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Co-Parenting Programs: A Systematic Review and Meta-Analysis

Cindy Eira Nunes*, Yves de Roten*, Nahema El Ghaziri*,

Nicolas Favez**, and Joëlle Darwiche*

*University of Lausanne

**University of Geneva

1

Objective. The present paper aims to provide an overview of the efficacy of coparenting-based programs on outcomes related to child's adjustment, parents' well-being, and quality of the coparenting, romantic, and parent-child relationships. **Background.** Numerous coparenting-based programs have been developed, supported by empirical findings associating quality of coparenting to the overall family well-being. However, to our knowledge, the efficacy of those programs has not yet been assessed/summarized. Method. This paper included 38 articles corresponding to 27 Randomized Controlled Trials (RCTs) presenting 21 different programs. Three phases of analysis were conducted: (1) a methodological quality analysis (2) a meta-analysis on the efficacy of programs and (3) a review of programs' features. Results. The methodological quality analysis reveals highquality RCTs. Results support a small but significant effect of coparenting-based programs on outcomes related to parents' well-being, to the quality of the coparenting, parent-child and romantic relationships. Finally, despite the heterogeneity of the programs, some commonalities are identified, such as the use of psychoeducation and skills training. Conclusion. Our paper appears to support modest evidence of programs efficacy for both vulnerable families and families with no apparent major difficulties. **Implications.** Future directions in terms of study and program designs are proposed to promote high-quality research in this field.

Keywords: coparenting, efficacy, family, intervention, meta-analysis, systematic review

Coparenting-Based Programs for Parent Couples: A Systematic Review and A Meta-Analysis

Over the past twenty years, the fields of family and developmental sciences have focused increasing attention on coparenting, defining its importance to family functioning (e.g., Gable, Crnic, & Belsky, 1994; Margolin, Gordis, & John, 2001). At first, studying coparenting allowed researchers to describe the importance of the divorced parents' relationship quality for their children (e.g., Maccoby & Mnookin, 1992). Subsequently, the concept was applied to intact families as diverse as classic nuclear families, monoparental families or homoparental families (Favez, Widmer, Frascarolo, & Doan, 2019; McHale & Lindahl, 2011).

Coparenting refers to the relationship between parents that goes beyond the romantic relationship. Parents remain related to each other through coparenting even after separation (Favez & Frascarolo, 2013). Coparenting may also be defined as the shared activities undertaken by the adults responsible for the care and upbringing of a child (McHale & Lindahl, 2011). It is a multidimensional concept including positive dimensions such as support, coordination between parents, communication and loyalty, as well as negative dimensions for instance conflict regarding children, competition, undermining of the other parent, children's triangulation – involving children in parents' conflict- (Teubert & Pinquart, 2010). Both positive and negative dimensions can coexist (Frascarolo, Darwiche, & Favez, 2009). However, the importance of negative and positive dimensions influences the quality of coparenting which can either be a protective or a risk factor for the family well-being (Favez & Frascarolo, 2013). Research to date has shown that coparenting is linked to important aspects of family well-being, such as the quality of the marital relationship (e.g., Morrill, Hines, Mahmood, & Cordova, 2010), the quality of the parent-child relationship (e.g., Bonds & Gondoli, 2007), the parents' well-being (e.g., Schoppe-Sullivan, Settle, Lee, & Kamp, 2016) and the child's socio-emotional development (e.g., Teubert & Pinquart, 2010). For

example, in their meta-analysis, Teubert and Pinquart (2010) showed that coparenting predicted child's psychological adjustment. Coparenting coordination was also positively associated to child's development while coparenting conflict was related to externalizing symptoms (Teubert & Pinquart, 2010).

Numerous coparenting-based programs have been developed, boosted by empirical findings linking quality of coparenting to overall family well-being. These programs' implementation may be described in three steps (Favez, 2017). First, therapeutic work on coparenting was already integrated into family therapy in the seventies. Salvador Minuchin is often cited as the pioneer of this integration since he was the first to focus his interventions on parents' coordination (Minuchin, 1974). Second, programs based on coparenting interventions were developed for separated or divorced parents. These interventions are designed to support parents as they struggle to maintain a good coparenting relationship while ending their romantic relationship (Favez, 2017). The third step corresponds to the creation of coparenting-based programs for non-divorced parents. These programs seek to prevent difficulties induced by transitions in the family, predominantly during the transition to parenthood, as new parents are building their own coparenting relationship (McHale & Lindahl, 2011).

