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**Parallel Parent–Child Mindfulness Intervention Among Chinese Migrant Families:  
A Mixed-Methods Feasibility Study**

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### Abstract

**Purpose.** This study examines the feasibility and effects of a parallel parent–child mindfulness intervention on parenting stress, child behavior, and parent–child relationship among low-income migrant families. **Methods.** Using a quasi-experimental design, 21 Chinese migrant parents and one child of each parent were assigned to an 8-week intervention ( $n=11$  pairs) or waitlist control ( $n=10$  pairs). Semi-structured qualitative interviews and pre–post quantitative measures were used to assess intervention feasibility and effects. **Results.** Qualitative interviews suggest mindfulness training promotes family well-being through enhanced parental and child emotional regulation. Quantitative results suggest within-group parenting stress significantly decreased in the intervention group (partial  $\eta^2=.423$ ) but not in controls (partial  $\eta^2=.000$ ); between-group analyses showed a nonsignificant, medium effect size on parenting stress (partial  $\eta^2=.069$ ). **Conclusions.** The intervention shows good feasibility and initial support for reducing parenting stress. Future research requires a larger randomized controlled trial among high-stress populations such as migrant families.

*Keywords:* family, mindfulness, migrant, parenting, parallel intervention

**Parallel Parent–Child Mindfulness Intervention Among Chinese Migrant Families:  
A Mixed-Methods Feasibility Study**

Globalization and growing socioeconomic inequalities have prompted nearly one billion migrants worldwide to leave their homes in search of better work and life opportunities, the majority of whom are internal migrants who move within their countries. However, many of these internal migrants are channeled into low-status, low-income occupations and their access to public services and legal rights are restricted because their citizenship is not registered to the municipality in which they work (United Nations Development Programme, 2009).

With 290 million workers relocating from their rural homes to cities amidst rapid urbanization, China has one of the largest internal migrant populations (China National Bureau of Statistics, 2020). With limited educational attainment, these migrants often work in labor-intensive industries, being paid less but working more hours than urban workers do (Li & Li, 2007). Migrants and their children are often marginalized and discriminated against by urban residents (Wong et al., 2009). Moreover, China’s internal migrants face severe inequalities imposed by the national migration control policy, under which all Chinese residents are registered with the Household Registration System at birth as residents of their family’s municipality of origin (Ling, 2015). When rural residents move to cities, their official residency typically remains tied to their hometown even though they physically reside in an urban area, and the same is true for the children of migrant parents, regardless of their place of birth. Due to their nonresident status, migrant families are treated as an underclass in urban society (Ling, 2015), who are ineligible for urban welfare benefits such as free public education and unemployment insurance (Chan, 2009).

The family stress model suggests that low-income families are at higher risk of parent distress, parenting difficulties, and child behavioral problems (Donnellan et al., 2013). Adverse economic conditions can elevate parental distress and family conflicts through heightened economic pressure. This distress may in turn increase harsh parenting or parental hostility toward the child, which then increases children's internalizing and externalizing problems (Conger et al., 1994). In the context of an urbanizing China, the socioeconomic disadvantages have caused high rates of stress among Chinese migrant parents and their children (Cui et al., 2012). For instance, in the study by T. Liu et al. (2020) of 748 families in Shanghai, migrant parents showed significantly lower levels of parental involvement and parenting self-efficacy than nonmigrant parents did (latent mean differences were 1.06 in parenting self-efficacy and 0.97 in parental involvement,  $p < .001$  for both). Migrant children also presented more internalizing and externalizing problems than their local peers did. The study by Guo et al. (2015) of 3,759 children age 8–17 suggested a 20% prevalence of depression among migrant children, compared with 10.5% among nonmigrant rural children. In the study by Hu et al. (2014) of 3,473 elementary and middle school students, migrant children exhibited greater hyperactivity problems by 0.3 point ( $p < .05$ ) and fewer prosocial behaviors by 0.2 point ( $p < .05$ ) than local children.

### **Application of Mindfulness Interventions in Family Context**

Mindfulness-based interventions (MBIs) have shown benefits for both parents and children. For instance, a study that integrated mindfulness parenting with a standard Strengthening Families Program found that adding mindfulness practices to the parenting intervention improved mother–child relationships more than the original intervention did (Coatsworth et al., 2010). In the review by Burgdorf et al. (2019) of 25 MBIs for parents

(including 18 single-group studies, six randomized controlled trials, and one nonrandomized controlled trial), 16 were conducted with parents, and nine studies were conducted with children (1–16 years old) and parents in parallel groups. Their synthesis showed that MBIs yielded sustainable small-to-medium effects in reducing parenting stress (within-group effect size  $g = 0.34$  at postintervention and  $g = 0.53$  at 2-month follow-up), while their children also showed small improvements in internalizing ( $g = 0.29$ ), externalizing ( $g = 0.26$ ), cognitive ( $g = 0.27$ ), and social ( $g = 0.28$ ) functioning. Another review of 16 meditation-based interventions implemented among youths aged 6–18 years in school, clinic, and community settings showed positive effects on youths' psychosocial and behavioral conditions, although effect sizes (ESs) were smaller than those among adult samples were (Black et al., 2009).

Although MBIs have shown positive effects on parents and children separately, parallel parent–child mindfulness interventions (PPMIs), or MBIs delivered to parents and children in parallel groups, remain scarce (Lo et al., 2019). As suggested by the family systems theory, the family is an integrated system in which different family members are components that interact with and mutually influence each other (Bowen, 1966). For instance, research has indicated a bidirectional relationship between parenting stress and child behavioral problems over time (Neece et al., 2012). Whereas child behavioral problems strongly predict parental stress (Lohaus et al., 2017), parenting stress is also linked to child mental health problems (Hattangadi et al., 2020).

PPMIs may benefit family well-being through several mechanisms. By cultivating nonjudgmental acceptance of self and others, mindfulness instills higher parental emotional awareness and greater compassion, flexibility, and attentive listening, which can improve parent–child relationship quality (Duncan et al., 2015). Mindfulness may also reduce one's reactivity to

threatening emotional stimuli, which helps individuals cope more effectively with difficult emotions when they arise (Brown et al., 2007). For example, a recent cross-sectional study suggested that parents' dispositional mindfulness is associated with children's internalizing and externalizing problems through mindful parenting and positive parenting (Han et al., 2021). Mindfulness can be particularly beneficial for families with few resources living in adverse conditions because they may have few opportunities to alter their relationships with their emotions (Sobczak & West, 2013).

