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FAMILY PROCESS

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# The efficacy of postdivorce intervention programs for children: A meta-analytical review

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## Abstract

Preventive postdivorce interventions aim to help children cope with divorce and promote their adjustment. Nevertheless, questions remain regarding the concrete outcomes of these interventions and the intervention characteristics that influence them. This meta-analysis of 30 studies analyzes the efficacy of postdivorce interventions on children's symptomatology, personal resources, and adaptation to divorce. Likewise, it explores whether the intervention impacts the putative mediators from the family context and whether the characteristics of the studies themselves also influence the results. Using a data set of $N = 4344$ individuals, 258 effect sizes were calculated. Random effects analyses evidenced the impact of the interventions on specific variables instead of on children's global adjustment. There were no significant effects on children's mental health outcomes, and none of these effects were qualified by the moderators that were examined. Preventive postdivorce interventions had significant effects, specifically on children's divorce adjustment and self-esteem. The study of the moderators found that the interventions were generally homogeneous, and only one of the 20 moderators examined had a significant effect. Based on children's age, the interventions had an impact on family functioning only when they involved younger children, but this result should be interpreted with caution due to the small sample of studies. This meta-analysis provides evidence of the relevance of postdivorce interventions to critical variables as well as information about the role of the intervention characteristics in the effects and makes suggestions for future research on divorce interventions that encompass both practical and empirical developments.

**KEYWORDS**

children, divorce, efficacy, intervention, meta-analysis

# THE EFFICACY OF POSTDIVORCE INTERVENTION PROGRAMS FOR CHILDREN

Starting in 1970, divorce rates have increased notably in the Western world. Approximately 1 million European families are divorced each year (Instituto de Política Familiar, 2018). According to the Eurostat (2019) inquiry, the European average is 38.5 divorces per 100 marriages, with the highest rates occurring in Luxembourg (i.e., 89 divorces per 100 marriages), followed by Portugal, Ukraine, Finland, and Spain. In the United States, similar rates have been found, with more than 50% of families divorced (Kennedy & Ruggles, 2014).

Although most children whose parents divorce cope positively with the marital dissolution, there is evidence that divorce increases children's probability of negative psychological consequences. Children from divorced families not only have behavioral, emotional, sleeping, eating, and academic problems but also exhibit poorer psychological adjustment, self-esteem, social skills, and emotional ties with their parents than do children of nondivorced families (Amato, 2014; Amato & James, 2010). A recent meta-analysis by Auersperg et al. (2019) estimates that parental divorce increases 1.12–1.64 times the probability of long-term mental health problems such as anxiety, depression, suicidal ideation, or drug consumption.

However, it is important to underline the high interpersonal variability in children's adjustment to divorce. There are not only differences in how the discomfort is expressed (i.e., behavioral, psychological, or physical) but also in the level of impact of the divorce itself, as not every child is negatively affected by the dissolution of their parents' marriage (Amato, 2014; van Dijk et al., 2020). Grych (2005) highlights the importance of the mechanisms and processes through which divorce impacts children negatively, as well as the protective factors in that process. In fact, it is not the divorce itself but the stressful contextual factors (i.e., changes of school/home, interparental conflict, changes in the parent–child relationship, etc.) that can lead to negative consequences for children (Amato, 2000, 2014; Mills et al., 2021; Selçuk et al., 2020). Moreover, some children's personal resources, such as self-esteem (Hetherington, 2014; van der Wal et al., 2019), act as protective factors that help them to successfully adjust to divorce (Kelly & Emery, 2003; Lansford, 2009). Not surprisingly, a wide range of approaches and interventions have been developed that address the above-described factors.

## Preventive interventions for children from divorced families

Among all types of intervention, preventive postdivorce programs have been considered especially fruitful, with their emphasis on helping children cope effectively with divorce before the development of more severe difficulties related to externalizing or internalizing symptoms (Haine et al., 2003; Pelleboer-Gunnink et al., 2015). Preventive interventions are proposed not only when the divorce occurs but also even years later, as some risk factors related to the divorce can last for long periods due to problems such as custody or wear and tear on the parental relationship that affects parent–child relationships (Amato, 1994).

Preventive postdivorce interventions are generally characterized as being focused on the promotion of protective resources and include information about the divorce, its impact, and related psychological processes (e.g., understanding the divorce process, emotion regulation, or parenting practices) and are implemented in groups.

Some of these interventions work directly with children, whereas other programs have been developed to aid children's psychological wellbeing by helping parents improve family functioning. Child-oriented interventions have been especially focused on the development of strategies to help children cope with divorce-related transitions, as well as to develop other personal resources (López-Larrosa, 2009). Besides, parent-oriented interventions have been developed to indirectly ameliorate the negative effects of divorce on children by helping parents develop effective parenting

skills, reduce interparental conflict, and improve parent–child relationships (Grych, 2005), but they must be differentiated from interventions aimed at the parents' psychological well-being (Grych & Fincham, 1992).

Regardless of which approach is taken, one of the main goals of postdivorce intervention studies has been to analyze how the interventions reduce the negative impact of divorce on children by measuring outcomes in terms of symptomology (e.g., Boring et al., 2015; Sandler et al., 2020).

Children's personal resources, such as self-esteem, locus of control, and coping strategies, have also been considered as outcomes in these interventions. Empirical research findings suggest the effectiveness of this type of intervention, with participants of the experimental condition obtaining higher scores in those outcomes (Roherty, 2000; Short, 1998; Stolberg & Garrison, 1985). Preventive postdivorce programs have also been shown to be effective in dealing with misconceptions about divorce, obtaining positive changes in children's attitudes and beliefs about separation (Botha & Wild, 2013; Roseby & Deutsch, 1985). These personal resources and adaptation to divorce are desirable intervention outcomes in their own right that indicate children's better psychological adjustment and can also act as mediators of the intervention effects on children's mental health problems (Roherty, 2000).

