 participants per group. To obtain this number, posters and brochures advertising this

study were sent to schools, child care centers, and churches in Surabaya, Indonesia. The information about the study was also posted on a website and a hyperlink of the website was disseminated online via a social networking website (i.e., the Facebook page of the first author) or e-mails to potential participants.

Parents who expressed an interest in the study were called to ensure that they met the inclusion criteria (i.e., a parent of a typically developing child aged 2–12 years old living with the child at the time of study). Families with children between 2 and 12 years old were recruited to correspond with the child age targeted in Triple P [28] and in the previous study [9]. Parents who met the inclusion criteria received pre-intervention questionnaires and were randomly allocated after returning the questionnaire (i.e., 72 parents in the intervention group and 71 parents in the waitlist control group). The retention rates were 93 % at post intervention and 88 % at follow up. Figure 1 illustrates the Consolidated Standards of Reporting Trial (CONSORT) flow diagram for this study, including the number participants lost at follow up and their reasons.

Measures

Self-report measures were used to assess demographic characteristics of participants, parenting and child behavior outcomes, parent acceptability and satisfaction with the program. The measures had been used in the previous studies with Indonesian parents [24, 26] and showed adequate internal consistencies, with the exception of the Parenting Scale (Verbosity).

Demographics

The Family Background Questionnaire (FBQ; [29]) provided information about demographic characteristics of participants. Additional questions on participants' ethnic groups, other child caregiver, and parent participation in parenting programs in the past 12 months were included.

Child Emotional and Behavioral Problems (Primary Outcome)

The Child Adjustment and Parent Efficacy Scale (CAPES; [30]) assessed the intensity of child emotional and behavioral problems over the past 4 weeks (Intensity scale) and the degree of parents' confidence in managing child difficult behavior (Confidence scale). The CAPES Intensity consists of 26 items of behavioral concerns and competencies (Behavior scale; e.g., "My child yells, shouts or screams"), and four items measuring child emotional adjustment (Emotional Maladjustment scale; e.g., "My child worries"). It is a 4-point scale, ranging from *not true*

Table 1 Demographic characteristics of the intervention and waitlist control group

Variable	Intervention (<i>n</i> = 72)		Waitlist (<i>n</i> = 71)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Child's age (years)	6.26	3.04	6.42	3.02	−0.31	.755
Parent's age (years)	36.78	5.27	37.25	6.46	−0.48	.630
Number of children in the family	2.17	0.92	2.10	1.02	0.42	.675
	<i>n</i>	%	<i>n</i>	%	χ^2	<i>p</i>
Child's gender					2.52	.133
Male	41	56.94	31	43.66		
Female	31	43.06	40	56.34		
Parent's gender					0.56	.494
Male	3	4.13	5	7.04		
Female	69	95.83	66	92.96		
Marital status					0.00	1.000
Married	70	97.22	69	97.18		
Defacto/single/separated/divorced	2	2.78	2	2.82		
Ethnic group					1.38	.500
Javanese	43	59.72	49	69.01		
Chinese Indonesian	19	26.39	15	21.13		
Others (e.g., Balinese, Ambonese, Minahasans, Batak, Buginese)	10	13.89	7	9.86		
Education level					4.82	.186
Senior high school	8	11.11	10	14.08		
Diploma	12	16.67	6	8.45		
Undergraduate degree	42	58.33	37	52.11		
Postgraduate degree	10	13.89	18	25.35		
Employment level					0.10	.992
Full-time	41	56.94	40	56.34		
Part-time	14	19.44	13	18.31		
Home-based paid work	8	11.11	8	11.27		
Unemployed	9	12.50	10	14.08		
Meeting household expenses					0.39	.822
Yes	54	75.00	50	70.42		
No	14	19.44	16	22.54		
Not sure	4	5.56	5	7.04		
After expenses can afford					1.03	.598
Not much	12	16.67	15	21.13		
Some things	56	77.78	54	76.06		
Most things	4	5.56	2	2.82		
Other child caregiver					0.69	.477
Yes (e.g., grandparents, housemaid)	46	63.89	50	70.42		
No	26	36.11	21	29.58		
Participation in a parenting program in the last 12 months					2.12	.200
Yes	17	23.61	10	14.08		
No	55	76.39	61	85.92		

