

An online, father-inclusive parenting intervention for reducing child conduct problems: a randomised controlled trial of family man

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Background: Parenting interventions are effective for improving child conduct problems (CPs), but online self-directed interventions are required to improve reach and impact. Mothers are the main users of such programmes; fathers show low participation rates despite evidence of increased efficacy when they participate. **Methods:** This randomised controlled trial examined the efficacy of Family Man, a brief, self-directed online parenting intervention for fathers and mothers of children with CPs. The intervention involves several innovative design features to maximise the engagement of fathers. Families ($N = 103$; 102 mothers, 78 fathers) seeking help with managing their 2- to 8-year-old child's CPs were randomly assigned to either the Family Man intervention condition ($n = 53$) or a 4-week waitlist control group ($n = 50$). Primary outcomes were frequency and severity of child CPs and secondary outcomes included dysfunctional parenting, parenting efficacy, parenting stress, parental psychological distress, household disorganisation and interparental conflict. **Results:** Repeated measures ANOVAs/MANOVAs found that at 4-week post-assessment, parents in the intervention group reported significantly lower levels of child CPs than waitlist. Significant effects for the intervention group relative to waitlist were also found across all secondary outcomes examined. Intervention effects were maintained at 2-month follow-up for the intervention group. Outcomes did not significantly differ for mothers and fathers. **Conclusions:** Results support the efficacy of this brief, self-directed online parenting intervention in improving child CPs and a range of parent and family outcomes, both for fathers and mothers. Implications for improving the reach and impact of parenting interventions and increasing father engagement, are discussed. **Keywords:** Online intervention; parenting programme; child behaviour problems; fathers.

Introduction

Childhood conduct problems (CPs), which include emotional and behavioural dysregulation, tantrums, non-compliance and aggression, are among the first reliable signs of emerging social, physical and mental health conditions (Kim-Cohen et al., 2003). CPs are common in young children (Vasileva, Graf, Reinelt, Petermann, & Petermann, 2021) and are a leading cause of disability burden in children and adolescents worldwide (GBD 2019 Mental Disorders Collaborators, 2022; Piao et al., 2022). Fortunately, there is substantial evidence that parenting interventions that focus on enhancing the quality and consistency of parenting practices produce lasting improvements in CPs, potentially reducing lifetime burden in at-risk children (Dretzke et al., 2009; Kaminski & Claussen, 2017). Despite the efficacy of parenting interventions for reducing CPs, male-identified caregivers (hereafter referred to as fathers) are consistently under-represented, with fathers attending less than 50% of parent sessions (Gonzalez et al., 2023), which is significantly lower than mothers who typically attend over 90% of sessions (Dadds et al., 2018). The large disparity in

engagement persists despite evidence for increased intervention effectiveness when fathers participate along with mothers (Lundahl, Tollefson, Risser, & Lovejoy, 2008).

Research has identified reasons for low rates of father engagement, including cost, lack of time and competing schedules or work commitments (Salinas, Smith, & Armstrong, 2011; Tully et al., 2017). Fathers also prefer parenting programmes that appeal to them through their advertising and content, are delivered in small parts and can be completed flexibly out of work hours or on the weekend (Sicouri et al., 2018). Therefore, parenting programmes need to be designed with fathers in mind and delivered in formats that support their participation.

Online interventions offer a flexible delivery format and many parenting interventions have been adapted to suit this, using instructional or role-play videos and interactive exercises (e.g. Sanders, Baker, & Turner, 2012). Online parenting interventions are often preferable to in-person programmes because they remove geographical and other accessibility barriers. In fact, a survey of fathers found that they preferred online over face-to-face interventions (Tully et al., 2017). Online parenting interventions have been shown to

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significantly improve positive parenting and parental well-being and reduce child CPs (Baumel, Pawar, Kane, & Correll, 2016; Florean, Dobrean, Păsărelu, Georgescu, & Milea, 2020; Spencer, Topham, & King, 2020). Many online interventions are self-directed, where parents work through the programme materials independently without clinician support and a meta-analysis found no significant differences between interventions with and without clinician support (Spencer et al., 2020). Therefore, self-directed online interventions may reduce costs and potentially increase reach, especially for fathers.

Despite promising support for online interventions, most research has been conducted with mothers only. Of the 15 self-directed parenting interventions included in Spencer et al. (2020) meta-analysis, only one study compared efficacy for mothers and fathers (Gelatt, Adler-Baeder, & Seeley, 2010). Similarly, for face-to-face parenting interventions, outcomes have been predominantly reported by mothers only and rates of father participation are often not reported (Gonzalez et al., 2023). Given evidence of greater intervention efficacy with the participation of fathers (Lundahl et al., 2008), it is critical to report on father engagement rates. It is also important to contrast father and mother outcomes, as there is evidence of attenuated intervention efficacy for fathers relative to mothers (Fletcher, Freeman, & Matthey, 2011). Finally, parenting interventions may be less acceptable to fathers than mothers (Tiano, Grate, & McNeil, 2013), so examining relative satisfaction is important.

Some attempts have been made to develop online self-directed father-inclusive parenting interventions. An intervention called *ParentWorks* was tested in an open trial, with significant pre-to-post improvements found in parent reports of child emotional and behavioural problems, parenting and parent mental health (Piotrowska et al., 2020). Fathers comprised 41% of the sample, which was double the rate reported in previous reviews of father engagement (Fletcher et al., 2011) and the intervention was effective and acceptable for both mothers and fathers. Despite the high rates of father involvement and positive outcomes, *ParentWorks* had several limitations including high parent drop-out rates (~90%) and long length of the programme. To address these barriers, a novel, very brief or 'light touch' self-directed online intervention, called *Family Man*, was developed in collaboration with *Move-mber*, an international men's health organisation.