Coparenting-based interventions appear thus undoubtedly relevant to family well-being. Their added value is supported by the importance of promoting active investment of both parents (Pilkington, Whelan, & Milne, 2015) to enhance the quality of family functioning. However, to our knowledge, the effects of targeting the coparenting relationship when working with parent couples have not yet been summarized. Meta-analyses and reviews have focused either on parenting (Pinquart & Teubert, 2010) or on marital education programs (for a review see P. A. Cowan & Cowan, 2014). Pilkington, Rominov, Brown, and Dennis (2019) proposed a review on non-cohesive coparenting prevention but with a special focus on its

effects for fathers' coparenting. Our paper focuses on coparenting and explores the potential benefit of working on this relationship for the whole family.

This systematic review and meta-analysis seek two main purposes: (1) to provide an overview of coparenting-based programs, including both intervention and prevention programs, for parent couples and their specific components, and (2) to document the efficacy of these programs on any outcome related to the child's adjustment, the parents' well-being, and the quality of the coparenting, romantic, and parent-child relationships.

Method

Inclusion Criteria

Studies were included in the systematic review according to five criteria: (1) In-press or published articles in peer-reviewed journals in English. (2) Only RCTs were included. (3) The program had to target one or several aspects of coparenting, such as the improvement of coparenting support and/or the reduction of coparenting conflict. Studies were included even when the program was predominantly focused on another aspect, for example, parenting competences, but included work on coparenting quality. (4) Quantitative results on one or several of the five following outcomes: the parents' well-being, the child's adjustment, the quality of coparenting, the romantic relationship, and the parent-child relationship. (5) The program had to request the attendance of both parents. Settings such as parent groups with only one parent attending the sessions (e.g., Keating, Sharry, Murphy, Rooney, & Carr, 2016) or mother-child groups (e.g., Gardner et al., 2009) were therefore excluded. Participation of both parents enables work on the relationship and often improves outcomes at the individual and interpersonal levels (Lebow, 2014).

This paper follows both the Cochrane guidelines for implementing a systematic review of interventions (Higgins & Green, 2008) and the PRISMA statements, which advise on how to report systematic reviews and meta-analyses (Liberati et al., 2009).

Literature Search

Three electronic databases were systematically searched: Scopus, MEDLINE and APA PsycNET. The searches included articles published from the first available year to May 2019. The following keywords were consistently used: (coparent* OR interparent*) AND (intervention OR prevention OR treatment OR program) AND (couple OR dyad).

Procedure

Selection. The search identified 1873 references. These were imported to a citation manager (endnote X7.5.3), which automatically removed the duplicates. For the 1549 remaining articles, titles and abstracts were screened for eligibility. Only articles mentioning an intervention targeting parents were retained. For the second screening, the full text of the 125 remaining articles was examined. In total, 38 articles were retrieved (flow chart in supplemental material, Figure S1).

Extraction. The first author systematically computed information about the article, the program, the study design and the effects (quantitative data; mean and SD) reported in the study. When quantitative data (means and SDs) were missing for the meta-analysis, authors were contacted (among the five authors contacted, two responded). To prevent bias due to multiple reports of the same study, we also aggregated duplicates as advised by Cochrane's method (Higgins & Green, 2008). These publications were clearly identified in the review as forming one study.

Analysis of the methodological quality. The analysis of the methodological quality of studies was conducted by the first and third authors. The checklist of the Critical Appraisal Skills Program (CASP; Critical Appraisal Skills Programme, 2017) for RCTs was used. This checklist of 11 questions assessed the validity of RCTs (six criteria: study focus, randomization, blindness, groups' similarity, equal treatment, proper assessment), the nature (two criteria: importance of the effects and precision on statistics) and the relevance of the

reported results (three criteria: application to a larger population, clinical relevance, costbenefits balance). Details for the nature of the reported results are provided as supplemental material (Table S1). After assessing the first two criteria, inclusion of the study was reevaluated. The two coders independently recorded each criterion. Disagreements were then resolved by consensus.

