Feasibility and Acceptability of a Digital Parent Group Chat Intervention to Prevent

Child and Adolescent Maltreatment in the Philippines

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Abstract

This study examined the feasibility, acceptability, and preliminary outcomes of MaPaChat, a parent support intervention delivered using Viber group chat to caregivers in the Philippines during the COVID-19 pandemic. Forty caregivers of children aged 4-17 from predominantly low-income households participated in a culturally adapted version of the Parenting for Lifelong Health ParentChat program. Feasibility was assessed by enrollment, attendance, and dropout rates. Semi-structured interviews with caregivers and program facilitators explored program acceptability. A single-group pre-post design was used to explore changes in child maltreatment, positive parenting, and parenting stress, and other secondary outcomes. The mean attendance rate was 82% and the dropout rate was 10%. Caregivers and facilitators found the program helpful in enhancing parenting knowledge and skills and were satisfied with the program delivery using Viber group chat but also reported experiencing technological challenges. Pre-post comparisons suggested that the intervention has potential in reducing physical and emotional abuse and associated risk factors. The findings suggest that a parenting intervention delivered over digital group chat by trained community service providers may be a feasible and acceptable way to support caregivers in low-resource settings.

Keywords: child abuse, digital intervention, group chat, parenting, violence prevention

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Violence against children (VAC) is a serious public health concern because of its negative effects on psychological, behavioral, and health outcomes of children and adolescents (Mehta et al., 2023). Apart from its immediate consequences such as physical injury and cognitive difficulties, VAC is associated with long-term adverse outcomes in areas of social-emotional functioning, substance use, sexual health, and physical and psychological well-being (Bacchus et al., 2017; Strathearn et al., 2020). In the Philippines, a national survey revealed that 60% of respondents experienced physical violence at home during childhood, with mothers and fathers most frequently committing these acts ranging from corporal punishment to more severe forms of abuse (Council for the Welfare of Children & UNICEF, 2016). Risk factors for VAC in the Philippines include family financial stress, domestic violence in the household, parental substance abuse, authoritarian parenting, and parental history of abuse (Ramiro et al., 2022), further highlighting the importance of caregivers in the prevention of VAC within familial settings.

Concerns about the negative impact of VAC were exacerbated by COVID-19, with global reports showing increased levels of physical and emotional abuse in the home along with declines in emotional well-being among children and caregivers (Fore, 2021). The enforced community quarantine in the Philippines affected the livelihood of vulnerable individuals and put a strain on family functioning due to limited financial resources and increased health concerns (Cho et al., 2021; UNICEF, 2020). Extended school closures led to parental concerns regarding balancing work with management of their children's daily routines and online schooling (UNICEF, 2020). The compounded risk factors associated with parenting during the pandemic posed a significant risk to parents' well-being and highlighted the immediate need for caregiver support (Weeland et al., 2021; Wu & Xu, 2020).

To address the needs of caregivers during this critical time, international development agencies such as UNICEF and WHO advocated for initiatives that can broaden access to parenting support. Parenting for Lifelong Health (PLH) is one such initiative that supports the development, evaluation, dissemination, and scale-up of low-cost and evidence-based parenting programs to prevent VAC and improve child wellbeing in low and middle-income countries. The PLH for Young Children (PLH-YC) program was originally developed and tested in South Africa and was found to improve positive parenting and reduce child maltreatment and conduct problems among families with children aged 2-9 (Lachman et al., 2017; Ward et al., 2020). Drawing from social learning theories, the PLH-YC program uses Hanf's two-stage model that strengthens parent-child relationships before equipping parents with learning strategies to manage child behavior (Reitman & McMahon, 2013). A similar program for parents and adolescents aged 10-17 years, PLH for Teens, was developed and tested in South Africa with results from a cluster RCT demonstrating positive intervention effects across multiple parent and adolescent outcomes (Cluver et al., 2018).

In the Philippines, the local version of the PLH programs, called *Masayang Pamilya* (Happy Family) or MaPa, have been systematically adapted and tested (Alampay et al., 2018; Mamauag et al., 2021). The PLH-YC and PLH for Teens programs were adapted as MaPa Kids and MaPa Teens, respectively. A pilot RCT with families enrolled in the Philippine government's conditional cash transfer (CCT) system found that MaPa Kids led to reduced levels of child maltreatment, dysfunctional parenting, child behavior problems, and intimate partner violence (IPV), with sustained effects on reduced child maltreatment after one year (Lachman et al., 2021). A feasibility pilot of MaPa Teens conducted with CCT beneficiaries likewise showed reductions in caregiver- and adolescent-reported child maltreatment, attitudes supporting punishment, depressive symptoms, parent-adolescent relationship problems, and child behavior problems (Jocson et al., 2023).

Prior to 2020, the PLH and MaPa programs were delivered in an in-person group-based format. In response to calls to support caregivers during COVID-19, PLH adapted programs for delivery using different digital formats, including a parent support group intervention via WhatsApp or Viber group chat. The program, named ParentChat, was adapted using content and materials from both PLH-YC and PLH-Teens for delivery to parents of children aged 2 to 17. ParentChat was tested in a feasibility pilot across six countries including the Philippines, where the program was called MaPaChat. The program was delivered using Viber, a messaging app that is more commonly used in the country compared to WhatsApp (Statista, 2021). Whereas the facilitators of the previous MaPa programs were graduate students and professionals, this was the first time that the program facilitators were trained frontline community service providers.