The aim of this research was to examine the efficacy of *Family Man* for parents of children aged 2-years to 8-years 11-months seeking help for child CPs. The design was a 2 (Group: *Family Man* vs. Waitlist) by 3 (Time: pre, post and two-month follow-up) repeated-measures randomised controlled trial (RCT). The primary outcomes for this study were frequency and severity of child CPs and secondary

outcomes included dysfunctional parenting, parenting efficacy, parenting stress, parental wellbeing, household disorganisation and conflict over caregiving.

It was hypothesised that: (1) relative to waitlist, parents in the *Family Man* group would report significantly lower levels of CPs, dysfunctional parenting, parenting stress, household disorganisation and inter-parental conflict and improved parenting efficacy and parental well-being at post; (2) that improvements at post would be maintained at two-month follow-up for the *Family Man* group; and (3) that fathers would receive as much benefit from *Family Man* as mothers, that is, we were not expecting parent gender to moderate the effects of *Family Man* on outcomes.

Methods

Trial design

The trial utilised a two-group repeated measures RCT design. Participating families were randomly allocated on 1:1 ratio to the *Family Man* intervention group (FM) or the waitlist control group (WL). Data were collected at three assessments: pre-randomisation (pre), post-intervention/waitlist (post; 4 weeks after randomisation) and follow-up (2-months after post for FM group only). The trial was prospectively registered with the Australian New Zealand Clinical Trials Registry (ACTRN12622001032741) and was approved by the University of Sydney Human Research Ethics Committee (Project No. 2022/551). Reporting of the trial was in accordance with CONSORT guidelines (see CONSORT checklist in Appendix S1).

Recruitment, participants and screening

Power analysis indicated that for a moderate-to-large effect, it was necessary to recruit 50 participants per group. Participants were recruited Australia-wide through several channels including advertising to preschools/schools and psychology clinics and social media advertisements. The media campaign was developed to be father-inclusive, by designing advertisement to appeal to fathers. This included advertising on social media platforms used by fathers such as the Meta platforms of Facebook and Instagram and targeting fathers in the social media outreach by advertising for 'dads and mums' instead of 'parents' more broadly. All recruitment materials directed parents to contact the Sydney Child Behaviour Research Clinic (SCBRC) where the trial was being conducted for a brief screening interview to assess eligibility and suitability for the RCT. Father engagement is a key initiative of the SCBRC and as such, best practice guidelines for father engagement were followed to increase father participation, including indirect engagement strategies such as trial staff emphasising to mothers the importance and value of father involvement in the study and offering to contact fathers to discuss participation, as well as direct engagement strategies such as contacting fathers to invite and encourage participation, and corresponding directly with fathers to provide unique questionnaire links (Lechowicz et al., 2019). See Appendix S1 for further details around the recruitment strategy and recruitment materials used in the study.

Participants were the parents of a child aged 2- to 8-years seeking help managing their child's behaviour. To be included in the study, parents needed to understand the programme content in English and have access to high-speed Internet.

Exclusion criteria included: child had an intellectual disability, Global Developmental Delay, Autism Spectrum Disorder, pervasive developmental disability; child did not live with parent at least 50% of the time; parents receiving another parenting programme; parents completed FM previously; family experiencing domestic violence, child protection issues, or severe parental mental illness/substance use; and/or the family had court orders regarding parenting. One eligibility criterion was changed after recruitment commenced. Initially, families were unable to participate if the child was medicated for a mental health condition. However, this was changed 3 months into recruitment to include children who were stable on medication for 4 weeks with no planned changes, since this was considered to have minimal impact on the study outcomes.

A total of 351 families enquired about the study, including 316 mothers (90%), 25 fathers (7.1%) and 10 of unknown gender (2.9%). Of the 134 families who were assessed for eligibility, 103 were randomised: 53 to FM (52 mothers, 40 fathers) and 50 to WL (50 mothers and 38 fathers). Of the 103 participating families there were 9 (8.7%) families where the father was the instigator of help-seeking. Figure 1 displays the CONSORT flow chart for recruitment to the study.

Sociodemographic family variables and child characteristics for the FM and WL groups are reported in Table 1. Children had a mean age of 5 years and two-thirds were boys. The majority of children were Caucasian, with the other ethnic backgrounds endorsed including South-Asian (7.5% FM, 2.0% WL), East-Asian (7.5% FM, 8.0% WL) and Middle-Eastern (5.7% FM, 4.0% WL). Only seven children were taking medication for an existing mental health condition (9.4% FM and 4.0% WL). More than 8 in 10 parents were married/defacto (90.6% FM and 88.0% WL) and majority of parents were university educated (Mothers: 96.2% FM and 97.9% WL; Fathers: 87.8% FM and 87.5% WL). The mean age of mothers and fathers was 38 and 41 years, respectively (39 years for WL fathers). Most families spoke English at home, with other languages including Mandarin, Cantonese, Russian, Romanian, Serbian, Spanish and Telugu. More than three quarters (75.5% FM and 88.0% WL) reported an annual family income above the average Australian income of \$92,040 (ABS, 2023). Around 6 in 10 families resided in New South Wales (60.4% FM and 62.5% WL), with the remainder residing elsewhere in Australia. Participants reported average level of confidence with Internet use of around 6.5 (Mothers: 6.77 FM and 6.56 WL; Fathers: 6.55 FM and 6.68 WL), where 7 was 'completely