The emerging PPMI intervention research evidence has shown promising results in parent and child well-being among both clinical and nonclinical populations. Based on a recent review of 20 studies (Xie et al., 2021), PPMIs that involve children (mean age ranged 3–17 years) and parents simultaneously showed minor-to-small positive effects on parental mental health ( $d = 0.238$ ), child mental health ( $d = 0.325$ ), and family functioning ( $d = 0.182$ ). Examples of the effects are reductions in parental stress and over-reactivity among parents of children with attention deficit hyperactivity disorder (van der Oord et al., 2012), improvements in self-compassion among adolescents with depression and/or anxiety and their parents (Racey et al., 2018), and enhanced emotional and behavioral functioning in children with autism spectrum disorder and their parents (Ridderinkhof et al., 2018). In nonclinical settings, PPMI was also found to improve child self-regulation and reduce parenting stress in families receiving public welfare (Lo et al., 2019). The intervention content and format varied across PPMI programs. In previous studies, child groups involved mindfulness-based cognitive therapy, mindfulness-based stress reduction, and acceptance and commitment therapy, sometimes along with additional components such as prosocial behavior learning. Parent groups involved mindful parenting and

other mindfulness practices. In addition to parallel parent and child groups, a few PPMIs involved joint parent–child activities (Xie et al., 2021).

### **Research Purpose and Hypotheses**

Despite this preliminary evidence of promising effects, most existing PPMIs adopted a single group study design and lacked a control group (Xie et al., 2021). PPMIs that target low-income populations are also very limited (except Lo et al., 2019), and the majority of existing PPMIs were conducted in highly developed economies; for example, the Netherlands (Ridderinkhof et al., 2018), the United Kingdom (Racey et al., 2018), Canada (Salem-Guirgis et al., 2019), and Hong Kong (Lo et al., 2019). Given the heightened stress among socioeconomically disadvantaged families, more MBI research evidence on developing regions and low-income families is imperative (Xie et al., 2021). Except for a few studies that targeted Latinx adult immigrants in the United States (e.g., Ryan et al., 2017), even rarer are MBIs among migrant families, who often experience significant stress due to economic hardship and sociocultural exclusion. There is a great need for exploring the applicability of PPMIs among migrant families who may benefit more from PPMIs given the daily challenges they face.

This study examines the feasibility of an 8-week parallel PPMI among low-income Chinese families who migrated from rural to urban areas. We used a mixed-methods design to explore initial qualitative evidence of intervention acceptability and to explain potential mechanisms of change, as well as to provide a quantitative assessment of the intervention's effectiveness on parent and child outcomes. Qualitatively, semi-structured in-depth interviews were used to explore participants' experiences, perceived benefits, and challenges during the intervention. Quantitatively, self-report pre–post measures were used to assess the preliminary effects of PPMI on family well-being. Our hypotheses are as follow:



**Hypothesis 1:** Compared with the waitlist control group, parents in the PPMI group will show reduced parenting stress after intervention, which includes parental personal distress, parental stress from dysfunctional parent–child interactions, and parental stress from difficult child behaviors.

**Hypothesis 2:** Parents in the PPMI group will show improved mindful parenting after intervention compared with the waitlist control group.

**Hypothesis 3:** Children in the PPMI group will show improved mindfulness after intervention compared with the waitlist control group.

**Hypothesis 4:** Children in the PPMI group will show reduced behavioral problems after intervention compared with the waitlist control group.

**Hypothesis 5:** Children in the PPMI group will report better relationships with their parents after intervention compared with the waitlist control group.

## Method

### Participants

In collaboration with a nonprofit community service agency that serves migrant families, a recruitment flyer for a “Mindfulness-based Family Well-being Promotion Program” was disseminated among migrant parents living in a densely populated migrant community in Shenzhen, China. A parent–child dyad from each recruited family was invited to join the study. The inclusion criteria were as follow: the parent and the child are from migrant households with nonresident status in Shenzhen, the parent and the child both agree to join the study and provide informed consent/assent, and the child is in middle-to-late childhood (age 6–12). Children and parents with severe mental disorder diagnoses (e.g., psychosis) were excluded because these

families require specialized services. Participants were not compensated financially for their time, but they received a book on mindful parenting as a token of appreciation after the program.

### **Procedure**

The study protocol was preregistered with the Chinese Clinical Trial Registry (ChiCTR2000029016). The study was approved by the University of Hong Kong Human Research Ethics Committee. Using a quasi-experimental design, families were assigned to an 8-week PPMI group or a waitlist control group based on their schedule availability. Families that were available to join the 8-week intervention during the study period were assigned to the intervention group, and the rest who were available to join later were assigned to the waitlist control group. All participants completed a self-administered survey within 1 week before and after the intervention period. Parents completed the survey online via their mobile phones; children completed a paper-and-pencil survey at the collaborating community agency, with on-site agency staff assisting with answering any questions.

Due to COVID-19 interruptions, the actual procedure deviated from our protocol in two ways. First, based on repeated measures analysis of variance (ANOVA) that tests within- and between-group interaction effects, to achieve a statistical power of 0.8 with a small effect size (Cohen's  $f = 0.325/2 = 0.1625$ ; Cohen, 1988, p. 276; effect size based on Xie et al., 2021) and a 10% significance level, 60 participants are required for a 2-timepoint, 2-group design (using G-Power 3.1). However, given recruitment difficulties amidst the pandemic, our sample size was smaller than we originally proposed. To address recruitment difficulty, we included children in middle childhood (i.e., age 6–8) in addition to late childhood (i.e., age 9–12) as we originally proposed. We targeted children in middle-to-late childhood because children in this age group begin compulsory primary school education in China, and child academic performance may add

additional stress to migrant parents (Koo, 2012). Second, because the pandemic interrupted work schedules, not all parents were available to join group sessions during the study period. As a result, a quasi-experimental approach (instead of a randomized trial) was used to assign families who were available throughout the study period to the intervention group.

### **Intervention**

The parent group intervention followed the manualized *Mindful Parenting* program (Bögels & Restifo, 2014), which includes eight topics about integrating mindfulness in daily parenting practices, such as mindful observation and conflict resolution. The child intervention was developed by our research team based on the parent session topics and a previously developed mindfulness training manual for Chinese children (Lu et al., 2016). The parent and child interventions shared the same topics, while the activities were tailored to be age-appropriate for each group. For example, in Session 2, “Beginner’s Mind” (entitled “If You Were an Alien” for the child version), parents were guided to observe themselves and their children from a new perspective, while children learned to observe themselves and their parents as if they were aliens. In another example, in Session 3, “Reconnecting with Body” (entitled “How Are You, Body?” for the child version), parents practiced a 20-min sitting meditation, whereas children practiced a 5-min breathing exercise and body scan to accommodate their shorter attention span. Parents and children in the waitlist control group did not receive any mindfulness training during the 8-week period. Table 2 presents details of the intervention sessions.