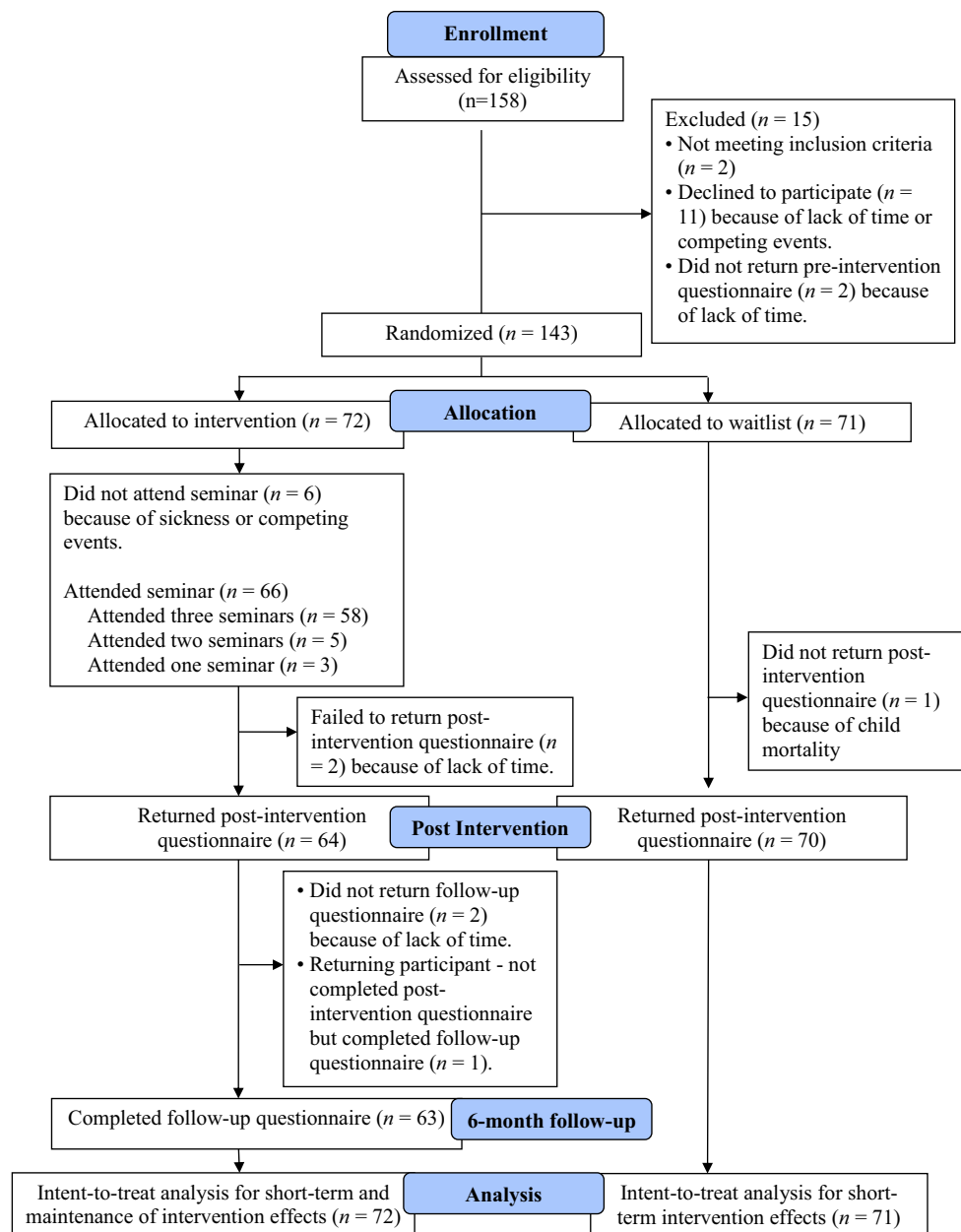


Fig. 1 Flow diagram of participants according to the CONSORT

of my child at all (0) to true of my child very much, or most of the time (3), with a higher behavior (range of 0–78) and emotional score (range of 0–12) indicates problems. The CAPES Confidence consists of 20 items from the Behavior scale with a 10-point scale, ranging from *certain I can't do it* (1) to *certain I can do it* (10), with a higher score (range of 20–200) indicates a greater level of confidence. The CAPES had satisfactory convergent and discriminant validity, as well as good internal consistencies within an Australian population [30]. The Spanish version of the CAPES Intensity and Confidence was significantly and positively correlated with the Strength and Difficulties

Questionnaire ($r = 0.42$) and the Parenting Task Checklist ($r = 0.49$), respectively [31]. In this study, the internal consistencies for the Indonesian version of the Behavior, Emotional Maladjustment, and Confidence scale were .84, .71 and .94, respectively.

Parenting Practices (Secondary Outcome)

The Parenting and Family Adjustment Scale (PAFAS; [32]—Parenting Practice scale was used to assess dysfunctional parenting practices. Details of the measure are described in the following section. Considering that the internal

consistency of PAFAS-Parenting Practice in the previous study was not high ($\alpha = .67$; [24]), the Parenting Scale was included to further confirm the finding in this present study.