An alternative, as mentioned previously, is to work with parents to help their children. The mediating mechanisms of these interventions differ from those in the intervention with children. Whereas the interventions with children focus on the promotion of their resources and adaptation to divorce, the interventions with parents have analyzed family factors that may be mediating variables in the effectiveness of these programs on a child's well-being. For example, the quality of the parent–child relationship has a mediating effect in the intervention on children's well-being (Forgatch et al., 2009; Tein et al., 2004; Zhou et al., 2008).

In all, while studies aimed both at parents and children describe the efficacy of preventive postdivorce programs, findings regarding the concrete effects of these interventions are inconsistent (Poli et al., 2017), with several studies showing no direct effects or only in a small proportion of the mental health indicators (Alpert-Gillis et al., 1989; Boring et al., 2015; Botha & Wild, 2013; DeGarmo & Jones, 2019; Sandler et al., 2018). Consequently, more research is required to understand the specific outcomes in which the interventions are effective and the relationship of these mechanisms of action with changes in children's psychological health (DeGarmo & Jones, 2019).

Moreover, there is still no consensus on the most effective intervention characteristics. In this regard, many researchers have indicated the need for more research on the sample, intervention, and study characteristics that could influence the intervention effects (e.g., Boring et al., 2015; Pelleboer-Gunnink et al., 2015; Sandler et al., 2020).

Regarding the sample, the sociodemographic characteristics (e.g., country, children's age, parent's gender, education, time since divorce, etc.) can highlight groups for which the interventions are more or less effective (Sandler et al., 2020). The differences between countries in economic and contextual factors can influence attitudes toward divorce and parent–child relationships (Rijken & Liefbroer, 2012). Although research on the impact of the country on the effects of postdivorce interventions is limited, Klein Velderman et al. (2018) observed that their effectiveness in countries other than the United States could be reduced, which indicates the need to understand the differences in intervention effects by country.

Besides, low parental educational level has been previously related to worse divorce consequences for children (Amato, 2000; Gähler & Palmtag, 2015; Mortelmans, 2020) and parents (Cipric et al., 2021). Nevertheless, the literature regarding the role of educational level on postdivorce intervention effects is scarce (Cipric et al., 2021). To our knowledge, only the study of Feinberg and Kam (2008) directly addresses the moderating effect of parental education on children's intervention outcomes. These authors observed that interventions might be more effective for children of parents with lower education (Feinberg & Kam, 2008).

Sandler et al. (2018, 2020), Cookston et al. (2007), and Pelleboer-Gunnink et al. (2015) observed that children's age, time since divorce, or gender might influence the intervention effects. Nevertheless, whereas some results clearly present the direction of the influence of these variables, such as,

for example, those who are more recently divorced benefit more (Pelleboer-Gunnink et al., 2015; Stathakos & Roehrle, 2003), the information regarding the differences in the intervention efficacy between sociodemographic groups is still scarce and contradictory, so more research is needed in this regard (Sandler et al., 2020).

Information about the influence of intervention characteristics such as the number of sessions, the length, the type of sessions (e.g., individual or group), the context of implementation (e.g., school or judicial contexts), or the participants (e.g., parents or children) is still scarce but it is important to clarify the procedures that make the programs more effective (Botha & Wild, 2013; Klein Velderman et al., 2018). For example, although a high number of sessions in the program can limit the applicability of the intervention, the number of sessions should not influence the intervention effects if their main aspects are considered (Feinberg & Kam, 2008). Likewise, although a longer intervention or the application of individual sessions may be linked to stronger effects (Graham et al., 2012), Stathakos and Roehrle (2003) found that longer sessions led to worse effects than shorter ones. The context of implementation might also be important, as interventions in the school context may also provide greater benefits than those developed in other contexts (e.g., judicial or clinical contexts) (Durlak & Wells, 1997), and they seem to impact differently depending on whether parents or children participate directly in the intervention (Lee et al., 1994).

Finally, the study characteristics may also influence the intervention effects. Methodological aspects such as the sample size are linked to the study's statistical potency to find significant effects, which may confound the intervention's real effects (Pelleboer-Gunnink et al., 2015). The year of publication may also influence the results, as a meta-analysis on the negative impact of divorce on the offspring of divorced parents showed that this impact was lower in more recent studies (Auersperg et al., 2019), and this could also influence the intervention effects. Moreover, the impact of divorce interventions on children also differs depending on the informant who completes the protocols (e.g., parent, child, or teacher) and also in this aspect contradictory results have been found (Forgatch et al., 2009; Klein Velderman et al., 2018).

Regarding the study design, random allocation of participants to the control or intervention group is the most desirable design to balance the confounding variables between groups, but its impact on the divorce interventions is uncertain (Fackrell et al., 2011). In the same vein, several authors have pointed out that the use of active controls (Furukawa et al., 2014) or incentives for participating (Giles et al., 2014; Mitchell & Pakosh, 2013) can influence intervention effects in other areas of study such as behavioral changes or clinical interventions. Nevertheless, the influence of the methodological features in postdivorce interventions is still unclear. To summarize, it is relevant to examine the effectiveness of the interventions and to identify which factors best explain the differences between programs to reduce the negative effects of divorce in children.