The parent group was conducted in a synchronous hybrid format in which parents could join the sessions either at the community agency or via Zoom videoconference. Eight 2-hour weekly sessions were held on Saturday evenings during July–August 2020. Each session

included a didactic lecture, guided mindfulness practice, and group sharing. The sessions were led by a qualified mindfulness teacher who has 5 years of mindfulness practice and who is experienced in working with Chinese migrant families, cofacilitated by a social worker at the community agency. To ensure fidelity, an educational psychologist with 3 years of mindfulness teacher training joined all the sessions as an observer who discussed her observations during weekly debriefing with the group facilitator and the social worker.

The child intervention was conducted in an asynchronous hybrid format. Because we speculated that real-time videoconferencing might not sufficiently engage young children, we developed a cartoon series that included eight short videos with animated characters and guided mindfulness practices, using age- and culturally appropriate illustrations (e.g., a panda practicing standing yoga). Children could choose to watch a 15–20-min video each week at their own pace at home or at the community agency on Saturday afternoon before the parent group session. The full video series was released after the study was completed and it is publicly available online (Youth Well-being Lab, 2020). Parents and children both received home practice audio recordings and a workbook to document their home practice.

### **Measures of Intervention Feasibility and Acceptability**

#### ***Qualitative Feedback***

Two research assistants conducted individual semi-structured postintervention phone interviews with all participants in the intervention group (i.e., 11 parent–child dyads). Each interview lasted about 30 min for parents and 10 min for children. Parent and child interview questions covered feedback about the intervention content and format, perceived changes in themselves and in their families, and suggestions for future interventions. The community agency social worker who assisted in the intervention was also interviewed about her observed

changes in the families and provided her feedback on intervention feasibility and acceptability. The supplementary appendix lists the full interview guide.

### ***Satisfaction***

As an indicator of program acceptability, after each group session, parents completed a brief anonymous online satisfaction survey with three questions rated on a scale of 1–4, including to what extent the session “was understandable,” “covered mindful parenting content that they would like to know,” and “the in-session mindfulness exercises were helpful.”

### ***Group Experience***

After the last session, parents completed a brief evaluation survey with four questions (whether the group sessions had “been helpful for your life,” “changed your lifestyle,” “changed your parenting approach,” and “changed your interaction with your spouse/partner”) on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Parents also reported the number of days per week they practiced mindfulness at home, their intention to continue practicing mindfulness exercises, and their intention to continue practicing mindful parenting.

## **Measures of Intervention Effects**

### ***Parent Outcomes***

*Parenting stress* was measured by the Parenting Stress Index Short Form (Abidin, 1995), which has been validated among Chinese-speaking parents (Yeh et al., 2001). The self-reported questionnaire includes 36 items (Cronbach’s  $\alpha = .96$  in our study) rated from 1 (*strongly disagree*) to 5 (*strongly agree*). The total score ranged 36–180 (higher scores indicate more stress) and included three domains: parental distress (12 items,  $\alpha = .92$  in our study), parent–child dysfunctional interaction (12 items,  $\alpha = .93$ ), and difficult child (12 items,  $\alpha = .91$ ).

*Mindful parenting* was measured by the Chinese version of Interpersonal Mindfulness in Parenting scale (Lo et al., 2018), which includes 23 self-reported items ( $\alpha = .83$  in our sample) of mindful parenting practices on a scale from 1 (*never true*) to 5 (*always true*); after reverse coding negative items, higher scores indicate greater mindfulness in parenting.

### ***Child Outcomes***

*Level of mindfulness* was measured by the Child and Adolescent Mindfulness Measure (Greco et al., 2011;  $\alpha = .83$  in our sample) that has been validated among Chinese children age 11–15 (X. Liu et al., 2019). Children self-rated 10 items from 0 (*never true*) to 4 (*always true*), such as “I get upset with myself for having certain thoughts.” After reverse coding, higher scores indicate higher levels of mindfulness.

*Child behavioral problems* were measured by the parent-rated Total Difficulty subscale of the Strengths and Difficulties Questionnaire (Goodman, 1997;  $\alpha = .86$  in our study), which includes 20 items that measure children’s internalizing problems (10 items,  $\alpha = .77$ ) and externalizing problems (10 items,  $\alpha = .77$ ). Each item ranged 0 (*not true*) to 2 (*certainly true*); higher sum scores indicate more behavioral problems. The Chinese version has been validated among children age 6–15 (S-K. Liu et al., 2013).

*Parent–child relationship* was measured by the 25-item Inventory of Parents and Peer Attachment-Revised (parent attachment subscale; Armsden & Greenberg, 2009), which has been validated among Chinese children age 11–16 (Zhang et al., 2011) and has shown to be applicable to Chinese children age 8–15 (Yin et al., 2013). On a scale from 1 (*never true*) to 5 (*always true*), children rated their trust in, communication with, and alienation from the parent who joined the PPMI group ( $\alpha = .91$  in our study). With negative items reverse coded, higher scores indicate better relationships with the parent.

## Data Analyses

For the qualitative data, we used thematic analysis to explore participant experiences. Using NVivo 12, line-by-line analyses of the transcripts led to 108 initial codes. Through constant comparison across cases, we summarized these initial codes into 31 concepts, which were then synthesized into seven themes and grouped into three categories: benefits to parents, benefits to children, and program feedback. The audio recordings were transcribed verbatim and analyzed by a research assistant fluent in English and Chinese. The initial coding was done in Chinese, and the themes were translated into English. Codes and themes were cross-checked by two bilingual researchers. Table 3 presents the qualitative coding process.

For the quantitative data, we conducted an intention-to-treat (ITT) analysis with all participants ( $n = 21$  parents and 21 children) using the last observation carried forward method. As a sensitivity test, we also conducted a per-protocol analysis for those who completed the posttest ( $n = 18$  parents and 21 children) and the results were consistent with the ITT analysis. SPSS-26 was used for analyses. We computed means and frequencies of participant characteristics by group assignment. We then assessed within-group pre–post changes of the PPMI and the control group; we also used two-way mixed analysis of variance (ANOVA) to assess Time  $\times$  Group effects to test differences in outcome changes between the PPMI and control groups. Partial eta squared ( $\eta^2$ ) was used to measure ES; cutoff values of 0.01, 0.06, and 0.14 denote small, medium, and large effects, respectively (Cohen, 1988, p. 368).

## Results

### Participant Flow and Characteristics

Twenty-three families signed up, among which one was excluded because the child was below the age of 6 and another was excluded because the family withdrew before pretest, leading

to a sample size of 21 families that included an 8-week PPMI group ( $n = 11$  parent–child pairs) and a waitlist control group ( $n = 10$  parent–child pairs). In total, 10 parents and 11 children in the intervention group, as well as eight parents and 10 children in the waitlist control group, completed posttest. Figure 1 illustrates the participant flowchart.

