

STANDARD PAPER

# The Effectiveness of Group Triple P for Chinese Immigrant Parents of School Age Children Living in New Zealand

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## Abstract

The study was a randomised controlled trial evaluating the effectiveness of the Group Triple P Program for Chinese immigrant parents living in New Zealand. Sixty-seven Chinese immigrant parents of a 5- to 9-year-old child with disruptive behaviour problems were randomly allocated to either an intervention or a waitlist group. Parents completed measures of child adjustment problems, general parenting practices, parenting practices in children's academic lives, parental adjustment, parental teamwork, and family relationships at pre-, post-, and 4-month follow-up. Intervention group ratings of programme satisfaction were collected following programme completion. Significant short-term intervention effects were found for improvements in child behaviour, parenting practices, parental teamwork, and parenting in the child academic context. All intervention effects, except for parental teamwork, were maintained at 4-month follow-up. There were no significant intervention effects for parental adjustment, however, medium effect sizes were found at post-intervention and follow-up. A high level of programme satisfaction was reported.

**Keywords:** Group Triple P Program; Chinese immigrant parents; randomised control trial; behaviour problems; parenting

## Introduction

Parenting in Chinese immigrant families has been a growing research focus, due to the rapid population increase of Chinese immigrants in Western countries (Ma, 2020). There is some evidence from research conducted in the USA that children from Asian immigrant families are at risk for behavioural and emotional problems (Huang, Calzada, Cheng, Barajas-Gonzalez, & Brotman, 2017). A range of stressors associated with immigration, which negatively impact parenting, may contribute to these child behaviour difficulties. These include a lack of family support (Wu, 2011), acculturation difficulties (Liu, Benner, Lau, & Kim, 2009; Liu, Lau, Chen, Dinh, & Kim, 2009), and parent-child acculturation conflict (Hou & Kim, 2018). Findings from a range of studies with Chinese immigrant samples have shown associations between ineffective parenting practices and negative child outcomes, for example, between parent-child conflict and child internalising and externalising behaviours in middle childhood (Chung, Zhou, Kho, & Main, 2020), and unsupportive parenting and depressive symptoms in adolescence (Kim, Chen, Wang, Shen, & Orozco-Lapray, 2013). Parenting programmes that strengthen positive parenting practices have been advocated as a means of addressing the child mental health and parenting support needs of Asian immigrant families (Huang et al., 2017). Behavioural family interventions based on social learning principles are an effective treatment for

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behaviour problems in children (Dretzke *et al.*, 2009). For example, the Triple P Positive Parenting Program has an extensive body of evidence demonstrating the effectiveness of the programme in reducing children's behaviour problems and dysfunctional parenting practices, and increasing positive parenting practices (Sanders, Kirby, Tellegen, & Day, 2014).

The Triple P Positive Parenting Program is a multi-level system of parenting support, based on social learning principles, which has demonstrated effectiveness across cultures (Sanders, Kirby, *et al.*, 2014; Turner, Singhal, McIllduff, Singh, & Sanders, 2020). The system includes programmes of varying intensity. These range from 'light touch', low-intensity interventions involving seminars or brief targeted group or individual sessions to more intensive multi-week group (e.g., Level 4 Group Triple P) or individual programmes for parents of children with a broad range of behaviour problems and other family risk factors. Several studies of Chinese parents living in mainland China and Hong Kong provide support for the effectiveness of the Group Triple P Program in reducing children's behaviour problems, and improving parenting practices. For example, in a randomised controlled trial (RCT) of the Group Triple P Program in Hong Kong with parents who had concerns about the behaviour of their 3- to 7-year-old child, intervention group parents reported significant improvements in child behaviour, positive parenting practices, and parenting sense of competence, compared to the waitlist control group (Leung, Sanders, Leung, Mak, & Lau, 2003). A later study of Group Triple P in Hong Kong, with parents of a 2- to 12-year-old child, found post-intervention improvements for child behaviour, parenting competence, and parental adjustment, but no control group was included (Leung, Sanders, Ip, & Lau, 2006). Further evidence for the effectiveness of Group Triple P with Chinese parents in Hong Kong was provided by two RCTs, with a 3-group design. One study compared Group Triple P with a non-directive parenting programme and a control group (Chan, Leung, & Sanders, 2016). The second study compared Group Triple P with a brief Triple P discussion group and a control group (Chung, Leung, & Sanders, 2015). In both studies, significant intervention effects were found for the Group Triple P Program (Chan *et al.*, 2016; Chung *et al.*, 2015). However, there were no follow-up assessments in these studies (Chan *et al.*, 2016; Chung *et al.*, 2015; Leung *et al.*, 2003, 2006), so the long-term effect of the Group Triple P Program on improvements in parenting and child behaviour was unknown.