Meta-analysis. We investigated the efficacy of the programs on each of the five outcomes (parents' well-being, child's adjustment, and quality of the coparenting, romantic, and parent-child relationships). Effect sizes (Hedges' g) were computed when data were available. As Hedges' g corresponds to a corrected version of the Cohen's d and is sometimes referred as the unbiased d (Fritz, Morris, & Richler, 2012), we interpreted effect sizes as small (g=0.2), medium (g=0.5) and large (g=0.8) based on Cohen's benchmarks (Cohen, 1988). Analyses were conducted on R (R Core Team, 2013) with the *metafor* package (version 2.0; Viechtbauer, 2010). Two types of data were used for analysis: means and SDs of intervention and control groups (cross-sectional data) and means and SDs of pre- and post-treatment for both groups (longitudinal data). The analytical plan differed for each type of data. We used standardized mean differences (Hedges, 1981) for cross-sectional data. For longitudinal data, effect sizes corresponded to standardized mean changes based on raw score standardization (Morris, 2008). Because pre-post correlations, which are needed to compute standardized mean changes, were never reported in the included studies, a correlation of r=0.7 was imputed for all longitudinal data, based on a sensitivity study.

Effect sizes were aggregated by study. We adjusted the model of analysis according to the heterogeneity of our sample. We conducted a fixed effect model when the heterogeneity test (based on Q statistic) was not significant and a random effect model when it was. To quantify the inconsistency across studies in terms of the percentage of heterogeneity we used the I² coefficient. The I² value under 30% signaled no observed heterogeneity, while values

over 30%, 50% and 75% were interpreted as low, moderate and high (Cooper, Hedges, & Valentine, 2009).

Fail-Safe N and funnel plot of each study's effect size were used to assess publication bias. We also examined outliers and conducted influence diagnostics to identify potential elements that could bias our results (Viechtbauer & Cheung, 2010).

Finally, five meta-regressions were conducted according to the targeted population (atrisk families, first-time parents, separated parents community samples), the type of data (cross-sectional, longitudinal), the type of comparator (no intervention, waiting list, comparison intervention), the time of assessment (post, short follow-up/less than a year, long follow-up/more than a year, and very long follow-up/more than 5 years) and the measured outcome (child's adjustment, parents' well-being, romantic, coparenting, and parent-child relationships).

Review of programs. Each included program was reviewed. Programs were presented according to their population of interest. We identified four population categories: at-risk families, first-time parents, separated or divorced parents, and parents drawn from community samples. For each population category, programs were described in terms of targets (e.g., coparenting, parenting and romantic relationship), and intervention strategies.

Results

Methodological Quality of Studies

The systematic research revealed 38 articles reporting 27 distinct studies on 21 different coparenting-based programs (see supplemental material, Table S1).

Validity of RCTs. This section investigated six criteria: (1) study focus (2) randomization (3) participants' and researchers' blindness to condition (4) groups' similarity at baseline (5) equality of treatment between groups, and (6) proper assessment at the end of the study of all the participants entering the trial. (1) For all studies, the focus was specified in

terms of studied intervention and population. (2) Of the 27 studies, two failed to meet the criterion of randomization and were excluded from the review. Cox and Shirer (2009) assigned participants to groups according to their availability. Kramer and Kowal (2005) constructed their control group retrospectively and were thus not able to randomize the assignment. The subsequent criteria were investigated in the remaining 25 studies. (3) Only four of the 25 studies reported blindness of couples or researchers. In four other cases, participants and researchers were aware of condition assignment, increasing the risk of performance bias in these studies. For the remaining studies (17/25), the information was not available. (4) Most studies (16/25) outlined the similarity of the groups at the baseline on relevant variables or controlled for confounding effects when differences were identified. Of the nine remaining studies, seven did not report for similarity, one only reported for similarity on one dependent variable -which was considered insufficient- (Schulz, Cowan, & Cowan, 2006) and the last one compared groups that differed at baseline without controlling this difference (Abbass-Dick, Stern, Nelson, Watson, & Dennis, 2015). (5) Five studies failed to report equal treatment of groups. The groups in these studies did not follow the same procedure; for example, the waiting-list group was excluded from the follow-up (Epstein et al., 2015). (6) Seven of 25 studies did not properly address their initial sample at conclusion. These studies were featured by high variability in participants' attendance or by the loss of a portion of the sample due to either high attrition or study design. One study did not report enough information on the attrition rate (Shapiro & Gottman, 2005).

Relevance of the RCT's reported results. This section refers to (1) the application of the result to a larger population (2) the clinical relevance and (3) the cost-benefits balance of the interventions. (1) Four studies referred to programs targeting parents from community samples. The remaining 21 studies presented results for specific populations (e.g., first-time parents, low-income parents). Their application to a larger context is therefore limited. (2)

One study was appraised by the two coders as lacking relevant clinical outcomes. Indeed, only the number of shared household tasks was measured (Gjerdingen & Center, 2002). (3)

Only for six studies out of 25, the costs of the intervention were considered superior to its benefits. These studies presented long programs for either no or few effects compared to a comparison group (e.g., Marczak, Becher, Hardman, Galos, & Ruhland, 2015). Finally, the question was not answered in two studies because of a lack of clarity in the reported results (Schulz et al., 2006) or exclusion of the comparison group in the follow-up analysis (Faircloth & Cummings, 2008).

