Research Article

Digital Parenting Program for Migrant Chinese Families: A Quasi-Experimental Study

Research on Social Work Practice
1–18

DOI: 10.1177/10497315251338470
journals.sagepub.com/home/rsw
Sage

Ziyu Wang[1,2], Xuefei Wang[1], Weiwei Wang[1,3], Jamie M. Lachman[4], and Huiping Zhang[1,3]

Abstract

Purpose: This study aimed to evaluate the effectiveness of a self-directed online program, Parenting for Lifelong Health for Young Children (PLH-YC), in enhancing positive parenting practices among migrant families in China. **Methods:** A quasi-experimental design was employed, with 67 parents of children aged 2–9 years assigned to either an intervention group ($n = 24$) or a control group ($n = 43$). Both qualitative and quantitative data were collected. **Results:** Parents in the intervention group showed significant improvements in proactive parenting strategies and parent–child relationships compared to those in the control group. However, the intervention had no significant impact on child maltreatment, externalizing behaviors, or other parenting outcomes. Qualitative assessment revealed themes including adopting positive parenting practices, enhancing parental mental health, and promoting desired parenting outcomes. **Conclusion:** The self-directed online PLH-YC program demonstrates its potential as a scalable, low-cost solution for disadvantaged parents in low- and middle-income countries.

Keywords

parenting programs, positive parenting practices, digital intervention, migrant families, China

Parents are essential to children's social functioning and development. Positive parenting practices have been found to generate beneficial outcomes for children, such as improved physical health (Balantekin et al., 2020), greater life satisfaction (Lavrič & Naterer, 2020), and enhanced academic performance (Wang & Tang, 2024). Harsh parenting is linked to child maltreatment, increased adversities, and child behavior problems (Gardner et al., 2019; Halpern et al., 2018).

Parenting programs have been recognized as effective strategies for promoting positive parenting practices, enhancing children's well-being, and reducing the risk of abuse (Lindsay & Strand, 2013; Stattin et al., 2015). Several evidence-based parenting programs, such as the Positive Parenting Program (Triple P) (Sanders et al., 2000), Incredible Years (Webster-Stratton & Reid, 2010), and Generation PMTO (Forgatch & Kjøbli, 2016), have been shown to effectively enhance positive parenting strategies, reduce parenting stress and child maltreatment, and support young children's behavior, cognitive and linguistic competence. Additionally, they can reduce internalizing and externalizing problems in children, particularly in high-income countries (e.g., Chen & Chan, 2016; Jeong et al., 2021a; Thongseiratch et al., 2020).

However, evidence-based parenting programs are notably limited in low- and middle-income countries (LMICs). Recent reviews have confirmed that parenting programs in LMICs bring significant benefits in enhancing children's cognitive capability, fostering healthier parent–child interactions, increasing parents' caregiving knowledge, and reducing parental depressive symptoms and distress (Jeong et al., 2021b; Knerr et al., 2013). Unfortunately, the high costs associated with access to resources for well-established parenting programs have significantly constrained their implementation in LMICs (McCoy et al., 2020; Mikton, 2012). Additionally, there is an urgent need for high-quality evidence such as randomized controlled trials (RCTs) on the effectiveness and relevance of parenting programs in low-resource settings.

[1]Department of Social Work, Renmin University of China, Beijing, China
[2]Research Institute of Social Construction of Beijing, Renmin University of China, Beijing, China
[3]Center for Studies of Sociological Theory and Method, Renmin University of China, Beijing, China
[4]Department of Social Policy and Intervention, Center for Evidence Based Intervention, University of Oxford, Oxford, UK

Corresponding Author:
Huiping Zhang, Center for Studies of Sociological Theory and Method, Department of Social Work, Renmin University of China, No. 59, Zhongguancun Street, Haidian District, Beijing, P.R. China.
Email: zhp0205@ruc.edu.cn

The Parenting for Lifelong Health for Young Children (PLH-YC) program, created by Oxford University, serves as a good example of a cost-effective program designed for caregivers of children between the ages of 2 and 9 in Africa (Lachman et al., 2016, 2017). The PLH-YC is grounded in the widely used social learning theory in parenting programs. It posits that children learn behaviors by observing the actions of their caregivers and the consequences of those actions (Bandura, 1977; McCoy et al., 2020). When parents model harsh or ineffective behaviors, such as inconsistent discipline or negative reinforcement, they may imitate, internalize, and potentially develop maladaptive behaviors. Conversely, when parents consistently employ nonviolent discipline strategies, children are less likely to engage in misbehaviors. This, in turn, reduces the need for coercive parenting practices and helps sustain positive parent–child interactions and relationships. The program is designed to support parents by first helping them establish a positive parent–child relationship and then guiding them in learning nonviolent discipline strategies (see Lachman et al., 2016 for a detailed description). Building on this theoretical foundation, the PLH-YC program incorporates effective behavior change techniques that are derived from well-established parenting programs, which focus on positive parenting strategies and nonviolent discipline through a structured seven-session intervention. The effectiveness of the PLH-YC in enhancing positive parenting, decreasing the risk of child maltreatment, and addressing child problem behaviors has been confirmed in South Africa (Ward et al., 2020), Thailand (McCoy et al., 2021), the Philippines (Mamauag et al., 2021), and China (Zhang et al., 2024).

With the development of the Internet, mass media, and other technologies, online parenting programs, including PLH-YC, have been developed as alternatives to their traditional in-person counterparts, providing greater accessibility and flexibility for parents (particularly in low-resource settings). More importantly, the effectiveness of online parenting programs has been found to be comparable to that of in-person programs in terms of improving parents' skills and reducing their children's problem behaviors (Florean et al., 2020; Hansen et al., 2019; Spencer et al., 2020), and completion rates, particularly for underserved populations such as fathers (Dadds et al., 2019). Both a pre-test–post-test follow-up study (Zhang et al., 2023a) and a quasi-RCT study (Zhang et al., 2024) delivered online and tailored to China confirmed the effectiveness of the program in enhancing positive parenting, minimizing the risk of child maltreatment, and problem behaviors, and highlighted excellent program adherence and retention. Therefore, online parenting programs are a reliable and promising means of engaging a broad audience of parents.

Despite the demonstrated effectiveness of the online PLH-YC program in improving positive parenting practices and child outcomes, certain groups remain underrepresented, including men, rural populations, and individuals with lower socioeconomic status (Hansen et al., 2019). One particularly underserved group in Chinese society is migrants. Since the 1978 economic reform, many rural residents have migrated to urban areas, seeking employment and economic advancement (Chen, 2021). However, migrants, particularly children who migrate with their parents, do not receive the same level or extent of social services and welfare benefits as urban locals owing to China's household registration system (*hukou*) (Ma et al., 2018). Despite reforms to the *hukou* system, migrant families continue to face disadvantages in child-rearing and education. From a socioeconomic perspective, families with lower socioeconomic backgrounds lack the resources and support necessary to access and apply effective childrearing (Conger & Donnellan, 2007). This pattern suggests that migrant families from disadvantaged socioeconomic backgrounds may rely more heavily on harsh and negative parenting methods to cope with adversity, which can contribute to maladaptation and maladjustment (Wang & Mesman, 2015). Research has consistently suggested that migrant children experience worse mental and behavioral health outcomes, greater difficulties in adjustment, and a higher prevalence of child abuse than their urban counterparts (Gao et al., 2017; Hu et al., 2018; Liu et al., 2022; Ma et al., 2018; Wang & Liu, 2023; Wang & Mesman, 2015). Fortunately, building a close parent–child relationship and employing supportive parenting practices are crucial and useful for guiding children toward nonviolent behaviors, improving their mental well-being, and mitigating their problem behaviors (Lachman et al., 2016; Liu et al., 2022; Wang & Zhang, 2024). Although the association between supportive parenting style and child outcomes seems to be less pronounced for migrant children than for their urban peers, this may stem from migrant families' lesser familiarity with Western-influenced notions of effective parenting (Wang et al., 2021). The significance and need for positive parenting practices thus highlight the necessity for more parenting programs to support migrant families in strengthening parent–child relationships, thereby promoting positive parenting practices and fostering behavioral adjustment.

Migrants often face demanding working conditions characterized by long hours and rigid shifts with minimal flexibility, posing significant challenges to their participation in parenting programs that rely on prescheduled group meetings. To engage migrant parents and overcome their participation barriers, we adapted the PLH-YC program into a self-directed format in which participants primarily engaged in the program independently (Dadds et al., 2019; Hansen et al., 2019). Self-directed programs are gaining popularity because of their ability to reach larger populations at a lower cost by reducing reliance on qualified practitioners and professionals (Collins et al., 2019; Florean et al., 2020; Tarver et al., 2014; Thongseiratch et al., 2020). Tailoring the PLH-YC program to a self-directed online approach is essential to address the difficulties of migrant parents in accessing group sessions of the program at a fixed time.

This approach expands the evidence supporting the effectiveness of online parenting programs and explores the potential for large-scale and universal dissemination.

Previous research has highlighted the significance of evidence-based findings on the effectiveness of parenting programs in enhancing positive parental practices and mitigating children's maladaptation. However, program development for low-resource families remains insufficient, despite their unique requirements and the pressing need for high-quality services. To address this gap, the present study adapted the online PLH-YC program into a self-directed format and assessed its impact on parenting practices, parental mental health, and parenting outcomes among a representative low-resource group of migrant Chinese parents with young children. In particular, this study proposed the following hypotheses:

H1: Participants in the intervention group will display greater improvement in positive parenting practices post-intervention compared to those in the control group.

H2: Participants in the intervention group will display greater improvement in positive parenting efficacy post-intervention compared to those in the control group.

H3: Participants in the intervention group will display a greater reduction in parental distress post-intervention compared to those in the control group.

H4: Participants in the intervention group will display a greater reduction in depressive symptoms post-intervention compared to those in the control group.

H5: Participants in the intervention group will display greater improvement in parent–child relationships post-intervention compared to those in the control group.

H6: Participants in the intervention group will display a greater reduction in child maltreatment post-intervention compared to those in the control group.

H7: Participants in the intervention group will display greater reduction in their children's externalizing behaviors compared to those in the control group.

Method

Study Design

This study adopted a quasi-experimental, non-equivalent group design in which participants were assigned to either the PLH-YC intervention group or a control group with no treatment. As confirmed in other research (Ward et al., 2020; Zhang et al., 2024), comparing the outcomes between these groups provides a rigorous and clear assessment of the effects of the self-directed, online PLH-YC program. All participants provided informed consent. The study received approval from the institutional review board of the first author's university (IRB: 24-015).

Participants and Setting

The participants were recruited through a nonprofit organization (NGO) serving migrants and a private elementary school for migrant children in Beijing, China. The participants recruited from the NGO were placed in the intervention group, while the control group comprised parents of children attending the private school.