Only one RCT of the Triple P Program has been conducted in mainland China (Guo, Morawska, & Sanders, 2016). The study involved 81 parents of school-aged children, who were selected on the basis of parents' concern about child academic problems. Following participation in Group Triple P, parents in the intervention group reported significant improvements in child adjustment problems, parenting practices, parenting in the child's academic context, parental adjustment, and parental self-efficacy at post-assessment, in comparison to the waitlist group. These effects were maintained at 6-month follow-up based on the data collected from the intervention group. However, the study did not collect follow-up data from the waitlist group, which makes it difficult to exclude the effects of time as an explanation for the long-term findings. In summary, no research with Chinese parents living in mainland China or Hong Kong has assessed the long-term effects of the Group Triple P Program using an RCT design that has included both intervention and control groups.

As Chinese immigrant parents may face some specific parenting challenges different from those of Chinese parents living in China, such as parent-child acculturation conflict (Hou & Kim, 2018), it is necessary to evaluate the effectiveness of the Triple P Program for immigrant parents separately from research conducted in mainland China and Hong Kong. There is only one study (Crisante & Ng, 2003) that has investigated the effectiveness of the Group Triple P Program in a sample of Chinese immigrant parents. The study involved 83 Chinese immigrant parents of a 5-year-old child living in Australia. All participants received the Group Triple P intervention and there was no control group. Children's behavioural and emotional problems were assessed before and after the intervention, while no data was collected on parenting factors. There were no significant improvements in child behaviour problems following the intervention. However, no conclusions could be made about the effectiveness of the Group Triple P Program for reducing child behaviour problems, because of the high rate of missing data and lack of RCT design. Overall, there is insufficient evidence to draw conclusions about the effectiveness of the Group Triple P Program with Chinese immigrant parents.

There is some evidence for the short-term effectiveness of another behavioural family intervention, Incredible Years, in reducing negative parenting, increasing positive parenting, and decreasing child behaviour problems, in a USA sample of Chinese immigrant parents of school-age children, referred for concerns about parenting or child behaviour. While there was some indication of further reductions in child behaviour at 6-month, the follow-up analysis did not include a control condition (Lau, Fung, Ho, Liu, & Gudiño, 2011). Therefore, further research is needed with Chinese immigrant parents that address methodological limitations of previous studies with Chinese parents in Hong Kong, mainland China, and Chinese immigrant parents in Western countries.

One country that has experienced a large growth in Chinese immigrants over the last two decades is New Zealand. According to Statistics New Zealand (2014), by the end of 2013, there were 171,411 Chinese immigrants including 30,348 Chinese children aged 0–14 years. Asian immigrants comprise approximately 12% of the New Zealand population, with mainland China the largest source.

A recent survey with Chinese immigrant parents living in New Zealand showed that parents who gave their child higher ratings on behaviour problems reported more frequent use of inconsistent and coercive strategies when dealing with child misbehaviour, such as shouting, arguing, and threatening without following through. They also reported less parental self-efficacy, and more parental adjustment, family relationship, and teamwork difficulties (Wei, Keown, Franke, & Sanders, 2021). The survey results also showed that 72% of parents had not participated in any parenting program in the last 12 months. Most of them indicated a likelihood of participation in the future if a program was available and preferred a group-based parenting program. Thus, the aim of the current study was to examine the efficacy of the Group Triple P Program with Chinese immigrant parents in New Zealand.

This study had a particular interest in evaluating whether the intervention would result in significant improvements for parenting related to child academic learning. A number of studies show that Chinese parents maintain a strong focus on the child's academic learning and achievement when they immigrate to another country. For example, studies in Australia and the USA have indicated that for school-aged children, Chinese immigrant parents sent their children to after-school academic programmes, purchased learning materials for their children's education, monitored and checked their children's homework and assigned extra academic tasks (Pang, Macdonald, & Hay, 2015; Yang & Zhou, 2008). According to Luo, Tamis-LeMonda, and Song (2013), Chinese parents attend closely to their children's academic achievement and use strategies to promote their learning, due to the centrality of knowledge in Chinese culture. However, Chinese parents' emphasis on academic learning outside of school may not be typical of other groups of parents in New Zealand. There is some evidence (Wei et al., 2021) that Chinese immigrant parents' demands for their child to complete extra homework can be a source of parent–child conflict. However, recent research in China suggests that improving parenting in the academic context may positively impact children's academic behaviours that are the source of parent–child conflict (Guo et al., 2016).

The current study addressed the limitations of previous research by evaluating the Group Triple P Program for Chinese immigrant parents of school-age children using an RCT design that collected and analysed follow-up data from an intervention and control group. Furthermore, the study screened parents for participation in the intervention, based on elevated levels of disruptive child behaviour. Thus, in contrast to prior research that has recruited samples based on referrals (Lau et al., 2011), parent concerns about child behaviour (Leung et al., 2003), or academic problems (Guo et al., 2016), the current study recruited a sample at high-risk for ongoing behaviour problems.

It was hypothesised that, compared to a waitlist control group, Chinese immigrant parents receiving Level 4 Group Triple P would report significantly greater post-intervention improvements in: (1) child adjustment problems; (2) parenting practices and parenting confidence; (3) parenting relating to child academic learning; and (4) parental adjustment, family relationships, and parental teamwork. Based on findings from Guo et al. (2016), it was hypothesised that improvements in child adjustment problems, parenting practises, parental adjustment, parenting confidence, and parenting relating to child academic learning would be maintained at 4-month follow-up. It was anticipated that parents would be satisfied with the programme.