## Previous meta-analyses of interventions for children from divorced families

To answer the previous research concerns, diverse meta-analyses have been conducted. Concretely, Lee et al. (1994) conducted the first meta-analysis with 15 studies of interventions for families undergoing divorce, including programs targeting both children and parents. Results showed an effect size ranging from $d = 0.00$ to 0.82. Despite its valuable results, this meta-analysis presents some limitations, such as the small sample size of the studies, the lack of composite effect sizes, and the noninclusion of some relevant moderators. More broadly, Durlak and Wells (1997) conducted a large meta-analysis of 177 preventive interventions for children and adolescents, in which they included some programs targeting children of divorced parents, obtaining a mean effect size of 0.36. However, considering that only seven programs focused on divorce were analyzed, the data of this meta-analysis could not be generalized to the divorce context. Stathakos and Roehrle (2003) did obtain consistent results in their quantitative review. Concretely, based on the data of 24 studies with 1615 children and adolescents who participated in diverse intervention programs for children from divorced families, they analyzed

24 independent effect sizes, obtaining a mean of $d = 0.43$. Nonetheless, this study did not examine potential moderators that may explain the efficacy of the intervention, such as the sociodemographic characteristics of the individuals involved. Finally, another meta-analysis was conducted by Fackrell et al. (2011). These authors improved some of the prior methodological concerns and updated the data to a broader, statistically more solid level. They analyzed 10 studies with control-group designs with a mean effect size of 0.39, and 9 studies with one-group pre-post designs with a mean effect size of 0.21. Nevertheless, the studies targeted only court-mandated programs directed at parental education, thereby taking into account only a few of the posible intervention programs focused on reducing the negative impact of divorce on children. Moreover, they collapsed post and follow-up measures to observe the effect sizes, so short- and long-term effects were confounded.

Summarizing, despite their valuable results, these meta-analyses presented some limitations, such as small sample sizes, different focus (i.e., only on court programs or not explicitly on divorce), or the noninclusion of relevant moderators. Therefore, the research question regarding which intervention features are most effective remains unanswered. The present meta-analysis was conducted to provide answers to these questions, and thereby, to address the limitations of the previous body of research. Specifically, this study provides an update of the research on the efficacy of postdivorce interventions for children from divorced families, taking into account both the interventions implemented directly with children and those implemented with parents. Children's symptomatology, personal resources, and adaptation to divorce will be measured, using a greater sample size than those used in previous meta-analyses. A second objective of this study is to determine whether the programs are effective in promoting family characteristics considered to be putative mediators. Third, due to the inconsistencies exhibited in the previous findings on the efficacy of interventions, this meta-analysis examines the role played by the particular methodological features of the studies, the sample characteristics, and the program particularities, with a total of 20 moderators. In this way, we can examine the conditions that maximize the positive impact of divorce interventions on children and develop adjusted programs accordingly. Finally, coping, self-esteem, self-concept, negative divorce perceptions, and divorce adjustment will be examined as children's putative mediators on mental health problems, and interparental conflict, family communication, and the quality of the parent–child relationship will be examined as a putative mediator of the family context to examine the indirect intervention effects.

# METHOD

## Meta-analytical procedure

The current meta-analysis was developed in five steps: (1) literature search, (2) identification of the studies, (3) study coding, (4) assessment of the reliability of the computation, and (5) data analysis strategy.

### Literature search

Two procedures were followed in the literature search. First, a deep search of various databases was conducted: PsycNet, Web of Science, SCOPUS, ProQuest, EBSCOHost, Google Scholar, PubMed, and Education Resources Information Centre (ERIC). In an effort to limit the search to suitable data, parameters were specified that narrowed searches to studies reported in Spanish or English. Moreover, diverse keyword combinations were searched in both languages: Intervention, evaluation, program/programme, prevention, efficacy, effectiveness, divorce, separation, children, and symptomatology. There were no restrictions on the initial date of publication so as to identify the most representative study sample up to 2021.

After the systematic search in databases, the references of relevant studies (i.e., previous reviews, meta-analyses, and the studies included in the present research) were examined to check for missed or unpublished studies that could match the present meta-analysis criteria. Specifically, the search was focused on identifying possible divorce interventions that could be referenced in those relevant studies. Unpublished literature was also searched by emailing the corresponding authors of the identified studies. Thus, it was possible to include sources that were not identified in the database search. In this process, journal articles and doctoral theses obtained through these searching procedures were included.

## Identification of the studies

The flowchart in Figure 1 details each step of the entire search process. The initial search found 3304 journal articles, dissertations/theses, and book chapters, of which 2794 were excluded because they were not empirical studies or because the title suggested content that was not relevant for this meta-analysis.

A total of 510 abstracts were reviewed to determine eligibility. The studies presented in the articles had to meet four criteria to be included in the meta-analysis. First, the study presented the results of an intervention focused on reducing the negative consequences of divorce on children. Those studies that did not use direct measures of children's outcomes (e.g., anxiety, aggression, and self-esteem) were excluded. Second, the study measured the efficacy of the program or intervention implemented in terms of the personal resources and mental health outcomes of children. Third, the study was an experimental or quasi-experimental design that compared the intervention condition with a control group without the divorce intervention. Finally, only studies that presented pre-post measures were included, this being an essential condition to evaluate the efficacy of a program. The papers were carefully reviewed to exclude "repeated samples" when the authors reported a previous paper in which the data were already presented. Thus, each sample was included only once.

The final sample was composed of 53 preventive postdivorce interventions, 30 of which provided the necessary outcome data to calculate the effect size. The missing data of the remaining articles were requested from the respective authors, but no information was obtained. Therefore, a total of 30 studies constituted the sample for the meta-analysis. The studies are presented in Table S1 and their principal characteristics in Table S2.

## Study coding

Twenty-one dependent variables were included in the current study, grouped into two categories: children's adjustment and family functioning. The computation of broad categories in addition to specific variables allows us to understand the effects of the intervention in concrete variables and the main areas of children's lives.

Children's adjustment was operationalized as all the outcomes of the interventions that impact children's mental health, personal resources, and adaptation to divorce. Mental health includes general symptomatology, internalizing symptoms (i.e., depression, anxiety, and anxiety/depression), and externalizing symptoms (i.e., aggressiveness, behavioral problems, learning problems, and negative peer relationships). Personal resources included the children's transitional competencies (i.e., self-concept, self-esteem, and coping). Adaptation to divorce comprehends the adjustment to divorce and negative divorce perceptions. Family functioning was operationalized through interparental conflict and the parent–child relationship.