A total of 148 parents with children aged 2–9 years were recruited in April 2024. All the registered participants were screened. The inclusion criteria required participants to have at least one child between the ages of 2 and 9, live in the same household as their children for at least one night per week, and be available to engage in the online program sessions. In cases where parents had multiple children in this age range, they were asked to focus on the child who exhibited more challenging behaviors, especially those that made parenting more difficult. The exclusion criteria included children diagnosed with developmental delays, children and parents with mental disorders, and parents who had engaged in similar parenting or support programs. Based on the criteria, 108 participants were eligible for intervention. After excluding participants who did not complete the assessments or dropped out, a total of 67 were included in the final analysis.

Procedure

The intervention was conducted between April and July 2024. The NGO and private schools posted and disseminated online advertisements. Parents who expressed interest in participation and met the eligibility criteria were allocated to either the intervention or the control group using the WeChat social media platform. Figure 1 shows the flowchart of participant involvement throughout the intervention. The intervention group participated in the self-directed online PLH-YC program for seven consecutive weeks, whereas the control group received no intervention from the program. All participants completed the quantitative baseline assessment one week prior to the intervention group and received online treatment and the post-intervention assessment within one week of the intervention's conclusion. Questionnaires were collected using Questionnaire Star, an online questionnaire collection platform, to minimize measurement errors caused by researchers. The researchers published questionnaire links through the questionnaire platform, and the NGO and selected school sent questionnaire links to the participants. They completed the online assessments independently. The participants assigned to the intervention group additionally completed a qualitative assessment through interviews conducted at the midpoint and completion of the intervention. Each of those assigned to the control group received a 30 RMB incentive coupon for their participation.

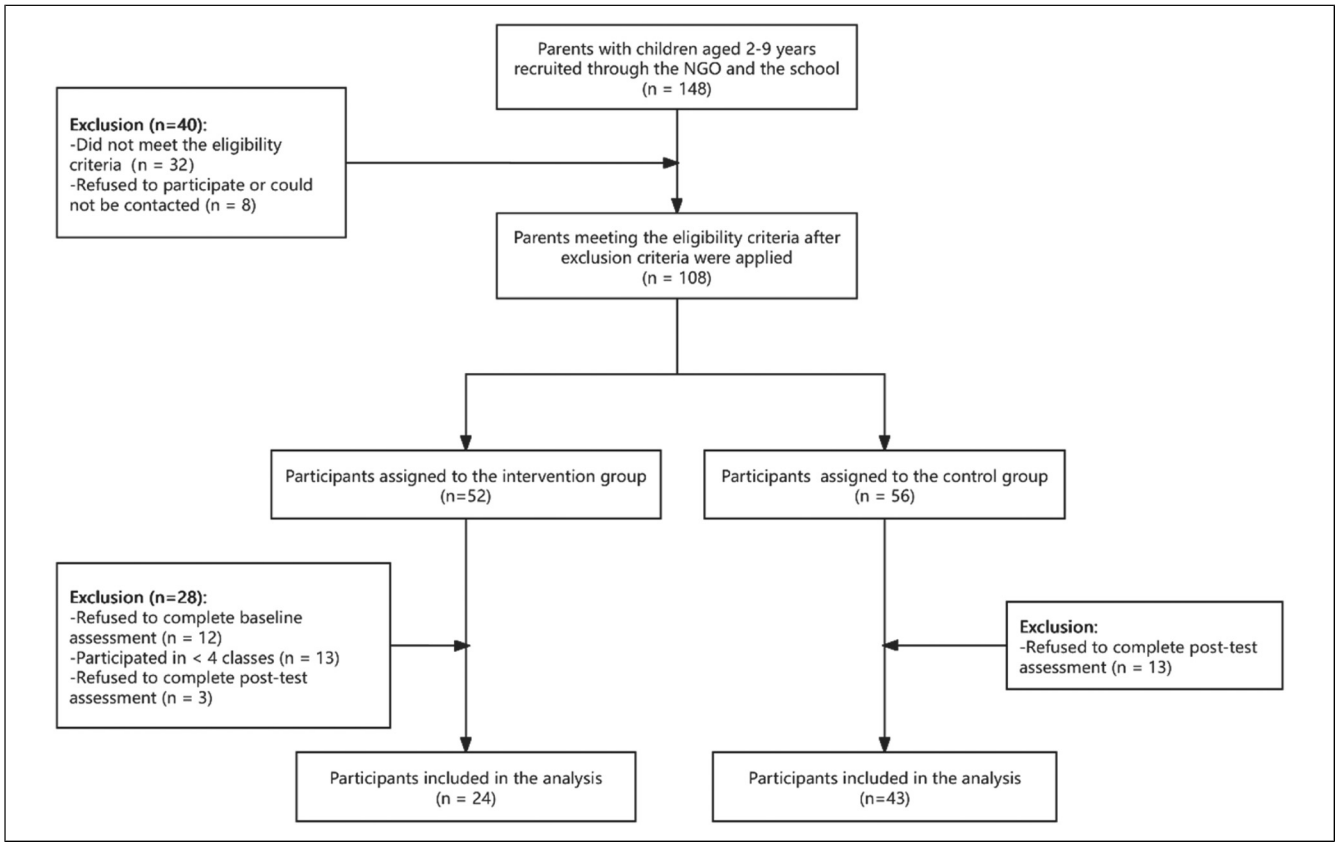

Figure 1. Participant flowchart.

Intervention Process

The self-directed online parenting intervention was based on the Chinese-adapted PLH-YC manual, which has demonstrated good feasibility, acceptability, and effectiveness in enhancing positive parenting and decreasing child maltreatment in a group-based online format (Wang et al., 2024; Zhang et al., 2023a, 2024). The PLH-YC program comprises two main components. The first component focuses on positive parenting strategies, which included fostering a positive parent–child relationship (Session 1), discussing emotions (Session 2), and using praise and rewards (Session 3). The second component addresses setting limits and nonviolent discipline to promote positive behavior and manage inappropriate behavior among children. This includes providing precise instructions and setting family rules (Session 4), redirecting and ignoring undesirable behavior (Session 5), using consequences and cool-down strategies (Session 6), and addressing family disputes while managing parenting dynamics between parents and grandparents, as well as between mothers and fathers (Session 7). These topics are presented through illustrated stories that recreate real-life parenting scenarios and motivate parents to apply the skills they have acquired in their daily lives (for more details about the program, see Wang et al., 2024).

The self-directed online PLH-YC intervention program was delivered to the participants via video presentations of seven sessions through WeChat Mini Programs and Tencent Meeting platforms. The videos were recorded by an experienced facilitator who had been involved in all previous PLH-YC intervention programs and had introduced the program content, key principles, and parenting skills. Each video lasted approximately 30 min and was sent to the participants at the beginning of each week during the intervention period. The participants could learn parenting strategies at their own pace.

We also included online facilitator support to enhance program effectiveness. The facilitators consisted of five trained Masters of Social Work students from the corresponding author's university. In the first week of the intervention, facilitators organized two online meetings to introduce the program's objectives, explain the function of the online delivery platform, and address parenting concerns. The participants were divided into five groups, each supported by a designated facilitator. Throughout the intervention, facilitators sent reminder text messages every Wednesday, Friday, and Saturday to encourage participants to complete the session tasks. Facilitators also provided individualized support to those seeking guidance on parenting issues through private online text exchanges and group communities. Additionally, in the fourth week and the week following

the intervention, the facilitators conducted online home visits twice for each participant. These visits provided personalized counseling on recent parenting challenges and allowed for the collection of qualitative assessments on the intervention.

Measures

Child Maltreatment. Child maltreatment was assessed using the Parent–Child Conflict Tactics Scale (PCCTS; Bennett et al., 2006; Straus et al., 1998). The scale consists of 19 questions, including subscales measuring emotional abuse (five items), corporal punishment (five items), physical abuse (four items), and neglect (five items). Participants reported how often they had engaged in neglect, physical violence, or emotional violence toward their children in the past two months on a nine-point Likert scale (0 = did not happen; 8 = more than eight times). The higher the score, the greater the frequency of child maltreatment perpetrated by parents. The Chinese version of the scale has been proven to be effective and widely used (Fu et al., 2019; Leung et al., 2008). The scale showed good internal reliability (Cronbach's $\alpha = .87$).

Child Externalizing Behavior. The subscale of the Conners' Child Behavior Scale (CCBS; Conners et al., 1998) was used to assess children's externalizing behaviors. The higher the score, the more externalized the behavior of the participants' children. The 12-item scale was rated on a four-point scale (0 = never, 3 = a lot). The scale was translated into Chinese and verified for its applicability to the Chinese context (Gau et al., 2006). In this study, the internal consistency reliability coefficients of the subscales were high (Cronbach's $\alpha = .88$).

Positive Parenting Strategies. Positive parenting strategies were assessed using the Parenting Young Children Scale (PYCS; McEachern et al., 2012). The PYCS consists of 21 items, including three subscales: supporting good behavior (seven items), proactive parenting (seven items), and setting limits (seven items). Participants rated how often they used the strategy over the previous two months on a seven-point scale (1 = not at all; 7 = most of the time). The higher the score, the more positive the strategies adopted by the participants. This scale has been verified for its applicability to the Chinese context (Fang et al., 2022). The scale showed good internal consistency and reliability (Cronbach's $\alpha = .94$).

Parenting Stress. Parenting stress was measured using the Parenting Stress Index-Short Form (PSI-SF; Haskett et al., 2006). The scale assesses the degree of parenting stress perceived by parents using 15 items. Three subscales were included: parental distress (five items), parent–child dysfunctional interaction (five items), and difficult child (five items) (Luo et al., 2021a). This scale has been verified for its applicability to the Chinese context (Luo et al., 2021a). The scale uses a 5-point scale (1 = strongly disagree, 5 = strongly agree). Higher scores indicate greater levels of parenting stress. In this study, the scale had a high internal consistency reliability (Cronbach's $\alpha = .83$).

Parent–Child Relationship. The Child–Parent Relationship Scale-Short Form (CPRS-SF) was used to measure the quality of parent–child relationship (Lieberman et al., 1999). The scale has a total of 15 items, divided into two subscales (parent–child relationship closeness and conflict), using a 5-point Likert scale (1 = definitely does not apply; 5 = definitely applies). The higher the score, the better the parent–child relationship. This scale has been widely used in China and demonstrated acceptable reliability (Ren & Fan, 2019). The scale showed good internal consistency and reliability (Cronbach's $\alpha = .83$).

Parents' Depressive Symptoms. The 10-item Center for Epidemiologic Studies Depression Scale (CESDS) was used to assess parents' depressive symptoms (Irwin et al., 1999). The scale measures depressive symptoms during the previous week on a four-point scale (0 = rarely; 3 = all the time). Higher scores indicate greater levels of depressive symptoms. The CESDS has been shown to be effective for measuring depressive symptoms in Chinese adults (Zhang et al., 2023b). The scale showed good internal reliability (Cronbach's $\alpha = .77$).

Parenting Efficacy. Parenting efficacy was measured using the efficacy subscale of the Parenting Sense of Competence Scale (PSOC-E) (Johnston & Mash, 1989). The subscale consists of eight items and uses a 5-point scale (1 = strongly disagree, 5 = strongly agree). Higher scores indicated higher parenting efficacy. The PSOC-E has been shown to have good reliability and validity for measuring parenting efficacy in Chinese adults (Gao et al., 2014; Ngai & Chan, 2012). The internal consistency reliability coefficients of the subscale were high (Cronbach's alpha = .93).