After removing two studies for not fulfilling the randomization criterion, the final review included 36 articles reporting 25 studies that described 19 distinct programs. These programs are reviewed in the next section. Their efficacy is then evaluated through a meta-analysis.

Meta-analysis

Sixteen out of the 25 retained studies were included in the meta-analysis. All 16 studies were comprised in the general meta-analysis and organized according to their target population. Among the included studies, six compared the intervention group to a control group after treatment and 14 presented longitudinal data comparing change by groups (noting that four studies presented both types of data). There was significant heterogeneity (Q(15) = 40.67, p < 0.001, $I^2 = 63.12\%$); we thus used a random model to estimate the overall intervention effect. The overall effect size of coparenting-based programs was g = 0.21, 95% CI [0.12; 0.3], z = 4.76, p < 0.001 (see Figure 1) which corresponded to a small effect. This first analysis included programs targeting four different populations of parents. Populations were not equally represented: seven studies related to programs for at-risk families, five studies to programs for first-time parents, two studies to programs for divorced or separated

parents and last two studies to programs for parents from community samples (targeted populations are identified on Figure 1).

Analyses of publication bias revealed a symmetrical funnel plot with no significant asymmetry (t(16) = -1.43, p = 0.176). The Rosenthal's fail-safe N analysis indicated that 23 studies with no significant intervention effect would be necessary to invalidate one study reporting significant positive results on the effect of coparenting-based programs. There was thus no evidence of a publication bias.

Exploration of outliers was based on the analysis of the studentized deleted residuals (Viechtbauer & Cheung, 2010). Two outliers were identified. One had a surprisingly large positive effect (Miller-Graff, Cummings, & Bergman, 2015) and the other revealed a large negative effect (Hertzmann et al., 2016). However, excluding outliers from the meta-analysis did not change the size of the overall effect (k = 14, g = 0.21, 95% CI [0.14; 0.29], z = 5.78, p < 0.001) and data remained heterogeneous (Q(13) = 23.43, p = 0.037). These studies with contrasted findings seemed to contribute to an important part of heterogeneity. Investigating the moderators that could explain the heterogeneity was inconclusive. Indeed, none of the five meta-regressions (i.e., on the population, design, comparators, outcomes and assessment time) revealed significant moderator effects.

Nonetheless separate meta-analyses for studies with different types of comparator revealed differences. For studies proposing another intervention group as a comparator, the estimated effect size was not significantly different from zero (k = 7, g = 0.13, 95% CI [-0.04; 0.3], z = 1.49, p = 0.137). Contrarily, studies with a control group (no intervention) showed a significant small effect size (k = 8, g = 0.23, 95% CI [0.13; 0.34], z = 4.28, p < 0.001). Finally, studies including a waiting list reported a significant medium effect size (k = 2, g = 0.42, 95% CI [0.24;0.59], z = 4.64, p < 0.001). The two studies comparing their intervention group to a waiting list group appeared to present a larger effect of their intervention (Frank,

Keown, & Sanders, 2015; Sanders, Markie-Dadds, Tully, & Bor, 2000). The intervention effect for these two studies tended to be significantly higher than the effects for the two other subgroups of studies (z = 1.82, p = 0.069).

Additionally, meta-regression on outcomes revealed that the most frequently measured outcome was coparenting. Our analyses also highlighted that coparenting-based programs had no significant impact on outcomes related to the child's adjustment (k = 9, g = 0.21, 95% CI [-0.04; 0.46], z = 1.64, p = 0.100) and to the parent-child relationship (k = 8, g = 0.15, 95% CI [-0.01;0.3], z = 1.81, p = 0.070). Nonetheless, concerning outcomes related to parent-child relationship, an outlier was identified (Sanders et al., 2005), a study which compared a coparenting-based intervention to a parenting intervention. Once excluded, results were homogeneous (Q = 2.38, p = 0.930) and the effect size was (k = 8, k = 0.23, 95% CI [0.17; 0.3], k = 0.37, k = 0.001). No outliers were identified on child-related outcomes.