## Method

### Participants

Participants were 67 Chinese immigrant parents (63 mothers, 4 fathers) living in Auckland, New Zealand, with a 5- to 9-year-old child (see [Table 1](#) for demographic characteristics of the participants). The mean age was 37.4 years ( $SD = 3.90$ ) for mothers and 42.5 years ( $SD = 9.43$ ) for fathers. The country of birth was mainland China for 66 parents, of whom 33 had resided in New Zealand over 10 years. Mandarin or Cantonese was spoken by 59 (88.06%) and 8 (11.94%) parents, respectively, and 56 parents (83.58%) held a university degree. Three-quarters of the families had a relatively high income (>NZ\$50,000 p.a.) Target children had a mean age of 6.9 years ( $SD = 1.44$ ), 39 of whom were boys (58.20%).

Participants were recruited in Auckland, New Zealand, from May 2017 to October 2018 through community outreach in primary schools, public libraries, specific groups for Chinese children, extra-curricular education institutions, and online parenting forums popular with Chinese immigrant parents, such as WeChat. To check for eligibility, parents took part in a brief telephone interview using a brief 15-item version of the Eyberg Child Behaviour Inventory (ECBI) (Metzler, Sanders, Rusby, & Crowley, 2012), which asks parents to rate the frequency of child misbehaviours on a 7-point scale. The ECBI screener correlates highly with the full-version ECBI ( $r = 0.94$ ), and has good internal reliability ( $\alpha = 0.91$ ). In the present study, the internal reliability was  $\alpha = 0.70$ . Eligibility criteria included having a 5- to 9-year-old child with elevated levels of behaviour problems (a score of 45 or more in the ECBI screener, which is one standard deviation below the clinical cut-off), and parents able to communicate in Mandarin and to read simple or traditional Chinese. Families were excluded if they were receiving parenting or child behaviour support or if the target child had an intellectual or developmental disability.

In total, 112 parents were screened, and 45 did not meet the eligibility criteria. The most common reasons for exclusion were: the parents reported a score of lower than 45 on the 15-item ECBI ( $n = 33$ ); the target child was outside the age range ( $n = 7$ ); the target children had a developmental disorder ( $n = 2$ ); the parents indicated a lack of time to take part in the intervention ( $n = 2$ ); and the parent was planning to return to China ( $n = 1$ ). Following screening, 67 parents were eligible to participate in the Group Triple P intervention (see [Figure 1](#) for a consort diagram).

### Measures

All measures were translated into Chinese by Guo (2015) and were completed by parents.

#### *Child and parenting outcomes*

The study used a version of the Child Adjustment and Parent Efficacy Scale (CAPES) that had been validated for use in a Chinese cultural context (Guo, 2015). The 23-item child Adjustment scale assesses the intensity of children's emotional and behavioural problems on a 4-point scale from 0 to 3. Example items include 'My child misbehaves at mealtimes', 'My child worries'. A child adjustment problems total score (0–69) is created by summing the ratings across the 23 items (with 7 items reversed scored). High scores indicate high levels of child adjustment problems. The 18-item Parent Self-efficacy scale was used to measure parents' confidence in managing the problem behaviours listed on the Child Adjustment scale. Parent Self-efficacy is rated on a 10-point scale from 1 to 10, which is summed to yield a parental self-efficacy score (18–180). A high score indicates a high level of parental self-efficacy. In the current study, the internal reliability across the three time points was good, with  $\alpha = 0.88$ – $0.92$  for Child Adjustment and  $\alpha = 0.93$ – $0.95$  for Parental Self-efficacy.

A version of the Parenting and Family Adjustment Scale (PAFAS) that had been validated for use in a Chinese cultural context (Guo, Morawska, & Filus, 2017) was used to measure dysfunctional parenting practices and family adjustment problems. It includes two scales: PAFAS Parenting and PAFAS Family adjustment. PAFAS Parenting assesses dysfunctional parenting strategies, such as 'I give in

**Table 1** Demographic Characteristic of Participants

Characteristics	Intervention ( <i>n</i> = 34)		Waitlist ( <i>n</i> = 33)		<i>n</i> <sub>Missing</sub>	$\chi^2$	<i>p</i>
	<i>n</i>	%	<i>n</i>	%			
Years living in NZ					2	1.15	0.563
0–5 years	12	36.4	8	25.0			
6–10 years	5	15.2	7	21.9			
More than 10 years	16	48.5	17	53.1			
Education level					2	4.99	.289
Senior high school	2	6.1	0	0.0			
Diploma	3	9.1	4	12.5			
Undergraduate degree	14	42.4	20	62.5			
Postgraduate degree	13	39.4	7	21.9			
Doctorate	1	3.0	1	3.1			
Employment status					2	1.50	0.826
Full-time	11	33.3	10	31.3			
Part-time	4	12.1	6	18.8			
Not working, but looking for a job	3	9.1	4	12.5			
Home-based work	2	6.1	3	9.4			
Retired or full-time home maker	13	39.4	9	28.1			
Annual income					2	0.82	0.936
Below \$25,000	4	12.1	3	9.4			
\$25,001–\$50,000	7	21.2	8	25.0			
\$50,001–\$75,000	11	33.3	9	28.1			
\$75,001–\$100,000	6	18.2	5	15.6			
More than \$100,000	5	15.2	7	21.9			