The Parenting Scale (PS; [33]) consists of three separate subscales: Laxness, Overreactivity, and Verbosity. Each subscale measures dysfunctional parenting styles: laxness or permissive disciplines (11 items), overreactivity or authoritarian disciplines (10 items), and verbosity or overly long reprimands (seven items). Parents rated on a 7-point scale with the most and least effective parenting strategy being the anchors. Example items were “I am the kind of parents that: *set limits on what my child is allowed to do* (1) or *lets my child do whatever he or she wants* (7)” for the Laxness scale, “When my child misbehaves: *I rarely use bad language or curse* (1) or *I almost always use bad language* (7)” for the Overreactivity scale, and “If saying no does not work right away: *I take some other kind of action* (1) or *I keep talking or trying to get through to my child* (7)” for the Verbosity scale. The total score is obtained from 30 items across the subscales and additional items. The PS was found to have good internal consistencies and test–retest reliability [33]. The internal consistencies of the translated PS in this study were .73 for Laxness, .79 for Overreactivity, .54 for Verbosity, and .69 for Total score. Given the low internal consistencies for the Verbosity and Total score only the Laxness and Overreactivity scores were used in the analyses. In this study, the PS Laxness and Overreactivity scale were significantly correlated with the PAFAS-Parenting Practice scale, $r(141) = .24$, $p < .01$ and $r(141) = .57$, $p < .001$, respectively.

Parental Adjustment (Additional Outcome)

The Parenting and Family Adjustment Scale (PAFAS; [32]) is a 40-item measure, with 4-point rating from *not true of me at all* (0) to *true of me very much* (3), and assesses parenting and family adjustment over the past 4 weeks. The four subscales of PAFAS yield separate scores. The Parenting Practices scale (28 items; e.g., “I shout or become angry with my child when he/she misbehaves”) assesses parental strategies commonly used with a child, with a higher score (range of 0–84) indicating more dysfunctional parenting practices. The Parental Adjustment scale (five items; e.g., “I feel stressed or worried”) assesses parental mood, with a higher total score (range of 0–15) indicating a higher level of parental stress. Four items in the Family Relationships scale (e.g., “Our family members criticize each other”) and three items in the Parental Teamwork scale (e.g., “I work as a team with my partner in parenting”) describe the quality of relationships in family and teamwork between parents, respectively. Higher scores

indicate problems in the relationships (range 0–12) or teamwork (range 0–9). The PAFAS had satisfactory construct and predictive validity, as well as good internal consistencies within an Australian population [32]. In this sample, the internal consistencies of the subscales were .68 for the Parenting practice scale, .78 for the Parental Adjustment scale, .66 for the Family Relationships scale, and .57 for the Parental Teamwork scale. It should be noted that the CAPES and PAFAS are newly developed scales for measuring child emotional and behavioral problems and parenting risk factors that have strengths on their applicability for non-clinical population and their brevity. These scales are also easy to administer, and comprehensively cover different aspects of child or parenting constructs in a single scale [30, 32]. Both measures have been used with Indonesian parents in previous studies and showed good or adequate internal consistencies [24, 26].

Parent Acceptability and Satisfaction

The Parent Acceptability Questionnaire (PAQ) was developed to measure parents’ acceptance of the parenting principles introduced in each Triple P seminar. The PAQ for seminar one included the five principles of positive parenting: ensuring a safe and engaging environment, creating a positive learning environment, using assertive discipline, having realistic expectations, and taking care oneself [34]. The PAQ for seminar two contained the six components of social skills: showing respect to others, being considerate, having good communication and social skills, having healthy self-esteem, becoming a good problem solvers, and becoming independent [34]. The six emotional regulation skills, such as recognizing and accepting feelings, expressing feelings appropriately, building a positive outlook, developing coping skills, dealing with negative feelings, and dealing with stressful life events, were used for the PAQ of seminar three. A short description of each principle or skill was provided along with a 7-point rating scale ranging from *not acceptable* (1) to *extremely acceptable* (7). A question was added to assess the cultural appropriateness of the seminar content, with a 7-point scale ranging from *not at all appropriate* (1) and *extremely appropriate* (7). The internal consistencies of the PAQ in this study were .72 for seminar one, .85 for seminar two, and .93 for seminar three.

The Parent Satisfaction Survey (PSS; [29]) evaluates the quality and usefulness of the program, such as materials and presentation. The PSS consists of 10 items with a 7-point scale ranging from *poor or no, definitely not* (1) to *excellent or yes, definitely* (7). Additionally, parents were asked to provide general comments about the Triple P seminar series. The PSS had good internal consistency in this study ($\alpha = .88$).