Participants included 17 mothers and four fathers, as well as one child of each parent. Child participants included 12 boys (57%) and nine girls (43%), with an average age of 9 ( $SD = 1.96$ , range 6–12). Parents' ages ranged from 29 to 45 ( $M = 35 \pm 4$ ). Most parents (81%) held high school or equivalent degrees, including associate degrees and vocational school degrees. Among the 14 families who reported their income, 13 were below the local median household income level, and six were below the local poverty line (i.e., 50% of median household income). Baseline comparisons showed no significant difference between the treatment and control groups. Table 1 presents the pre-treatment measures by group assignment.

### **Intervention Feasibility and Acceptability**

Nine of the 11 PPMI group parents attended at least six sessions in person or via Zoom; two parents attended five sessions. On average, parents' weekly satisfaction ratings ranged from 9.2–11.0 on a scale of 1–12 week by week, with an overall mean rating of 10.0 ( $SD = 0.6$ ) across all weeks. Among parents who completed the postprogram evaluation ( $n = 10$ ), on a scale of 1–5, they considered the program “was helpful for their lives” ( $M = 4.1 \pm 0.3$ ), “changed their lifestyles” ( $M = 3.5 \pm 0.8$ ), “changed their parenting approach” ( $M = 3.6 \pm 1.0$ ), and “changed their interaction with spouse” ( $M = 3.6 \pm 0.5$ ). During the intervention period, five parents practiced at home 1–2 days per week and three parents practiced at home 3–4 days per week. However, two parents never practiced at home, and none of the parents practiced every day as was suggested to them. In the child group, seven children watched at least four videos weekly



together at the community agency, and four children watched the videos at home.

## **Qualitative Findings**

### ***Intention for Participation***

The most common reasons for parents to join the intervention included a desire to manage their distress more effectively and to handle child behavioral problems better, especially child academic difficulties. A typical trigger for these parents' distress was their children procrastinating or being easily distracted when doing schoolwork. An example of the remarks from the parents includes,

I signed up because my child was inattentive, slow at doing homework. When he was doing homework and got easily distracted, I would get grumpy. I wanted to see if we could both adjust a little bit after learning mindfulness. He can work harder on his schoolwork, and I'm not so irritable.

In another example, a parent stated, "I fought with my child a lot. I just wanted to be less impulsive, and for us to get along better with each other."

### ***Benefits to Parents***

The PPMI seemed to benefit parents in three ways: more adaptive coping with parenting stress, positive changes in attitudes toward their children, and enhanced emotional awareness and regulation.

First, the intervention helped parents cope with parenting stress, much of which was related to child academic performance. This improved coping ability was attributed to increased awareness of stress signals, increased ability to analyze causes of stress, and mastering new practical approaches to deal with stress. All parents mentioned that the formal mindfulness practices (e.g., breathing exercise, body scan, yoga, and sitting meditation) relieved their

emotional distress, such as negative emotions and sleep problems. Most parents also found the group discussions and sharing of common experiences with other parents helpful. For example,

I was in a state of high mental stress because his schoolwork was affected [by COVID]. I was very anxious, often couldn't sleep. But when doing meditation, I felt very relaxed, the feeling that my whole body was relaxed. I suddenly forgot about myself completely and fell asleep relaxed. (A 38-year-old mother)

I've been worried about her study and pushing her since her first grade. . . then I met parents like me in this program. And I found out that even their children are like this. Not every child can study well. So, I gradually realized, I still need to take care of her issues, but I don't need to be that anxious myself. (A 35-year-old mother)

Second, the parents also mentioned that the intervention brought them more awareness of the parenting process. By observing their children with a beginner's mind and focusing on present parent–child interactions, parents were able to see their children from new perspectives. As a result, parents reported positive changes in their attitudes toward their children. Many found themselves more open-minded and accepting of their children. For example,

The raisin practice helped me observe my daughter differently. . . . Her poor academic performance used to concern me a lot. Now I seem to realize, maybe everyone has their value in this world. I'm slowly discovering her, seeing if she has any other skills she can use to make a living in the future. I used to think she was good at nothing, but I seem to find her more thoughtful over the past two months. She washes her clothes, takes trash out every day, and gets delivery packages for me. . . . Observing these things indeed has made me much happier. (A 35-year-old mother)

Over the past eight weeks, I found that my child is actually quite good at dealing with

people, he's very polite. His school grades are still bad. . . but I've started to explore one strength of him every day. I write it down on a sticky note and give it to him. He likes to read about his own strengths from my words. We've been doing this for 14 days in a row.

(A 36-year-old mother)

Every time he procrastinated in doing his homework, I would think of his misbehaviors before, then I would get very angry. I feel with mindfulness, I can remember what he's doing well or not well right now. I don't think of what he used to be like. (A 38-year-old mother)

It seems I've become more tolerant and open after the program. Some of my child's behaviors are more acceptable. I listen to her more. I won't react before she finishes speaking, because sometimes the first thing we hear may not be the whole situation. (A 34-year-old father)

Third, parents reported that they became more aware of their emotions and their children's feelings and that they were more capable of managing these emotions. Brief breathing exercises were particularly helpful for preventing parents' emotional outbursts because they allowed space for parents to reflect on and respond to their emotions. For instance,

My mindset has changed a lot. I was very impulsive when my child was disobedient.

Sometimes I even hit her when I was very angry. The program taught me to calm down first when feeling stressed. . . . So now I don't hit her anymore. (A 36-year-old father)

I'm a very irritable person. What helped me a lot was meditation and 'three-minute breathing space.' It makes me remind myself to calm down. . . . When I'm angry, I can

try to take it easy. At that moment, I can think for myself, give my brain a calm space.

The other day, I got angry and yelled at my son when I found him crying at home. . . .

After calming myself down, I talked to him, tried to understand his feelings, and apologized. You know, I rarely apologized to him before. (A 36-year-old mother)

The improvement in parental emotional regulation was also observed by the children: “Dad used to hit me when he was really angry, but he doesn’t now after learning mindfulness. He talks to me” (a 12-year-old girl); “Mom speaks more softly now when she’s angry” (a 12-year-old boy); “Mom seems to be a little more tender when I’m in a bad mood” (a 9-year-old boy); “Dad is no longer that bad tempered. He hit me less than before” (a 10-year-old girl).