Review of the Programs

An overview of the 19 included programs is presented through four sections corresponding to four categories of population: at-risk families (N = 8), first-time parents (N = 7), separated or divorced parents (N = 3), and parents from community samples (N = 3). Two programs were intended for first-time parents at-risk; as the situation of being at-risk is a priority, we chose to present them in the "at-risk families" section. Each section describes the program characteristics including program targets and the intervention strategies (for information on programs setting and intensity also see supplemental material Table S2).

Section 1: Programs for at-risk families.

Programs characteristics.

Program targets. Eight programs investigated in nine RCTs proposed prevention of coparenting difficulties in families presenting risk factors such as domestic violence (Doss, Cicila, Hsueh, Morrison, & Carhart, 2014), adolescent motherhood (Florsheim, McArthur,

Hudak, Heavin, & Burrow-Sanchez, 2011), low-income (C. P. Cowan, Cowan, Pruett, Pruett, & Wong, 2009), being a minority (Beach et al., 2014; Epstein et al., 2015), or having a child presenting behavior problems (Sanders et al., 2000).

Only two programs focused on coparenting alone while the six other programs simultaneously worked on several aspects of the parents' relationship. One program focused solely on the global coparenting relationship (Doss et al., 2014), another specifically on supporting fathers' engagement (Supporting Fathers' Involvement, C. P. Cowan et al., 2009). Four programs targeted both the coparenting and parent-child relationships (Young Parenthood Program, Florsheim et al., 2011; Triple P-Positive Parenting Program, Sanders et al., 2000). Among those four programs, three were derived coparenting versions of the Triple P-Positive Parenting Program (Group Triple P adapted for fathers, Frank et al., 2015; Enhanced Group Triple P, Ireland, Sanders, & Markie-Dadds, 2003; Enhanced Behavioral Family Intervention, Sanders, Bor, & Morawska, 2007). These versions added work on coparenting through support enhancements primarily (e.g., not interfering with the other parent's discipline attempts). The last two programs simultaneously targeted coparenting, parent-child and romantic relationships (Barton et al., 2018; Beach et al., 2014).

Intervention strategies. Three types of strategies were implemented:(1) psychoeducation on parenting (e.g., Florsheim et al., 2011) or social support (Beach et al., 2014; Sanders et al., 2000); (2) skills training in communication (e.g., Florsheim et al., 2011; Ireland et al., 2003), parenting (e.g., C. P. Cowan et al., 2009; Sanders et al., 2000), coparenting (Beach et al., 2014; Ireland et al., 2003), or problem solving (e.g., Ireland et al., 2003; Sanders et al., 2000); and (3) elaboration of a coparenting plan which aimed to organize more clearly tasks and responsibilities related to childcare (Doss et al., 2014; Florsheim et al., 2011).

Section 2: Programs for first-time parents.

Program characteristics.

Program targets. Seven programs for first-time parents were identified in nine RCTs. All programs focused on coparenting as well as on another target. More precisely, three programs combined work on coparenting and the parent-child relationship (Breastfeeding support intervention, Abbass-Dick et al., 2015; Parenting together project, Doherty, Erickson, & LaRossa, 2006; Family Foundations, Feinberg & Kan, 2008). Three other programs targeted coparenting and the romantic relationship (Work planning intervention, Gjerdingen & Center, 2002; Couple CARE for parents, Halford, Petch, & Creedy, 2010; Couple group, Schulz et al., 2006). One program combined work on coparenting, parenting, and the romantic relationship (Bringing baby home, Shapiro & Gottman, 2005).

Intervention strategies. Programs for new parents proposed four types of strategies and three of them were the same as for at-risk families. Each program used one or two of these four strategies: (1) psychoeducation on parenting (e.g., Abbass-Dick et al., 2015; Feinberg & Kan, 2008), coparenting (e.g., Florsheim et al., 2012; Shapiro & Gottman, 2005); (2) skills training focusing on communication (e.g., Florsheim et al., 2011), expectations (e.g., Doss et al., 2014), or coparenting support (e.g., Halford et al., 2010); (3) elaboration of a coparenting plan to organize the new family life (Doherty et al., 2006; Doss et al., 2014; Halford et al., 2010), for example, by establishing the division of tasks (Gjerdingen & Center, 2002); (4) discussion groups in which each parent can share his or her own experience on topics ranging from parenting to social resources (Schulz et al., 2006).

Section 3: Programs for separated or divorced parents.

Programs characteristics.