Procedures

This study took place at Widya Mandala Catholic University Surabaya, Indonesia, from April 2012 to March 2013. The ethical clearance of this study was obtained from the University of Queensland Behavioral and Social Sciences Ethical Review Committee. The trial was registered with the Australian New Zealand Clinical Trials Registry (ACTRN12612000200886). All participating parents provided written informed consent.

A randomized-controlled trial with two parallel groups (1:1 ratio) was carried out. Parents who completed the pre-intervention questionnaire were randomly assigned to one of the two groups, an intervention or waitlist control group. A randomization with block size of 10 was generated using a computer by an independent person who then put the generated numbers in envelopes. Parents were informed about their allocation shown in the envelopes by the first author.

Parents in the intervention group were assessed three times: before the intervention (on average 19 days before the start of the first seminar), 1–2 weeks after the intervention (on average, 14 days between the last seminar and post-intervention assessment) and 6 months after the intervention (on average, 189 days between the post-intervention and follow-up assessment). Parents in the waitlist control group were assessed only at pre and post intervention, and for ethical reasons, received the Triple P Seminar Series after post-intervention assessment. On average, the time lag between the pre- and post-intervention assessment was 46 days both for the intervention and waitlist control group.

The pre-intervention questionnaire included the FBQ, CAPES, PS, and PAFAS. The PAQ was distributed immediately after the seminar. The CAPES, PS, PAFAS, and PSS were sent to parents at post intervention. A follow-up questionnaire consisted of the CAPES, PS, and PAFAS. Parents chose to receive a set of questionnaires either online or paper-based. The percentages of parents who completed online and paper-based questionnaire were 52 and 48 %, respectively, with an equal proportion for the intervention and waitlist control group. The questionnaire distribution was conducted by the first author and research assistants. The online questionnaire was made using Qualtrics software. Parents who completed the paper-based questionnaire returned the questionnaire by mail and their responses were input online by research assistants who were not blinded to parents' group status.

Parents in the intervention group were invited to attend the three 90-min Triple P seminars (i.e., *The Power of Positive Parenting*; *Raising Confident, Competent Children*; and *Raising Resilient Children*) at Widya Mandala Catholic University Surabaya, once a week. *The Power of*

Positive Parenting seminar introduced parents to the five core principles of positive parenting: ensuring a safe and engaging environment, creating a positive learning environment, using assertive discipline, having realistic expectations, and taking care oneself as a parent. This includes parenting strategies, such as spending quality time with children, using descriptive praise, and using logical consequences [34]. The *Raising Confident, Competent Children* seminar focuses on the applications of positive parenting principles for developing children's social skills. Parents were encouraged to teach their children the following skills: showing respect, being cooperative and considerate, learning to be independent, to develop healthy self-esteem, and to solve problems [34]. Finally, the *Raising Resilient Children* seminar informs parents a variety of ways to help children recognize and accept their feelings, express their feelings appropriately, build positive feelings, develop coping skills, and manage negative feelings and stressful life events [34]. The seminars were delivered in Indonesian by an accredited Triple P practitioner (first author). In each seminar, 60 min was allocated for presentation and 30 min for question time. The facilitator was available for parents' questions after the seminar was over. A make-up session was arranged if parents were not able to attend the seminar. Most parents (88 %) attended all three seminars (see Fig. 1). On average, 21 parents attended each seminar.

The materials used were power-point slides and tip sheets which had been translated into Indonesian by the first author. The translations were previously reviewed by an Indonesian bilingual postgraduate student and refined accordingly. Only a slight adjustment was made in the presentation, such as the use of pictures of Indonesian children and families in some slides and culturally relevant examples from newspaper and personal stories in implementing parenting strategies in the Indonesian context.

The seminar delivery closely followed the Triple P standardized manual [34]. To ensure that the facilitator adhered to the content of the program and as a part of the self-regulatory approach which underlies all of Triple P, the Triple P seminar checklists for each seminar were completed by the seminar facilitator. In the checklist, adherence and nonadherence was determined from the presence of the essential elements of the presentation, such as in the first seminar, it is necessary to have an overview of the seminar content, discuss the concept of positive parenting, to introduce each positive parenting principles and their strategies, and invite questions. Adherence to all seminars was 100 %. The results were then compared with ones coded by a second rater who was present in the seminar sessions. Interrater reliability, measured as percentages of agreement between the facilitator and second rater, was 100 % for all seminars.