Note. Numbers do not add up to 67, due to missing data. Percentages add up to 100%, due to using valid percentage.

to my child's demands when s/he becomes angry or upset', and 'I spank my child when s/he misbehaves'. It has 15 items, which are rated on a 4-point scale from 0 to 3. A total score (range of 0–45) is yielded by summing the scores across the 15 items (with 8 items reversed scored). Higher scores indicate more dysfunctional parenting. PAFAS Family adjustment has three factors: Parental adjustment (e.g., I feel sad or depressed; 4 items), Family relationships (e.g., our family members fight or argue; 4 items), and Parental teamwork (e.g., I disagree with my partner about parenting; 3 items), which are rated on a 4-point scale from 0 to 3. The items in the respective subscales are summed to yield a Parental adjustment score (range of 0–12, with 3 items reverse scored), a Family relationship score (range of 0–12, with 2 items reverse scored), and a Parental teamwork score (range of 0–9, with 2 items reverse scored). High scores in the three subscales reflect problems in parental adjustment, family relationships, and parental teamwork. Guo et al. (2016) reported Cronbach's alphas of 0.74 for PAFAS Parenting, 0.67 for Parental adjustment, 0.79 for Family relationships, and  $\alpha = 0.61$  for Parental teamwork. In the present study, the internal reliability ranged from 0.72 to 0.79 for Parental adjustment, 0.71 to 0.82 for Family relationships, 0.67 to 0.77 for Parenting, and 0.60 to 0.75 for Parental teamwork across the three time points.

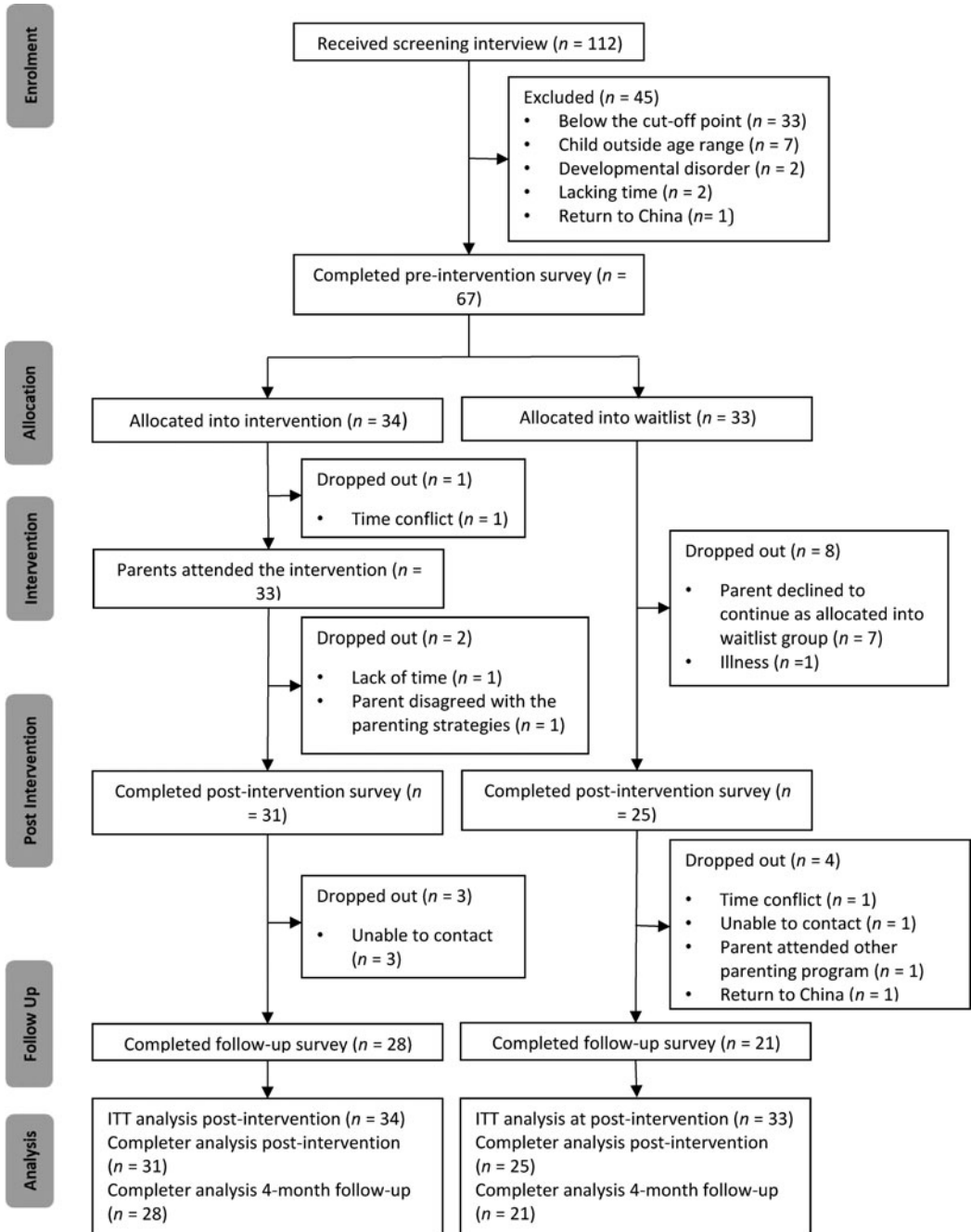


Figure 1. Flow diagram of participants according to the Consolidated Standards of Reporting Trials (CONSORT).