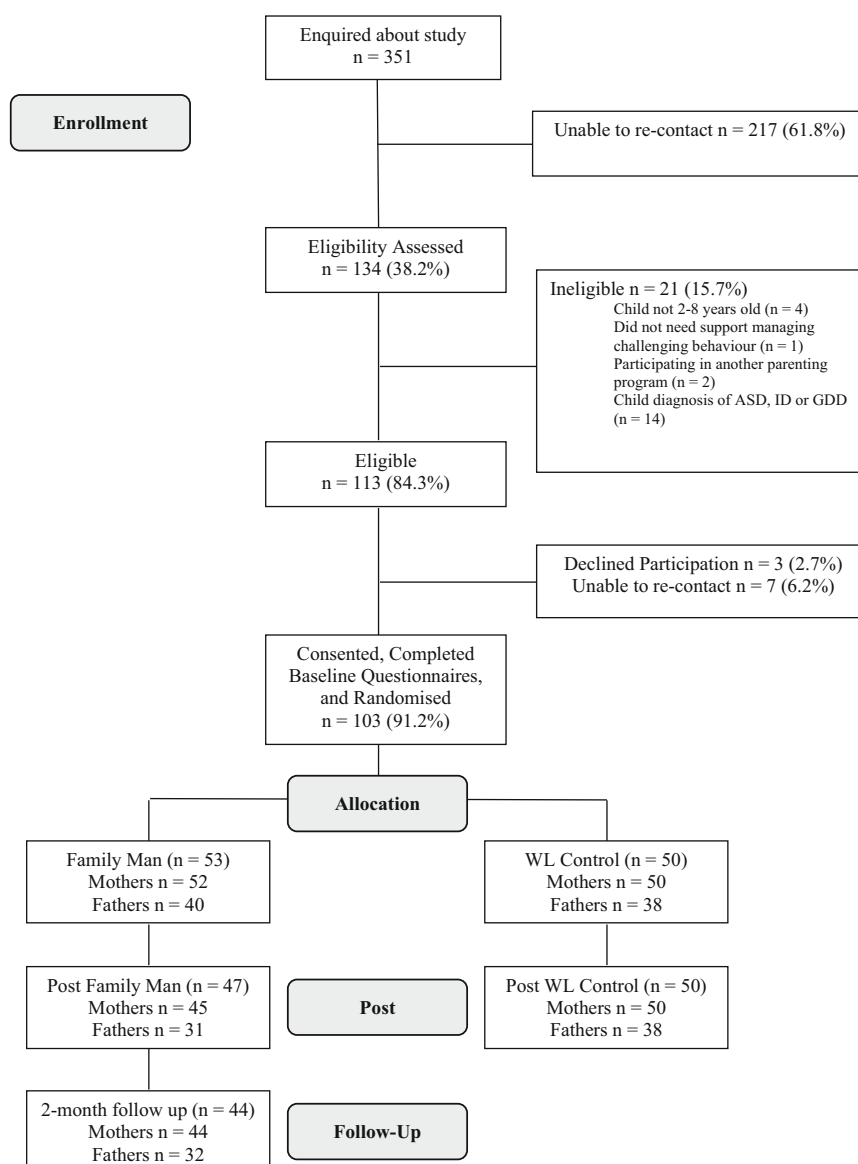


Figure 1 CONSORT flowchart for recruitment

Table 1 Participant family sociodemographics and child characteristics for Family Man and Waitlist groups

Variable	Family man (<i>n</i> = 53)		Waitlist (<i>n</i> = 50)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Child age	5.65	1.84	5.15	1.51
Mother age ^a	38.77	7.14	38.92	4.03
Father age ^b	41.30	5.88	39.69	4.71
Number of siblings	1.34	1.09	1.18	0.89
Mother confidence Internet use	6.77	0.51	6.56	0.73
Father confidence Internet use	6.55	0.78	6.68	0.66
	<i>n</i>	%	<i>n</i>	%
Married/Defacto	48	90.6	44	88.0
Participating with partner	39	81.3	38	86.4
Household income				
Less than \$100 k	13	24.5	6	12.0
\$100 k–\$125 k	4	7.5	6	12.0
\$125 k–\$150 k	6	11.3	10	20.0
\$150 k–\$175 k	4	7.5	7	14.0
\$175 k–\$200 k	4	7.5	4	8.0
Over \$200 k	20	37.7	17	34.0
Prefer not to say	2	3.8	0	0.0
English spoken	47	88.7	46	92.0
Child gender male	35	66.0	33	66.0
Child ethnicity Caucasian	48	90.6	47	94.0
Mother education ^c				
Secondary school	2	3.8	1	2.1
Undergraduate degree	34	65.4	22	45.8
Postgraduate degree	16	30.8	25	52.1
Father education ^b				
Secondary school	4	12.1	4	12.5
Undergraduate degree	21	63.6	17	53.1
Postgraduate degree	8	24.2	11	34.4
State of residence ^d				
NSW	32	60.4	30	62.5
QLD	9	17.0	9	18.8
VIC	5	9.4	6	12.5
WA	3	5.7	2	4.2
ACT	2	3.8	1	2.1
SA	2	3.8	0	0.0
Child medicated	5	9.4	2	4.0

ACT, Australian Capital Territory; NSW, New South Wales; QLD, Queensland; SA, South Australia; VIC, Victoria; WA, Western Australia.