Demographics. Sociodemographic variables, including gender, age, marital status, educational level, occupation, *hukou* status, household income, and number of children, were assessed. Age was recorded as a categorical variable based on tertiles (1 = youngest, 2 = medium, and 3 = oldest). Gender and *hukou* status were treated as dichotomous variables (1 = female; 1 = rural *hukou*). Marital status was treated as a categorical variable (1 = unmarried, 2 = married, 3 = divorced, and 4 = widowed). Education levels were coded from 1 for "primary education and below" to 6 for "master's degree and above." Occupation was recorded as a three-category variable. The value for "skilled job" (e.g., employees of national enterprises and institutions, enterprise managers, teachers, engineers, doctors, and lawyers) was 2, whereas "unskilled job" was coded as 1. Unemployed and full-time mothers (fathers) were coded as zero. Self-reported yearly household income was categorized into four groups, from 1 for "10,000 yuan and below" to 4 for "100,000 yuan and above."

Participation Evaluation. Participant involvement was assessed using the attendance count and dropout rate. The former refers to the average number of intervention sessions the participants completed, and the latter is the proportion of participants who participated in the intervention sessions less than four times and missed the baseline assessment.

Semi-Structured Interviews

Semi-structured interviews were conducted with participants assigned to the intervention group to gain an in-depth understanding of their participation experience. The interview included open-ended questions about daily parenting practices and challenges, evaluation of the intervention, and participants' engagement experiences. All interviews were conducted in Mandarin and were audiotaped and transcribed.

Data Analysis

Quantitative data analysis was conducted using STATA software (version 16.0). Descriptive statistics were used to describe the demographic characteristics of the participants and outcome variables. The Shapiro-Wilk test indicated that not all variables followed a normal distribution. Parametric tests including independent-sample *t*-tests, paired-sample *t*-tests, analysis of variance (ANOVA), and analysis of covariance (ANCOVA) were applied to normally distributed variables. For variables that did not follow a normal distribution, non-parametric tests such as the Mann-Whitney *U* test, Wilcoxon signed-rank test, Kruskal-Wallis test, and rank-transformed ANCOVA were used.

First, differences in demographic characteristics and baseline outcome variables between the intervention and control groups were tested using the chi-square test (for categorical variables), independent-sample t-test (for continuous variables that were normally distributed), and Mann-Whitney *U* test (for continuous variables that were not normally distributed). Cramér's V and Phi coefficients were used to calculate effect sizes for the chi-square test. For the Mann-Whitney U test, the effect size was calculated using r. Second, the influence of demographic characteristics on both baseline and post-test outcomes was analyzed using ANOVA with post-hoc Bonferroni tests and independent-sample *t*-tests for parametric data, whereas the Kruskal–Wallis test with post-hoc Dunn tests and the Mann-Whitney *U* test were employed for non-parametric data. Eta-squared (η^2) was used to calculate effect sizes for the ANOVA and Kruskal-Wallis tests. Third, the paired-sample *t*-test and Wilcoxon signed-rank test were used to assess changes within the intervention and control groups, with Cohen's *d* used to calculate effect sizes for the *t*-test and r for the Wilcoxon signed-rank test.. Fourth, (rank-transformed) ANCOVA was employed to examine between-group differences, controlling for baseline scores. Partial eta-squared (η^2_p) was calculated to evaluate effect sizes, with values of 0.01 to 0.06 indicating small effects, 0.06 to 0.14 indicating medium effects, and values above 0.14 indicating large effects (Cohen, 1988; Lakens, 2013). Fifth, a two-way (rank-transformed) ANCOVA was used to examine the impact of demographic variables on the intervention effect, with intervention status, demographic variables, and their interaction terms as predictors; baseline scores as covariates; and post-test scores as dependent variables. To obtain reliable estimates, we utilized bootstrapping with 1,000 resamples to compute the 95% confidence intervals for effect sizes. Finally, logistic regression models were used to identify factors related to the attendance and dropout levels.

Qualitative data from semi-structured interviews were transcribed and analyzed via deductive thematic analysis (Braun & Clarke, 2006). This approach aimed to deepen the understanding of the effectiveness (or ineffectiveness) of the intervention based on participants' experiences. Guided by existing literature and our quantitative analysis, predefined themes, including adopting positive parenting practices, enhancing parental mental health, and promoting desired parenting outcomes, were established. These themes structured the coding process, thereby facilitating the systematic clustering and organization of data. The analysis was iterative and involved continuous refinement, clarification, and comparison to ensure consistency. The second author conducted the initial coding, while the first and corresponding authors reviewed and discussed the results. To enhance analytical rigor and minimize potential bias, coding decisions were collaboratively examined through reflection and discussion among the authors.

Results

Demographic Characteristics

Table 1 shows the demographic characteristics of the participants. A total of 67 participants were included in the statistical analysis. Of these, 89.55% were female, 80.60% had a rural *hukou*, and 46.27% reported an annual household income of less than 50,000 yuan. More than half the participants were employed in "unskilled jobs" and had completed high school education. The mean number of children among the participants was 1.90 (SD = 0.70). No significant differences were observed in demographic characteristics between the intervention and control groups, except for occupation ($p < .01$).

Comparisons among Demographic Groups

At the baseline assessment, age significantly influenced positive parenting strategies ($\eta^2 = 0.06$, 95%CI [<0.01, 0.25]; $p < .05$), supporting good behaviors ($\eta^2 = 0.12$, 95%CI [0.02, 0.29]; $p < .05$), and corporal punishment ($\eta^2 = 0.75$, 95%CI [<0.01, 0.24]; $p < .05$). Parents in the medium-age group reported more positive parenting strategies ($M_{young} = 104.28 < M_{medium} = 115.68$, $p < .05$) and supporting good behaviors ($M_{young} = 35.08 < M_{medium} = 39.79$, $p < .05$) than those in the young-age group. Parents in both the young-

Table 1. Demographic Characteristics of the Sample.

Variables	Total ($n = 67$) N or Mean (% or SD)	Intervention Group ($n = 24$) N or Mean (% or SD)	Control Group ($n = 43$) N or Mean (% or SD)	Effect Size	*p*-Value
Gender				0.05[a]	.673[a]
Male	7(10.45)	2(8.33)	5(11.63)		
Female	60(89.55)	22(91.67)	38(88.37)		
Marital status				-	-
Married	67(100)	24(100)	43(100)		
Divorced	0	0	0		
Widowed	0	0	0		
Unmarried	0	0	0		
Occupation				0.41[a]	.004[a,*]
Unemployed	23(34.33)	13(54.17)	10(23.26)		
Unskilled job	35(52.24)	6(25.00)	29(67.44)		
Skillful job	9(13.43)	5(20.83)	4(9.30)		
Hukou status				0.18[a]	.131[a]
Non-rural *hukou*	13(19.40)	7(29.17)	6(13.95)		
Rural *hukou*	54(80.60)	17(70.83)	37(86.05)		
Household income				0.07[a]	.948[a]
Less than 10,000 yuan	14(20.90)	5(20.83)	9(20.93)		
10,000–50,000 yuan	17(25.37)	6(25.00)	11(25.58)		
50,000–100,000 yuan	19(28.36)	6(25.00)	13(30.23)		
More than 100,000 yuan	17(25.37)	7(29.17)	10(23.26)		
Education level				0.35[a]	.140[a]
Primary school and below	6(8.96)	2(8.33)	4(9.30)		
Junior high school	25(37.71)	7(29.17)	18(41.86)		
Senior high school	19(28.36)	5(20.83)	14(32.56)		
Junior college	6(8.96)	2(8.33)	4(9.30)		
Bachelor's degree	10(14.93)	7(29.17)	3(6.98)		
Master's degree and above	1(1.49)	1(4.17)	0		
Age				0.08[a]	.825[a]
Young (≤35 years old)	25(37.88)	9(37.50)	16(38.10)		
Medium (36–39 years old)	19(28.79)	6(25.00)	13(30.95)		
Old (≥40 years old)	22(33.33)	9(37.50)	13(30.95)		
Number of children	1.90(0.70)	1.88(0.80)	1.91(0.65)	−0.05[b]	.669[b]

[a]Chi-square test.
[b]Mann–Whitney test.
*$p < 0.05$.

and old-age groups reported engaging in more corporal punishment compared to the medium-age group ($M_{medium} = 1.05 < M_{young} = 2.80$, $p < .05$; $M_{medium} = 1.05 < M_{old} = 3.91$, $p < .05$).

The comparison of the post-test outcome variables among demographic groups showed that among the participants with an annual household income of 10,000–50,000 yuan, the intervention group had significantly lower scores on difficult child subscale than the control group (Cohen's $d = -1.12$, 95%CI [−3.08, −0.08], $p < .05$; $M_{intervention} = 15.00 < M_{control} = 18.09$). The intervention group showed higher externalizing behavior scores among parents with one child ($r = .49$, 95% CI [0.05,0.83], $p < .05$; $M_{intervention} = 6.75 > M_{control} = 2.8$), lower emotional abuse scores among those with two children ($r = -0.35$, 95%CI [−0.62, −0.02], $p < .05$; $M_{intervention} = 7.25 < M_{control} = 10.54$), and higher child maltreatment scores among those with three children (Cohen's $d = 2.49$, 95%CI [1.43,12.71], $p < .05$; $M_{intervention} = 26.33 > M_{control} = 3.5$) compared to their control groups. Among non-rural *hukou* parents, the intervention group reported significantly higher scores than the control group on positive parenting strategies (Cohen's $d = 1.60$, 95%CI [0.73, 4.98], $p < .05$; $M_{intervention} = 123.71 > M_{control} = 105.67$), supporting good behavior (Cohen's $d = 1.50$, 95%CI [0.57, 5.33], $p < .05$; $M_{intervention} = 42.00 > M_{control} = 35.00$), proactive parenting (Cohen's $d = 1.45$, 95%CI [0.61, 3.13], $p < .05$; $M_{intervention} = 42.14 > M_{control} = 35.83$), parent–child relationship (Cohen's $d = 1.27$, 95%CI [0.26, 4.00], $p < .05$; $M_{intervention} = 58.86 >$

$M_{control} = 53.50$), and parenting efficacy ($r = .56$, 95%CI [0.09,0.84], $p < .05$; $M_{intervention} = 30.71 > M_{control} = 23.67$). However, lower scores on child maltreatment ($r = -.60$, 95% CI [−0.84,−0.13], $p < .05$; $M_{intervention} = 9.29 < M_{control} = 22.33$) and emotional abuse ($r = -.78$, 95%CI [−0.85, −0.53], $p < .01$; $M_{intervention} = 4.14 < M_{control} = 14.00$) were observed in this group. Furthermore, within the young age group, significantly lower scores were recorded for child maltreatment in the intervention group than those in the control group ($r = -.40$, 95%CI [−0.70,−0.05], $p < .05$; $M_{intervention} = 11.11 < M_{control} = 19.44$), whereas within the older age group this group reported higher scores for corporal punishment ($r = .61$, 95%CI [0.26,0.88], $p < .01$; $M_{intervention} = 4.67 > M_{control} = 1.62$).