Each of the 30 studies was entered in the coding spreadsheet, which also included the variables that might explain the effects of the intervention, such as sociodemographic characteristics and methodological features. Concretely, we coded 20 moderators: publication year, sample size, active

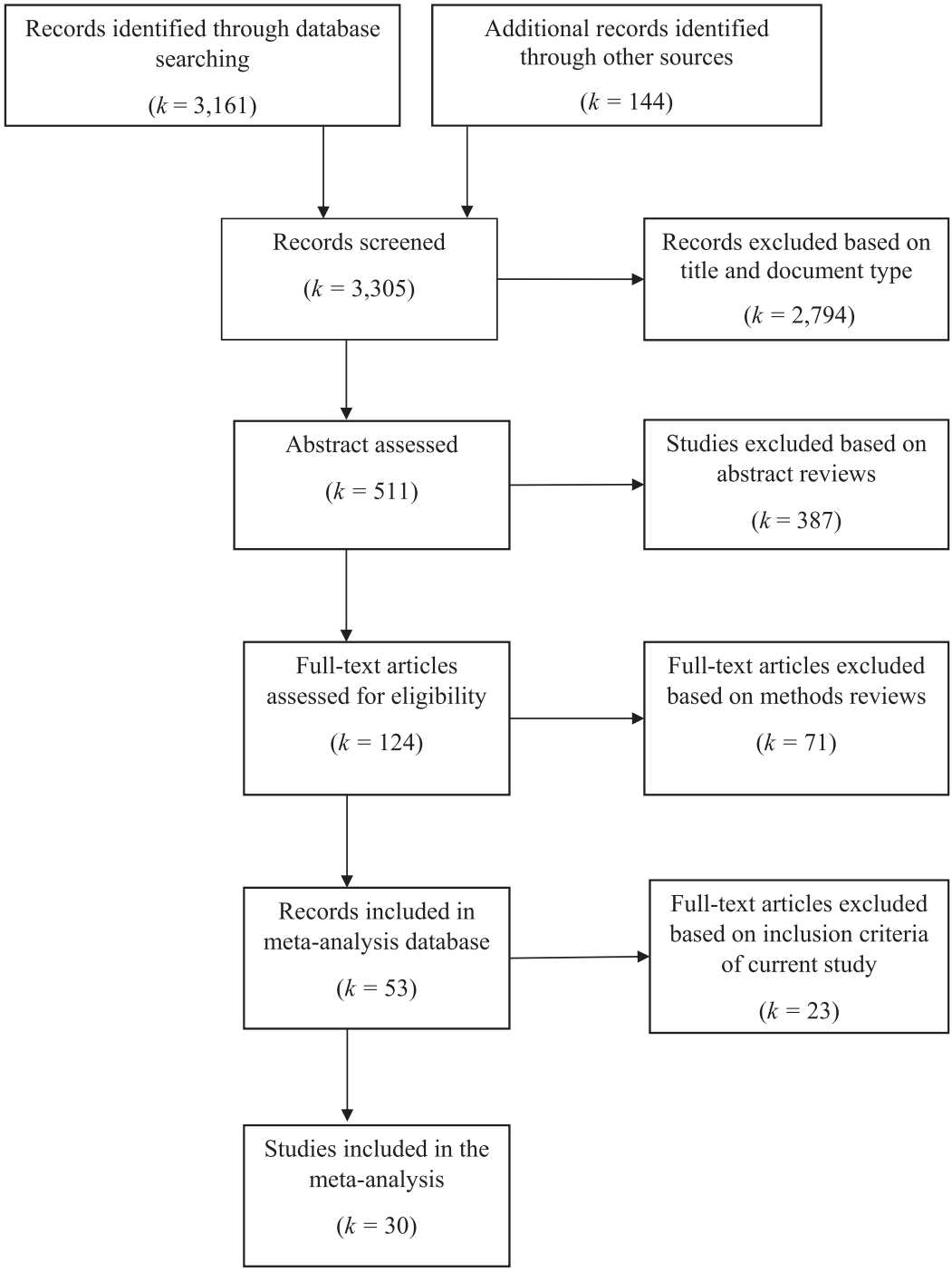


**FIGURE 1** Flowchart of the search and screening process.

control, informant, participant, application context, country, number of intervention sessions, duration of the intervention sessions, session type, high education, new parents' partner, parents' gender, children's gender, children's age stage, time since divorce, custodial parent, incentive for participation,

recruitment context, and the random allocation of participants. See Table S3 for the coding scheme and Table S4 for the codification of the moderators per study.

## Reliability of the computation

Two evaluators from the research team extracted information pertinent to answering the research questions. The average interrater percentage of agreement across the study variables was 98%. Most of the disagreements concerned minor errors in the coding process, which were discussed and resolved. Some of the categories were not clearly explained in certain studies and had to be interpreted by the coders.

## Data analysis strategy

We carried out the analyses using the Comprehensive Meta-Analysis v3.0 (Borenstein et al., 2013) computer program. Effect sizes reflect the comparative pre-post change of the intervention and control groups. To summarize the effect sizes, we used Hedges' *g*, a corrected effect size similar to Cohen's *d*, which uses pooled weighted standard deviation. Hedges' *g* outperforms Cohen's *d* when sample sizes are small (Ellis, 2010). Hedges' *g* can be interpreted like Cohen's *d*, so effect sizes below 0.20 were considered small, between 0.20 and 0.50 medium, between 0.50 and 0.80 large, and above 0.80 very large effects (Cohen, 1988).