In this study, we evaluated the feasibility of the MaPa program delivered using Viber group chat. Meta-analytic studies of online or digital parenting programs or support groups showed positive effects on parental knowledge, self-efficacy, and parenting skills (Corralejo & Domenech Rodríguez, 2018; Flujas-Contreras et al., 2019). Thus, online interventions provide a promising and potentially cost-effective means to address mental health burdens and parenting challenges during COVID-19. Whereas several parenting programs have been delivered online, most of them are web-based, and there is limited knowledge on their feasibility and effectiveness when delivered to vulnerable families (Corralejo & Domenech Rodríguez, 2018). Digital interventions have the potential to reach a larger number of Filipino caregivers due to the widespread use of mobile phones particularly in urban areas (Cho et al., 2021). To our knowledge, MaPaChat is one of the first evidence-based parenting programs delivered to caregivers in the Philippines using digital group chat. Our study aimed to (1) explore the feasibility, acceptability, usefulness, and relevance of MaPaChat, and (2) examine preliminary effects on the primary outcomes of child maltreatment, positive

parenting, and parenting stress; and secondary outcomes such as parent depression, child

behavior problems, and attitudes toward punishment at post-intervention.

Method

Participants

The sample included 40 primary caregivers recruited from a city in Metro Manila who

participated in the MaPaChat program. The following were the inclusion criteria for primary

caregivers: adult aged 18 or older caring for a child aged 2 to 17, spends time with the child

at least two times a week, and has access to a smartphone. The sample also included nine

program facilitators (89% female) who led the parent groups. Seven of the nine facilitators

were frontline community service providers and two facilitators were experienced MaPa

facilitators who served as coaches to the other facilitators.

Procedure

The study received ethics approval from Ateneo de Manila University and University

of Oxford. Recruitment was conducted by distributing brochures to families through

coordinators in the community, which included social welfare officers and parent volunteers.

The research team also introduced the program at community orientation meetings with small

groups of caregivers. Participants who agreed to join the parenting program provided

informed consent and answered questionnaires prior to the start of the program and within 1

month after the program ended. The questionnaires were administered in Filipino by trained

graduate student research assistants via one-on-one structured phone interviews that lasted 30

minutes to 1 hour.

Cultural relevance, acceptability, and usefulness were explored through in-depth

qualitative interviews with caregivers and facilitators after the program. To gain different

perspectives on program engagement, we interviewed 10 caregivers that had varying levels of

attendance: three with less than 60% attendance, four with 60-90% attendance, and three with

100% attendance. Interviews with caregivers were conducted by trained researchers in Filipino via one-on-one phone calls, and interviews with program facilitators were conducted in pairs or a triad via video conferencing sessions. Participants were given the option to complete the interview in multiple parts if they wanted to take a break or if the connection was unstable. Interviews lasted 35 minutes to 1 hour in total for caregivers and 1 to 2 hours for facilitators.

Intervention

Participants joined five Viber groups composed of eight parents, led by one or two trained facilitators. Two process observers were also in the group but did not participate in the chat activities. Seven facilitators received three half-day trainings (12 hours) from local PLH trainers, with a 4-hour refresher orientation conducted a day before program delivery. The PLH trainers also conducted weekly coaching sessions with the facilitators through the duration of the program. The parent chat sessions were delivered over a period of 8 weeks with interactive 1- to 2-hour group chat sessions conducted every Monday for the topic introduction and every Friday for problem-solving and feedback on home practice. The sessions covered the following topics: (1) one-on-one time with your child, (2) talking about feelings, (3) keeping it positive with praise, (4) keeping it positive by giving specific, positive, and realistic instructions, (5) keeping your child safe with household rules and routines, (6) positive discipline, (7) responding to difficult situations and crises, and (8) problem solving with children. Facilitators moderated discussions and feedback sessions using text, audio, photo (including illustrated stories or *komiks*), and video messages, and sent daily check-in and reminder messages, as prescribed in the facilitator manual. In line with the core principles of the PLH programs, facilitation involved collaborative chat discussion and problem-solving, modeling of positive behaviors (e.g., conveying acceptance, empathy, praise in chat messages), and practicing of skills in groups and at home.

Measures

Implementation Outcomes

Program adherence. We assessed rates of enrollment, attendance, and dropout of participants in the program. Parents are considered to have enrolled in the program if they posted at least one message in the group chat. Attendance rates were calculated using the ratio of the number of attended sessions out of the 16 group chat sessions. Dropout rates were calculated as the percentage of participants who did not attend at least two consecutive group chat sessions and failed to attend any session after missing those two consecutive sessions.

Participant satisfaction. In the post-intervention assessment, caregivers rated five items asking how helpful the program was (e.g., in supporting challenges as a parent, in their relationship with their child) using a scale from 1 (*very unhelpful*) to 5 (*very helpful*).

Acceptability, usefulness, and relevance. We used a semi-structured interview guide with caregivers and program facilitators. The questions were designed to address the research question on the program's feasibility, acceptability, usefulness, and relevance, and thus included questions on the following: (1) experiences during the program, (2) perceptions of the acceptability, usefulness, and relevance of the program content and delivery format, (3) barriers and supports to participation or program facilitation, and (4) suggestions for program enhancement (see Supporting Information for sample questions).

Primary Outcomes

Child maltreatment. Child maltreatment was measured using a reduced version of the ISPCAN Child Abuse Screening Tool-Trial Parent version (ICAST-TP) (Meinck et al., 2018). Caregivers indicated how many times they disciplined their child in the past week using two items indicating *physical abuse* (spanking, slapping or hitting with hand; hit with an object) and two items indicating *emotional abuse* (shout, yell, or scream; say mean things) using a scale of 0 (*never*) to 8 (*8 or more times*). The scale demonstrated concurrent validity

and sensitivity to change over time (Meinck et al., 2018) and adequate internal consistency in previous studies in the Philippines (Jocson et al., 2023; Lachman et al., 2021). We summed the four items to indicate overall abuse and summed subscale items for physical and emotional abuse. Reliability for the total maltreatment scale was $\alpha = 68$.