Table 2 Short-term intervention effects

Measure	Intervention ($n = 72$) ^a				Waitlist control ($n = 71$) ^a				F	df	p	d	95 % CI
	Pre		Post		Pre		Post						
	M	SE	M	SE	M	SE	M	SE					
CAPES behavior	26.00	0.97	22.10	0.82	23.93	1.09	23.91	1.04	11.86	(1,134)	<.001***	0.45	0.12–0.78
CAPES emotional maladjustment	3.28	0.21	3.01	0.18	3.37	0.26	3.06	0.20	0.02	(1,130)	.900		
PS laxness	3.04	0.10	2.80	0.11	3.10	0.10	3.09	0.10	4.22	(1,121)	.042*	0.27	0.06–0.60
PS overreactivity	3.16	0.12	2.76	0.11	2.91	0.11	3.05	0.10	15.90	(1,92)	<.001***	0.56	0.23–0.89
PAFAS parenting practices	28.03	0.84	22.79	0.70	27.35	0.79	26.83	0.83	25.09	(1,139)	<.001***	0.69	0.35–1.02
CAPES confidence	154.90	2.93	165.16	2.61	157.07	3.66	154.85	3.48	8.96	(1,139)	.003**	0.45	0.12–0.78
PAFAS parental adjustment	4.42	0.32	3.37	0.21	3.66	0.28	3.72	0.29	9.11	(1,137)	.003**	0.43	0.10–0.76
PAFAS family relationships	2.67	0.21	2.31	0.20	2.44	0.21	2.44	0.20	1.39	(1,107)	.241		
PAFAS teamwork	1.86	0.19	1.55	0.15	1.71	0.18	1.77	0.16	2.75	(1,136)	.100		

Pre and Post = pre and post intervention assessment consisting of pooled M and SE values from multiple imputation data sets, F , df , p = the pooled ANOVA results for time by group computed from multiple imputation data sets, d = Cohen's d for pre-test-post-test-control group designs, 95 % CI = 95 % confidence intervals of effect sizes, CAPES Child Adjustment and Parent Efficacy Scale, PS Parenting Scale, PAFAS Parenting and Family Adjustment Scale

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

^a $n = 70$ for the PAFAS Teamwork

Statistical Analyses

A series of repeated-measures multivariate and univariate analyses of variance (MANOVAs and ANOVAs) were performed to evaluate the short-term intervention effects. The MANOVAs were used only for the conceptually related dependent variables: child emotional and behavior problems (CAPES Intensity) and dysfunctional parenting style (PS). A series of ANOVAs was employed for the other variables: parenting confidence, parenting practices, parental adjustment, family relationships, and parental teamwork. For the maintenance effects, a series of MANOVAs on the CAPES Intensity and PS was carried out across the multiple imputation data sets. A series of paired sample t tests was then performed to examine whether the changes in child and parental outcomes were maintained at 6-month follow up.

The analyses were conducted using an intent-to-treat approach. However, parents in the control group and those in the intervention group that did not attend the seminar were not involved in the follow-up assessment. Because of the nature of the research design, missing value analyses for data sets of the intervention and waitlist control group were run separately. Each data set consisted of parents' responses to individual items at pre-intervention, post-intervention, and follow-up. There were 8 and 1 % missing values in the overall data sets of the intervention group and control group, respectively. To replace these values, the multiple imputation (MI) procedures [35] were employed using PASW 18. MI, in comparison to traditional methods,

such as case deletion and mean substitution, is recommended for dealing with missing data [36]. In this study, the Markov Chain Monte Carlo (MCMC) method with 100 iterations was used to produce five multiple data sets. The pre intervention scores, age of parent, and groups were included as predictors. Parent's age was included because it was the only demographic variable that was significantly associated with the missingness of data sets in the intervention group. The inclusion of an auxiliary variable into the imputation model can increase power and reduce bias [37]. The statistical analyses were then performed for each imputed data set and the pooled results of ANOVAs were obtained using the procedure suggested by van Ginkel [38], including the SPSS syntax to adjust the degrees of freedom of the combined results [39]. Similarly, for the maintenance effects, SPSS syntax by van Ginkel [40] was used to adjust the degrees of freedom of the combined t tests. It should be noted that the results of MANOVAs were reported in the ranges of F tests because the procedure to pool the results have not yet developed (JR van Ginkel, personal communication, September 29, 2014).