In-Group Differences

As shown in Table 2, parental distress scores increased significantly in both the intervention group (mean [SD] = 14.83 [3.19] vs. 16.29 [3.54], Cohen's $d = -0.59$, $p < .01$) and the control group (mean [SD] = 14.67 [3.94] vs. 16.00 [3.49], Cohen's $d = -0.36$, $p < .05$). In the intervention group, significant improvements were observed in the scores for positive parenting strategies (mean [SD] = 111.67 [15.36] vs. 116.88 [14.34], Cohen's $d = -0.49$, $p < .05$) and proactive parenting strategies (mean [SD] = 36.58 [6.06] vs. 39.71 [5.01], Cohen's $d = -0.86$, $p < .001$). However, no significant differences were found in child maltreatment, parent–child relationship, parents' depressive symptoms, parenting efficacy, and child externalizing behavior between baseline and post-test scores in this group. In the control group, the scores for parenting stress (mean [SD] = 52.16 [7.76] vs. 54.60 [7.28], Cohen's $d = -0.33$, $p < .05$) and parenting efficacy (mean [SD] = 27.51 [7.23] vs. 29.40 [6.75], Cohen's $d = -0.37$, $p < .05$) increased significantly from baseline to post-test. No significant differences were observed in positive parenting strategies, child maltreatment, parent–child relationship, parents' depressive symptoms, and child externalizing behavior between the baseline and post-test scores in this group.

Differences Between Intervention and Control Groups

Table 3 shows the results of (rank-transformed) ANCOVA with the baseline scores included as covariates. This intervention had a significant effect on proactive parenting strategies. Compared to the control group, the proactive parenting strategies scores in the intervention group increased significantly ($p < .05$), with a medium effect size ($\eta^2_p = 0.08$, 95%CI [0.01, 0.19]). No significant differences were found between the two groups in other variables after adjusting for baseline scores.

Effects of the Demographics on Intervention Outcomes

Two-way (rank-transformed) ANCOVA revealed significant differences between the intervention and control groups after adjusting for covariates. Specifically, when demographics, baseline scores, and their interactions were included as covariates, a significant main effect of the intervention was observed on proactive parenting strategies for household income level ($F(8) = 7.35$, $p < .001$ for group effect; $F(1) = 5.02$, $p < .05$ for intervention; $\eta^2_p = 0.08$, 95%CI [<0.01, 0.20]), age ($F(6) = 8.54$, $p < .001$ for group effect; $F(1) = 4.65$, $p < .05$ for intervention; $\eta^2_p = 0.07$, 95%CI [<0.01, 0.19]), gender ($F(4) = 12.57$, $p < 0.001$ for group effect; $F(1) = 4.09$, $p < .05$ for intervention; $\eta^2_p = 0.06$, 95%CI [0.02, 0.17]), education level ($F(11) = 4.87$, $p < 0.001$ for group effect; $F(1) = 4.13$, $p < .05$ for intervention;$\eta^2_p = 0.07$, 95%CI [<0.01, 0.29]), and *hukou* status ($F(4) = 12.06$, $p < .001$ for group effect; $F(1) = 4.88$, $p < .05$ for intervention; $\eta^2_p = 0.07$, 95%CI [0.01, 0.18]). Post-test scores for proactive parenting strategies in the intervention group were significantly higher than those in the control group, with a medium effect size ($\eta^2_p = 0.06$–0.08). Significant interaction effects between intervention and *hukou* status were found in the parent–child relationship ($F(4) = 17.83$, $p < .001$ for group effect; $F(1) = 4.81$, $p < .05$ for interaction). The interaction of *hukou* status and intervention demonstrated a medium effect size ($\eta^2_p = 0.07$, 95%CI [<0.01, 0.19]). Among participants with non-rural *hukou*, the post-test scores for the parent–child relationship in the intervention group were significantly higher than those in the control group. By contrast, for participants with rural *hukou*, the post-test scores in the intervention group were lower than those in the control group. These findings partially supported Hypotheses 1 and 5, but did not support the other hypotheses.

Changes in Parenting Practices After the Intervention

Adopting Positive Parenting Practices. Acquiring knowledge and skills in positive parenting was a key outcome reported after the intervention. Parents gained these skills by watching program videos and often described parenting knowledge as "scientific" and "systematic" (A18). Furthermore, acquiring this knowledge gave them confidence in interacting with their children (A09). Participating in the PLH-YC program not only provided practical guidance but also offered a sense of reassurance for parents, as illustrated in the following excerpt (A18).

> When raising my child, I still feel a bit anxious… I want to have some basis to feel more secure. Because [this course] is really scientific, if we incorporate these theories and scientific methods into parenting, I believe my child's development will be smoother.

As they engaged in the program, participants were motivated to apply the learned techniques with their children and observe their responses. As one mother (A04) sought to address her child's phone addiction, she attempted to "use some of the learned skills" to set rules and "see the responses" from her child. Participants reported implementing various

Table 2. Differences of Variables Between Baseline and Post-test Scores.

Variables	Intervention Group ($n = 24$)				Control Group ($n = 43$)			
	Baseline M(SD)	Post-test M(SD)	Effect Size [95% CI]	*p*-Value	Baseline M(SD)	Post-test M(SD)	Effect Size [95% CI]	*p*-Value
Positive parenting strategies	111.67 (15.36)	116.88 (14.34)	−0.49[a] [−0.88, −0.12]	.025[a,*]	109.93 (16.39)	112.42 (17.49)	−0.17[a] [−0.50, 0.12]	.273[a]
Supporting good behavior	38.88 (6.00)	39.88 (5.38)	−0.18[a] [−0.59, 0.21]	.384[a]	36.88 (5.61)	37.74 (6.44)	−0.24[b] [−0.51, 0.03]	.118[b]
Proactive parenting	36.58 (6.06)	39.71 (5.02)	−0.86[a] [−1.39, −0.48]	.0003[a,*]	36.49 (6.66)	36.63 (7.27)	−0.08[b] [−0.38, 0.20]	.587[b]
Setting limits	36.21 (5.34)	37.29 (5.58)	−0.21[a] [−0.78, 0.16]	.323[a]	36.56 (6.47)	38.05 (6.00)	−0.26[b] [−0.53, 0.02]	.091[b]
Parenting stress	52.71 (7.51)	54.79 (8.99)	−0.42[a] [−0.84, < 0.01]	.052[a]	52.16 (7.76)	54.60 (7.28)	−0.33[a] [−0.65, −0.04]	.034[a,*]
Parental distress	14.83 (3.19)	16.29 (3.54)	−0.59[a] [−0.98, −0.20]	.008[a,*]	14.67 (3.94)	16.00 (3.49)	−0.36[a] [−0.66, −0.06]	.024[a,*]
Parent–child dysfunctional interaction	21.04 (3.08)	21.00 (3.06)	0.02[a] [−0.35, 0.45]	.929[a]	20.41 (2.74)	20.63 (2.43)	−0.06[a] [−0.35, 0.24]	.689[a]
Difficult child	16.83 (3.53)	17.50 (4.09)	−0.32[a] [−0.89, 0.08]	.129[a]	17.07 (3.43)	17.98 (3.31)	−0.28[a] [−0.59, 0.03]	.076[a]
Child maltreatment	15.08 (10.53)	13.83 (12.45)	0.24[b] [−0.12, 0.66]	.249[b]	18.56 (16.36)	17.02 (14.26)	0.19[b] [−0.11, 0.45]	.228[b]
Corporal punishment	2.71 (3.21)	2.54 (2.84)	0.07[b] [−0.31, 0.46]	.772[b]	3.07 (4.25)	2.91 (4.21)	−0.02[b] [−0.30, 0.27]	.905[b]
Physical abuse	0.38 (1.10)	0.38 (0.88)	0.00[b] [−0.37, 0.38]	1[b]	1.53 (3.19)	0.84 (1.60)	0.21[b] [−0.09, 0.46]	.181[b]
Emotional abuse	9.33 (9.02)	8.04 (8.34)	0.25[b] [−0.11, 0.62]	.220[b]	9.42 (6.82)	9.44 (7.06)	0.10[b] [−0.19, 0.38]	.535[b]
Neglect	2.67 (4.41)	2.88 (3.17)	−0.03[b] [−0.41, 0.38]	.893[b]	4.53 (7.69)	3.83 (5.89)	0.11[b] [−0.20, 0.38]	.464[b]
Parent–child relationship	56.88 (7.19)	56.17 (6.12)	0.13[a] [−0.38, 0.44]	. 523[a]	56.51 (6.94)	56.65 (7.37)	−0.01[a] [−0.33, 0.33]	.956[a]
Parents' depressive symptoms	6.25 (5.68)	6.08 (5.76)	0.10[b] [−0.27, 0.50]	.625[b]	5.19 (3.79)	5.16 (4.31)	−0.08[b] [−0.38, 0.21]	.597[b]
Parenting efficacy	28.50 (6.53)	29.91 (5.69)	−0.35[a] [−0.76, 0.07]	.099[a]	27.51 (7.23)	29.40 (6.75)	−0.37[b] [−0.61, −0.08]	.016[b,*]
Child externalizing behavior	6.42 (4.70)	6.38 (3.10)	0.01[a] [−0.40, 0.47]	.954[a]	5.56 (4.55)	5.12 (4.01)	0.14[b] [−0.14, 0.44]	.362[b]

[a]*t*-test.
[b]Wilcoxon test.
*$p < .05$.

Table 3. Differences of Variables Between Intervention and Control Groups.

Variables	*F*	*p*-Value	η^2	95%CI
Positive parenting strategies	1.07	.306[a]	0.016	[< 0.01, 0.11]
Supporting good behavior	0.04	.835[b]	0.001	[< 0.01, 0.09]
Proactive parenting	5.39	.024[a,*]	0.078	[0.01, 0.19]
Setting limits	0.21	.652[a]	0.003	[< 0.01, 0.08]
Parenting stress	0.02	.901[a]	< 0.001	[< 0.01, 0.07]
Parental distress	0.08	.782[a]	0.001	[< 0.01, 0.07]
Parent–child dysfunctional interaction	0.05	.821[a]	< 0.001	[< 0.01, 0.09]
Difficult child	0.20	.652[a]	0.003	[< 0.01, 0.07]
Child maltreatment	0.45	.503[b]	0.007	[< 0.01, 0.09]
Corporal punishment	0.25	.617[b]	0.004	[< 0.01, 0.08]
Physical abuse	0.03	.864[b]	< 0.001	[< 0.01, 0.07]
Emotional abuse	1.60	.210[b]	0.024	[< 0.01, 0.14]
Neglect	0.08	.781[b]	0.001	[< 0.01, 0.08]
Parent–child relationship	0.25	.621[a]	0.004	[< 0.01, 0.07]
Parents' depressive symptoms	0	.983[b]	< 0.001	[< 0.01, 0.06]
Parenting efficacy	0.18	.671[b]	0.003	[< 0.01, 0.08]
Child externalizing behavior	1.21	.276[a]	0.018	[< 0.01, 0.12]

[a]ANCOVA.
[b]Non-parametric ANCOVA.
*$p < .05$.

positive parenting strategies introduced in the program, including creating quality time with their children, using praise and rewards effectively, and giving clear instructions. The application of these techniques often resulted in positive feedback from their children. For instance, one mother (A12) observed noticeable improvements after employing the technique of giving instructions.