Our data set consisted of 258 effect sizes from 30 primary studies. Therefore, most of the studies reported more than one effect size, so a single averaged effect size was computed per study (Card, 2012). Next, we estimated a random-effects model to compute each pooled effect size estimate. This pooled effect size accounts for two different sources of sampling error: between-study variability in effect sizes (the variation in the observed effect of each study compared to the true effect for that sample of studies) and also the partition of that heterogeneity that it is not explained by the sampling error of each study (the variation of the true effect size between studies), which is assumed to represent the variability between samples from a general population (Borenstein, Hedges, & Rothstein, 2007; Borenstein, Hedges, Higgins, et al., 2007; Card, 2012). Fixed effects only take into account the first type of variability, so random-effect models lead to more accurate results (Borenstein, Hedges, & Rothstein, 2007; Borenstein, Hedges, Higgins, et al., 2007) and allow the generalization of the observed results of the selected sample of studies to the potential population of studies (Card, 2012). In addition, we examined $Q$ and $I^2$ statistics to test the degree of homogeneity/heterogeneity of the estimated effect sizes. A significant $Q$-test indicates significant variability between studies. Similarly, $I^2$ indicates the percentage of heterogeneity between studies, so values over 25% can be considered indicators of low variability, over 50% moderate, and over 75% high (Higgins et al., 2003).

Publication bias analyses were calculated with Kendall's and Egger's tests. Both tests examine the presence of publication bias by testing the asymmetry of the effect-size distribution around the meta-analytic compounded effect-size estimate. A significant test indicates that publication bias exists, and large samples are more likely to be represented than small samples despite the size of their effect sizes (Begg & Mazumdar, 1994; Egger et al., 1997).

In addition to estimating the compounded effect sizes, we examined the role of the study characteristics in explaining the heterogeneity observed in the effect sizes for children's psychosocial well-being and family functioning. Concretely, we developed mixed-effect meta-regression models for each of the moderators to observe the effect on between-study variance in cases in which the $Q$-test was significant and the $I^2$ was over 0.25, so important heterogeneity was present (Huedo-Medina et al., 2006).

Finally, we applied mixed-effect meta-regressions to determine the relationship between the observed intervention effects and the children's other outcomes and family functioning.

# RESULTS

## Overview of the studies

The sample consisted of 30 studies (see Table S2) of which 83% ($k = 25$) reported data about children's symptomatology, 33% ($k = 10$) assessed children's personal resources, 47% ($k = 14$) reported data regarding children's adaptation to divorce, and 17% ($k = 5$) assessed family functioning.

The participants of the intervention programs were children in 19 of the 30 studies (63%) and parents in 8 of the 30 studies (27%), while both parents and children participated in 3 of the 30 studies (10%). The recruitment of participants (53%) and the interventions (57%) were carried on mostly in school contexts. Eighty-six percent of the research was carried out in the United States.

The intervention programs lasted for an average of 10.67 sessions ($SD = 2.89$, range = 2–16). Each session lasted between 30 and 105 min ($M = 63.00$, $SD = 23.39$). The interventions were applied mostly in group format (80%) compared to individual format (7%) or mixed formats (13%). Most of the studies were developed with nonrandom allocation of participants (63%) and a waiting-list control group (86%). The participants received no economic incentive in the majority of the programs (83%).

The parents, on average, had been divorced for 24.86 months ($SD = 18.87$). The mean percentage of highly educated parents was 74% ($SD = 14.65$). Only six studies reported custody rights, of which 83% reported samples of custodial parents.

Concerning the children in the studies, girls made up an average of 46% ($SD = 17.75$) of the samples. Nearly every study reported preadolescent children (9–12 years) in their samples ($k = 25$, 93.3%), as opposed to first infancy children (0–3 years), who were present in only one of the 30 studies (3.3%). Early-infancy children (3–6 years) were assessed in 6 of the studies (20%), middle-infancy (6–9 years) in 18 of the studies (60%), and adolescents (12–18 years) were assessed in 13 of the cases (43.3%).

## General outcomes

The primary goal of our study was to observe the effects of postdivorce interventions on children's psychosocial well-being. As displayed in Table 1, the composite random effects estimate of the effect of postdivorce interventions was not statistically significant, with a value of 0.12 ($p = 0.071$). For this sample of studies, postdivorce interventions did not show a significant positive effect on the global functioning of children. Nevertheless, the intervention had a significant random estimated effect on concrete outcomes.

Regarding children's symptomatology, the interventions showed no significant effect on global symptomatology ($\delta = -0.08$, $p = 0.222$), internalizing symptoms ($\delta = -0.14$, $p = 0.066$), or externalizing symptoms ($\delta = -0.09$, $p = 0.230$).

Regarding children's personal resources, the estimated random effect on self-esteem was significant ($\delta = 0.56$, $p = 0.027$), indicating a large effect size of the postdivorce interventions in children's positive self-perception. In the case of adaptation to divorce, results showed that the interventions did not have a significant effect ($\delta = 0.28$, $p = 0.054$), but they had an effect on children's divorce adjustment ($\delta = 0.70$, $p = 0.002$).

The secondary goal of our study was to observe the effects of postdivorce interventions on family functioning as putative mediators of the family context. Of the 30 studies, only five provided data about family functioning. The results of this subsample of studies indicated the absence of significant random estimated effect sizes (see Table 1).