^aMother age *n* = 52 for Family Man, *n* = 48 for Waitlist.

^bFather age/education *n* = 33 for Family Man, *n* = 32 for Waitlist.

^cMother's education *n* = 48 for WL.

^dState of residence *n* = 48 for WL.

confident'. Of two parent families, about eight in 10 participated in the study with their partner (81.3% FM and 86.4% WL). The main reason given that their partner would not be participating was lack of time.

Measures

At baseline, participating parents answered sociodemographic questions about themselves and their families, including characteristics of the 'target' child. Questions asked about parent confidence in Internet use on a scale from 1 (*not at all confident*) to 7 (*completely confident*). Parents were also asked pre and post about medication the child was prescribed for a mental health condition. The following questionnaires were completed at pre, post and two-month follow-up (FM group only) by mothers and fathers.

Child CPs was measured using two measures: Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) and the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). The ECBI is a 36-item parent-report questionnaire that assesses the frequency (Intensity scale) and problematic nature (Problem scale) of disruptive behaviours. For the Intensity scale, parents rated how often each behaviour occurs on a scale of 1 (*never*) to 7 (*always*; range 36–252) and for the Problem scale, parents indicated whether each behaviour is problematic (*yes* or *no*). The Intensity ($\alpha = .88$ mothers, $.91$ fathers) and Problem ($\alpha = .82$ mothers, $.88$ fathers) scales showed good internal consistency for mothers and fathers. The SDQ is a 25-item measure that assesses child behavioural and emotional adjustment during the last 6 months. Parents rated items on a 3-point scale ranging from 0 (*not true*) to 2 (*certainly true*). The Conduct Problems (SDQ-CP) subscale ($\alpha = 0.44$ mothers, 0.65 fathers) was used to measure CPs (range 0–10) and the Total Difficulties (SDQ-T) score ($\alpha = .72$ mothers, 0.75 fathers) was used to measure total emotional/behavioural problems (range 0–40). For the post- and follow-up assessment questionnaires, parents were asked to rate child symptoms during the past 4 weeks to fit in with the short time span of the RCT.

Dysfunctional parenting was measured using the Parenting Scale of the Parenting and Family Adjustment Scales (PAFAS; Sanders, Morawska, et al., 2014). The Parenting Scale ($\alpha = .77$ mothers, $.71$ fathers) includes 18 items that assess both positive and dysfunctional parenting. Parents rate each item on a scale from 0 (*not true of me at all*) to 3 (*true of me very much, or most of the time*) over the past 4 weeks. Items are summed (some with reverse scoring) and higher scores indicate higher levels of dysfunctional parenting (range 0–54).

Parents' sense of competence was measured using the Efficacy scale of the Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989). The 7-item Efficacy scale ($\alpha = .83$ mothers, $.80$ fathers) assesses parents' views of their own problem-solving ability, competence and capability in the parenting role. Parents rate each statement on a scale of 1 (*strongly disagree*) to 6 (*strongly agree*) and higher scores indicate greater feelings of self-efficacy (range 7–42).

Inter-parental conflict was measured using the Parent Problem Checklist (PPC; Dadds & Powell, 1991). The PPC is a 16-item self-report questionnaire that assesses conflict between parents over child-rearing. Parents in two-parent families were asked to indicate whether (*yes* or *no*) the listed item has been a problem in their relationship over the past 4 weeks (Problem scale, $\alpha = .82$ mothers, $.84$ fathers).

Parental stress was measured using the Parental Stress Scale (PSS; Berry & Jones, 1995). The PSS is an 18-item questionnaire that assesses parents' feelings about their parenting role in terms of rewards and satisfaction as well as stress and uncertainty. Parents rate each item on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*) and the items are summed to create a total parental stress score with a range 18–90 ($\alpha = .88$ mother; $.83$ fathers).

Parental well-being was measured using the Kessler Psychological Distress Scale (K6; Furukawa, Kessler, Slade, & Andrews, 2003). The K6 is a 6-item global measure of depressive and anxiety-related symptomology ($\alpha = .82$ mothers, $.79$ fathers). For each item, respondents rate how often they felt this way in the past 4 weeks on a scale from 1 (*none of the time*) to 5 (*all of the time*), such that higher scores indicate higher levels of psychological distress (range: 6–30).

Disorganisation in the child's home environment was measured using the six-item version of the Confusion, Hubbub and Order Scale (CHAOS; Matheny, Wachs, Ludwig & Phillips, 1995). Respondents rate items on a 5-point Likert scale from 1 (*definitely untrue*) to 5 (*definitely true*). Items are summed (range: 6–30) and higher scores indicate more household disorganisation and chaos ($\alpha = .71$ mothers, $.64$ fathers).

Parents in the FM group completed the Client Satisfaction Questionnaire (CSQ; Sanders, Markie-Dadds, Tully, & Bor, 2000; Eyberg & Pincus, 1999) at post. The CSQ assesses parents' satisfaction and asks parents to rate on a 7-point Likert scale 13 items about whether the programme helped them deal more effectively with their child's behaviour and other family problems. Items were summed such that higher scores indicate greater levels of satisfaction ($\alpha = .92$ mothers, $.95$ fathers).

Procedure

Information was collected from parents via online questionnaires which were stored and distributed on REDCap (Research Electronic Data Capture; Harris et al., 2009). For random allocation, a simple randomisation scheme was generated using the Robust Randomisation App (RRApp; Tu & Benn, 2017) and was imported into the REDCap system.