Program targets. This section counted three prevention programs for separated or divorced parents, each assessed by one RCT. Among those RCTs, one presented preliminary results only (Marczak et al., 2015). The programs all focused on the coparenting relationship (Mentalization-based therapy for parents, Hertzmann et al., 2016; Co-parent Court

Demonstration, Marczak et al., 2015; Collaborative Divorce Project, Pruett, Insabella, & Gustafson, 2005).

Intervention strategies. Three strategies were identified: (1) psychoeducation on various topics, such as fathers' engagement, divorce, communication and coparenting (Pruett et al., 2005); (2) therapeutic work on the identification of emotions that can create miscommunication and conflict between parents with a consistent attention to the child's experience regarding miscommunication and conflict (Hertzmann et al., 2016). For example, the therapist tried to highlight how assumptions about the other parent's intentions have led to anger and tried to shift parents' attention from their conflict to the children's experience of their conflict (e.g., by focusing on children's reactions to conflict). Finally, (3) the third strategy was the elaboration of a coparenting plan that sought to settle essential aspects of the new family structure such as timing and agreements (Marczak et al., 2015; Pruett et al., 2005).

Section 4: Programs for parents from community samples.

Programs characteristics.

Program targets. Three prevention programs from four RCTs were included in this section. These programs proposed prevention in various aspects of coparenting (Parenting-focused Intervention, C. P. Cowan, Cowan, & Barry, 2011) or on interparental conflict (Happy Couples and Happy Kids, Faircloth & Cummings, 2008; Family Communication Program, Miller-Graff et al., 2015).

Intervention strategies. Three different strategies were identified. Each program implemented one or two strategies: (1) psychoeducation on constructive versus destructive conflict and on the importance of children's emotional security (Cummings, Faircloth, Mitchell, Cummings, & Schermerhorn, 2008), (2) skills training on communication and constructive conflict (Cummings et al., 2008; Miller-Graff et al., 2015), and (3) group

discussion regarding parents' daily difficulties. The goal was to share experiences and create social resources within the group (C. P. Cowan et al., 2011).

Discussion

This systematic review aimed to offer an overview of the existing coparenting-based programs and their efficacy. By reviewing 27 RCTs (38 distinct papers) on 21 programs for parent couples, this paper investigated three aspects: (1) the methodological quality of each study (2) the efficacy of the programs and (3) their characteristics.

Methodological Quality of Studies

The methodological evaluation of studies indicated that some information was regularly missing or unclear and could thus reflect existing bias in the studies such as blindness and attrition rates. Nonetheless, a majority of the included studies admirably fulfilled the CASP. Only two studies of 27 had to be removed. Furthermore, among the remaining 25 studies, 20 adequately answered at least seven of the 11 criteria.

Meta-analysis

The meta-analytic approach of this paper demonstrated modest evidence of the global effect of coparenting-based programs. The overall effect size was small. This finding is consistent with other meta-analyses revealing small effect sizes as they computed the effects of parenting education (Pinquart & Teubert, 2010) and of other psychological interventions for couples (Badr & Krebs, 2013).

This meta-analysis contributed to identifying the influence of study designs on the estimated effect size. Studies including a waiting-list group as control condition tended to report larger effects than other study designs. This observation corroborates precedent findings describing the waiting list control as not equivalent to a no intervention control, and furthermore, as a nocebo condition (Furakawa et al., 2014). However, our sample included

only two studies with a waiting list condition. It is thus unlikely that our overall effect could have been significantly inflated by this artifact.

Meta-analyses on outcomes revealed that we did not obtain evidence to support the effect of coparenting-based programs on children's adjustment as reported by parents and teachers. The estimated effect size was not significantly different from zero. This finding is surprising given the existing literature on the associations between coparenting and child's adjustment (Teubert & Pinquart, 2010). One explanation for this absence of result could be linked to the fact that child-related outcomes are distal. Child's adjustment should only have been measured at long-term to allow the detection of positive spillover effects which imply long processes (Miller-Graff et al., 2015). However, we included studies assessing child's adjustment from immediately after the end of intervention to 7 years later. A second explanation could be related to the measured outcomes as they mainly referred to behavioral aspects of children's adjustment. Emotional competences and internalizing problems were only assessed in four out of nine studies. Research has shown that negative coparenting can affect children differently (more on internalizing or externalizing problems) depending on children's characteristics such as gender or used coping strategies when facing conflicts (Davies, Martin, Sturge-Apple, Ripple, & Cicchetti, 2016). Studies should therefore include both behavioral and emotional aspects of child adjustment to ensure identification of potential changes on every level of children's adjustment. Finally, we noted that only nine studies out of 16 reported on child-related outcomes. When reviewing studies excluded from the metaanalysis, proportion of studies including child-related outcomes was even lower. RCTs were not inclusive in their choice of primary outcomes. However, promoting children's well-being appears as one of the main reasons to propose coparenting-based programs. Further research is needed to ensure programs' benefits for children. Therefore, RCTs on coparenting-based

programs should systematically include long-term measures of children's socio-emotional development.