As observed by the $Q$ and $I^2$ statistics (see Table 1), the great majority of estimated effect sizes showed no significant between-study variability, indicating high homogeneity. Exceptions to this homogeneity were anxiety/depression, family functioning, and parent–child relationships, which

**TABLE 1** Random effects of divorce interventions on children's adjustment and putative mediators from the family context.

| | Effect size | | | | | Heterogeneity | |
|---|---|---|---|---|---|---|---|
| **Outcome** | ***k*** | **Hedge's *g*** | **SE** | **95% CI** | ***z*** | ***Q*** | ***I*²** |
| Children's adjustment | 30 | 0.12 | 0.06 | [−0.01, 0.24] | 1.80$^{t}$ | 12.35 | <0.01 |
| Global symptomatology | 25 | −0.08 | 0.07 | [−0.22, 0.05] | −1.22 | 10.58 | <0.01 |
| Internalizing symptoms | 22 | −0.14 | 0.07 | [−0.28, 0.01] | −1.84$^{t}$ | 16.90 | <0.01 |
| Depression | 7 | −0.17 | 0.18 | [−0.51, 0.18] | −0.95 | 1.70 | <0.01 |
| Anxiety | 9 | −0.17 | 0.20 | [−0.56, 0.22] | −0.86 | 12.64 | 36.71 |
| Anxiety/depression | 8 | −0.16 | 0.22 | [−0.60, 0.28] | −0.71 | 14.38* | 51.33 |
| Externalizing symptoms | 20 | −0.09 | 0.07 | [−0.22, 0.05] | −1.20 | 10.81 | <0.01 |
| Aggressiveness | 11 | 0.15 | 0.16 | [−0.17, 0.46] | 0.92 | 15.65 | 36.10 |
| Behavioral problems | 9 | −0.08 | 0.09 | [−0.25, 0.10] | −0.86 | 3.07 | <0.01 |
| Learning problems | 6 | 0.01 | 0.01 | [−0.19, 0.21] | 0.11 | 1.25 | <0.01 |
| Negative peer relationships | 4 | −0.03 | 0.23 | [−0.47, 0.42] | −0.12 | 0.56 | <0.01 |
| Personal resources | 10 | 0.23 | 0.15 | [−0.06, 0.51] | 1.56 | 3.85 | <0.01 |
| Self-concept | 4 | 0.37 | 0.28 | [−0.17, 0.92] | 1.34 | 0.06 | <0.01 |
| Self-esteem | 4 | 0.56 | 0.25 | [0.06, 1.05] | 2.22* | 1.07 | <0.01 |
| Coping | 4 | 0.06 | 0.18 | [−0.30, 0.42] | 0.34 | 1.30 | <0.01 |
| Adaptation to divorce | 14 | 0.28 | 0.15 | [−0.01, 0.57] | 1.92$^{t}$ | 21.65$^{t}$ | 30.96 |
| Negative divorce perceptions | 11 | −0.07 | 0.13 | [−0.33, 0.19] | 0.52 | 6.91 | <0.01 |
| Divorce adjustment | 4 | 0.70 | 0.23 | [0.25, 1.14] | 3.09** | 4.89 | 38.70 |
| Family functioning | 5 | 0.63 | 0.46 | [−0.26, 1.52] | 1.39 | 22.30*** | 82.06 |
| Interparental conflict | 4 | −0.10 | 0.12 | [−0.34, 0.14] | 0.80 | 0.93 | <0.01 |
| Parent–child relationship | 5 | 1.01 | 0.80 | [−0.55, 2.57] | 1.27 | 71.45*** | 94.40 |

$^{t}p<0.10$, $*p<0.05$, $**p<0.01$, $***p<0.001$.

indicated significant between-study variability with medium (i.e., anxiety) and high heterogeneity (i.e., family functioning and parent–child relationships). Finally, Kendall's and Egger's tests indicated the absence of publication bias (see Table 2), except for behavioral problems, where large sample-sized studies could be overrepresented.

## Intervention effects by study characteristics

We examined the results of the mixed meta-regressions containing the effects of the moderators on the variables with heterogeneity in effect size (i.e., anxiety/depression, family functioning, and parent–child relationship) (see Table 3).

The moderators did not account for any significant between-study variability in the effect size of the intervention effects on anxiety/depression. Regarding family functioning, the results displayed in Table 3 indicate that year of publication, sample size, parent's gender, and children's age stage significantly explained between-study variance. Concretely, publication year and sample size were related to higher effect sizes, whereas a greater proportion of mothers in the sample was significantly related to a lower effect size, although these three effects were below the 0.20 criterion for small effects, indicating negligible effects (Cohen, 1988). Besides, the interventions that included early-infancy children showed a significant, large effect size ($\delta = 1.40$, $z = 3.04$, $p = 0.002$) on family functioning, while interventions that only included older-aged children had no significant pooled effect ($\delta = 0.18$,

**TABLE 2** Publication bias indices.

| Outcome | Publication bias | |
|---|---|---|
| | Kendall's test | Egger's test |
| Children's adjustmnent | 0.10 | 0.69 |
| Global symptomatology | −0.67 | 0.07 |
| Internalizing symptoms | −0.62 | 0.54 |
| Depression | <−0.01 | 0.08 |
| Anxiety | −0.31 | 0.28 |
| Anxiety/depression | −0.62 | 0.94 |
| Externalizing symptoms | −0.08 | 0.39 |
| Aggressiveness | −0.78 | 0.99 |
| Behavioral problems | −0.08 | 1.60 |
| Learning problems | −1.13 | 0.92 |
| Negative peer relationships | −1.02 | 0.26 |
| Personal resources | <0.01 | 0.87 |
| Self-concept | 0.34 | 1.24 |
| Self-esteem | 0.34 | 1.31 |
| Coping | 1.02 | 0.24 |
| Adaptation to divorce | 1.31 | 0.44 |
| Negative divorce perceptions | −1.09 | 2.12[t] |
| Divorce adjustment | 0.34 | 0.02 |
| Family functioning | 0.24 | 1.28 |
| Interparental conflict | <0.01 | 1.08 |
| Parent–child relationship | 0.24 | 1.37 |

[t] $p < 0.10$.