Positive parenting. We used an adapted version of the Parent Daily Report (PDR) (Patterson et al., 2016) to assess positive parenting. Caregivers reported on two items asking how many times in the past week they engaged in positive parenting behaviors (do something fun together with child, praised child for doing well) using a scale of 0 (*never*) to 8 (*8 or more times*). The PDR demonstrated concurrent validity, test-retest reliability, and sensitivity to treatment effects in previous studies (Nadler & Roberts, 2013), and an adapted version was used in a previous study with Filipino parents (Lachman et al., 2021). Reliability for the adapted two-item scale was low, $\alpha = 41$.

Parenting stress. We used one item adapted from the PDR (Patterson et al., 2016) to assess parenting stress. Caregivers reported how many times in the past week they felt very stressed as a caregiver using a scale of 0 (*never*) to 8 (*8 or more times*).

Secondary Outcomes

Caregivers reported on secondary outcome measures of parent depression, child behavior problems, child behavior problem intensity, parent self-efficacy to prevent sexual abuse risk, intimate partner violence victimization and perpetration, and attitude toward punishment (see Supporting Information for the description and references of secondary outcome measures).

Sociodemographic Information

At baseline, caregivers indicated demographic information such as age, gender, marital status, education level, literacy, employment, relationship to target child, and target

child information such as child age, gender. They also indicated how COVID-19 affected their family (e.g., experienced COVID-19 symptoms, experienced financial stress).

Data Analyses

Data on program adherence and satisfaction were summarized using descriptive statistics. Caregiver and facilitator interviews were transcribed verbatim and analyzed using thematic analysis procedures (Braun & Clarke, 2006). Three researchers fluent in Filipino and English reviewed and annotated the transcripts in the original language, and generated initial codes based on prominent features across the data. The coders engaged in lengthy discussions to compare and consolidate coding categories and to establish standard criteria for coding responses. Using the research objectives as a guide, the codes were collated into overarching themes and subthemes that reflected key perspectives of caregivers and facilitators, while also attending to deviant cases. The themes were reviewed and cross-checked with the transcripts to ensure that they represent the extracted codes and the entire data set meaningfully. All analyses steps were documented to ensure reliability of the analytic process. In addition, the themes were presented to facilitator participants for verification and feedback. Further refinements were made to clearly define and distinguish themes regarding program acceptability, usefulness, and relevance.

To examine changes in study outcomes from baseline to post-intervention, we used linear mixed models to handle the hierarchical structure of the data that involved repeated measurements and participant groupings. For count data, we conducted distribution checks and used linear mixed models for normally distributed outcomes and Poisson mixed models for outcomes that violated the Shapiro-Wilk normality test. Analyses were conducted using R (V4.1.1). All participants were invited to participate in post assessments regardless of attendance levels. Of the 40 caregivers who had baseline data, one did not attend any program session and did not provide post assessment data. There were no other missing data.

Given the low percentage of missing data (1%), no imputations were conducted and missing

data were removed from analyses.

Results

Participant Characteristics

Of the 50 families approached, 40 (80%) were eligible and participated in baseline

assessments and 10 declined to participate. Table 1 presents socio-demographic

characteristics and COVID-19 experiences among the sample at baseline. The participants

represented a socioeconomically disadvantaged group, with more than half (55%) receiving

government assistance through the national conditional cash transfer program. Most

participants reported experiencing financial stress (85%) and emotional stress (56%) due to

COVID-19.

Implementation Outcomes

Program Adherence

Thirty-nine out of the 40 participants (98%) enrolled in the program (i.e., attended at

least one session), 95% attended at least half of the sessions (8 or more), 78% attended at

least three-quarters of the sessions (12 or more), and 35% attended all 16 sessions of the 8-

week program. The program had an overall attendance rate of 82% or 13 out of 16 sessions.

The dropout rate was four out of 40 participants (10%). Two participants did not attend from

week 6, one participant attended only the first session, and one participant failed to attend any

of the sessions.

Program Satisfaction

On a scale of 1 (*very unhelpful*) to 5 (*very helpful*), caregivers gave ratings above the

midpoint on the following items: (1) the program was helpful in their relationship with their

child ($M = 3.87$, $SD = 0.34$), (2) the program was helpful with other personal or family

problems not directly related to their child ($M = 3.64$, $SD = 0.48$), (3) the program was

helpful in supporting them with challenges as a parent ($M = 3.85$, $SD = 0.36$), (4) the activities during chat sessions were helpful ($M = 3.79$, $SD = 0.41$), and (5) the facilitators were helpful in addressing challenges experienced during the program ($M = 3.85$, $SD = 0.36$). The overall mean satisfaction score was 3.80 ($SD = 0.28$).

Program Acceptability, Usefulness, and Relevance

Qualitative interviews with caregivers and program facilitators yielded the following themes: (1) appreciation of learnings and skills gained, (2) effective delivery using digital group chat, and (3) navigating technological difficulties.

Appreciation of Learnings and Skills Gained. Caregivers expressed appreciation of the learnings and skills they gained from the program. A mother of a 13-year-old shared, *"I don't just see the bad behaviors now. I should also praise the good behavior of my child."* Another mother of a 17-year-old mentioned that one-on-one time was helpful in making her aware of her child's school concerns and shared, *"It's a big help that I talk to my child every day. That helps, even if I am busy, I allot time."* A mother of a 4-year-old liked interacting with parents with children of different ages because they gave her ideas on how to handle issues with their own child when they get older. Facilitators identified one-on-one time, talking about feelings, taking a pause, and giving positive and specific directions as topics that engaged the participants the most.