Effect sizes of the short-term intervention were computed from the mean pre-post change in the intervention group minus pre-post change in the waitlist control group divided by the pooled pre-intervention standard deviation [41], while the effect sizes of the maintenance of intervention were computed from the mean post intervention score minus pre intervention score divided by the standard deviation of the pre intervention score [42]. A biased estimator of the population effect size was applied for both

Table 3 Maintenance of intervention effects

Measure	Intervention (<i>n</i> = 72) ^a				<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>	95 % CI
	Pre		Follow up						
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>					
CAPES behavior	26.00	0.97	20.31	0.81	5.63	66	<.001***	0.69	0.42–0.96
CAPES emotional maladjustment	3.28	0.21	2.72	0.21	2.62	66	.011*	0.31	0.07–0.55
PS laxness	3.04	0.10	2.68	0.09	4.32	59	<.001***	0.43	0.22–0.64
PS overreactivity	3.16	0.12	2.73	0.09	4.30	61	<.001***	0.43	0.21–0.65
PAFAS parenting practices	28.03	0.84	23.40	0.69	5.48	67	<.001***	0.65	0.38–0.92
CAPES confidence	154.90	2.93	168.61	2.18	4.80	69	<.001***	0.55	0.28–0.81
PAFAS parental adjustment	4.42	0.32	3.42	0.27	3.36	63	.001**	0.37	0.13–0.60
PAFAS family relationships	2.67	0.21	2.14	0.21	2.21	52	.032*	0.30	0.05–0.55
PAFAS teamwork	1.86	0.19	1.52	0.17	1.80	65	.076		

Pre and Follow-up = pre intervention and follow-up assessment consisting of pooled *M* and *SE* values from multiple imputation data sets, *t*, *df*, and *p* = the results of pooled *t* tests that were computed from multiple imputation data sets, *d* = Cohen’s *d* for single-group repeated measures design, 95 % CI = 95 % confidence intervals of effect sizes, CAPES Child Adjustment and Parent Efficacy Scale, PS Parenting Scale, PAFAS Parenting and Family Adjustment Scale

p* < .05; ** *p* < .01; * *p* < .001

^a *n* = 70 the PAFAS (Teamwork)

calculations [41]. The pre-intervention standard deviations were calculated from the standard errors of the mean pre intervention and sample size of a group [43].

Descriptive statistics were computed for parent acceptability and parent satisfaction. Participants’ general comments on the seminar series were read carefully and classified based on the themes emerged. A frequency distribution was generated for each theme.

Results

Preliminary analyses showed that there was no significant difference between parents in the intervention and waitlist control group in terms of demographic characteristics and pre-intervention assessment (see Table 1).

Short-Term Intervention Effects

There was a significant multivariate effect of group by time on CAPES Intensity, $F(2, 140) = 6.33–8.48, p < .001–.002$. Univariate analyses showed that parents in the intervention group reported fewer behavioral problems at post intervention than parents in the waitlist control condition, with a medium effect size (Table 2). No significant difference was found for the intensity of child emotional problems.

A significant multivariate effect of group by time was found on PS, $F(2, 140) = 7.55–15.59, p < .001–.001$. Univariate analyses indicated that parents in the intervention group had significantly lower scores on overreactivity

Table 4 Mean and standard deviation of parent satisfaction with the Triple P seminar series

Parent satisfaction (PSS ^a , <i>N</i> = 63)	<i>M</i>	<i>SD</i>
Opportunities for questions	5.84	1.15
Quality of seminar presentation	6.22	0.96
Gaining sufficient knowledge to implement the parenting advice	6.35	0.72
Clear examples in the presentation	6.41	0.69
Gaining understanding to develop children’s skills and behaviour	6.41	0.73
Clear explanations	6.46	0.76
Seminar content	6.48	0.72
Interesting seminar	6.59	0.78
Intention to implement the parenting advice	6.65	0.54
Useful tip sheets	6.67	0.62

^a PSS = Parent Satisfaction Survey. It is a 7-point of scale ranging from *poor* or *no, definitely not* (1) to *excellent* or *yes, definitely* (7)

and laxness at post intervention than parents in the waitlist control group, with medium effect sizes. Similarly, dysfunctional parenting practices as measured by the PAFAS Parenting Practices also show a significant intervention effect with a medium effect size (Table 2).

As seen in Table 2, a series of ANOVAs of group by time on CAPES Confidence and PAFAS Parental Adjustment indicates significance intervention effects with medium effect sizes for parenting confidence and parental adjustment. Parents in the intervention group had higher scores on parenting confidence and lower scores on parental stress than parents in the waitlist control group,

but no significant effects were found on family relationships and parental teamwork.

Maintenance of Intervention Effects

Repeated measures MANOVAs and paired sample *t* tests were used to investigate the maintenance effects at 6-month follow up for the intervention group (Table 3). A significant multivariate time effect was found on CAPES Intensity, $F(2, 70) = 17.38\text{--}18.19, p < .001$. The results of pooled *t* tests indicated significant time differences for both the Behavior and the Emotional Maladjustment scale.

A multivariate effect was also found for dysfunctional parenting style measure, $F(2, 70) = 14.12\text{--}23.72, p < .001$, with significant time differences on PS Laxness and Overreactivity (Table 3). The result of *t* test for PAFAS Parenting Practices also demonstrates a significant difference in parenting practices at pre-intervention and follow up assessment.