### ***Benefits to Children***

In addition to benefits to parents, children and parents also reported positive changes in their children’s emotional regulation. Some of these improvements resulted from the children’s personal mindfulness practice, some resulted from parental modeling of mindfulness practices, and some resulted from changes in parental communication approaches or parental emotional regulation. For instance, “I like body scan the most. It can calm me down when I’m angry. Once, my sister took my toy, I was very angry, and after I did a body scan, I calmed down” (A 7-year-old boy). A 12-year-old girl who participated said, “When I fought with my parents, I yelled so loud, I felt so angry as if I lost my mind. But after learning mindfulness, I can calm myself down a little.” According to a 36-year-old mother, “I practiced the exercises together with my child; the effect seems pretty good. We have agreed, when both of us are angry, we will pause and do a three-minute breathing space exercise together.” A 36-year-old father said, “Whenever I tried to reason with her, she seemed unreasonable. She knows to practice [mindfulness] now, too. When she does something wrong, we talk about it. She actually understands my reasoning. She can also tell me her reasoning.”

### ***Challenges***

The biggest challenge for parents was that they were not able to follow daily mindfulness home practice, for which the most common reasons were being too busy due to long work hours and having too many distractions at home. This difficulty is particularly distinctive for these migrant families, who are living in cities on their own without formal and informal social support (e.g., work overtime on weekends, little paid maternity leave, no extended family members around). For example,

Parents in our community are very, very busy. They work long hours, and they need to take care of their families. You see, some of them came directly after work to our [Saturday evening] group sessions. . . . It's already not easy for them to take time off their busy work schedules. They don't have much time for practicing at home, it's almost impossible for them. (Community agency staff)

A 36-year-old mother addressed how busy migrant parents can be:

My husband and I are the only ones here to take care of everything; all our relatives are in our hometown. It's hard to find the time to practice because of work and various other things. Every week after the group session, I reminded myself that I had to practice diligently. . . but I couldn't do it when there were a lot of chores to do at home.

Limited home practice was also a challenge for the children. For some children, the mindfulness cartoon videos were not engaging. For example, a 9-year-old boy commented, "The videos are a little boring." The community agency staff member said, "Some exercises (such as the eight-minute loving kindness meditation) were a bit too long for the young kids. They couldn't sit still till the end." In addition, because parents had limited time to monitor their children's practice, some children mentioned that they did not follow through the video instructions at home.

### *Suggestions for Future Interventions*

Most parents suggested the PPMI could benefit from fewer and shorter home practices. Some parents and the community agency staff member also suggested incentives could be used to reinforce home practice, such as setting daily practice goals in the group and having group members pay a small deposit first and deducting that deposit each time they do not finish daily goals. Interestingly, although most parents liked the parallel group format because they found it a good opportunity to share with other parents and to take a break from daily household chores, two parents suggested adding joint activities with their children concurrently during the session. One said, “I want to spend more time with my child in these activities, because I often leave him alone at home. The past two years have been quite unstable, we’ve been moving around, and I’m always busy at work.” The other stated, “Since we have two hours, maybe we can accompany our kids to watch a video or do an exercise. When their part is over, we can arrange for them to go somewhere else.”

### **Quantitative Results**

#### *Within-Group Effects*

As shown in Table 4, within groups, the PPMI group showed significant reduction in parenting stress,  $M_{pre} = 96.55 \pm 31.95$ ,  $M_{post} = 89.91 \pm 27.32$ , partial  $\eta^2 = .423$  (large ES),  $p = .02$ . The pre–post change was particularly salient in the parental personal distress subscale,  $M_{pre} = 34.45 \pm 12.42$ ,  $M_{post} = 30.91 \pm 10.90$ , partial  $\eta^2 = .593$ ,  $p = .003$ . Parenting stress that resulted from difficult child behaviors also marginally decreased,  $M_{pre} = 32.45 \pm 10.47$ ,  $M_{post} = 30.18 \pm 9.55$ , partial  $\eta^2 = .317$ ,  $p = .06$ . In contrast, the control group showed no significant pre–post within-group changes in parenting stress. Neither group showed significant pre–post changes in mindful parenting.

With respect to child outcomes, children’s mindfulness levels and relationships with their parents showed no significant change over time in either group. Parents in the PPMI group observed slightly more behavioral problems in their children after the intervention ( $M_{pre} = 12 \pm 6.05$ ,  $M_{post} = 12.73 \pm 6.08$ , partial  $\eta^2 = .024$ ,  $p = .63$ ), whereas parents in the control group reported slightly fewer child behavioral problems ( $M_{pre} = 11.3 \pm 4.45$ ,  $M_{post} = 10.9 \pm 5.09$ , partial  $\eta^2 = .017$ ,  $p = .71$ ), though these changes were not statistically significant.

### ***Between-Group Effects***

The Time  $\times$  Group interactions were not statistically significant, although they signaled small-to-medium positive effects on parenting stress and its three subscales: partial  $\eta^2 = .069$  (medium ES) for total parenting stress; partial  $\eta^2 = .105$  (medium ES),  $.023$  (small ES), and  $.05$  (small ES) for personal distress, parent–child dysfunctional interaction, and difficult child subscales, respectively. In terms of mindful parenting, the Time  $\times$  Group interaction was not statistically significant and the effect was negligible (partial  $\eta^2 = .003$ , below small ES). With respect to child outcomes, the Time  $\times$  Group interaction showed no effect on child mindfulness levels (partial  $\eta^2 = .00$ ) and negligible effects on parent–child relationships (partial  $\eta^2 = .004$ ). A nonsignificant negative effect was found in children’s total behavioral problems (partial  $\eta^2 = .02$ , small ES), particularly in children’s internalizing problems (partial  $\eta^2 = .043$ , small ES). Table 4 presents Time  $\times$  Group interaction effects from two-way mixed ANOVA.

### **Discussion and Applications to Practice**

This mixed-methods study provided initial support for the feasibility and preliminary effects of an 8-week parallel parent–child mindfulness intervention among low-income Chinese rural-to-urban migrant families, a socioeconomically disadvantaged group that commonly struggles with financial stress, poor child academic performance, and a lack of social support.

The intervention appears to be feasible and well accepted among migrant parents, as indicated by their attendance, satisfaction rating, and postprogram evaluation. The qualitative findings suggest the intervention enabled parents to cope with stress more effectively, opened parents' minds and made them more accepting toward their children, and enhanced parental emotional awareness and regulation abilities. The qualitative findings also indicate better emotional regulation in the children and better parent–child communications.

A noteworthy concern shared among our participants is child academic performance. As mentioned in the qualitative results, children's poor academic performance or lack of concentration on studying was a major stressor for the parents and a common trigger of parent–child conflicts in our study. Previous research has suggested that among struggling migrant parents who consider education the only path to upward social mobility for their children and their family, parents expect high academic achievement from their children, yet their children often struggle academically because they are ineligible for high-quality, public-funded schools due to their nonresident status. Migrant parents also often do not have the time or the knowledge to supervise their children's homework or provide academic support due to limited parental education attainment (Guo et al., 2005; Koo, 2012). Therefore, future MBIs that target economically disadvantaged families could additionally target children's academic outcomes (e.g., attentive listening in class, ability to concentrate on homework, and coping with academic stress) to examine whether changes in these variables, as a function of mindfulness training, are associated with improvements in parental stress and parent–child relationships.