Effective Delivery Using Digital Group Chat. Caregivers appreciated the opportunity to share their experiences with other parents in a group setting. Some caregivers found it helpful that Viber chat allowed them to read previous messages if they want to review topics or if they missed sessions, *"The nice thing is, when you forget something you said or if you want to go back to something someone said… you can backread."* Despite the opportunity for remote participation, some caregivers had difficulties attending the scheduled sessions because they worked long hours or had to attend to family emergencies.

Facilitators likewise identified positive aspects of digital program delivery. One facilitator shared that facilitation was *"relatively easy"* because they can do it remotely from home, adding that the structured and scripted format of the messages made it easy to copy and post discussion points, which helped them focus more on conversing with the parents. Some facilitators liked that they were able to make messages more personal and engaging using stickers and emojis. Another facilitator mentioned the usefulness of features like the reply-to option to respond to a specific chat message and bold text feature to highlight important concepts. Caregivers found the facilitators' follow-up messages helpful because they were able to ask questions about previous sessions or refresh their learnings before the next session.

Navigating Technological Difficulties. Caregivers mentioned technological challenges such as having unstable internet connection and running out of data credits. A facilitator shared that some participants had difficulties navigating Viber,*"If facilitators themselves are just learning the ropes, what more for target participants who are not 'techie?' They do not have high-tech gadgets."* A mother shared challenges with acquiring a working phone,*"I could not attend because my son's cellphone was not working, he was using my cellphone and the session coincided with my son's class."* A father was eager to participate but was only able to attend one session because his mobile phone stopped working and he had difficulties acquiring a new device.

Other challenges include the difficulty of establishing rapport via chat. One facilitator shared that sharing videos compensated for the lack of face-to-face interactions to some extent, though another facilitator noted, *"it's still different when you see them [in person] because you can show your concern, or empathy, or they can see your joy when they succeed in their parenting practices, through your facial expressions."* Another challenge was the added time needed for group chat interactions. Facilitators agreed that 1 hour was not enough

to cover all activities planned for each session because it takes time for participants to think about and type their responses and for facilitators to reply to each response.

Primary and Secondary Outcomes

Table 2 presents means and standard deviations for all study outcomes and test results comparing baseline and post-intervention scores. After conducting distribution checks, Poisson mixed models were conducted for overall maltreatment, physical abuse, emotional abuse, positive parenting, parenting stress, intimate partner victimization, and intimate partner perpetration. Linear mixed models were conducted for parental depressive symptoms, child behavior problems, child behavior problem intensity, and efficacy in sexual abuse risk prevention. Results showed reductions in overall maltreatment, physical abuse, emotional abuse, parenting stress, parent depressive symptoms, child behavior problems, child behavior problem intensity, intimate partner victimization for women; and an increase in parental efficacy in sexual abuse risk prevention. The increase in positive parenting and decreases in attitudes supporting physical punishment and women's intimate partner violence perpetration were not statistically significant. The program had no negative effects.

<div align="center">**Discussion**</div>

This study examined the feasibility, acceptability, and preliminary outcomes of MaPaChat, a parent support program delivered to Filipino caregivers using Viber group chat. Overall, the findings suggest the acceptability and feasibility of the program for delivery with families from socially disadvantaged backgrounds. Caregivers had a high attendance and low dropout rate and gave relatively high program satisfaction ratings. Caregivers appreciated the learnings and skills they gained from the program, such as spending one-on-one time with their child, using praise, noticing positive child behaviors, and how these skills helped in improving their relationship with their children. Caregivers and facilitators found the group chat helpful in cultivating mutual support. Despite the lack of face-to-face interaction, the

integration of the facilitators in the community may have helped in establishing trust and rapport within the groups. The online chat format also proffered certain advantages, such as participants being able to "backread" previous posts to review topics. The remote delivery meant that caregivers could access the messages at a convenient time. That key concepts and discussion points can be readily copied and pasted from the manual eased the program delivery for the facilitators.

Initial examination of changes in outcomes suggested reductions in physical and emotional abuse, parenting stress, parent depressive symptoms, child behavior problems, child behavior problem intensity, women's IPV victimization; and an increase in parental efficacy in preventing sexual abuse from baseline to post-intervention. These findings are consistent with the positive results found in previous in-person trials of MaPa Kids and Teens (Jocson et al., 2023; Lachman et al., 2021), although more rigorous evidence is needed to provide evidence of the effectiveness of the program when delivered using digital group chat.

The results are promising given the vulnerability of the participants when the program was delivered during the enforced community quarantine in the Philippines. At baseline, more than half of the families reported experiencing emotional stress and 85% reported experiencing financial stress due to COVID-19. The findings are consistent with previous studies conducted with socially disadvantaged families showing that digital parenting programs may be effective if they incorporate contact with and support from coaches or facilitators (Harris et al., 2020). They also align with previous findings with Filipino adults on the usefulness of online support groups in improving psychological well-being during the pandemic (Hechanova et al., 2021). The groups may have provided an opportunity for parents to share their experiences and draw support and resources from other parents with similar experiences, thus reducing feelings of isolation and enhancing psychological health. Improved well-being, along with increased self-efficacy and knowledge of positive parenting

strategies, in turn, reduce the likelihood of use of harsh parenting and child behavioral

problems (Gardner et al., 2010; Reitman & McMahon, 2013).

The findings raised important points for improvement of the program. First,

caregivers and facilitators encountered technological difficulties in participating and running

the program. Given caregivers' reported concerns regarding poor internet signal, insufficient

data credits, sharing gadgets with family members, and mobile device malfunction, the

program may be supplemented with resources that can be accessed offline, such as printed

materials that can be distributed by community facilitators. To address the concern regarding

participants' familiarity with the messaging app, it would be helpful to include an orientation

on how to navigate the group chat in the introduction session. Alternatively, using an app that

is more commonly used by the participants (e.g., Facebook Messenger) may be explored.