$z = 0.59$, $p = 0.556$). Nevertheless, the intervention effects on family functioning were calculated using only five studies (i.e., Graham et al., 2012; Martínez-Pampliega et al., 2015; Sandler et al., 2020; Wolchik et al., 1993, 2000), and only one study included early-infancy (i.e., Martínez-Pampliega et al., 2015). Therefore, the influence of age on the intervention effects on family functioning is not reliable.

The effect on parent–child relationship was not moderated by parents' gender or children's age as the composite variable (i.e., family functioning), but it was moderated by publication year and sample size, such that more recent studies with larger samples were linked to stronger intervention effects, such as the effects on family functioning. Nevertheless, the size also indicated that the effect was negligible (Cohen, 1988). No other moderation effect was significant.

## Consequences of the intervention effects

As a last step, we examined the relationship between the significant pooled intervention effects and children's global symptomatology, internalizing symptoms, externalizing symptoms, personal resources, and adaptation to divorce (see Table 4).

The meta-regression results indicated a significant relationship between adaptation to divorce and internalizing symptoms. Studies with a greater positive effect size of the interventions on adaptation to divorce also tended to report a greater reduction of internalizing symptoms ($z = 2.68$, $p = 0.007$), concretely, a reduction of negative divorce perceptions ($z = 2.19$, $p = 0.028$). The observed effect sizes

**TABLE 3** Meta-regression coefficients of moderation effects on children's anxiety/depression, family functioning, and parent–child relationship.

| | Anxiety/depression | | | Family functioning | | | Parent–child relationship | | |
|---|---|---|---|---|---|---|---|---|---|
| **Moderator** | ***k*** | ***Q*** | ***β*** | ***k*** | ***Q*** | ***β*** | ***k*** | ***Q*** | ***β*** |
| Year of publication | 8 | 0.38 | 0.01 | 5 | 20.26*** | 0.06 | 5 | 4.50* | 0.09* |
| Sample size | 8 | 0.80 | <0.01 | 5 | 20.79*** | <0.01 | 5 | 70.45*** | <0.01*** |
| Active control | 8 | 0.41 | 0.42 | 5 | 0.26 | 0.47 | 5 | 0.49 | 1.11 |
| Informant | 8 | 0.40 | | NES | | | NES | | |
| Parent | 3 | | −0.30 | | | | | | |
| Child | 1 | | 0.39 | | | | | | |
| Teacher | 4 | | <−0.01 | | | | | | |
| Participant | 7 | 0.75 | | 5 | | | 5 | 0.20 | |
| Parent | 3 | | 0.08 | 3 | | 0.70 | | | 1.21 |
| Child | 4 | | −0.42 | 1 | | 0.51 | | | −0.09 |
| Parent & Child | NES | | | 1 | | −0.62 | | | −0.96 |
| Application context | 7 | 0.29 | | NES | | | NES | | |
| School | 5 | | −0.36 | | | | | | |
| Special center | 2 | | 0.37 | | | | | | |
| Judicial | NES | | | | | | | | |
| Online | NES | | | | | | | | |
| Country | 7 | 0.47 | | 5 | | | 5 | 0.18 | |
| U.S. | 4 | | −0.30 | 4 | | 0.70 | 4 | | 1.16 |
| Spain | 2 | | 0.31 | 1 | | −0.48 | 1 | | −0.88 |
| Australia | NES | | | NES | | | NES | | |
| South Africa | 1 | | 0.56 | NES | | | NES | | |
| N sessions | 8 | 0.11 | 0.04 | 5 | 0.13 | 0.48 | 5 | 0.18 | 0.88 |
| Session duration | 8 | 1.14 | 0.01 | NES | | | NES | | |
| Session type | 8 | 0.41 | | 5 | 0.27 | | 5 | 0.17 | |
| Group | 7 | | −0.24 | 1 | | 0.23 | 1 | | 0.28 |
| Individual | NES | | | 1 | | 0.99 | 1 | | 0.83 |
| Mixed | 1 | | 0.42 | 3 | | 0.40 | 3 | | 0.89 |
| High education (%) | NES | | | NES | | | NES | | |
| New partner | NES | | | NES | | | NES | | |
| Parents' gender (Women %) | NES | | | 5 | 20.36*** | −0.03 | 4 | 3.08 | −0.04 |
| Children's gender (Girls %) | 7 | 0.02 | <0.01 | 5 | 0.21 | 0.02 | 5 | 0.01 | <0.01 |
| Children's age stage | | | | | | | | | |
| First infancy | 7 | 0.05 | 0.25 | 5 | 0.13 | −0.48 | NES | | |
| Early infancy | 7 | 1.42 | −0.76 | 5 | 10.52** | 1.26*** | NES | | |
| Middle infancy | 7 | 0.81 | 0.58 | 5 | 0.19 | −0.65 | NES | | |
| Preadolescence | 7 | 2.73 | 1.18 | 5 | 0.19 | −0.65 | NES | | |
| Adolescence | 7 | 0.31 | 0.43 | 5 | 0.54 | 0.72 | NES | | |
| Time since divorce | 5 | 1.24 | 0.02 | NES | | | NES | | |
| Custodial parent | NES | | | NES | | | NES | | |
| Incentive | 8 | 0.41 | 0.42 | 5 | 0.26 | 0.47 | NES | | |

**TABLE 3** (Continued)

| | Anxiety/depression | | | Family functioning | | | Parent–child relationship | | |
|---|---|---|---|---|---|---|---|---|---|
| **Moderator** | ***k*** | ***Q*** | ***β*** | ***k*** | ***Q*** | ***β*** | ***k*** | ***Q*** | ***β*** |
| Recruitment | 8 | 0.59 | | NES | | | NES | | |
| School | 5 | | −0.36 | | | | NES | | |
| Judicial | 1 | | 0.36 | | | | NES | | |
| Other | 2 | | 0.50 | | | | NES | | |
| Random allocation | 8 | 0.15 | −0.20 | 5 | 0.13 | 0.48 | NES | | |

*Note*: NES = Not enough studies ($k < 5$).