Despite the participating parents' busy work schedules, their major motivation to join our study was to improve their own, as well as their children's, emotional and behavioral outcomes. Therefore, involving parents and children simultaneously in MBIs could have the potential to



attract parents who have demanding work or household responsibilities. However, limited time for daily home practice remains a significant challenge in our study. As found similarly in previous MBI studies, it can be difficult for parents and children to find the time for formal mindfulness practices even though they find the skills useful (Racey et al., 2018), and parents could encounter difficulty practicing with their children together at home (Heifetz & Dyson, 2017).

Moreover, formal home mindfulness practice can be particularly challenging for migrant parents due to their long work hours and their lack of social support networks (e.g., no relatives live nearby to help with childcare, cannot afford babysitters or housekeepers). Therefore, future MBI design may include shorter daily practices for participants who have demanding jobs and significant household responsibilities. As previous research suggested, brief practices may fit better into the tight schedules of economically disadvantaged families living in fast-paced societies (Lo et al., 2019). In addition, sending parents daily reminder messages and using a point-based reward system for children may boost home practice (Haydicky et al., 2015). A few parents in our study also suggested that parents and children could join the group together. Adding a joint parent–child component (e.g., joint breathing exercise or yoga practice) might facilitate shared home practice between parents and children. Future PPMIs may test whether joint parent–child components will enhance intervention adherence.

In terms of intervention implementation, digital technology increased our attendance rate by enabling the inclusion of participants who would not be able to join otherwise. For instance, one parent in our study suffered from a leg injury but was able to join our sessions via video conference. Moreover, our study is an example that intervention materials may be digitized to engage certain populations, such as transforming child mindfulness practices into animated

videos. These digital resources can be disseminated online to a wider audience, potentially to the benefit of more families. However, digital formats may not suit all intervention components. For instance, although lectures and discussions ran smoothly in our hybrid mode (i.e., online and in-person) parent group, some parents indicated a desire for keeping in-person components, particularly the guided mindfulness practices. Future community-based MBIs may consider integrating technologically facilitated approaches with in-person elements, especially given potential environmental constraints post–COVID-19.

Our quantitative results suggested some within-group pre–post changes in parenting stress in the intervention group, but these findings should be interpreted with caution given our small sample size. While the Time  $\times$  Group interaction effects were not statistically significant, the between-group analyses signaled small-to-medium positive effects on parenting stress domains (partial  $\eta^2$  ranged .023–.105). Notably, the intervention had the largest effect on the parental personal distress subscale, a subdimension that indicates a need for interventions that “assist the parent in his or her personal adjustment” and “improve the parent’s self-esteem and sense of parental competence” (Abidin, 1995, p. 56).

The migrant parents in our study showed higher-than-average parenting stress at baseline ( $M_{pre} = 91.95 \pm 26.75$ ) compared with previous studies that used the Parenting Stress Index Short Form among Chinese parents in nonclinical settings (e.g., in L. Liu & Wang, 2015,  $M_{mother} = 81 \pm 16.59$  and  $M_{father} = 79.91 \pm 17.01$ ; in Bai & Han, 2016,  $M_{mother} = 82.94 \pm 20.44$  and  $M_{father} = 82.6 \pm 21.9$ ). This is in line with previous research that suggests migrant parents often struggle with their economic hardships and distress in a way that limits their awareness of their children’s emotional needs (Guo et al., 2005). In addition, parent–child conflicts may escalate in Chinese migrant families because migrant parents commonly practice authoritarian parenting styles that

are prevalent in their rural areas of origin (Wong et al., 2009). Further, COVID-19 has exacerbated the hardships migrant families face due to the sharp rise in unemployment and the lack of a social safety net among migrant workers (Che et al. 2020). All these factors render interventions that target parental stress among migrant families imperative.

Combined with our qualitative findings, the reduced parenting stress may be explained by parents becoming more aware of and more adept at using mindfulness practices to cope with their distress. This can be particularly beneficial for parents in low-socioeconomic status families given their heightened personal stress and lack of external resources. PPMI appears to make parents more aware of their behavioral tendencies, which in turn enables them to pause, reflect, and choose a healthier way to respond to parenting difficulties in situations in which they would otherwise lose control. The reduced parenting stress may also be a result of parents changing the way they see their children's behavioral problems. With more understanding and acceptance, these parents are triggered less often by child behavioral issues.

Our intervention showed a trivial, negative effect on mindful parenting (partial  $\eta^2 = .003$ ), although mindful parenting is a key focus of our intervention curriculum (e.g., how to identify unhealthy parenting patterns and effectively deal with difficult parenting situations). As parents noted in the interviews, although they began to see some changes in themselves, it would take sustained, long-term practice for them to apply mindfulness skills in daily life, especially during parent–child conflicts. Although an 8-week duration is most common in existing PPMIs (Xie et al., 2021), an immediate postintervention assessment may not provide adequate time to capture intervention effects because applying mindfulness skills requires regular and continued practice. The review of MBIs by Burgdorf et al. (2019) also suggested that the intervention effects had grown larger by the 2-month follow-up for parents and children. Therefore, future research may

use follow-up assessments to determine whether parental and child mindfulness changes over a longer term.

On the other hand, with more self-awareness, PPMI parents may have reflected on their parenting processes more than the control group did, and therefore they might have seen more problems in their parenting. Future studies could use longer-term follow-up to explore the possibility of a nonlinear growth in mindful parenting, in which mindful parenting scores may decline shortly after MBIs due to increased self-awareness, but may increase later on due to long-term improvements in parent–child interactions.

Our PPMI did not show improvements in child outcomes, including a null effect on child mindfulness levels (partial  $\eta^2 = .00$ ), a small negative effect on child behavioral problems (partial  $\eta^2 = .02$ ), and a trivial positive effect on parent–child relationship (partial  $\eta^2 = .004$ ). This is likely due to the unstructured group format of the child intervention, which was delivered via cartoon videos due to COVID-19 constraints. Although our cartoon videos were meant to depict mindfulness in an interesting way, this online format may not have been as appealing as we expected. Also, although we encouraged the parents to watch the videos and practice with their children, most of them did not have time to practice themselves or with their children.