Caregivers mentioned work hours and family-related concerns as barriers to

attendance. As found in previous studies, socially disadvantaged families often encounter

logistical challenges in attending parenting programs because of transportation difficulties,

less flexible work schedules, and lack of child care (Harris et al., 2020). The higher

attendance rate we found in this digital intervention (82%) compared to the face-to-face

versions (62%-73%; Jocson et al., 2023; Lachman et al., 2021) suggests that delivering the

program digitally may address some logistical barriers pertaining to program attendance.

However, accessibility remains limited because participation was available only to caregivers

who had access to a smartphone. Although the digital format may make it easier for

caregivers to participate in a parenting program without having to be physically present, it is

important to address issues regarding negotiating use of shared devices and to supplement the

program with resources that can reach caregivers that may not have access to this technology.

The limitations of the study should be noted. The single group pre-post design used in

this pilot study precludes causal explanations of program effects. Given that assessments had

to be conducted remotely, we used shortened versions of validated questionnaires, and this may have contributed to low internal consistency of some of the measures like positive parenting. In addition, conducting self-reported assessments over the phone may have led some caregivers to report socially desirable responses to interviewers, especially for sensitive questions regarding child maltreatment and IPV. Moreover, the study included a small convenience sample of mostly female caregivers who were residing in one municipality in an urban setting, and the study findings may not apply to other contexts. These limitations increase the potential for bias in the evaluation of outcomes, and future studies with more rigorous designs are needed to determine program effectiveness. To mitigate some of these limitations, forthcoming analyses from the wider six-country study of ParentChat will provide further evidence of program feasibility and impact across multiple countries in Southeast Asia, Africa, and Europe with a larger sample size to examine potential differential effects by population characteristics.

In conclusion, results from this pilot study indicate that a parenting intervention delivered using digital group chat and facilitated by trained community service providers is a feasible and acceptable way to support caregivers in low-resource settings. Our findings inform adaptations for future implementation of the program, particularly the need to address barriers related to digital access and navigation to maximize its potential for scalability.

Ethical Compliance Section

Compliance with Ethical Standards: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committees at (AdMUREC_20_044) and University of Oxford (R72537/RE001) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Conflicts of Interest: JML is the CEO of Parenting for Lifelong Health (PLH), a charitable organization based in the United Kingdom that developed the Parenting for Lifelong Health for Parents and Teens program, which is licensed under a Creative Commons Attribution 4.0 International license. JML also receives occasional fees for providing training and supervision for PLH programs. LPA, RMJ, and JML have participated (or are participating) in several research studies involving the program as investigators, and the Universities of Ateneo de Manila, Oxford, Glasgow, and Cape Town receive 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.

Informed Consent: All individual adult participants of the study provided informed consent.

References

Alampay, L. P., Lachman, J. M., Landoy, B. V., Madrid, B. J., Ward, C. L., Hutchings, J.,

Alinea, M. C. D., & Gardner, F. (2018). Preventing child maltreatment in low- and

middle-income countries: Parenting for Lifelong Health in the Philippines. In S.

Verma & A. C. Petersen (Eds.), *Developmental goals for children and youth* (pp. 277-

293). Springer. https://doi.org/10.1007/978-3-319-96592-5_15

Bacchus, L. J., Colombini, M., Contreras Urbina, M., Howarth, E., Gardner, F., Annan, J.,

Ashburn, K., Madrid, B., Levtov, R., & Watts, C. (2017). Exploring opportunities for

coordinated responses to intimate partner violence and child maltreatment in low and

middle income countries: A scoping review. *Psychology, Health & Medicine,*

22(sup1), 135-165. https://doi.org/10.1080/13548506.2016.1274410

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research*

in Psychology, 3, 77-101. https://doi.org/10.1191/1478088706qp063oa

Cho, Y., Avalos, J., Kawasoe, Y., Johnson, D., & Rodriguez, R. (2021). *The impact of the*

COVID-19 pandemic on low income households in the Philippines: Impending human

capital crisis. (COVID-19 Low Income HOPE Survey, Issue. World Bank.

https://openknowledge.worldbank.org/handle/10986/35260

Cluver, L. D., Meinck, F., Steinert, J. I., Shenderovich, Y., Doubt, J., Romero, R. H.,

Lombard, C. J., Redfern, A., Ward, C. L., Tsoanyane, S., Nzima, D., Sibanda, N.,

Wittesaele, C., De Stone, S., Boyes, M. E., Catanho, R., Lachman, J. M. L., Salah, N.,

Nocuza, M., & Gardner, F. (2018). Parenting for Lifelong Health: A pragmatic cluster

randomised controlled trial of a non-commercialised parenting programme for

adolescents and their families in South Africa. *BMJ Global Health, 3*(1), 1-15. https://

doi.org/10.1136/bmjgh-2017-000539

Corralejo, S. M., & Domenech Rodríguez, M. M. (2018). Technology in parenting programs:

 A systematic review of existing interventions. *Journal of Child and Family Studies*,

 27(9), 2717-2731. https://doi.org/10.1007/s10826-018-1117-1

Council for the Welfare of Children, & UNICEF. (2016). *National baseline study on violence*

 against children. https://www.unicef.org/philippines/reports/national-baseline-study-

 violence-against-children-philippines

Flujas-Contreras, J. M., Garcia-Palacios, A., & Gomez, I. (2019). Technology-based

 parenting interventions for children's physical and psychological health: A systematic

 review and meta-analysis. *Psychological Medicine, 49*(11), 1787-1798.