Review of the Programs

The review of the programs summarized the characteristics of 19 existing coparenting-based programs. Depending on the population targeted, programs addressed different aspects of the couple relationship. Programs for separated or divorced parents and for parents drawn from community samples only worked on the coparenting relationship contrarily to programs for at-risk families and first-time parents which proposed interventions with numerous foci such as coparenting, parenting and, or romantic relationship. This finding could be interpreted in light of the historical development of coparenting-based intervention. Indeed, researchers on divorce were the first to systematically investigate coparenting and its impact on children's adjustment (Feinberg, Brown, & Kan, 2012). Regarding programs for first-time parents and at-risk families, targeting the coparenting relationship appeared to be a new development. Indeed, several previous programs proposed intervention for those families through, for example, couple relationship enhancements (P. A. Cowan & Cowan, 2014) or parenting education programs (e.g., Cowen, 2001; Pinquart & Teubert, 2010). Coparenting as a target of intervention was thus included afterwards.

We identified similar intervention strategies through the different programs regardless of the targeted population. Psychoeducation appeared to be the most frequent strategy. Eleven of the 19 programs proposed psychoeducation to the four populations under study in this paper. This finding is in line with existing reviews presenting the relevance of psychoeducation across a wide range of settings for different populations (Lukens & McFarlane, 2004). Psychoeducation presents research-based information to increase parents' awareness regarding the key role of coparenting for the family functioning and the child well-being. Raising parents' awareness on the importance of coparenting could facilitate their

engagement in the program and increase their motivation to improve the quality of their coparenting relationship.

Two other strategies frequently used by programs were the elaboration of a coparenting plan (6/19) and skills training through activities such as role playing, homework and games (10/19). Both strategies appeared relevant to facilitate applications of the program's learning at home.

Elaboration of a coparenting plan aims to help couples to clearly share parenting responsibilities and define task division. Programs frequently worked not only on the elaboration but also on the implementation of the plan as parents are invited to identify barriers and the adjustment to overcome these barriers (Doherty et al., 2006). Programs clearly addressed the difference between expectation and reality and contributed to strengthening the effective introduction of the coparenting plan (Doss et al., 2014). The coparenting plan was only proposed to first-time parents and separated or divorced parents. Indeed, addressing roles and task division is especially important during family transitions to build or adjust the coparenting relationship (McHale & Lindahl, 2011). However, working on a coparenting plan can be important outside transitions to address parents' cooperation and their satisfaction regarding their functioning, such as in traditional couple therapy (de Roten et al., 2018). For example, the parents may no longer agree on task division due to marital conflicts or to difficulties on adjusting to their child's changing needs.

Skills training was mainly focused on coparenting support and communication which are both crucial dimensions of a good quality coparenting relationship (McHale & Lindahl, 2011). Regarding support, programs encouraged parents to give constructive feedback to each other about their respective interactions with the child (Ireland et al., 2003) or about their parenting competencies (Doherty et al., 2006). In addition to enhancing support, interventions also aimed to decrease undermining, for example by coaching parents to limit their

involvement in each other's attempts to manage the children (Sanders et al., 2000). This focus on coparenting support, and by extension on undermining, reflects empirical findings that associate these dynamics to the quality of parent-child relationship (Bonds & Gondoli, 2007; Schoppe-Sullivan et al., 2016). Furthermore, as they trained their communication skills, parents learned how to constructively communicate to foster a caring relationship and address disagreements through problem solving. Although being broader than the coparenting relationship, communication is of paramount importance to ensure cooperation and teamwork between coparents. Moreover, communication problems such as interparental conflicts appears to be associated with children's psychological problems (Teubert & Pinquart, 2010). Interparental conflicts in front of children appear to lessen children's emotional security (Davies, Coe, Martin, Sturge-Apple, & Cummings, 2015).

It could be interesting to systematically propose these three strategies within coparenting-based programs. We identified two programs that already integrate all these strategies (Doherty et al., 2006; Florsheim et al., 2011). These strategies are complementary because psychoeducation enhances information and then skills training and coparenting plan increase parents' willingness to apply this new information about coparenting in their daily life with specific tools and the competencies to use them. For example, parents that increased their awareness of the impact of their coparenting on their children may be motivated to clearly share childrening and constructively address their disagreements regarding the children to enable mutual support and to cooperate as a team.