As MBIs are increasingly delivered online, our challenges warrant cautious assessment of the pros and cons of adopting an online approach, particularly among young children. For instance, in a Canadian study (Ritvo et al., 2021) of young adults diagnosed with major depressive disorder, an online mindfulness-based cognitive behavioral therapy incorporated videos and workbooks accessed through an online platform along with coaching by phone and text message exchanges. The online intervention was found to be more effective in reducing depression and anxiety and had positive effects on participant retention, compared with standard

psychiatric care (Ritvo et al., 2021). In a review of 15 randomized controlled trials, Spijkerman et al. (2016) also showed that online MBIs generated small but significant positive effects on depression, anxiety, well-being, and mindfulness among adults age 18–58. Among these online MBIs—most of which were delivered via websites and a few via smartphone applications or virtual online classrooms—guided online MBIs had significantly greater effects on enhancing mindfulness and reducing stress than unguided ones. Therefore, to improve intervention effectiveness and ensure adherence, future PPMIs should employ a structured group format with guided mindfulness practice with parent and child groups when public health conditions allow. In addition, hybrid interventions that involve online components should include interactive activities, such as text message support to answer participants’ questions and weekly individual coaching with each family.

Based on parent rating, our intervention had a small negative effect on children’s internalizing problems (partial  $\eta^2 = .043$ ) and a trivial effect on externalizing problems (partial  $\eta^2 = .001$ ). Because internalizing problems are more difficult to observe than externalizing problems are, an increased rating on children’s internalizing problems may indicate parents’ enhanced awareness of their children’s emotions. Another possible reason is that interventions with children might also unintentionally increase parents’ expectations of improved child behavior, leading parents to overrate behavior problems that were previously present (yet unnoticed) in their children. Future studies may use alternative measurements, such as behavioral observation in home visits. It is noteworthy that although parents reported their children had internalizing problems more after PPMI, these problems did not elevate their parenting stress, which seems to indicate that parents adjusted better to their parenting difficulties.

Although our findings provided preliminary evidence on the acceptability and feasibility

of PPMI in migrant families in a developing economy, this study has several limitations. First, we conducted the study during the COVID-19 pandemic in 2020, when public gatherings were discouraged. Family members' safety concerns and unpredictable daily schedules did not allow for the recruitment of an adequate sample size for a randomized controlled trial. Because of the small sample size and the fact that our participants came from one migrant community in Shenzhen, our findings may not be generalized to other migrant communities.

Second, our posttest data showed negligible intervention effects on child mindfulness and mindful parenting; it is therefore unclear whether these positive effects resulted from mindfulness training or other intervention elements, such as peer sharing and group support. However, in our qualitative interviews, parents and children did describe how mindfulness practice reduced their daily stress and improved parent–child interactions. Next-stage testing of parent–child mindfulness training requires a randomized controlled trial and appropriately powered sample to test the efficacy of PPMI on parent and child outcomes. Note that we adopted Cohen's conventional standard of effect sizes in this study; however, these cutoff values are arbitrary and should be considered in their context (Cohen, 1988). As an emerging intervention approach, future PPMI studies may adopt context-specific thresholds to indicate the magnitude of intervention effects among parents and children.

Despite these limitations, our intervention showed promising effects on a group of migrant families who face significantly higher stress yet are underrepresented in mindfulness intervention research. More MBI research evidence is imperative for this vulnerable population, and future MBIs may target outcomes specific to this populations' unique challenges, such as parental financial stress, family adaptation to new environments, and child academic stress. In addition to stress management, migrant families worldwide face high discrimination, welfare

exclusion, and erosion of family and social support (Lu et al., 2021). Although mindfulness-based interventions may change how families adjust to these difficulties, future services should be integrated with welfare system reforms, such as enhancing community inclusiveness of newcomer families, enabling equal access to public education for migrant children, and allocating more resources to build social and economic capital in migrant families.

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**Table 1***Pre-Treatment Measures of Parents (n = 21) and Children (n = 21) by Group Assignment*

	All Sample (n = 21) <i>M (SD)</i>	Treatment group (n = 11) <i>M (SD)</i>	Control group (n = 10) <i>M (SD)</i>	<i>F</i> or $\chi^2$	<i>p</i>
<b>Parent characteristics:</b>					
Father	19.05%	27.27%	10%	1.01	.31
Age	35.19 (4.03)	36.09 (4.74)	34.20 (3.01)	1.16	.29
Below high school degree	19.05%	27.27%	10%	1.49	.48
Annual family income <sup>a</sup>	12,069 (8,776)	13,911 (9,002)	9,613 (8,612)	0.81	.39
Total parenting stress	91.95 (26.75)	96.55 (31.94)	86.90 (20.06)	0.67	.42
Parental distress	33.00 (10.15)	34.45 (12.42)	31.40 (7.21)	0.46	.51
Parent-child dysfunctional interaction	28.14 (8.91)	29.64 (10.45)	26.50 (7.01)	0.64	.43
Difficult child	30.81 (8.80)	32.45 (10.47)	29.00 (6.57)	0.80	.38
Mindful parenting	74.71 (11.65)	74.18 (10.01)	75.30 (13.76)	0.05	.83
<b>Child characteristics:</b>					
Age	9.29 (1.96)	8.95 (2.05)	9.65 (1.89)	0.65	.43
Boy	57.14%	63.64%	50%	0.40	.53
Mindfulness	31.57 (4.20)	30.64 (4.80)	32.60 (3.37)	1.15	.30
Behavioral problems	11.67 (5.23)	12.00 (6.05)	11.30 (4.45)	0.09	.77
Internalizing	4.10 (2.90)	3.82 (2.52)	4.40 (3.37)	0.20	.66
Externalizing	7.57 (3.44)	8.18 (3.89)	6.90 (2.92)	0.72	.41
Parent-child relationship	97.62 (12.07)	92.91 (8.51)	102.80 (13.64)	4.06	.06

*Note.* <sup>a</sup> Sample size for income was 14 due to missing/not reported. Income converted to USD

(\$1 USD = 6.38 Chinese yuan).