 https://doi.org/10.1017/S0033291719000692

Fore, H. H. (2021). Violence against children in the time of COVID-19: What we have

 learned, what remains unknown and the opportunities that lie ahead. *Child Abuse &*

 Neglect, 116, 104776. https://doi.org/10.1016/j.chiabu.2020.104776

Gardner, F., Hutchings, J., Bywater, T., & Whitaker, C. (2010). Who benefits and how does it

 work? Moderators and mediators of outcome in an effectiveness trial of a parenting

 intervention. *Journal of Clinical Child and Adolescent Psychology, 39*(4), 568-580.

 https://doi.org/10.1080/15374416.2010.486315

Harris, M., Andrews, K., Gonzalez, A., Prime, H., & Atkinson, L. (2020). Technology-

 assisted parenting interventions for families experiencing social disadvantage: A

 meta-analysis. *Prevention Science, 21*(5), 714-727. https://doi.org/10.1007/s11121-

 020-01128-0

Hechanova, M. R., Alianan, J. A. S., Jocson, R. M., & Villasanta, A. P. (2021). Online

 resilience support groups during the COVID-19 pandemic: The Philippine experience.

 Mental Health and Social Inclusion. https://doi.org/10.1108/mhsi-06-2021-0038

Jocson, R. M., Alampay, L. P., Lachman, J. M., Maramba, D. H. A., Melgar, M. E., Ward,

C., Madrid, B. J., & Gardner, F. (2023). Pre-post mixed methods study of a parent and

teen support intervention to prevent violence against adolescents in the Philippines.

Journal of Adolescent Health, *73*(1), 102-109.

https://doi.org/https://doi.org/10.1016/j.jadohealth.2023.02.027

Lachman, J., 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*, 100279.

https://doi.org/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

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

Mehta, D., Kelly, A. B., Laurens, K. R., Haslam, D., Williams, K. E., Walsh, K., Baker, P. R.

A., Carter, H. E., Khawaja, N. G., Zelenko, O., & Mathews, B. (2023). Child

maltreatment and long-term physical and mental health outcomes: An exploration of

biopsychosocial determinants and implications for prevention. *Child Psychiatry and

Human Development*, *54*(2), 421-435. https://doi.org/10.1007/s10578-021-01258-8

Meinck, F., Boyes, M. E., Cluver, L., Ward, C. L., Schmidt, P., DeStone, S., & Dunne, M. P.

(2018). Adaptation and psychometric properties of the ISPCAN Child Abuse

Screening Tool for use in trials (ICAST-Trial) among South African adolescents and

their primary caregivers. *Child Abuse & Neglect*, *82*, 45-58.

https://doi.org/10.1016/j.chiabu.2018.05.022

Nadler, C. B., & Roberts, M. W. (2013). Parent-collected behavioral observations: An

empirical comparison of methods. *Child & Family Behavior Therapy*, *35*(2), 95-109.

https://doi.org/10.1080/07317107.2013.789352

Patterson, G. R., Chamberlain, P., & Reid, J. B. (2016). A comparative evaluation of a

parent-training program. *Behavior Therapy*, *47*, 804-811.

https://doi.org/10.1016/S0005-7894(82)

Ramiro, L. S., Madrid, B. J., Norton-Staal, S., Cajayon-Uy, M. M., & Luna, P. B. (2022).

National baseline study on violence against children and youth (NBS-VAC) in the

Philippines. *Acta Medica Philippina*, *56*(15).

https://doi.org/https://doi.org/10.47895/amp.v56i15.5062

Reitman, D., & McMahon, R. J. (2013). Constance "Connie" Hanf (1917-2002): The mentor

and the model. *Cognitive and Behavioral Practice*, *20*, 106-116.

Statista. (2021). *Most commonly used instant message platforms among adult internet users

in the Philippines as of September 2021*. https://www.statista.com/statistics/1271473/

philippines-most-popular-instant-message-platforms/

Strathearn, L., Giannotti, M., Mills, R., Kisely, S., Najman, J., & Abajobir, A. (2020). Long-

term cognitive, psychological, and health outcomes associated with child abuse and

neglect. *Pediatrics*, *146*(4). https://doi.org/10.1542/peds.2020-0438

UNICEF. (2020). *The impact of the COVID-19 crisis on households in the National Capital

Region of the Philippines*.

https://www.unicef.org/philippines/media/2061/file/Finalreport:TheImpactoftheCOVI

D-19CrisisonHouseholdsintheNationalCapitalRegionofthePhilippines.pdf

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. *Journal of Child Psychology and*

      Psychiatry, 61(4), 503-512. https://doi.org/10.1111/jcpp.13129

Weeland, J., Keijsers, L., & Branje, S. (2021). Introduction to the special issue: Parenting and

      family dynamics in times of the COVID-19 pandemic. *Developmental Psychology*,

      57(10), 1559-1562. https://doi.org/10.1037/dev0001252

Wu, Q., & Xu, Y. (2020). Parenting stress and risk of child maltreatment during the COVID-

      19 pandemic: A family stress theory-informed perspective. *Developmental Child*

      Welfare, *2*(3), 180-196. https://doi.org/10.1177/2516103220967937

Table 1

Socio-demographic characteristics and COVID-19 experiences of participants at baseline

Variable	*n* (%)
Female	39 (98%)
Mean age (*SD*)	42.38 (8.10)
Target child female	17 (43%)
Mean target child age (*SD*)	11.63 (3.70)
Biological parent	37 (93%)
Married or living with partner	32 (80%)
Education	
Some high school education	3 (8%)
Completed high school	16 (40%)
Some college	12 (30%)
Completed college	6 (15%)
Employed	24 (60%)
Mean number of adults at home (*SD*)	3.10 (1.26)
Mean number of children at home (*SD*)	2.08 (0.89)
Presence of other caregiver	32 (80%)
Experienced hunger in the past month	22 (55%)
Can read	40 (100%)
COVID-19 experience	
Family not affected by COVID-19	4 (10%)
Family experienced emotional stress due to COVID-19	23 (56%)
Family experienced financial stress due to COVID-19	34 (85%)
Family member died of COVID-19	0 (0%)
Family member experienced COVID-19 symptoms	12 (30%)

Note. N = 40. Means with *SDs* are presented when indicated. Otherwise, numbers represent the frequency of the category with percent of sample.