Limits

This review and meta-analysis present some limitations. A first limit of our meta-analysis was linked to the limited number of studies included in our sample. The meta-analysis was then based on a heterogeneous sample of studies. A larger sample could have contributed to strengthening our results by reducing heterogeneity. Investigations of

moderators failed to explain the heterogeneity of our sample which remained moderate throughout the analyses. This heterogeneity prevents us to assert that the effects were due to the intervention only and not to random effects (Higgins & Green, 2008). Moreover, as one of our purpose was to provide an overview of the existing coparenting-based programs, our review broadly focused on common characteristics of the programs investigating main objectives of the programs and some practical information on their operationalization.

Deepening our review by exploring program manuals could have highlighted the precise procedure of the program (used games and exercises, or topics addressed in discussion, etc.). This description could be relevant for future programs on coparenting as well as for clinicians in general.

Conclusion

Based on high-quality studies, our meta-analytical review offers modest support with a small effect size on coparenting, parent-child relationship, romantic relationship and parents' well-being. This paper contributes to clarifying the relevance of coparenting-based programs to promote families' well-being. Indeed, coparenting-based programs appeared to induce changes on several levels of family functioning in both vulnerable families presenting risks of dysfunctions and families with no apparent major difficulties. This paper also identified potential improvements regarding methodological aspects of studies as well as practical aspects of the programs. Program efficacy could maybe be enhanced by several measures. A first improvement would imply adapting the program material to reduce constraints for participants and increase parents' attendance to programs. Authors have also suggested that at-risk populations benefit more clearly from interventions (Halford & Bodenmann, 2013; Martire, Schulz, Helgeson, Small, & Saghafi, 2010). Therefore, focusing on populations with important modifiable risk factors could increase intervention efficacy. Our analyses support this hypothesis as programs for at-risk families showed a significant small effect with a

smaller confidence interval than other subgroups. Study should also systematically measure child-related outcomes at long-term to clarify the scope of effect on children. Concerning programs, some strategies of intervention appeared congruent through the review. Proposing them more systematically could increase program efficacy.

In conclusion, although the above adjustments would be beneficial, we revealed a small effect of coparenting-based programs on multifarious family-related outcomes for different types of populations. These programs thus appear relevant as prevention among parents based on psychoeducation, skills training and elaboration of a coparenting plan can benefit the whole family more broadly. Coparenting-based programs propose an effective approach to family prevention and intervention and should be increasingly supported by social policy.

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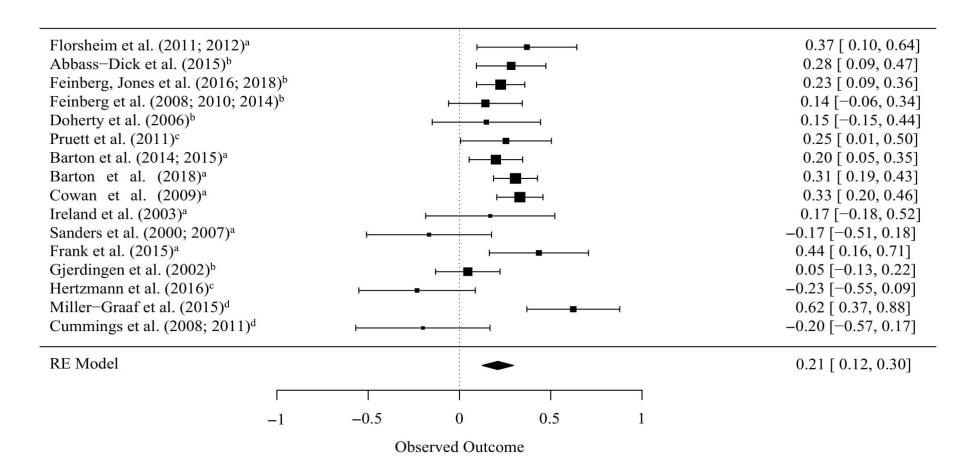
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Figure 1
Forest Plot of the Overall Effect of Coparenting-Based Programs



Note. Effect sizes correspond to Hedge's g with a 95% confidence interval.

^aPrograms for at-risk families. ^bPrograms for first-time parents. ^cPrograms for divorced or separated parents. ^dPrograms for parents from community samples. RE Model = random effects model.