> I think this course is quite practical… For example, when [giving instructions], it's important to set a transition period. Before, when my child was watching TV, I'd tell him couldn't watch anymore, and then I'd just turn it off immediately. Of course, he would cry and throw a tantrum. Now, I explain the [transition period] to him, like saying, 'You can finish this episode, but then we'll stop'. He actually finishes the episode and then turns it off by himself.

Enhancing Parental Mental Health. Reducing parental stress is a primary focus of the PHL-YC program, ultimately helping parents develop more effective child-rearing skills. In particular, the program includes sessions that teach mindfulness and relaxation techniques to help parents manage stress, improve emotional regulation, and enhance overall well-being. One mother (A02) attempted to "deep breath for three to five seconds" before addressing her child's behavior. By using this strategy, she felt more in control of her temper. However, remaining composed is not always easy as parents often experience stress from daily parenting challenges, dysfunctional interactions, and additional personal or family-related pressures such as work stress (A13) or complex family relationships (A18). While maintaining a calm manner at all times can be challenging for parents, participating in the program at least increased their awareness of managing negative emotions, which is an important step toward long-term changes in their parenting practices. As one father (A06) reflected:

> Before the program, when I noticed my child exhibiting undesirable behavior, I would often just get angry and criticize him. After participating in this course, I realized that I need to first manage my own emotions, and there are actually some methods to handle the emotions and the problem more effectively. However, I feel this might also require a process [to improve]. For example, today I saw my child hadn't done much homework, and I lost my temper and scolded him.… However, I know this wasn't the best approach.… I realize that when I get angry over something or feel negative emotions, I should try to reflect on whether my reaction was appropriate.

Promoting Desired Parenting Outcomes. Some parents reported improvements in their parent–child relationships after adjusting their parenting practices. For example, one mother (A01) noted that after changing her attitude and communication style, her child became "more willing to share things with me" and "express love [to me] more often." Strengthening parent–child bonds and improving relationship quality is a gradual process that requires the consistent application of positive parenting practices, as demonstrated in the following excerpt (A02).

Table 4. Factors Associated With Participant Engagement.

	Attendance			Dropout		
	b	*Z*	[95% CI]	*b*	*z*	[95% CI]
Gender (reference: female)	2.03	1.48	[-0.66, 4.72]	−3.83	−1.73	[−8.15, 0.50]
Age	0.19	1.76	[−0.02, 0.39]	−0.37	−1.79	[−0.77, 0.04]
Education level (reference: primary school and below)						
Junior high school	−1.59	−0.87	[−5.16, 1.98]	−0.27	−0.09	[−6.28, 5.73]
Senior high school	−1.76	−0.96	[−5.36, 1.84]	1.14	0.38	[−4.71, 6.99]
Junior college	−1.16	−0.52	[−5.50, 3.18]	1.49	0.44	[−5.20, 8.17]
Bachelor's degree	18.19	0.01	[−2865.08, 2901.46]	-	-	-
Master's degree and above	−0.34	−0.12	[−6.15, 5.47]	-	-	-
Occupation (reference: unemployed)						
Unskilled job	−0.86	−0.72	[−3.22, 1.50]	2.87	1. 43	[−1.07, 6.80]
Skilled job	−2.73*	−1.99	[−5.42, −0.04]	4.54*	2.42	[0.87, 8.20]
Hukou status (reference: non-rural)	−0.31	−0.29	[−2.37, 1.76]	−2.15	−1.07	[−6.07, 1.77]
Number of children	−0.60	−1.02	[−1.74, 0.54]	1.42	1.28	[−0.76, 3.61]
Household income (reference: less than 10,000 yuan)						
10,000–50,000 yuan	−0.14	−0.09	[−3.13, 2.85]	−2.61	−0.93	[−8.12, 2.90]
50,000–100,000 yuan	0.14	0.10	[−2.54, 2.81]	−2.04	−0.81	[−6.97, 2.89]
More than 100,000 yuan	−0.31	−0.19	[−3.43, 2.81]	0.21	0.08	[−4.89, 5.30]

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

> I've been continuously learning knowledge [about parenting], and then I keep using what works. If something doesn't work, I …try to improve. … I've actually practiced the [parenting] methods I've learned… for example, spending time with [my children] and talking about feelings.… Sometimes we talk about things from school…like during mealtime.… On Saturdays and Sundays when they're home…, I deliberately take time to talk to them. Basically, [the talking and sharing] happened naturally in daily life.… Anyway, they tell me everything, good or bad, that happens at school.… I think that's pretty good.

Despite the positive feedback on the parenting skills introduced in this program, some participants reported challenges in consistently applying these techniques in their family lives, particularly when attempting to replace previous child maltreatment practices. One mother (A02) intended to adopt the new, positive approach to emotional regulation in parenting. However, she found that when she was in a bad mood, it was difficult to engage in gentle negotiation with her children to encourage rule-following and compliance. As a result, she frequently reverted to habitual harsh discipline. Although the learning materials appeared to be "quite easy" to understand, integrating them into everyday parenting proved "quite difficult" (A10).

Even when appropriate parenting skills are applied, achieving the desired changes in children's behavior remains challenging. For instance, one mother created family rules together with her children (A16). Initially, the children were willing to comply with these regulations; however, they were unable to maintain these for a long time. Despite verbal agreements, when the mother reminded her children to follow the rules, they still refused to comply in practice. Reversals were not uncommon during children's behavioral adjustment process, highlighting the need for parents' patience and consistent modifications to their parenting strategies to meet the evolving needs of different children. For example, one mother (A10) expressed frustration over the difficulty of replacing harsh emotional discipline with the recommended positive strategy, which seemed to have little impact on achieving the desired behavioral outcomes.

> The [homework after each session] is really hard to manage; I just can't seem to control my emotions.… For example, when I ask him to do his homework and he refuses, I end up getting angry. [If I don't get angry and talk to him calmly], he just drags it out and doesn't do it. You know, he doesn't start until 6 p.m. and doesn't finish until 9 p.m., and it's still just a small amount of homework.

Implementation Evaluation

The participant enrolment rate was acceptable. Among the participants who completed the pre-test assessment, 80.00% completed at least one session, 67.50% completed more than half of the sessions, and 52.50% completed all sessions. On average, participants completed 4.65 sessions. Table 4 shows the regression results of factors related to dropout and attendance levels. The findings indicated parents with skilled jobs were significantly associated with a greater likelihood of dropping out ($b = 4.54$, 95% CI [0.87, 8.20], $p < .05$) and a lower attendance level ($b = -2.73$, 95% CI [−5.42, −0.04], $p < .05$) than their unemployed counterparts.

The participants noted their experiences with program engagement. The benefits of the online, self-learning delivery format were reported, such as the flexibility of learning time (A04) and the ability to revisit session videos for reinforcement (A02, A16). However, unlike fixed-schedule services, adherence to the self-learning program required strong self-motivation and learning ability. When participants were occupied with other daily responsibilities, such as work, this often resulted in them "falling behind the program" (A15). Moreover, as previously discussed, applying the principles learned from the program to daily parenting practices was often challenging. A mother (A10) who found the program only "a little helpful" for her parenting reflected, "I understand the course, but I struggle to apply it." Although program facilitators provided online support, including customized guidance for parenting challenges, seeking this support was uncommon. The lack of tailored guidance on implementation sometimes led to frustration and reduced motivation for continued participation.

Discussion and Applications to Practice

This study evaluated the effectiveness of a self-directed online parenting program targeting young children from low-resource families in China. Using a pilot quasi-experimental design, the current study demonstrated intervention effects on positive parenting practices and parent–child relationship. These findings build on previous research of the PLH-YC program in other LMICs (Hansen et al., 2019), emphasizing its impact on underrepresented, low-resource groups, particularly socioeconomically disadvantaged migrant parents in China. Moreover, the current study provides empirical evidence for self-directed online intervention as an easy-to-access and scaled-up treatment delivery format in LMICs.

The study partly supported Hypothesis 1 in that the intervention resulted in significant improvements in proactive parenting strategies, with a moderate effect size. According to the PLH-YC intervention design, strategies such as child-led play, emotional management, praise, and rewards were emphasized as key components of positive parenting practices (Wang et al., 2024). Parenting knowledge and skills were enhanced through methods such as illustrative stories and home-practice exercises. According to the operant conditioning principle, positive reinforcement, whether from children's improved behaviors or feedback from practitioners, encourages parents to consistently apply these strategies in everyday parenting (Holtrop et al., 2014; Kazdin, 2005). Furthermore, the self-directed nature of the program, with its flexible learning environment, motivated participants to continue practicing and refining the skills they had learned, leading to positive behavioral changes (Dadds et al., 2019; Morawska et al., 2005). The successful application of the strategies provided participants with constructive alternatives to previous parenting practices, thereby improving overall family functioning. Given the crucial role of parenting in shaping children's well-being, the effectiveness of the PLH-YC in promoting positive parenting practices has significant value for the advancement of parenting programs.

Notably, our findings indicated effectiveness only in proactive strategies but not in other dimensions of positive parenting. Proactive strategies involve anticipating and preventing children's problem behaviors by restructuring daily situations (McEachern et al., 2012). These strategies seem to align with the traditional parenting culture of *guan* (to govern) in China (Chao, 1994; Chao & Tseng, 2002; Wu, 2013). Within this cultural framework, parents assume primary responsibility for regulating, teaching, and disciplining their children. This tradition likely facilitated the acceptance and adoption of proactive strategies to prevent children's problem behaviors during the intervention. These differences suggest that the impact of the intervention varies across cultural and demographic contexts. Future research could explore these mechanisms in greater depth to refine and expand the effectiveness of global interventions in positive parenting programs.

The intervention did not show significant effects on child maltreatment and externalizing behaviors, in contrast to previous studies on PLH-YCs in LMICs (Lachman et al., 2017; Mamauag et al., 2021; Zhang et al., 2024). This result did not support Hypotheses 6 and 7. The unexpected finding may be attributable to the self-directed online service delivery format adopted in this study, which is a strategy designed to increase accessibility for migrant participants with demanding work schedules that prevent participation in prescheduled group sessions (Collins et al., 2019; Dadds et al., 2019; Tarver et al., 2014). Although previous research has explored the effectiveness of online delivery methods (Zhang et al., 2023a, 2024), this study is the first to evaluate a self-directed online delivery method for a PLH-YC intervention. The mechanisms by which participants learn, apply parental knowledge, and influence children's outcomes in a self-directed manner may differ from those of group-based interventions. In group settings, alliances between participants and practitioners create a supportive community that fosters deeper engagement with the material (Christensen et al., 2024; Kuravackel et al., 2018). Such collaborative experiences may facilitate the adoption of positive parenting strategies and the replacement of negative practices. Conversely, self-directed interventions rely on participants' independent learning processes, where maintaining engagement and adherence is often challenging (Dadds et al., 2019). As the qualitative assessment revealed, with less additional support beyond video content, some participants struggled to consistently implement the acquired parenting skills and adapt them to their children's individual issues, which are key factors in successfully altering habitual harsh parenting and children's problematic behaviors.