Table 2. Baseline and post-intervention outcomes [1]

Outcome	Baseline M (SD) n = 40	Post-Intervention M (SD) n = 39	B	SE	p	Effect size [2] [95%CI]
Overall maltreatment	**5.85 (5.12)**	**3.46 (3.39)**	**–0.54**	**0.11**	**< .001**	**IRR = 0.58 [0.47, 0.72]**
Physical abuse	**0.98 (1.87)**	**0.58 (1.19)**	**–0.54**	**0.12**	**< .001**	**IRR = 0.58 [0.46, 0.73]**
Emotional abuse	**4.88 (3.98)**	**2.87 (2.70)**	**–0.52**	**0.26**	**.048**	**IRR = 0.59 [0.35, 0.99]**
Positive parenting	10.55 (3.61)	11.79 (3.31)	0.11	0.07	.097	IRR = 1.12 [0.98, 1.28]
Parenting stress	**3.65 (2.55)**	**2.67 (2.16)**	**–0.30**	**0.13**	**.019**	**IRR = 0.74 [0.58, 0.95]**
Parental depression	**4.70 (2.85)**	**3.03 (2.21)**	**–1.68**	**0.43**	**<.001**	**d = –0.62 [–1.07, –0.17]**
Child behavior problems	**7.58 (4.32)**	**5.00 (3.61)**	**–2.63**	**0.59**	**<.001**	**d = –0.64 [–1.10, –0.19]**
Child behavior problem intensity	**4.30 (2.10)**	**1.95 (2.20)**	**–2.38**	**0.37**	**<.001**	**d = –1.39 [–1.88, –0.90]**
Sexual abuse risk prevention efficacy	**6.55 (2.09)**	**7.54 (0.76)**	**0.98**	**0.34**	**.007**	**d = 0.49 [0.03, 0.05]**
Intimate partner victimization [a]	**1.00 (1.73)**	**0.32 (0.87)**	**–1.13**	**0.36**	**.002**	**IRR = 0.32 [0.16, 0.66]**
Intimate partner violence perpetration [a]	0.29 (1.62)	0.13 (0.72)	–0.81	0.60	.177	IRR = 0.44 [0.00, 1.44]
Attitude supporting physical punishment [b]	11.00 (28%)	6.00 (15%)	0.90	–	.344	–

[1] Bold indicate significant effect sizes based on 95% CI not overlapping zero for Cohen's d and not overlapping 1.00 for Incidence Risk Ratio (IRR) [2] Cohen's d for linear mixed models; IRR for Poisson mixed models; [a] Analyses conducted for n = 31 women living with a partner at post-intervention; [b] Values compare the number of participants (%) agreeing that physical punishment is necessary to raise their child at baseline and post-intervention using the McNemar change test

Feasibility and Acceptability of a Digital Parent Group Chat Intervention to Prevent Child and Adolescent Maltreatment in the Philippines

Supporting Information

1. Description and references for secondary outcome measures

Secondary Outcomes

Parent depression. We used the depression subscale of the short-form version of the Depression, Anxiety, and Stress Scale (DASS-21) (Henry & Crawford, 2005) to assess parent depression. The depression subscale of DASS was reported to demonstrate convergent validity and adequate internal consistency in a study with a Filipino sample (Cheung et al., 2019). Caregivers reported on 7 items (e.g., I felt down-hearted and sad) using a 4-point scale from 0 (*never*) to 3 (*always*), $\alpha = .77$.

Child behavior problems. We used the Child and Adolescent Behavior Inventory (CABI) (Cianchetti et al., 2013) to assess child behavior problems. Caregivers reported on their child's behavior in the past week using a 3-point scale from 0 (*not true*) to 2 (*very true*). The CABI demonstrated discriminant and predictive validity in previous studies (Cianchetti et al., 2020; Cianchetti et al., 2013) and good internal consistency with a Filipino sample (Jocson et al., 2023). We summed the items on the irritability subscale (4 items, e.g., has frequent mood changes) and the externalizing subscale (10 items, e.g., often lies or cheats) for a total score on behavior problems, $\alpha = .81$.

Child behavior problem intensity. We used one item adapted from the Three Problem Scale-Parent Report (Scott et al., 2001) to assess child behavior problem intensity. Caregivers selected the most challenging child behavior they experienced in the past week from a list of 10 problem behaviors and rated how challenging the behavior was on a scale of 0 (*not a problem*) and 8 (*could not be worse*). The original scale was described as an appropriate measure of parents' perceived improvement in child difficulties (Scott, 2001) and yielded good internal consistency in a study with Filipino parents (Jocson et al., 2023).

Parent self-efficacy to prevent sexual abuse risk. We used one item developed for this study to assess parents' perceived self-efficacy in preventing child sexual abuse risk. Caregivers indicated how confident they felt they are in protecting their child from sexual abuse online or in-person using a scale of 0 (*not confident at all*) to 8 (*extremely confident*).