Participating families were enrolled in the study (January to June 2023) after completing an eligibility screening interview and providing informed consent. In two-parent families, both parents were encouraged to participate and parents completed separate questionnaires. Following enrolment, parents were emailed questionnaires and once completed, the family was randomly allocated to FM or WL. Neither researchers nor participants were blind to group allocation and the trial manager informed participants of their allocation. Participants in the WL group were asked to refrain from participating in any parenting programme for the 4 week waitlist period. Given FM was freely available at the time of the study, the name of the intervention was not specified in the advertising materials and participants were only told the name of the programme at the time of commencement of the intervention (i.e. FM told at time of intervention, WL told at end of WL period). This ensured the WL group were not able to access FM during their wait period.

Participants in the FM group were emailed information about how to access FM and prompted to complete it. Participants received weekly reminder emails to complete the next episode. Four weeks after randomisation, participants were emailed a link to complete the post questionnaires, which were completed regardless of how many episodes the participants had viewed. On completion of the post questionnaires, WL participants were provided with access to Family Man. Two-months after post, participants in the FM group completed the follow-up assessment (follow-up was completed by November 2023). Each family received a AUD\$200 shopping voucher as reimbursement: the WL group received it after completing post and the FM group received it after the 2-month follow-up.

Intervention

Family Man is a self-directed online programme based on social learning theory that was adapted from a longer programme (Piotrowska et al., 2020) and delivered via three interactive animated video 'episodes', which include the following strategies: rewards (e.g. specific praise, quality time), discipline (e.g. time-out) and generalising positive parenting practices in 'high-risk' settings outside the home. The online parenting programme was named 'Family Man' to specifically appeal to fathers. Although Family Man was designed with dads in mind, mothers are by no means excluded from participating and the target audience was all caregivers of children aged 2–8 years. It was developed to be engaging to fathers in the following ways: three brief episodes that took less than 20 min to complete, including a father as the protagonist in everyday parenting situations and utilising an animated format with a humorous conversational tone and gamified 'choose your own adventure' style design. The programme branding and images were also designed to appeal to fathers.

At the end of each episode, participants could access additional written content, including: a 'Crash Course' summarising key information, a 'Toolkit' of tips for implementing the strategies and a quiz to test understanding. The website also contained articles covering topics related to child development and parenting.

Analytic approach

Data was analysed using SPSS version 26. As differences between groups were found at pre (see [Preliminary analyses](#) section below), covariates were used in the analyses. To examine intervention outcomes at post, repeated measures multivariate and univariate analyses of covariance (MANCOVAs and ANCOVAs) were performed with pre and post scores as within subjects factors and randomisation group and parent gender as between group factors. MANCOVAs were conducted on conceptually related dependent variables (ECBI scales; SDQ scores). In cases where multivariate time by group effects were found, ANCOVAs were conducted and univariate F values examined. Analyses of follow-up effects for FM group consisted of repeated measures ANCOVAs and MANCOVAs, with post and follow-up scores as within subjects factors and parent gender as a between group factor. Since ANOVAs/MANOVAs included data from two parents (for 77 children) and thus were non-independent, sensitivity analyses were conducted using Hierarchical Linear Mixed Models. The results from these sensitivity analyses did not differ substantially from those of the ANOVAs/MANOVAs presented here and are available on request.

Effect sizes were calculated using partial eta squared, where .01, .06 and .14 were considered small, medium and large effect sizes, respectively (Cohen, 1988). An alpha level of .05 was used for all tests. All analyses were conducted on the entire sample, except for interparental conflict (PPC), which was only administered to married/de facto participants (FM $N = 48$; WL $N = 44$). Descriptive statistics examined satisfaction with the intervention for the FM group at post and t -tests examined mother and father satisfaction scores.

Clinical significance of change from pre to post was assessed by the Reliable Change Index (Jacobson & Truax, 1991) on the ECBI Intensity Scale. Reliable change is indicated by a change from pre to post in excess of 1.96 times the standard error of the difference. The proportion of parents reporting change according to this criterion was compared via chi-square test.

Results

Preliminary analyses

To check for equivalence of families randomised to FM and WL, t -tests for continuous variables and chi-square tests for categorical variables were conducted across all baseline measures, sociodemographic variables and child characteristics. Only one significant group difference was found, with mothers in FM group scoring significantly higher than mothers in the WL on PAFAS Parenting (see Table 1 for Means and SDs), $t(100) = -2.27$, $p = .025$, indicating higher levels of dysfunctional parenting in FM group at pre. As such, this variable was also included as a covariate in the subsequent analyses of intervention effects at the post assessment and follow-up.

One WL family indicated that their child's medication dose for mental health increased between

pre-and post-assessment, so analyses were run with and without this family. Exclusion did not change results, so the following results include this family.

Attrition

Attrition at post assessment for the study was six families, giving a high retention rate of 94.2%. Attrition for FM was six families (11.3%), which was significantly greater than WL, which had zero drop outs (Fisher's exact test = 0.03, $p < .050$). The six families included four two-parent families and two single-parent (mother only) families. No reasons were provided for drop out, as families were unable to be contacted. An additional four fathers in FM group did not complete post-programme questionnaires. Of the 103 families randomised (102 mothers, 78 fathers), 95 (93.1%) mothers completed post questionnaires [45 (86.5%) for the FM group and 50 (100%) for the WL group] and 69 (88.5%) fathers completed post questionnaires [31 (77.5%) for FM group and 38 (100%) for WL group]. Two months after post-assessment, attrition from FM was a further two families. Overall, 44 (84.6%) mothers and 32 (80.0%) fathers in FM completed follow-up. The rates of mother completion in FM (86.5%) at post did not differ significantly from the rates of father completion (77.5%).