Our self-directed intervention retained interactive elements in addition to the video-based course to support the participants' varied needs, as seen in other programs (Collins et al., 2019; Tarver et al., 2014). These included unlimited personal feedback and group discussions via text comments,

on-demand personal consultations when needed, three open consultations introducing the program, and two personal consultations through the middle and at the conclusion of the intervention. Unfortunately, participants made limited use of these tailored supports. This may be due to the primarily online, self-learning program format, which may have hindered participants from building sufficient trust to openly share private, sensitive family issues with peers and practitioners. These findings provide insight into the challenges of self-directed formats. Future iterations of self-directed PLH programs could explore strategies to enhance participant engagement and learning by incorporating group-based elements such as discussion sessions to determine the optimal balance between intervention effectiveness, cost efficiency, program accessibility, and commitment.

Although parental distress increased in both the intervention and control groups, no significant differences were observed in the post-test results after adjusting for baseline assessment and covariates. This result, along with the non-significant findings on other subscales of parenting stress, did not support Hypothesis 3. While the qualitative findings indicated that parents reported positive experiences in regulating their feelings of anxiety and anger and frustrations after participating in the program, the quantitative results imply that these perceived improvements may not have led to a measurable reduction in overall parental distress, as other studies on PHL-YC have shown (Lachman et al., 2021; Zhang et al., 2024). One possible explanation may be that parenting stress arises from a broader range of challenges and hardships faced by parents. A classical study examining the dimensions of parental stress using a sample of 196 children and their mothers in the USA found associations between parental distress, mental health difficulties, and family income (Reitman et al., 2002). This is particularly true in China. Influenced by years of the one-child policy, intensive parenting has become normative across social classes in China. Chinese parents are expected to cultivate "successful" children who demonstrate desired behavior, high academic performance, and mental well-being (Gu, 2021). Disadvantaged parents in particular face difficulties in meeting these child-rearing expectations, which require substantial resources and support (Fuligni & Zhang, 2004; Liu et al., 2022); these hardships aggravate their distress. Parenting intervention programs alone may struggle to alleviate the heightened parenting stress given its relevance to multiple factors, including access to social resources, socioeconomic status, children's behavioral problems, and parental depression (Fang et al., 2024). Future studies should consider these cultural and social characteristics when designing and evaluating parenting intervention programs. In contexts where the social demands on parents are high, such programs could include sessions focused on reducing their stress level. Collaborating with other institutional supports and services could also be an effective strategy for comprehensively alleviating parenting hardships and improving the well-being of low-resource parents.

The intervention revealed a significant interaction effect of intervention and *hukou* status on the parent–child relationship, which partly supported Hypothesis 5. This finding may be explained by the variations in parental culture across demographic groups, including *hukou* status. Parents from higher socioeconomic backgrounds, that is, those with urban *hukou* status, higher family income, and greater parental education levels, more commonly have access to and embrace the emerging shifts of parenting norms toward more egalitarian and warm family relationships in China (Fuligni & Zhang, 2004; Gu, 2021; Luo et al., 2021b; Qi, 2016). Our participants with non-rural *hukou* status may therefore be more attuned to the significance of a warm parent–child relationship and, after participating in the PHL-YC program, may focus more on applying the skills learned to nurture this bond. By contrast, those with rural *hukou* status may face limitations in understanding the value of a strong parent–child relationship or in accessing the resources or support needed to foster this connection, possibly leading to adherence to traditional discipline methods. Given the potential role of *hukou* in differentiating the effects of parenting programs, further studies could focus on the effectiveness of interventions across rural and non-rural *hukou* groups, ultimately identifying their specific needs and barriers. Future social services could be tailored accordingly to ensure more equitable outcomes in family relationships following interventions.

Parental efficacy and depressive symptoms did not change significantly after the intervention, which did not support Hypotheses 2 and 4. These findings partially align with those of earlier research on the PLH-YC program (Wang et al., 2024; Zhang et al., 2024). Depressive symptoms reflect the severity of participants' mental health challenges, which are often more pronounced among migrant parents than among their urban-local counterparts (Nikoloski et al., 2019). Depression in migrant parents may relate not only to parenting practices but also to factors such as economic deprivation, social exclusion, and limited support systems, all of which can increase the risk of depressive symptoms (Yang et al., 2022; Zhou et al., 2022). Parental self-efficacy was first examined in the PLH-YC study in China. The relationship between parental self-efficacy and parenting practices is theoretically well established; parents who perceive themselves as competent tend to adopt effective parenting strategies (Bandura, 1982). However, the ways in which intervention programs influence parental self-efficacy remain unclear (Wittkowski et al., 2016). Some researchers have suggested that interventions focusing solely on knowledge and skills may be insufficient for fostering self-efficacy (Coleman & Karraker, 1998; Sanders & Mazzucchelli, 2013). These inconsistencies underscore the need for further rigorous evaluations of parental self-efficacy as an outcome of parenting intervention programs.

The intervention exhibited a relatively high dropout rate, which was primarily concentrated among participants who registered but did not complete the baseline questionnaire

and those who engaged in less than half of the intervention. High dropout rates are commonly associated with self-directed online programs; however, the specific reasons remain unclear (Collins et al., 2019; Dadds et al., 2019). In our program, participants with higher occupational status were particularly more likely to attend fewer sessions and drop out compared to those with lower occupational status. A possible explanation for this difference could be the unique characteristics of migrant participants. Those engaged in "skilled" jobs may be too occupied to devote time to participating in the intervention compared to those who were unemployed. Our decision to adopt a self-directed online delivery method aimed to maximize flexibility for the time-constrained participants and improve retention. Although this approach successfully attracted many eligible participants, its high demands for self-motivation and learning ability paradoxically led to a higher dropout rate during the program. Furthermore, the qualitative assessment revealed the flexible learning schedule lacked a structured framework to keep participants on track and fully engaged with the knowledge and skills offered by the program. Those who faced difficulties in organizing their learning process (and seeking support) were less likely to achieve the expected outcomes in their parenting and children's behaviors, which resulted in little incentive to continue their participation. As a result, the proportion of full completers in the self-learning PLH-YC was lower than that of previous group-based programs (Wang et al., 2024; Zhang et al., 2024). These findings highlight the need for further exploration of strategies to reduce dropout rates from self-directed online parenting interventions, particularly when delivered to low-resource populations.

This study has several limitations and future implications. First, only baseline and postintervention data were collected in the current quasi-experimental study. Despite the promising findings regarding the effectiveness of the intervention, follow-up assessments are necessary to evaluate its long-term impact on sustainability. Second, our quasi-experimental study included the intervention group of PLH-YC program and a control group with no treatment. As this study has confirmed the effectiveness of this online, self-directed program, future social work studies could include an active control group to examine its added value compared to other parenting programs or service delivery formats. Third, owing to the small sample size, statistical power was constrained to observe the intervention effects. Relatedly, the participants were all migrant parents living in a single metropolitan area and whose demographic and parenting characteristics may differ from those of the broader population in China. Therefore, caution is required when generalizing these findings to all migrant parents and other low-resource groups. Larger-scale studies are required to replicate these findings and offer a more robust and generalizable assessment of the impact of the PLH-YC program. Fourth, owing to the non-randomized design of our study, a potential for selection bias exists. As our study showed, significant differences were observed between the intervention and control groups regarding occupation status. Although we used statistical methods to control for these differences, the possibility of residual confounding remains. Occupation may be correlated with other factors, such as learning ability, motivation and time availability, and mental health, which could indirectly influence the post-test results. Selection bias may thus have had unexamined effects on the intervention outcomes. This limitation should be considered when interpreting the results, and future social work research should aim to use randomized designs. Finally, most participants were mothers, owing to their predominant role as primary caregivers. Given the increasing evidence of the benefits of fathers' involvement in child-rearing, greater efforts are warranted to encourage fathers' participation in parenting programs.

Despite these limitations, our study demonstrated the effectiveness of a self-directed online PLH-YC program for migrant parents in China based on a pilot quasi-experimental design. The current study contributes to the expanding body of research on parenting interventions in LMICs by providing a robust assessment of their impact. Positive parenting strategies, particularly proactive parenting strategies, as well as child–parent relationships significantly improved after the intervention. This effectiveness suggests that as a practical social service, the PLH-CY program is feasible for migrant parents in China and other LMICs with similar sociocultural contexts. The potential of self-directed online interventions in LMICs have the potential to support social workers to reach large populations with low cost, easy accessibility, and high flexibility. Although further rigorous testing is required to generalize these findings, this study marks an important step toward integrating such interventions into social work practice to improve positive parenting and child well-being.

Declaration of Conflicting Interests

The authors declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Jamie M. Lachman is the CEO of Parenting for Lifelong Health (PLH), a charitable organization based in the United Kingdom that developed content for the Naungan Kasih Parenting Program. Jamie M. Lachman also receives occasional fees for providing training and supervision for PLH programs. Jamie M. Lachman has participated/is participating in a number of research studies involving the program as investigators, and the University of Oxford receives research funding for these. Conflict is avoided by declaring these potential conflicts of interest and by conducting and disseminating rigorous, transparent, and impartial evaluation research on both this and other similar parenting programs. No profit or financial gain will be made from this program.

Ethics Approval

Ethics approval was obtained from the Ethics Committees at Renmin University of China (IRB: 24-015) and registered in the Chinese Clinical Trial Registry (ChiCTR2400082870).

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by the Humanities and Social Sciences Foundation, Ministry of Education of the People's Republic of China (No. 23YJC840019) and the Fundamental Research Funds for the Central Universities, and the Research Funds of Renmin University of China (202430066). We would like to thank all participants, program facilitators, assistants and collaborators for their great efforts in this program.

ORCID iDs

Ziyu Wang https://orcid.org/0000-0002-8212-3260
Weiwei Wang https://orcid.org/0000-0003-3491-6087
Jamie M. Lachman https://orcid.org/0000-0001-9475-9218

References

Balantekin, K. N., Anzman-Frasca, S., Francis, L. A., Ventura, A. K., Fisher, J. O., & Johnson, S. L. (2020). Positive parenting approaches and their association with child eating and weight: A narrative review from infancy to adolescence. *Pediatric Obesity*, *15*(10), e12722. https://doi.org/10.1111/ijpo.12722

Bandura, A. (1977). *Social learning theory* (Vol. 1). Prentice Hall.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122–147. https://doi.org/10.1037/0003-066X.37.2.122

Bennett, D. S., Sullivan, M. W., & Lewis, M. (2006). Relations of parental report and observation of parenting to maltreatment history. *Child Maltreatment*, *11*(1), 63–75. https://doi.org/10.1177/1077559505283589

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development*, *65*(4), 1111–1119. https://doi.org/10.2307/1131308

Chao, R. K., & Tseng, V. (2002). Parenting in asians. In M. Bornstein (Ed.), *Handbook of parenting: Social conditions and applied parenting* (Vol. 4, pp. 59–93). Lawrence Erlbaum.