The Parenting in Child’s Academic Context Questionnaire (PCACQ) (Guo & Morawska, 2014) is based on the PAFAS Parenting scale (Sanders, Morawska, Haslam, Filus, & Fletcher, 2014). It assesses dysfunctional parenting behaviours that relate to children’s academic functioning. The wording of items was revised to depict parenting practices in children’s academic context, while keeping the main content. For example, the item ‘I shout or become angry with my child when he/she misbehaves’

was changed to 'I shout or get angry with my child when he/she does not study'. The 18 items are rated on a 4-point scale from 0 to 3. A total score for parenting in the academic context (range between 0 and 54) is yielded by summing all items (with 9 items reversed scored). High scores indicate high levels of dysfunctional parenting practices regarding children's academic behaviours. The current study obtained alphas of 0.64–0.72 across the three time points.

### Participant satisfaction

The Client Satisfaction Questionnaire (CSQ) (Turner, Markie-Dadds, & Sanders, 2015) was used to assess intervention group participants' consumer satisfaction. An example item is 'how satisfied are you with the service you and your child received?' The questionnaire contains 16 items. There are 13 items on a 7-point scale ranging from 1 (quite dissatisfied) to 7 (very satisfied), and three open-ended questions for parents to add further comments about the program and other challenges with their child. Guo et al. (2016) reported good internal reliability for the CSQ ( $\alpha = 0.93$ ). In the current study, the internal reliability of the CSQ was good ( $\alpha = 0.86$ ).

### Procedure

Ethical approval for the study was granted by the University of Auckland Human Participants Ethics Committee (reference number: 03/04/2017/018916) and informed parent consent was obtained. Assessments took place at three time points: At pre-intervention, at post-intervention (i.e., 2 weeks post-intervention), and at 4-month follow-up. After the pre-intervention assessment, participants were randomly allocated to the intervention or the waitlist group, using an online random number generator. After the 4-month follow-up assessment, parents in the waitlist group received the intervention. No significant differences between the groups were found on any variables, except for child gender. There were significantly more boys ( $\chi^2(1, n = 65) = 8.33; p = .004$ ) in the intervention group ( $n = 26, 78.8\%$ ) as compared to the waitlist group ( $n = 13, 40.6\%$ ). The gender difference between the groups was not expected to impact findings as eligibility criteria for all children in the study included an elevated behaviour problem score on the ECBI screener.

### Intervention

The Level 4 Group Triple P intervention is an 8-week programme consisting of five weekly 2-hour group sessions and three weekly individual telephone consultations (Sanders & Mazzucchelli, 2017). Content focuses on 17 positive parenting strategies to strengthen parent–child relationships, encourage desirable behaviours and manage misbehaviours, and teach children new behaviours (Sanders & Mazzucchelli, 2017).

The intervention was conducted in Mandarin by the first author, who is a parenting practitioner, trained and accredited in Group Triple P. Participants were provided with Chinese language translations of the Triple P materials (including traditional and simplified versions of Chinese characters), which were available from the program developers. Parenting strategies were taught using live and video-modelling and practised using group discussion and role-play exercises. Specific Triple P parenting strategies were discussed as alternative ways to manage child behaviour challenges faced by Chinese immigrant parents. For example, to give parents an alternative to expecting children to obey without question, the rationale and steps for using clear, calm instructions were carefully explained (Turner et al., 2015). For parents who were having conflict with their child about homework, examples were presented about how to set up homework rules and routines. No other adjustments were made to the program given the lack of supporting literature for the advantage of culturally adapted parent training interventions compared to unadapted typical interventions for ethnic populations (Ortiz & Del Vecchio, 2013). It has also been argued that no adaptations should be made for a particular cultural population before implementing the program as written (Kumpfer, Pinyuchon, de Melo, & Whiteside, 2008). The telephone sessions provided practitioner support and feedback to parents

while they implemented the strategies at home. A total of 12 Group Triple P Program groups (six intervention and six waitlist groups) were run at the University of Auckland, with 3 to 10 participants per group ( $M = 4.5$ ). There were 31 intervention group parents who completed the intervention. Delivery of the 12 groups took place over a 20-month period. To check for fidelity of implementation, 17% ( $n = 5$ ) of randomly selected intervention group sessions were reviewed by a Mandarin-speaking Triple P Practitioner. The practitioner completed a Group Triple P session checklist for each session viewed, which were compared with the session checklists completed by the first author, resulting in an inter-observer agreement of 100%.