To examine differential drop out at post and follow-up, *t*-tests and chi-square test were conducted across all sociodemographic variables and pre measures and no significant differences emerged. To examine whether data missing at post and follow-up was missing at random, Little's Missing Completely at Random (MCAR) test was conducted and was not significant, indicating data was missing at random. Based on low attrition and the data missing at random, no data imputation was performed.

Post-intervention effects

Table 2 displays the means and standard deviations for all primary and secondary outcomes at pre and post for mothers and fathers. Table 3 displays the *F* statistic and partial eta squared effect sizes. For the MANCOVA for primary outcomes (EBCI Intensity and Problem) the group by time interaction was significant, $F(2, 158) = 14.23$, $p < .001$, $\eta_p^2 = 0.15$, 90% CI [0.07, 0.23]. Parents in FM rated their child's CPs on both ECBI Intensity and Problem scales as significantly lower than WL at post, with large and medium effect sizes, respectively. For secondary outcomes, the group by time interaction for SDQ CPs and total score was significant, $F(2, 159) = 6.69$, $p = .002$, $\eta_p^2 = 0.08$, 90% CI [0.02, 0.14]. Parents rated child's mental health on SDQ total and CPs as significantly lower in FM than WL at post with medium effect sizes. The group by time interaction was significant for PSS, with a medium effect size, indicating parenting stress was

significantly lower in FM than WL group at post. For PAFAS, the main effect for group (there was no group by time interaction since pre PAFAS was used as a covariate) was significant, with a large effect size, indicating dysfunctional parenting was significantly lower in FM than WL group at post. Significant group by time interactions with small effect sizes were also found for PSOC Efficacy, K6 and CHAOS, indicating that parents in FM rated parenting efficacy higher than WL at post and rated their psychological distress and household disorganisation lower. A significant group by time interaction and medium effect size was also found for PPC Problem indicating lower levels of interparental conflict in FM than WL group at post. For the PPC Problem, a significant main effect for time also emerged [$F(1, 149) = 7.96$, $p = .005$, $\eta_p^2 = 0.05$, 90% CI [0.01, 0.12]], indicating improvements for both groups, but there were no time effects for any other outcome. Across all outcomes, there was no main effect for parent gender, no parent gender by time interaction, or gender by time by group interactions, indicating no significant differences in intervention effects for mothers or fathers.

Reliable change index at post

Using parent ECBI intensity scores, there was a significantly greater proportion of children who showed reliable change in their pre-to-post difference scores in FM versus WL for both mothers' and fathers' reports. While 8.0% of mothers showed reliable change in WL at post, 46.7% showed reliable change in FM, $\chi^2(1) = 18.26$, $p < .001$. For fathers, 10.5% showed reliable change in WL versus 32.3% in FM, $\chi^2(1) = 4.98$, $p = .04$.

Follow-up effects

Effects from post to follow-up were examined and with the exception of the SDQ, no significant follow-up effects for time emerged. While the multivariate time effects were significant for SDQ [$F(2, 69) = 4.77$, $p = .011$, $\eta_p^2 = 0.12$], the univariate effects were not significant. The lack of significant effects for time indicates maintenance of change from post to follow-up (no further improvement or deterioration) across primary and secondary outcomes. Across all follow-up analyses, there was no significant time by gender interactions.

Programme use and satisfaction

Regarding intervention completion for the FM group, 100% of mothers and fathers indicated that they viewed Episode 1, 95.5% of mothers (93.5% fathers) viewed Episode 2 and 91.1% mothers (90.3% fathers) viewed Episode 3.

Intervention group participants were satisfied with the Family Man programme, with mean satisfaction

Table 2 Means and standard deviations for primary and secondary outcomes at pre-, post- and two-month follow-up for Family Man and Waitlist groups

	Family man						Waitlist			
	Pre (<i>N</i> = 53 families)		Post (<i>N</i> = 47 families)		Follow-up (<i>N</i> = 44 families)		Pre (<i>N</i> = 50 families)		Post (<i>N</i> = 50 families)	
	Mothers <i>n</i> = 52, Fathers <i>n</i> = 40		Mothers <i>n</i> = 45, Fathers <i>n</i> = 31		Mothers <i>n</i> = 44, Fathers <i>n</i> = 32		Mothers <i>n</i> = 50, Fathers <i>n</i> = 38		Mothers <i>n</i> = 50, Fathers <i>n</i> = 38	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
Primary										
ECBI intensity										
Mother	157.52	24.29	134.02	28.20	130.82	30.32	150.08	22.71	145.52	27.22
Father	146.85	25.92	132.48	27.02	126.63	30.30	143.95	26.94	137.53	27.51
ECBI problem										
Mother	20.15	6.43	12.82	7.45	11.61	8.00	17.88	5.60	15.50	6.62
Father	16.05	7.42	11.81	7.39	10.59	7.06	15.00	7.25	13.68	7.69
Secondary										
SDQ total										
Mother	16.58	5.54	13.15	5.57	12.55	6.19	14.78	5.84	14.88	6.05
Father	16.08	5.07	14.13	4.54	13.38	6.26	14.68	5.19	13.47	6.00
SDQ conduct										
Mother	4.71	1.77	3.59	1.96	3.11	2.18	4.10	1.68	4.22	1.98
Father	3.95	2.10	3.32	1.76	3.19	2.22	3.87	1.65	3.55	1.97
PAFAS parenting										
Mother	17.25	6.27	13.09	6.23	13.36	5.97	14.60	5.47	15.46	5.69
Father	16.50	5.70	13.39	5.02	14.53	5.94	14.50	4.28	15.11	5.20
PSOC efficacy										
Mother	22.87	6.65	27.09	6.24	27.00	6.56	23.84	5.71	25.16	5.65
Father	24.55	5.03	27.19	5.10	26.94	5.90	24.82	5.33	26.00	5.52
PPC problem										
Mother	7.04	4.17	5.17	3.75	4.24	3.88	6.73	3.57	5.91	3.62
Father	5.93	3.75	4.48	4.04	3.84	3.53	5.16	4.05	4.92	3.83
PSS										
Mother	48.15	9.70	43.47	10.09	43.45	10.29	46.04	9.85	45.48	9.55
Father	44.20	8.36	41.32	7.21	42.67	7.41	42.95	8.24	42.16	8.91
K6										
Mother	12.37	4.42	11.20	4.30	11.07	5.03	11.68	4.34	11.52	4.02
Father	11.88	4.04	10.71	3.52	10.88	3.77	11.03	3.69	10.47	3.63
CHAOS										
Mother	17.52	4.18	15.62	3.54	15.39	3.62	17.12	4.56	16.74	4.72
Father	16.15	4.12	14.94	4.60	14.78	4.28	15.37	3.44	15.29	3.41