Chen, G. (2021). *Emerging characteristics and trends of the population in China*. https://www.stats.gov.cn/xxgk/jd/sjjd2020/202105/t20210513_1817408.html

Chen, M., & Chan, K. L. (2016). Effects of parenting programs on child maltreatment prevention: A meta-analysis. *Trauma, Violence, & Abuse*, *17*(1), 88–104. https://doi.org/10.1177/1524838014566718

Christensen, E. J., Mogbojuri, O., Nathans, L. L., Hoover, M., Rhodes, D., Walsh, B. A., & Medaille, A. (2024). A scoping review: Group-based parenting programs for racially and ethnically diverse parents of preschoolers. *Family Relations*, *73*(5), 3398–3418. https://doi.org/10.1111/fare.13066

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Routledge Academic.

Coleman, P. K., & Karraker, K. H. (1998). Self-efficacy and parenting quality: Findings and future applications. *Developmental Review*, *18*(1), 47–85. https://doi.org/10.1006/drev.1997.0448

Collins, D. A. J., Tully, L. A., Piotrowska, P. J., Hawes, D. J., & Dadds, M. R. (2019). Perspectives on parent works: Learnings from the development and national roll-out of a self-directed online parenting intervention. *Internet Interventions*, *15*, 52–59. https://doi.org/10.1016/j.invent.2018.12.002

Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology*, *58*, 175–199. https://doi.org/10.1146/annurev.psych.58.110405.085551

Conners, C. K., Sitarenios, G., Parker, J. D. A., Epstein, J. N., Conners, C. K., Sitarenios, G., Parker, J. D., & Epstein, J. N. (1998). The revised conners' parent rating scale (CPRS-R): Factor structure, reliability, and criterion validity. *Journal of Abnormal Child Psychology*, *26*(4), 257–268. https://doi.org/10.1023/A:1022602400621

Dadds, M. R., Sicouri, G., Piotrowska, P. J., Collins, D. A. J., Hawes, D. J., Moul, C., Lenroot, R. K., Frick, P. J., Anderson, V., Kimonis, E. R., & Tully, L. A. (2019). Keeping parents involved: Predicting attrition in a self-directed, online program for childhood conduct problems. *Journal of Clinical Child & Adolescent Psychology*, *48*(6), 881–893. https://doi.org/10.1080/15374416.2018.1485109

Fang, Z., Lachman, J. M., Qiao, D., & Barlow, J. (2022). Controlled trial of a short-term intensive parent training program within the context of routine services for autistic children in China. *Psychosocial Intervention*, *31*(2), 121–131. https://doi.org/10.5093/pi2022a9

Fang, Y., Luo, J., Boele, M., Windhorst, D., van Grieken, A., & Raat, H. (2024). Parent, child, and situational factors associated with parenting stress: A systematic review. *European Child & Adolescent Psychiatry*, *33*(6), 1687–1705. https://doi.org/10.1007/s00787-022-02027-1

Florean, I. S., Dobrean, A., Păsărelu, C. R., Georgescu, R. D., & Milea, I. (2020). The efficacy of internet-based parenting programs for children and adolescents with behavior problems: A meta-analysis of randomized clinical trials. *Clinical Child and Family Psychology Review*, *23*(4), 510–528. https://doi.org/10.1007/s10567-020-00326-0

Forgatch, M. S., & Kjøbli, J. (2016). Parent management training—Oregon model: Adapting intervention with rigorous research. *Family Process*, *55*(3), 500–513. https://doi.org/https://doi.org/10.1111/famp.12224

Fu, C., Niu, H., & Wang, M. (2019). Parental corporal punishment and children's problem behaviors: The moderating effects of parental inductive reasoning in China. *Children and Youth Services Review*, *99*, 1–9. https://doi.org/10.1016/j.childyouth.2019.01.028

Fuligni, A., & Zhang, W. (2004). Attitudes toward family obligation among adolescents in contemporary urban and rural China. *Child Development*, *75*(1), 180–192. https://doi.org/10.1111/j.1467-8624.2004.00662.x

Gao, Y., Atkinson-Sheppard, S., & Liu, X. (2017). Prevalence and risk factors of child maltreatment among migrant families in China. *Child Abuse & Neglect*, *65*, 171–181. https://doi.org/10.1016/j.chiabu.2017.01.023

Gao, L.-L., Sun, K., & Chan, S. W.-C. (2014). Social support and parenting self-efficacy among Chinese women in the perinatal period. *Midwifery*, *30*(5), 532–538. https://doi.org/10.1016/j.midw.2013.06.007

Gardner, M. J., Thomas, H. J., & Erskine, H. E. (2019). The association between five forms of child maltreatment and depressive and anxiety disorders: A systematic review and meta-analysis. *Child Abuse & Neglect*, *96*, 104082. https://doi.org/10.1016/j.chiabu.2019.104082

Gau, S. S.-F., Soong, W.-T., Chiu, Y.-N., & Tsai, W.-C. (2006). Psychometric properties of the Chinese version of the conners' parent and teacher rating scales-revised. Short form. *Journal of Attention Disorder*, *9*(4), 648–659. https://doi.org/10.1177/1087054705284241

Gu, X. (2021). Parenting for success: The value of children and intensive parenting in post-reform China. *Child Indicators Research*, *14*(2), 555–581. https://doi.org/10.1007/s12187-020-09746-4

Halpern, S. C., Schuch, F. B., Scherer, J. N., Sordi, A. O., Pachado, M., Dalbosco, C., Fara, L., Pechansky, F., Kessler, F., & Von Diemen, L. (2018). Child maltreatment and illicit substance abuse: A systematic review and meta-analysis of longitudinal studies. *Child Abuse Review*, *27*(5), 344–360. https://doi.org/10.1002/car.2534

Hansen, A., Broomfield, G., & Yap, M. B. H. (2019). A systematic review of technology-assisted parenting programs for mental health problems in youth aged 0-18 years: Applicability to underserved Australian communities. *Australian Journal of Psychology*, *71*(4), 433–462. https://doi.org/10.1111/ajpy.12250

Haskett, M. E., Ahern, L. S., Ward, C. S., & Allaire, J. C. (2006). Factor structure and validity of the parenting stress index-short form. *Journal of Clinical Child & Adolescent Psychology*, *35*(2), 302–312. https://doi.org/10.1207/s15374424jccp3502_14

Holtrop, K., Parra-Cardona, J. R., & Forgatch, M. S. (2014). Examining the process of change in an evidence-based parent training intervention: A qualitative study grounded in the experiences of participants. *Prevention Science*, *15*(5), 745–756. https://doi.org/10.1007/s11121-013-0401-y

Hu, H., Gao, J., Jiang, H., Jiang, H., Guo, S., Chen, K., Jin, K., & Qi, Y. (2018). A comparative study of behavior problems among left-behind children, migrant children and local children. *International Journal of Environmental Research and Public Health*, *15*(4), 655. https://doi.org/10.3390/ijerph15040655

Irwin, M., Artin, K. H., & Oxman, M. N. (1999). Screening for depression in the older adult: Criterion validity of the 10-item center for epidemiological studies depression scale (CES-D). *Archives of Internal Medicine*, *159*(15), 1701–1704. https://doi.org/10.1001/archinte.159.15.1701

Jeong, J., Franchett, E., Ramos, d. O. C., Rehmani, K., & Yousafzai, A. (2021a). Parenting interventions to promote early child development in the first three years of life: A global systematic review and meta-analysis. *PLoS Medicine*, *18*(5), e1003602. https://doi.org/10.1371/journal.pmed.1003602

Jeong, J., Pitchik, H. O., & Fink, G. (2021b). Short-term, medium-term and long-term effects of early parenting interventions in low- and middle-income countries: A systematic review. *BMJ Global Health*, *6*(3), e004067. https://doi.org/10.1136/bmjgh-2020-004067

Johnston, C., & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology*, *18*(2), 167–175. https://doi.org/10.1207/s15374424jccp1802_8

Kazdin, A. E. (2005). *Parent management training: Treatment for oppositional, aggressive, and antisocial behavior in children and adolescents*. Oxford University Press.

Knerr, W., Gardner, F., & Cluver, L. (2013). Improving positive parenting skills and reducing harsh and abusive parenting in low- and middle-income countries: A systematic review. *Prevention Science*, *14*(4), 352–363. https://doi.org/10.1007/s11121-012-0314-1

Kuravackel, G. M., Ruble, L. A., Reese, R. J., Ables, A. P., Rodgers, A. D., & Toland, M. D. (2018). Compass for hope: Evaluating the effectiveness of a parent training and support program for children with ASD. *Journal of Autism and Developmental Disorders*, *48*(2), 404–416. https://doi.org/10.1007/s10803-017-3333-8

Lachman, J. M., Alampay, L. P., Jocson, R. M., Alinea, C., Madrid, B., Ward, C., Hutchings, J., Mamauag, B. L., Garilao, M. A. V. F. V., & Gardner, F. (2021). Effectiveness of a parenting programme to reduce violence in a cash transfer system in the Philippines: RCT with follow-up. *The Lancet Regional Health – Western Pacific*. *17*, https://doi.org/10.1016/j.lanwpc.2021.100279

Lachman, J. M., Cluver, L., Ward, C. L., Hutchings, J., Mlotshwa, S., Wessels, I., & Gardner, F. (2017). Randomized controlled trial of a parenting program to reduce the risk of child maltreatment in South Africa. *Child Abuse & Neglect*, *72*, 338–351. https://doi.org/10.1016/j.chiabu.2017.08.014

Lachman, J. M., Sherr, L. T., Cluver, L., Ward, C. L., Hutchings, J., & Gardner, F. (2016). Integrating evidence and context to develop a parenting program for low-income families in South Africa. *Journal of Child and Family Studies*, *25*(7), 2337–2352. https://doi.org/10.1007/s10826-016-0389-6

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*. *4*, https://doi.org/10.3389/fpsyg.2013.00863

Lavrič, M., & Naterer, A. (2020). The power of authoritative parenting: A cross-national study of effects of exposure to different parenting styles on life satisfaction. *Children and Youth Services Review*, *116*, 105274. https://doi.org/10.1016/j.childyouth.2020.105274

Leung, P. W. S., Wong, W. C. W., Chen, W. Q., & Tang, C. S. K. (2008). Prevalence and determinants of child maltreatment among high school students in southern China: A large scale school based survey. *Child and Adolescent Psychiatry and Mental Health*, *2*(1), 27. https://doi.org/10.1186/1753-2000-2-27