### Data analysis

The results of a power analysis indicated that by assuming a power of 0.80 and an alpha of 0.05, a total of 64 parents (32 families per group) was required to detect a large effect size. A series of univariate analysis of covariance (ANCOVA) was used to examine the short- and long-term intervention effects, using the post-intervention/follow-up data as dependent variables and the pre-intervention data as covariates. Cohen's  $d$  was used to quantify the magnitude of the intervention effects by using the pooled pre-intervention data from the two groups (Morris, 2007).

## Results

### Participant Retention

Parents in the intervention group demonstrated good attendance at group sessions, with 29 participants (85.29%) attending all five sessions. For the telephone consultation, 28 participants (82.35%) completed three sessions. The main reasons for non-attendance were child's illness and travel outside of New Zealand. Eleven participants dropped out of the study at post-intervention and seven at 4-month follow-up. Most attrition was from the waitlist group ( $n = 12$ ), probably due to the length of time between recruitment and access to the intervention. An intent-to-treat (ITT) approach was used for the post-intervention outcomes: CAPES Child adjustment, PAFAS Parenting, PAFAS Parental adjustment, and Parenting in Child's Academic Context. This approach preserves statistical power and prevents bias induced by drop-outs by imputing missing data (in the current study, by means of expectation maximisation) (Gupta, 2011). The remaining post-intervention and follow-up analyses were based on the participants with complete data. This approach was taken due to the high rate of missing data (post-intervention,  $m = 25%$  for CAPES Parental self-efficacy and PAFAS Parental teamwork; follow-up,  $m = 28%$  across all variables) and non-randomly missing data for PAFAS Family relationships at post-intervention. The proportion of missing data was partly due to the number of parents ( $n = 18$ , 26.9%) who failed to complete the assessment, 12 of whom were in the waitlist group.

### Short-Term Intervention Effects

Table 2 presents the descriptive statistics for each group for the four outcome variables analysed in the ITT sample. Significant medium to large intervention effects were found for child adjustment ( $d = 0.61$ ), parenting practices ( $d = 1.14$ ), and Parenting in Child's Academic Context ( $d = 1.04$ ), with parents in the intervention group reporting greater improvements than those in the waitlist group. The intervention effect for parental adjustment did not reach statistical significance. When the ANCOVAs were repeated in the completer sample (i.e., participants with complete data), similar results were found.

Looking at the completer sample (i.e., participants with complete data) (see Table 3), significant intervention effects were found for parental self-efficacy ( $d = 0.47$ ) and parental teamwork ( $d = 0.31$ ), with parents in the intervention group reporting greater improvements as compared with the waitlist group. For family relationships, no significant intervention effect was found.



**Table 2** Short-Term Intervention Effects for the Dependent Variables With the ITT Sample

Measures	Intervention group (n = 34)				Waitlist group (n = 33)				Univariate ANCOVA results for time by condition interaction		
	Pre		Post		Pre		Post				
	M	SD	M	SD	M	SD	M	SD	F	p	d [95% CI]
CAPES Child adjustment	26.94	9.53	19.97	10.37	28.25	11.27	27.75	9.84	12.16	.001	0.61 [.13, 1.10]
PAFAS Parenting	17.40	5.69	11.23	5.50	14.91	4.93	14.88	4.34	18.04	.000	1.14 [0.63, 1.65]
PAFAS Parental adjustment	4.94	1.92	3.47	2.54	4.70	2.28	4.32	1.98	3.42	.069	0.51 [.03, 0.99]
Parenting in Child's Academic Context	19.93	5.91	13.65	5.89	18.73	5.37	18.37	4.82	16.21	.000	1.04 [0.53, 1.54]

Note. CI = confidence interval; CAPES = Child Adjustment and Parent Efficacy Scale; PAFAS = Parenting and Family Adjustment Scale. Higher child adjustment and parenting scores represent more child adjustment problems and higher levels of dysfunctional parenting practices, respectively. Higher parental adjustment scores indicate more parental stress.

**Table 3** Short-Term Intervention Effects for the Dependent Variables Without ITT Analyses

Measures	Intervention group				Waitlist group				Univariate ANCOVA results for time by condition interaction		
	Pre ( <i>n</i> = 34)		Post ( <i>n</i> = 31)		Pre ( <i>n</i> = 33)		Post ( <i>n</i> = 25)		<i>F</i>	<i>p</i>	<i>d</i> [95% CI]
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
CAPES Parental self-efficacy	123.76	26.32	147.73	22.06	114.21	31.13	124.50	28.35	34.47	.000	.47 [−.12, 1.05]
PAFAS Family relationships	4.21	2.91	3.07	2.74	4.18	2.93	3.71	2.96	.48	.493	.23 [−.30, 0.76]
PAFAS Parental teamwork	3.24	1.75	2.27	1.85	3.94	1.80	3.52	1.81	4.05	.05	.31 [−.25, 0.86]

*Note.* CI = confidence interval; CAPES = Child Adjustment and Parent Efficacy Scale; PAFAS = Parenting and Family Adjustment Scale. Higher parental self-efficacy scores indicate a greater level of parenting confidence. Higher scores on family relationships and parental teamwork indicate poorer family relationships, and less frequent teamwork in parenting a child, respectively.