CHAOS, Chaos, Hubbub and Order Scale; ECBI, Eyberg Child Behaviour Inventory; K6, Kessler Psychological Distress Scale; PAFAS, Parenting and Family Adjustment Scales; PPC, Parent Problem Scale; PSOC, Parenting Sense of Competence Scale; PSS, Parenting Stress Scale; SDQ, Strengths and Difficulties Questionnaire.

scores of 68.09 (*SD* = 12.70) for mothers and 64.74 (*SD* = 13.94) for fathers with the highest possible score being 91. There were no significant differences in satisfaction ratings between mothers and fathers.

Discussion

This study found support for the efficacy of Family Man, a brief, online, self-directed parenting intervention for parents seeking help for child CPs. Compared with WL at post, participation in FM was associated with significantly lower levels of parent-reported child CPs, along with less dysfunctional parenting, parenting stress, disorganisation in the home environment, interparental conflict over parenting and improved parent psychological well-being and parenting efficacy, providing support

for Hypothesis 1. FM was also associated with greater reliable change than WL for parent reports of child CPs. Across many outcomes, medium to large effect sizes were found, indicating this brief intervention, which took in total around an hour to complete, is sufficient to bring about robust changes. The effect sizes achieved appear to be similar to those from intensive face-to-face parenting interventions (Sanders, Kirby, et al., 2014), which is perhaps unsurprising given high rates of father participation achieved and since prior research has found parenting interventions are more effective when fathers participate along with mothers (Lundahl et al., 2008). Overall, the findings from this study add to the emerging evidence regarding the efficacy of online self-directed interventions (e.g. Florean et al., 2020; Spencer et al., 2020) and

Table 3 *F* values and effect sizes for significant short-term intervention effects

	2 Group ANCOVA <i>F</i>	Partial eta squared	90% CI
ECBI intensity	25.75***	.14	0.06–0.22
ECBI problem	15.51***	.09	0.03–0.16
SDQ total	11.89***	.07	0.02–0.14
SDQ conduct	10.25**	.06	0.01–0.13
PAFAS parenting ^a	32.25***	.17	0.08–0.13
PSS	10.33**	.06	0.01–0.13
PSOC efficacy	8.29**	.05	0.01–0.11
PPC problem	8.66**	.06	0.01–0.12
K6	9.04**	.05	0.01–0.12
CHAOS	10.44**	.06	0.01–0.13

CHAOS, Chaos, Hubbub and Order Scale; CI, Confidence Interval; ECBI, Eyberg Child Behaviour Inventory; K6, Kessler Psychological Distress Scale; PAFAS, Parenting and Family Adjustment Scales; PPC, Parent Problem Scale; PSOC, Parenting Sense of Competence Scale; PSS, Parenting Stress Scale; SDQ, Strengths and Difficulties Questionnaire.

^aMain effect for group for PAFAS dysfunctional parenting; there was no group \times time interaction since pre PAFAS score was used as a covariate.

** $p < .01$, *** $p < .001$; Partial eta squared effect sizes: .01 small, .06 medium, .14 large.

also support the efficacy of brief interventions (e.g. Harris, Andrews, Gonzalez, Prime, & Atkinson, 2020).

The improvements at post for the FM group were maintained at two-month follow-up across all outcomes, indicating durability of changes and providing support for Hypothesis 2. However, including a long-term follow-up of at least 6 months is important to include in future research to further assess maintenance of changes and specifically examine whether there are additional improvements over time, or deterioration, across outcomes.

Family Man was equally effective for both mothers and fathers who participated, providing support for Hypothesis 3, that parent gender would not moderate the effects of the intervention. Given previous research on parenting interventions has predominantly included mothers (Gonzalez et al., 2023), it is important to include fathers and examine for any differential intervention effects. Some research has found parenting interventions to be less effective for fathers than mothers (Fletcher et al., 2011); however, this study found similar benefits, which is likely due to the intervention meeting fathers' needs and preferences. This is one of only a few studies to compare the relative efficacy of online self-directed parenting interventions for mothers and fathers, with findings supporting previous research which found no differences in programme efficacy (Gelatt et al., 2010; Piotrowska et al., 2020).