Lieberman, M., Doyle, A.-B., & Markiewicz, D. (1999). Developmental patterns in security of attachment to mother and father in late childhood and early adolescence: Associations with peer relations. *Child Development*, *70*(1), 202–213. https://doi.org/10.1111/1467-8624.00015

Lindsay, G., & Strand, S. (2013). Evaluation of the national roll-out of parenting programmes across England: The parenting early intervention programme (PEIP). *BMC Public Health*, *13*(1), 972. https://doi.org/10.1186/1471-2458-13-972

Liu, L., Wang, Y., Zhao, J., & Wang, M. (2022). Parental reports of stress and anxiety in their migrant children in China: The mediating role of parental psychological aggression and corporal punishment. *Child Abuse & Neglect*, *131*, 105695. https://doi.org/10.1016/j.chiabu.2022.105695

Luo, S., Liu, Y., & Zhang, D. (2021b). Socioeconomic status and young children's problem behaviours – mediating effects of parenting style and psychological suzhi. *Early Child Development and Care*, *191*(1), 148–158. https://doi.org/10.1080/03004430.2019.1608196

Luo, J., Wang, M.-C., Gao, Y., Zeng, H., Yang, W., Chen, W., Zhao, S., & Qi, S. (2021a). Refining the parenting stress index–short

form (PSI-SF) in Chinese parents. *Assessment*, *28*(2), 551–566. https://doi.org/10.1177/1073191119847757

Ma, Y., Hou, X., Huang, J., Wang, W., Li, Y., Zhou, X., & Du, X. (2018). Educational inequality and achievement disparity: An empirical study of migrant children in China. *Children and Youth Services Review*, *87*, 145–153. https://doi.org/10.1016/j.childyouth.2018.02.026

Mamauag, B. L., Alampay, L. P., Lachman, J. M., Madrid, B. J., Hutchings, J., Ward, C. L., & Gardner, F. (2021). A south-to-south cultural adaptation of an evidence-based parenting program for families in the Philippines. *Family Process*, *60*(4), 1202–1216. https://doi.org/10.1111/famp.12625

McCoy, A., Lachman, J. M., Ward, C. L., Tapanya, S., Poomchaichote, T., Kelly, J., Mukaka, M., Cheah, P. Y., & Gardner, F. (2021). Feasibility pilot of an adapted parenting program embedded within the Thai public health system. *BMC Public Health*, *21*(1), 1009. https://doi.org/10.1186/s12889-021-11081-4

McCoy, A., Melendez-Torres, G. J., & Gardner, F. (2020). Parenting interventions to prevent violence against children in low- and middle-income countries in east and Southeast Asia: A systematic review and multi-level meta-analysis. *Child Abuse & Neglect*, *103*, 104444. https://doi.org/10.1016/j.chiabu.2020.104444

McEachern, A. D., Dishion, T. J., Weaver, C. M., Shaw, D. S., Wilson, M. N., & Gardner, F. (2012). Parenting young children (PARYC): Validation of a self-report parenting measure. *Journal of Child and Family Studies*, *21*(3), 498–511. https://doi.org/10.1007/s10826-011-9503-y

Mikton, C. (2012). Two challenges to importing evidence-based child maltreatment prevention programs developed in high-income countries to low- and middle income countries: Generalizability and affordability. In H. Dubowitz (Ed.), *World perspectives on child abuse*. International Society for the Prevention of Child Abuse and Neglect.

Morawska, A., Stallman, H. M., Sanders, M. R., & Ralph, A. (2005). Self-directed behavioral family intervention: Do therapists matter? *Child & Family Behavior Therapy*, *27*(4), 51–72. https://doi.org/10.1300/J019v27n04_03

Ngai, F.-W., & Chan, S. W.-C. (2012). Stress, maternal role competence, and satisfaction among Chinese women in the perinatal period. *Research in Nursing & Health*, *35*(1), 30–39. https://doi.org/10.1002/nur.20464

Nikoloski, Z., Zhang, A., Hopkin, G., & Mossialos, E. (2019). Self-reported symptoms of depression among Chinese rural-to-urban migrants and left-behind family members. *JAMA Network Open*, *2*(5), e193355–e193355. https://doi.org/10.1001/jamanetworkopen.2019.3355

Qi, X. (2016). Family bond and family obligation: Continuity and transformation. *Journal of Sociology*, *52*(1), 39–52. https://doi.org/10.1177/1440783315587796

Reitman, D., Currier, R. O., & Stickle, T. R. (2002). A critical evaluation of the parenting stress index-short form (PSI-SF) in a head start population. *Journal of Clinical Child & Adolescent Psychology*, *31*(3), 384–392. https://doi.org/10.1207/S15374424JCCP3103_10

Ren, L., & Fan, J. (2019). Chinese preschoolers' daily routine and its associations with parent-child relationships and child self-regulation. *International Journal of Behavioral Development*, *43*(2), 179–184. https://doi.org/10.1177/0165025418811126

Sanders, M. R., Markie-Dadds, C., Tully, L. A., & Bor, W. (2000). The triple p-positive parenting program: A comparison of enhanced, standard, and self-directed behavioral family intervention for parents of children with early onset conduct problems. *Journal of Consulting and Clinical Psychology*, *68*(4), 624–640. https://doi.org/10.1037/0022-006X.68.4.624

Sanders, M. R., & Mazzucchelli, T. G. (2013). The promotion of self-regulation through parenting interventions. *Clinical Child and Family Psychology Review*, *16*(1), 1–17. https://doi.org/10.1007/s10567-013-0129-z

Spencer, C. M., Topham, G. L., & King, E. L. (2020). Do online parenting programs create change?: A meta-analysis. *Journal of Family Psychology*, *34*(3), 364–374. https://doi.org/10.1037/fam0000605

Stattin, H., Enebrink, P., Özdemir, M., & Giannotta, F. (2015). A national evaluation of parenting programs in Sweden: The short-term effects using an RCT effectiveness design. *Journal of Consulting and Clinical Psychology*, *83*(6), 1069–1084. https://doi.org/10.1037/a0039328

Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the parent-child conflict tactics scales: Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect*, *22*(4), 249–270. https://doi.org/10.1016/S0145-2134(97)00174-9

Tarver, J., Daley, D., Lockwood, J., & Sayal, K. (2014). Are self-directed parenting interventions sufficient for externalising behaviour problems in childhood? A systematic review and meta-analysis. *European Child & Adolescent Psychiatry*, *23*(12), 1123–1137. https://doi.org/10.1007/s00787-014-0556-5

Thongseiratch, T., Leijten, P., & Melendez-Torres, G. J. (2020). Online parent programs for children's behavioral problems: A meta-analytic review. *European Child & Adolescent Psychiatry*, *29*(11), 1555–1568. https://doi.org/10.1007/s00787-020-01472-0

Wang, J., Chen, C., & Gong, X. (2021). The impact of family socioeconomic status and parenting styles on children's academic trajectories: A longitudinal study comparing migrant and urban children in China. *New Directions for Child and Adolescent Development*, *2021*(176), 81–102. https://doi.org/10.1002/cad.20394

Wang, Q., & Liu, X. (2023). Child abuse and non-suicidal self-injury among Chinese migrant adolescents: The moderating roles of beliefs about adversity and family socioeconomic status. *Journal of Interpersonal Violence*, *38*(3-4), 3165–3190. https://doi.org/10.1177/08862605221104537

Wang, W., Liu, S., Liang, Y., Lachman, J. M., Fang, Z., & Zhang, H. (2024). Feasibility and acceptability of parenting for lifelong health program in mainland China. *Research on Social Work Practice*, *34*(5), 491–506. https://doi.org/10.1177/10497315231174395

Wang, L., & Mesman, J. (2015). Child development in the face of rural-to-urban migration in China: A meta-analytic review. *Perspectives on Psychological Science*, *10*(6), 813–831. https://doi.org/10.1177/1745691615600145

Wang, Z., & Tang, X. (2024). Developmental trajectories in mathematical performance among Chinese adolescents: The role of multi-dimensional parental involvement. *Journal of Youth and Adolescence*, *53*(4), 877–894. https://doi.org/10.1007/s10964-023-01893-5

Wang, W., & Zhang, H. (2024). A scoping review of parenting programs for preventing violence against children in low- and middle-income countries. *Trauma, Violence, & Abuse*, *25*(3), 2173–2188. https://doi.org/10.1177/15248380231207887

Ward, C. L., Wessels, I. M., Lachman, J. M., Hutchings, J., Cluver, L. D., Kassanjee, R., Nhapi, R., Little, F., & Gardner, F. (2020). Parenting for lifelong health for young children: A randomized controlled trial of a parenting program in South Africa to prevent harsh parenting and child conduct problems. *The Journal of Child Psychology and Psychiatry*, *61*(4), 503–512. https://doi.org/10.1111/jcpp.13129

Webster-Stratton, C., & Reid, M. (2010). Adapting the incredible years, an evidence-based parenting programme, for families involved in the child welfare system. *Journal of Children's Services*, *5*(1), 25–42. https://doi.org/10.5042/jcs.2010.0115

Wittkowski, A., Dowling, H., & Smith, D. M. (2016). Does engaging in a group-based intervention increase parental self-efficacy in parents of preschool children? A systematic review of the current literature. *Journal of Child and Family Studies*, *25*(11), 3173–3191. https://doi.org/10.1007/s10826-016-0464-z

Wu, M.-Y. (2013). The concept of guan in the Chinese parent-child relationship. In C.-C. Yi (Ed.), *The psychological well-being of east Asian youth* (pp. 29–49). Springer Netherlands.

Yang, Y., Chen, B., Huang, P., Wang, Y., Zhang, L., & Cai, F. (2022). Prevalence and influencing factors of depressive symptoms among rural-to-urban migrant workers in China: A systematic review and meta-analysis. *Journal of Affective Disorders*, *307*, 11–19. https://doi.org/10.1016/j.jad.2022.03.061

Zhang, T., Kan, L., Jin, C., & Shi, W. (2023b). Adverse childhood experiences and their impacts on subsequent depression and cognitive impairment in Chinese adults: A nationwide multicenter study. *Journal of Affective Disorders*, *323*, 884–892. https://doi.org/10.1016/j.jad.2022.12.058

Zhang, H., Wang, W., & Lachman, J. M. (2024). The efficacy of an evidence-based parenting program in preventing child maltreatment in mainland China. *Child Abuse & Neglect*, *147*, 106544. https://doi.org/10.1016/j.chiabu.2023.106544

Zhang, H., Yang, H., Liu, Y., Xia, X., Wang, Y., Li, Z., Li, H., & Wang, W. (2023a). A parenting program to prevent child maltreatment in China: A pretest–posttest-follow-up study. *Research on Social Work Practice*, *34*(8), 933–943. https://doi.org/10.1177/10497315231209748

Zhou, F., Peng, B., Chu, M., Zhang, H., Shi, L., & Ling, L. (2022). Association between migration paths and mental health of new-generation migrants in China: The mediating effect of social integration. *Frontiers in Psychiatry*, *13*. https://doi.org/10.3389/fpsyt.2022.967291