### Four-Month Follow-Up Intervention Effects

Table 4 presents the descriptive statistics for each group for all the outcome variables at follow-up, based on the completer sample. Intervention group parents continued to report significantly greater improvements in child adjustment ( $d = 0.83$ ), parental self-efficacy ( $d = .28$ ), parenting practices ( $d = 0.66$ ), and Parenting in Child's Academic Context ( $d = 0.96$ ), as compared to the waitlist group. The intervention effect for parental teamwork was not maintained at 4-month follow-up. No follow-up intervention effects were found for parental adjustment and family relationships.

### Consumer Satisfaction

Intervention group parents reported a high level of overall satisfaction with the programme ( $M = 76.04$ ;  $SD = 10.43$ ) ranging from 50 to 91 (possible range = 13–91). Parents strongly agreed that the programme helped them to deal more effectively with their child's behaviour and that the programme definitely provided the type of help they wanted. Participants also indicated that they definitely would come back to Triple P to seek help again.

### Discussion

This study examined the effectiveness of the Group Triple P Program in a sample of Chinese immigrant parents living in New Zealand, who had a 5- to 9-year-old child with elevated levels of behaviour problems. As hypothesised, in comparison to the waitlist group, parents in the intervention group reported significantly greater improvements in child adjustment problems, with a medium effect size. The hypotheses that the Group Triple P intervention would be effective in improving parenting practices, parenting in the child's academic context, and parenting confidence at post-intervention were also supported, with large effect sizes for the first two variables and a small effect size for the last variable. The findings are consistent with results of the RCT of Group Triple P conducted in mainland China (Guo et al., 2016). The post-intervention improvements in child behaviour are also consistent with RCTs of Group Triple P with Chinese parents in Hong Kong (Leung et al., 2003). In the present study, the intervention effects were maintained at 4-month follow-up and the analysis included data from both the intervention and waitlist group parents. Previous RCTs of Group Triple P with Chinese samples did not collect follow-up data (Leung et al., 2003) or collected follow-up data for the intervention group only (Guo et al., 2016). The inclusion of the control group at follow-up allowed alternative explanations for the maintenance of intervention effects to be ruled out, such as the effects of time. Thus, the present study is the first RCT of Group Triple P in a Chinese sample to examine and find evidence of long-term effects of Group Triple P on child behaviour, parenting practices, parenting in child's academic context, and parental self-efficacy using data from both the intervention and waitlist groups. In addition, the present study is the first with a Chinese sample to select participants using a behaviour screening checklist to identify children with elevated levels of behaviour problems. This is different from the participant selection criteria in previous Group Triple P studies with Chinese parents, which recruited samples based on referrals (Lau et al., 2011), parental concerns about child behaviour (Leung et al., 2003), or academic problems (Guo et al., 2016). Accordingly, the findings of the present study suggest that Group Triple P may be effective for Chinese immigrant parents who have children with a high risk of ongoing behaviour problems. These findings are important, given the likely additional stress of immigration and acculturation on parents' ability to effectively manage their child's behaviour (Buki, Ma, Strom, & Strom, 2003).

The findings for parenting in children's academic lives are significant given Chinese parents' expectations regarding children's academic performance and homework (Luo et al., 2013; Yang & Zhou, 2008). Although primary schools in New Zealand do not usually require children to do homework, these expectations may still be present when Chinese parents immigrate to New Zealand (Guo, 2012, 2014). Hence, these parental academic expectations may be a source of parent-child conflict when Chinese immigrant parents raise children in New Zealand. The study results suggest that parents

**Table 4** Four-Month Follow-Up Intervention Effects for the Dependent Variables With the Completer Sample

Measures	Intervention group				Waitlist group				Univariate ANCOVA results for time by condition interaction		
	Pre ( <i>n</i> = 34)		Follow-up ( <i>n</i> = 28)		Pre ( <i>n</i> = 33)		Follow-up ( <i>n</i> = 21)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	<i>d</i> [95% CI]
CAPES Child adjustment	26.94	9.53	18.96	11.56	27.97	11.34	28.75	10.60	7.83	.008	0.83 [.23, 1.43]
CAPES Parental self-efficacy	123.76	26.32	143.87	27.73	114.21	31.13	127.47	23.24	6.48	.017	.24 [−.36, 0.83]
PAFAS Parenting	17.13	5.25	12.27	5.19	14.91	5.01	13.53	4.65	4.96	.032	0.66 [.07, 1.26]
PAFAS Parental adjustment	4.94	1.92	3.71	2.48	4.70	2.28	4.57	2.27	3.90	.054	0.52 [−.05, 1.09]
PAFAS Family relationships	4.21	2.91	2.64	2.53	4.18	2.93	3.52	2.23	0.71	.405	.31 [−.25, 0.87]
PAFAS Parental teamwork	3.24	1.75	2.20	2.12	3.94	1.80	3.45	1.57	3.81	.058	.30 [−.28, 0.89]
Parenting in Child's Academic Context	22.07	6.18	12.42	5.66	21.19	5.55	17.30	4.32	12.20	.001	0.96 [.35, 1.56]