**Table 2***Session Details of Parent and Child Interventions*

<b>Week</b>	<b>Parent<sup>a</sup></b>	<b>Child<sup>b</sup></b>
<b>1</b>	<b>Introduction to mindfulness, automatic parenting</b> <ul style="list-style-type: none"> <li>• Build relationship, establish group rules</li> <li>• Introduce concept of mindfulness and automatic parenting</li> </ul>	<b>Introduction to mindfulness</b> <ul style="list-style-type: none"> <li>• Build relationship, establish group rules</li> <li>• Introduce concept of mindfulness, tips of starting mindfulness exercises</li> </ul>
<b>2</b>	<b>Beginner’s mind</b> <ul style="list-style-type: none"> <li>• Beginner’s mind in daily family life</li> <li>• Observe ourselves through a body scan</li> </ul>	<b>If you’re an alien</b> <ul style="list-style-type: none"> <li>• Observe surroundings from a new perspective</li> <li>• Observe ourselves with a “beginner mentality”</li> </ul>
<b>3</b>	<b>Reconnecting with body</b> <ul style="list-style-type: none"> <li>• The relationship between stress, body, mind</li> <li>• Guided sitting meditation</li> </ul>	<b>How are you, body?</b> <ul style="list-style-type: none"> <li>• Recognize the link between physical sensations and emotions</li> <li>• Breathing exercise and body scan</li> </ul>
<b>4</b>	<b>Responding vs. reacting to stress</b> <ul style="list-style-type: none"> <li>• Identify reacting patterns under stress</li> <li>• Guided imagery about better stress response</li> </ul>	<b>Being friends with stress</b> <ul style="list-style-type: none"> <li>• Become aware of stress with acceptance</li> <li>• Breathing and “door” imagination meditation</li> </ul>
<b>5</b>	<b>Parenting patterns and schemas</b> <ul style="list-style-type: none"> <li>• Healthy/unhealthy parenting patterns, connection with childhood experiences</li> <li>• Observe difficult emotions</li> </ul>	<b>Parents and me</b> <ul style="list-style-type: none"> <li>• Mindful observation of interactions with parents</li> <li>• Skills to regulate emotions in difficult interactions with parents</li> </ul>
<b>6</b>	<b>Dealing with conflicts</b> <ul style="list-style-type: none"> <li>• Think from another perspective, rebuild relationships after conflicts</li> <li>• Regulate emotions in conflicts</li> </ul>	<b>Dealing with conflicts</b> <ul style="list-style-type: none"> <li>• Empathy: think from others’ perspective</li> <li>• Perspective-taking exercise</li> </ul>
<b>7</b>	<b>Love and limits</b> <ul style="list-style-type: none"> <li>• Recognize one’s needs as a parent, spouse, and an individual</li> <li>• Set limits; loving-kindness meditation</li> </ul>	<b>Love and boundary</b> <ul style="list-style-type: none"> <li>• Explore physical and psychological boundaries in interpersonal interactions</li> <li>• Loving-kindness meditation</li> </ul>
<b>8</b>	<b>Moving forward</b> <ul style="list-style-type: none"> <li>• Review learning goals, reflect on activities</li> </ul>	<b>Moving forward</b> <ul style="list-style-type: none"> <li>• Review learning goals, reflect on the activities</li> </ul>

*Note.* <sup>a</sup> From *Mindful parenting: A guide for mental health practitioners* (Bögels & Restifo, 2014).

<sup>b</sup> Adapted from the parent group curriculum.

**Table 3***Qualitative Coding of Participant Perceived Benefits, Challenges, and Program Feedback*

Concepts	Themes	Categories
Mindfulness practices reduced emotional distress Reflected more and better responded to parenting stress Realized other families share similar problems Parenting became easier after observing child positive changes	More adaptive coping with parenting stress	Benefits to parents
Made efforts to understand child perspective Understood child more Saw more strengths/something new in child Child behaviors seemed more acceptable	More open-mindedness and acceptance of child	
More self-reflection and communication with child after conflicts Used mindfulness skills to prevent angry outbursts and calm down faster Became more patient during parent-child conflicts Relationship with spouse got better Parent became more patient/better tempered (child-reported) Parent communicated more rather than acting on anger (child-reported)	Enhanced emotional awareness/regulation	
Child seemed more patient/less emotional Child could communicate first during conflicts and listens more Practice mindfulness together with child in conflicts Mindfulness practices calmed me down (child-reported)	Changes in child behaviors	Benefits to children
Did not have time for daily home practice Too many distractions for home practice Child didn't have time for home practice due to schoolwork and other activities Child didn't follow through video instructions at home	Challenges	Program feedback
Wanted to communicate with/understand child better Wanted to control own temper/manage emotions Wanted to better handle child behavioral issues Wanted to improve child behavior/performance	Motivations	
Fewer/shorter home practices Use incentive system to reinforce home practice Parent and child may join group sessions together Need regular and long-term practice for further improvements Keep in-person elements for guided mindfulness practices	Suggestions	

**Table 4**

*Within-Group Changes in Outcome Measures and Time × Group Mixed Analysis of Variance*

Variables	Intervention Group ( <i>n</i> = 11)				Control Group ( <i>n</i> = 10)				Time × Group ANOVA		
	Pre Mean ( <i>SD</i> )	Post Mean ( <i>SD</i> )	Within- group partial $\eta^2$	<i>p</i>	Pre Mean ( <i>SD</i> )	Post Mean ( <i>SD</i> )	Within- group partial $\eta^2$	<i>p</i>	<i>F</i> ( <i>df</i> =1,19)	Partial $\eta^2$	<i>p</i>
<b>Parent measures:</b>											
Total parenting stress	96.55 (31.95)	89.91 (27.32)	.423*	.02	86.90 (20.06)	87.00 (16.71)	.000	.99	1.40	.069	.25
Parental distress	34.45 (12.42)	30.91 (10.90)	.593**	.003	31.40 (7.21)	31.00 (5.60)	.005	.84	2.22	.105	.15
Parent-child dysfunctional interaction	29.64 (10.45)	28.82 (8.65)	.030	.59	26.50 (7.01)	27.30 (8.00)	.019	.69	0.46	.023	.51
Difficult child	32.45 (10.47)	30.18 (9.55)	.317	.06	29.00 (6.57)	28.70 (4.81)	.003	.87	1.00	.050	.33
Mindful parenting	74.18 (10.01)	75.45 (6.88)	.048	.50	75.30 (13.76)	77.20 (9.93)	.107	.33	0.06	.003	.81
<b>Child measures:</b>											
Mindfulness	30.64 (4.80)	29.64 (7.45)	.014	.71	32.60 (3.37)	31.60 (5.44)	.076	.41	0.00	.000	1.00
Total behavioral problems	12.00 (6.05)	12.73 (6.08)	.024	.63	11.30 (4.45)	10.90 (5.09)	.017	.71	0.38	.020	.55
Internalizing	3.82 (2.52)	4.55 (2.77)	.057	.46	4.40 (3.37)	3.90 (3.64)	.031	.61	0.86	.043	.37
Externalizing	8.18 (3.89)	8.18 (3.68)	.000	1.00	6.90 (2.92)	7.00 (2.45)	.004	.85	0.02	.001	.90
Parent-child relationship	92.91 (8.51)	91.18 (13.00)	.043	.52	102.80 (13.64)	99.90 (17.27)	.072	.43	0.08	.004	.79

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

**Figure 1**

*Flow of Participants*