Intimate partner violence (IPV). We used an adapted version of the Revised Conflict Tactics Scale Short Form (CTS2S), demonstrated to have comparable concurrent and construct validity to the full revised Conflict Tactics Scales (Straus & Douglas, 2004). IPV victimization was measured by summing two items (i.e., partner insulted, shouted, yell, or swear at you; partner hit, push shove or slapped you). IPV perpetration was measured by summing two items (i.e., fight back physically or defend yourself, physically mistreat partner). Caregivers indicated how many times they experienced IPV using a scale of 0 (*never*) to 8 (*8 or more times*).

Attitude toward punishment. We used one item from the Multiple Indicator Cluster Survey (MICS) Child Discipline Module (UNICEF, 2006). Caregivers indicated their agreement (0 = *disagree*, 1 = *agree*) to the statement that a child needs to be physically punished to bring them up or educate them properly. This item is widely used to assess parents' attitudes toward corporal punishment across low and middle-income countries (Lansford et al., 2020), including the Philippines (Jocson et al., 2023; Lachman et al., 2021).

References

Cheung, J. T. K., Tsoi, V. W. Y., Wong, K. H. K., & Chung, R. Y. (2019). Abuse and depression among Filipino foreign domestic helpers. A cross-sectional survey in Hong Kong. *Public Health*, *166*, 121-127. https://doi.org/10.1016/j.puhe.2018.09.020

Cianchetti, C., Faedda, N., Pasculli, M., Ledda, M. G., Diaz, G., Peschechera, A., Craig, F., Morelli, F., Balottin, U., Guidetti, V., Zuddas, A., & Margari, L. (2020). Predictive validity for the clinical diagnosis of a new parent questionnaire, the CABI, compared with CBCL. *Clinical Child Psychology and Psychiatry*, *25*(2), 507-519. https://doi.org/10.1177/1359104519895056

Cianchetti, C., Pittau, A., Carta, V., Campus, G., Littarru, R., Ledda, M. G., Zuddas, A., & Fancello, G. S. (2013). Child and Adolescent Behavior Inventory (CABI): A new instrument for epidemiological studies and pre-clinical evaluation. *Clinical Practice & Epidemiology in Mental Health*, *9*, 51-61.

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*(2), 227-239. https://doi.org/10.1348/014466505X29657

Jocson, R. M., Alampay, L. P., Lachman, J. M., Maramba, D. H. A., Melgar, M. E., Ward, C., Madrid, B. J., & Gardner, F. (2023). Pre-post mixed methods study of a parent and teen support intervention to prevent violence against adolescents in the Philippines. *Journal of Adolescent Health*, *73*(1), 102-109. https://doi.org/https://doi.org/10.1016/j.jadohealth.2023.02.027

Lachman, J., 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*, 100279. https://doi.org/https://doi.org/10.1016/j.lanwpc.2021.100279

Lansford, J. E., Zietz, S., Putnick, D. L., Deater-Deckard, K., Bradley, R. H., Costa, M., Esposito, G., & Bornstein, M. H. (2020). Men's and women's views on acceptability of husband-to-wife violence and use of corporal punishment with children in 21 low- and middle-income countries. *Child Abuse & Neglect*, *108*, 104692. https://doi.org/10.1016/j.chiabu.2020.104692

Scott, S. (2001). Deciding whether interventions for antisocial behaviour work: Principles of outcome assessment, and practice in a multicentre trial. *European Child & Adolescent Psychiatry*, *10*(1), 59-71. https://doi.org/10.1007/s007870170007

Scott, S., Spender, Q., Doolan, M., Jacobs, B., & Aspland, H. (2001). Multicentre controlled trial of parenting groups for childhood antisocial behaviour in clinical practice. *BMJ*, *323*, 1-7.

Straus, M. A., & Douglas, E. M. (2004). A short form of the Revised Conflict Tactics Scales, and typologies for severity and mutuality. *Violence and Victims*, *19*(5), 507-520. https://doi.org/10.1891/vivi.19.5.507.63686

UNICEF. (2006). *Multiple Indicator Cluster Survey Manual 2005: Monitoring the situation of children and women*. UNICEF.

2. Sample questions for caregiver interview

   A. Parents' experience during the program
      1) Overall, what was it like to participate in the program?
      2) Why did you want to attend the program?
      3) What were the challenges in attending the program?
      4) How were the facilitators' interactions with you during the sessions?
      5) How did you feel about the other members of the group?
   B. Parents' views on program structure and content
      1) What did you think about the length of the program?
      2) What did you think of the online format of the program?
      3) Did you have any challenge connecting on Viber during sessions?
      4) What did you feel about sharing your experiences with the group over chat?
      5) What did you like about the program activities, what did you not like about it?
      6) What was your experience of learning about parenting online and then practicing skills over chat?
   C. Program impact
      1) Have you noticed any changes in your child's behavior since you started the program? If yes, in what ways? If no, why not?
      2) Have you noticed any changes in the way you interact with your children? If yes, in what ways? If no, why not?
      3) Have you noticed any changes in your own life as a result of the program? If yes, what changes? If no, why not?

3. Sample questions for facilitator interview

   A. General brainstorm
      1) What was your experience like when you were assigned a role as a facilitator?
      2) What worked well for you as a facilitator?
      3) What did not work well for you as a facilitator?
   B. Program structure and logistics
      1) What do you think about the length of the online program?
      2) How did you feel about the structure of the program?
      3) What was your experience of program delivery with respect to the technology requirements?
      4) How did you find communicating with parents via chat?
      5) What were some of the challenges delivering the program to participants in group sessions?
   C. Program content
      1) What content do you think the parents responded well to?
      2) Were you able to deliver all the content in the program? If not, what were some of the challenges?
      3) What do you think should be changed about the content of MaPaChat?
   D. Final questions
      1) How can the program be improved?
      2) Are there any other ways to improve the delivery or structure of the program?