*Note.* CI = confidence interval; CAPES = Child Adjustment and Parent Efficacy Scale; PAFAS = Parenting and Family Adjustment Scale. Higher child adjustment scores indicate more child adjustment problems. Higher parental self-efficacy scores indicate a greater level of parenting confidence. Higher scores on parenting, parental adjustment, family relationships and parental teamwork represent higher levels of dysfunctional parenting practices, more parental stress, poorer family relationships, and less frequent teamwork in parenting a child, respectively.

may have learned parenting strategies by participating in Triple P, which they were able to apply to reducing parent–child conflicts due to academic performance and homework concerns.

Support was also provided for the hypothesis regarding post-intervention improvements in parental teamwork. This finding is new and is in contrast to the results of the RCT of Group Triple P conducted in mainland China (Guo et al., 2016). The difference in findings may be due to the higher levels of pre-intervention disruptive behaviour problems and parental teamwork problems in the current study. The improvement in parental teamwork for the intervention group was maintained at 4-month follow-up; however, these improvements were not significant when compared to the waitlist group. This may be partly due to the reduced power to detect between-group differences, as a result of the smaller sample size at follow-up.

The hypothesised short and long-term intervention effects on parental adjustment were not found. However, medium effect sizes were found at post-intervention and follow-up. These findings are similar to the study by Guo et al. (2016), which had a larger sample size and reported significant intervention effects for parental adjustment.

As anticipated, parents in the intervention group were satisfied with the Group Triple P intervention. The high levels of satisfaction may be due to the significant improvements in parent and child outcomes at post-intervention. These findings suggest that Group Triple P is acceptable for Chinese immigrant parents, perhaps due to the practical advice they received. This possibility is supported by the high ratings given to the items: The program helped them to deal more effectively with their child's behaviour and definitely provided the type of help they wanted. Parent feedback also suggests that being able to determine their own goal was another source of programme satisfaction. For example, parents who experienced conflict with their child about homework reported success in their goal of establishing a homework routine.

Interpretation of the study findings should take into account the strengths and limitations of the study. A strength of the study was its use of a randomised design with both arms of the trial being assessed right through to follow up, use of an older sample of school-aged children and the use of a broad range of outcome measures including child adjustment, parenting practices, parental adjustment, and family relationships. A limitation was that the sample had relatively high levels of education and family income which may limit the generalizability of the study results. Future research needs to investigate the effectiveness of Group Triple P for Chinese immigrant families with lower levels of education and income. Another potential limitation is that relatively few fathers attended sessions. A growing body of research indicates that father participation in parenting interventions is highly beneficial for child outcomes, family functioning and co-parenting, and that improvements in child behaviour are more likely to be maintained over time (Feinberg & Kan, 2008; Frank, Keown, & Sanders, 2015). Therefore, further studies on the effectiveness of the Group Triple P in Chinese immigrant samples, need to include both Chinese fathers and mothers to investigate the role of dual-parent involvement on improvements in child outcomes and inter-parental teamwork.

The study used parent report measures to assess intervention effects as is typical in all intervention trials of parenting, as parents are in a unique position to comment on their experiences with their children (Sumargi, Sofronoff, & Morawska, 2015). To extend these parent report findings, it would be useful to collect data from other informants, such as the other parent and teacher-reported assessments (Franke, Keown, & Sanders, 2020). Observer ratings of parenting and child behaviour might provide a potentially useful independent measure of changes in child and parent behaviour. However, observational methods of parent–child interaction can also have limitations. These include reactivity effects with older children who become very aware they are being observed, and questionable ecological validity of some artificial lab-based structured observational tasks, that rarely occur in the natural environment. A qualitative analysis of recordings of parents' contributions during group sessions and telephone consultations might provide further useful insights into Chinese parents' experience of Triple P and the parenting strategies they find useful in managing situations or behaviour of concern to them. This information could potentially inform future delivery of Group Triple P for Chinese immigrant parents.

Finally, due to high rates of missingness and non-randomly missing data patterns at post-intervention and follow up, some of the analyses were based on completer-only data, which has implications with regard to potential bias and overestimation of intervention effects (Gupta, 2011; Tabachnick & Fidell, 2014). Thus, these findings should be treated with caution.

Overall, the findings from the present study contribute to the evidence base for the effectiveness of the Group Triple P Program for Chinese parents and Chinese immigrant parents. It is the first study to examine the intervention effects of Group Triple P for Chinese immigrant parents with an RCT design. It is also the first RCT of Group Triple P to collect and analyse follow-up data for both intervention and waitlist groups. Including the waitlist data at follow-up in the present study strengthens conclusions that can be drawn about the long-term effects of participating in Group Triple P.

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**Ethical approval.** The authors assert that all procedures contributing to this work comply with the ethical standards of The University of Auckland Human Participants Ethics Committee and with the Helsinki Declaration of 1975, as revised in 2008.

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