A series of paired sample *t* tests on the PAFAS subscales and CAPES Confidence indicates significant time differences for parental adjustment, family relationships, and parenting confidence (Table 3). No significant time difference was found for PAFAS Teamwork.

Parent Acceptability and Satisfaction

Parents reported high levels of acceptability on the program content ($M = 6.52, SD = 0.83$ for seminar one; $M = 6.78, SD = 0.52$ for seminar two; and $M = 6.75, SD = 0.59$ for seminar three). They also indicated the cultural appropriateness of the program ($M = 6.69, SD = 0.47$ for seminar one; $M = 6.70, SD = 0.46$ for seminar two, $M = 6.85, SD = 0.41$ for seminar three).

As displayed in Table 4, parents reported high levels of satisfaction with various program aspects ($M = 6.41, SD = 0.81$). The highest rating was on the usefulness of tip sheets, followed by the intention to implement the parenting advice and interesting seminar. The lowest rating was on the opportunities for questions.

Parents' comments on the Triple P seminar series ($N = 43$) were classified into what they thought went well and what they would like to change in the program. Based on what they thought went well, three themes emerged: parents had more ideas to deal with children's behavior (14 %), they intended to implement the parenting tips (7 %) and expressed willingness to participate in another seminar (21 %). Parents provided feedback on what they would like to change in the program and their feedback was categorized into: time limitations (14 %), lack of opportunity for questions (9 %), a desire to receive more direct guidance, detailed explanation, and practice on how to implement parenting strategies using a video, case studies,

a role play, or homework (26 %), and suggestion for having group discussion and sharing between parents during the seminars (9 %).

Discussion

This study aimed to test the efficacy of a universal prevention program, the Triple P seminar series, with Indonesian parents. The results show that the majority of the hypotheses were confirmed. Parents who attended the Triple P seminar series, in comparison to parents in the waitlist control group, reported a greater decrease in child behavioral problems, dysfunctional parenting practices, parental stress, and a greater increase in parenting confidence at post intervention. The intervention effects were maintained at 6-month follow up and significant improvements were revealed at the follow-up assessment for child emotional problems and family relationships.

The results are consistent with other Triple P studies involving Chinese, Japanese, and Panamanian parents [15, 16, 44], although the effect sizes in this study were smaller, and this is likely because of the lower dose of intervention. The results also extend the findings of the efficacy of the Triple P seminar series among Australian parents [9] and the previous pilot work [26]. Overall, a brief parenting program is not only efficacious for parents from western backgrounds, but also for parents from diverse cultures, such as Indonesian parents.

The results of this study are promising, as they indicate that the Triple P Seminar Series delivered to a general audience is effective for preventing child behavioral problems. This supports the principle of minimal sufficiency in the delivery of parenting interventions [10]. As not all parents require an intensive level of intervention, providing general information on positive parenting strategies may have already assisted many parents in this study to address their parenting behavior and deal with their child behavior effectively.

It should be noted that the intensity of child emotional problems was not reduced immediately after the intervention, however this was decreased significantly at 6-month follow up. This may be due to the fact that the assessment period in this study was relatively brief (i.e., 1–2 weeks after the intervention). Since the last Triple P seminar focused on promoting child emotional resilience, parents may need a longer time to implement the parenting strategies discussed to reduce child emotional problems. A 6-month period of time may be required to reveal the changes as seen from the result of the follow-up assessment.

This study also failed to find a significant decrease in family relationship and parental teamwork problems at post intervention. However, a significant improvement on family relationship scores at follow up suggests that a longer period

of time is necessary to reveal any changes in family relationships. Non-significant findings of parental teamwork after the intervention are possibly related to a floor effect, as there was a low score on the parental teamwork measure at pre intervention. Disagreement over parenting between Indonesian parents may be low because the responsibility of raising children in Indonesia was still primarily in the hands of the mothers [45]. Furthermore, open conflict with other people including partners, is usually avoided in Indonesian culture [46]. To further investigate this, it is necessary that a future study recruit more fathers and include their reports in the assessments. A possibility of cultural biases in the items of parental teamwork measure should also be investigated more thoroughly.

Parents in this study reported that the positive parenting principles in Triple P were acceptable. They also perceived that the content of the seminar series was culturally appropriate. Parents showed high satisfaction levels with program content, materials, and presentation. They intended to implement parenting advice in day-to-day life and expressed their interest in participating in a similar type of seminar if one is available in the future. The results were consistent with other studies that showed the acceptability of Triple P with families from culturally diverse backgrounds [47], Japanese parents [48], and Indonesian parents in our previous work [26]. The surface level of program adaptation (e.g., delivering the program in participants' native language and using culturally relevant examples and graphic materials) is sufficient to achieve acceptability as well as efficacy [49].