Previous research has found low rates of father attendance in parenting interventions (Gonzalez et al., 2023), yet in this study father engagement was more than 80%, which is likely to be due to the

father-focussed intervention. The overall level of attrition from the present study was only 6% (11% for Family Man) and was much lower than previous online parenting interventions, which are as high as 90% (Piotrowska et al., 2020) and typically around 30%–50% (Hall & Bierman, 2015), with similar attrition rates found for fathers and mothers. The overall level of satisfaction with Family Man was higher than for longer self-directed formats using the same measure (e.g. Sanders et al., 2012) and fathers and mothers were equally satisfied. This is promising given there is some evidence that fathers may be less satisfied than mothers (Tiano et al., 2013) and that there was potential for some aspects of the programme (i.e. the male-focussed branding) to be unappealing to mothers. These findings highlight the importance of developing father-focussed interventions as this can lead to high levels of attendance, retention and satisfaction for both parents.

The focus of this study was on efficacy and not on reach of the programme to fathers. However, it was interesting to find that despite the father-focused advertising campaign, around 90% of help-seeking was initiated by mothers. This suggests that fathers are still being engaged indirectly through mothers, as has been found in previous research (Dadds et al., 2018). It is important to note that due to concealment of the intervention, the recruitment and advertising materials did not include reference to Family Man and instead mentioned a 'parenting programme', which may have reduced levels of father engagement. Regardless, findings indicate that advertising parenting programmes directly to fathers is important, as mothers will engage at high rates anyway. It also suggests that further research is needed to understand why fathers do not initiate help-seeking for child mental health and to explore strategies to increase help-seeking by fathers. Perhaps this is related to broader societal expectations that mothers, as the assumed primary caregiver, are responsible for initiating service use. Finally, the results indicate that efforts to engage fathers in parenting interventions should continue to involve an indirect approach through mothers. This does not suggest that mothers are responsible for father engagement, simply that practitioners can use a range of flexible strategies to engage fathers (Tully et al., 2017). In fact, the indirect strategies employed in the current study (i.e. emphasising to mothers the importance and value of father involvement in the study and offering to contact fathers to discuss participation; Lechowicz et al., 2019) appeared to be the most effective strategies for increasing father participation, although these strategies were limited to families already enquiring about the study and did not function to increase referrals from fathers generally.

The findings of this research indicate that this self-directed parenting intervention has the potential

for wide reach and to impact on the prevalence of child CPs. Family Man can reach a larger proportion of the parenting population who do not have access to, or would not participate in, face-to-face interventions. Family Man may be especially helpful for addressing key barriers to father participation including cost, time and work commitments (Tully et al., 2017). Family Man is already freely available online, so wider promotion of the programme as an intervention for early emerging child CPs, could help to steer children away from a trajectory of life course persistent mental health conditions. Given its potential for scalability and reach, Family Man has capacity to contribute meaningfully to closing the treatment gap for child CPs (Kazdin, 2023). While some families will still require face-to-face services, Family Man can be offered as the first step of a stepped care approach, with subsequent clinician support provided where needed, potentially reducing costs for intervention delivery.

The findings of the present study should be interpreted with caution considering three key limitations. Firstly, the underrepresentation of lower income and lower educated families limits the generalisability of the findings. There is a clear need for testing of self-directed interventions with more diverse families and Family Man may be well-suited to vulnerable families, given the low literacy requirements, brevity and visual aids included. Secondly, the outcomes were based only on parent report and did not include observational or teacher report measures, so may be subject to parent report biases. Future research should include objective measures of child outcomes. Finally, by not including the waitlist at follow-up, the maintenance of the intervention effects could not be accurately determined. Inclusion of active controls and long-term follow-ups are critical to assess the durability of self-directed intervention effects and this should be prioritised in future research.

In conclusion, the results show that this brief self-directed online intervention is efficacious for fathers and mothers seeking help for their child's behaviour, with positive findings for child CPs and other aspects of parenting and parent well-being and effect sizes similar to face-to-face interventions. The intervention resulted in high parental attendance, retention and satisfaction. Such 'light touch' interventions have enormous potential for improving the reach and impact for child mental health conditions and should be prioritised for research and dissemination efforts. Future research should also continue to prioritise the development and testing of parenting interventions for fathers given that they continue to be sidelined in research and their involvement may be critical to intervention efficacy.

Supporting information

Additional supporting information may be found online in the Supporting Information section at the end of the article:

Appendix S1. Recruitment and advertising.

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Ethical considerations

This trial was approved by the University of Sydney Human Research Ethics Committee (Project no. 2022/551). Participating families gave informed consent to take part in this study.

Trial registration

The trial was prospectively registered with the Australian New Zealand Clinical Trials Registry (ACTRN12622001032741). Reporting of the trial was in accordance with CONSORT guidelines (see CONSORT checklist in Appendix S1).

Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Key points

- Parenting interventions for child mental health are more effective when fathers participate along with mothers, yet fathers have lower engagement rates.
- A brief father-focussed online self-directed parenting intervention called *Family Man* was efficacious for improving child CPs and several parent/family outcomes, with no significant differences between outcomes for mothers and fathers.
- Online self-directed interventions like Family Man can increase the reach and impact of parenting interventions and improve the treatment gap for childhood mental health conditions.
- Parenting interventions that meet the need and preferences of fathers can result in high levels of attendance, retention and satisfaction by both parents.
- Mothers still predominantly initiate help-seeking for child mental health, so engagement of fathers in child mental health interventions should continue to include indirect approaches via mothers.

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