There were a number of limitations that should be considered. Firstly, parenting and child outcome measures have not been validated for an Indonesian population. Although the internal consistencies of the measures were adequate, further validation with factor analyses and with other standardized measures in an Indonesian context is warranted. Furthermore, lack of normative values in the CAPES and PAFAS limits the ability to identify parents who have scores in the clinical range and to calculate reliable change indices, particularly for child emotional and behavioral problems, the primary outcome of this study. Secondly, this study used self-report measures and questionnaires that might not reflect the actual changes in parenting practices and child behavior. The use of multiple informants, such as other child caregivers and teachers [50, 51] is recommended for reducing assessment biases and gaining a comprehensive assessment on child behavior and parenting. Thirdly, the participants in this study were mostly parents with a relatively good financial status and were well educated. This may be related to the type of recruitment used (e.g., social networking websites via the Facebook of the first author, and posters to schools and child care centers near the seminar location) that may attract certain families with higher level

of education and income. This limits the generalizability of the study, but creates an opportunity for further investigation to test if a brief parenting program will provide positive effects, which are similar to this current study, for families with lower income and education. Fourthly, the seminar facilitator for all groups in this study was the first author who is currently the only Indonesian accredited Triple P practitioner. Furthermore, no blinding was conducted during data collection. This could introduce bias as the investigator team, including the seminar facilitator, might demonstrate different behavior towards the two groups of parents in favor of the intervention group. To minimize bias in the delivery and assessment process, protocol adherence checklists and second raters were used, and an assessment protocol was developed and followed closely. It is suggested that future studies incorporate blinding in the research design and use multiple facilitators to deliver the program. Including multiple facilitators in program delivery may also address the concern that the intervention effects are related to the skill of a single, highly trained facilitator. Finally, it is worthy to note that this study only used a wait list control group as a comparison group. A future study could use a more stringent design that includes a similar type of parenting seminar (non-Triple P) as a comparison in order to obtain a conclusive finding on the effectiveness of the Triple P Seminar Series.

Delivering the Triple P seminar series to a wider audience and testing its effectiveness in a community setting might be the next step that is crucial [52]. This could be achieved by approaching decision makers and stakeholders, such as government and community leaders, to provide resources, as well as involving relevant practitioners who could be trained to deliver the program in the community [53]. Holding the seminar series in community sites, such as child care centers, schools, health care centers, and religious sites would be beneficial as it can increase parents' accessibility to and participation in the program [54].

A brief parenting program is promising. The program can reach a large number of parents within a limited time, and therefore, reduces the amount of work required to conduct interventions with families in need [13]. The program may be suitable to be implemented in developing countries that lack resources [17]. A similar type of program with more intensive level of intervention, such as brief discussion group [13], is likely needed for some parents that require guidance and more practice and this would address the parent feedback from this trial.

Summary

Evaluation of an evidence-based parenting program, such as Triple P, in developing countries is scarce. This study

aimed to test the efficacy of Triple P seminar series with Indonesian parents. Results of a randomized-controlled trial with 143 Indonesian parents showed that parents in the intervention group, in comparison to parents in the waitlist control group, reported a greater decrease in child behavioral problems, dysfunctional parenting practices, and parental stress, and a greater increase in parenting confidence, with medium effect sizes. The intervention effects were maintained at 6-month follow-up. Parents also indicated that the program was highly acceptable and useful. The findings reveal that a brief parenting program with minor adaptation is efficacious and culturally appropriate for Indonesian parents. Future studies should include families with lower income and education to generalize the findings. It is also important to strengthen the research design of the present study by incorporating blinding and the use of multiple facilitators in program delivery. Further validation of the measures with Indonesian parents is strongly suggested along with the implementation of the program in the community to make a difference to the lives of Indonesian children and families.

Conflict of interest This paper is a part of the first author's PhD thesis supervised by the second and third author. The Triple P-Positive Parenting Program is owned by the University of Queensland (UQ). The University through its main technology transfer company UniQuest Pty Limited, has licensed Triple P International Pty Ltd to disseminate the program worldwide. Royalties stemming from this dissemination activity are distributed in accordance with the University's intellectual property policy and flow to the Parenting and Family Support Centre, School of Psychology, UQ; Faculty of Health and Behavioural Sciences; and contributory authors. No author has any share or ownership in Triple P International Pty Ltd. Agnes Sumargi was a PhD student in the School of Psychology, UQ, at the time of study; Kate Sofronoff is an academic on staff in the School of Psychology, UQ; and Alina Morawska is an author of various Triple P programs.

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