*$p < 0.05$, ** $p < 0.01$, ***$p < 0.001$.

of adaptation to divorce were not related to those of externalizing symptoms. Nevertheless, the intervention studies with greater negative effect sizes in externalizing symptoms reported significantly greater reductions of internalizing symptoms ($z = 3.74$, $p < 0.001$), with a significant effect of learning problems on internalizing symptoms ($z = 3.15$, $p = 0.002$).

## DISCUSSION

The goals of this study were to examine the efficacy of postdivorce interventions on children's adjustment and putative family mediators and to analyze the role of several study characteristics in the intervention effects. The present meta-analysis shows that these interventions are effective in helping children adjust to divorce and promoting children's personal resources, particularly self-esteem. However, these preventive interventions for children from divorced families have no significant direct effect on children's global adjustment and mental health. The results also showed that the interventions were generally homogeneous, and none of the moderators had the statistical potency to explain the variability found. The main conclusions are presented below.

Overall, this meta-analytical study found that postdivorce interventions were not globally effective but did have concrete positive effects on children. These results require being cautious about the benefits of these postdivorce interventions for children and highlight the need to improve the study methodology. In fact, many interventions describe significant intervention effects only in a reduced number of measured outcomes (e.g., Alpert-Gillis et al., 1989; Boring et al., 2015; Botha & Wild, 2013; DeGarmo & Jones, 2019; Sandler et al., 2018), which may explain the global null effects. This fact highlights that interventions may be directing the measurement of the effects to more outcomes than those that the interventions truly impact. This is an important aspect, as the present meta-analysis summarizes the effects of many different kinds of programs and considers multiple targets (e.g., children's personal resources, interparental-conflict, parent–child relationships, etc.). This is in line with the complexity of the interventions in family systems where several factors interact, making it difficult to understand the relationships between the effect on a subsystem and the consequences in other subsystems (Weeland et al., 2021). Intervention procedures could improve by selecting, testing, and comparing the differential effects of the training of specific family subsystems (e.g., interparental conflict, parent–child relationships, and parent's well-being) and their consequences on children's adjustment.

The results could be also explained by the differential effects on the outcomes. In contrast to the lack of significant effects on mental health, postdivorce interventions showed large effects in promoting children's self-esteem and divorce adjustment (two out of the 21 examined variables). These effect sizes were robust, demonstrating high homogeneity and the absence of publication bias. These differences in the effects on mental health and children's competencies have been reported by previous

**TABLE 4** Meta-regression of the consequences of the intervention effects.

| | Dependent variable | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Global symptomatology | | Internalizing symptoms | | Externalizing symptoms | | Personal resources | | Adaptation to divorce | |
| Independent variable | *k* | *β* | *k* | *β* | *k* | *β* | *k* | *β* | *k* | *β* |
| Internalizing symptoms | 21 | 0.56* | | | | | | | | |
| Depression | 7 | 1.31$^{t}$ | | | | | | | | |
| Anxiety | 9 | 0.59* | | | | | | | | |
| Anxiety/depression | 7 | 0.36 | | | | | | | | |
| Externalizing symptoms | 18 | 1.00** | 17 | 1.00*** | | | | | | |
| Aggressiveness | 11 | 0.53* | 10 | 0.23 | | | | | | |
| Behavioral problems | 9 | 0.50 | 7 | 2.33 | | | | | | |
| Learning problems | 5 | 1.29 | 6 | 3.24** | | | | | | |
| Negative peer relationships | 4 | 0.07 | 4 | −0.35 | | | | | | |
| Personal resources | 6 | 0.15 | 5 | 0.48 | 6 | 0.12 | | | | |
| Self-concept | NES | | NES | | NES | | NES | | | |
| Self-esteem | NES | | NES | | NES | | NES | | | |
| Coping | 4 | 6.51 | NES | | 4 | 9.26$^{t}$ | NES | | | |
| Adaptation to divorce | 12 | 0.15 | 11 | 0.82** | 8 | −0.07 | NES | | | |
| Negative divorce perceptions | 10 | 0.29 | 9 | 1.02* | 6 | −0.19 | NES | | | |
| Divorce adjustment | NES | | NES | | NES | | NES | | | |
| Family functioning | 6 | 0.11 | 5 | −0.01 | 6 | 0.13 | NES | | NES | |
| Interparental conflict | 4 | 0.56s | NES | | 4 | 0.53 | NES | | NES | |
| Parent–child relationship | 5 | 0.07 | 4 | 0.07 | 5 | 0.03 | NES | | NES | |

*Note*: NES = Not enough studies ($k<4$).

$^{t}$<0.10, *$p<0.05$, ** $p<0.01$, ***$p<0.001$.

authors (Lee et al., 1994). In fact, the explanation of the effects on self-esteem and adjustment to divorce could be related to the fact that these competencies are directly addressed throughout many of the interventions (e.g., Graham et al., 2012; Pedro-Carroll & Alpert-Gillis, 1997; Roherty, 2000; Short, 1998), although none of the interventions has a clinical focus.

Based on the above, in pre-post designs, the interventions seem to change what they directly train, the children's self-esteem, and adjustment to divorce, but have no direct effect on variables that are not directly addressed, although an indirect effect is expected in preventing mental health problems (Durlak & Wells, 1997; Stathakos & Roehrle, 2003). Indeed, the regression results of this meta-analysis indicate that changes in adaptation to divorce are related to changes in internalizing symptoms, and changes in the latter are related to global symptomatology and externalizing symptoms. Therefore, the effects of the interventions on mental health might be indirect through the changes in children's competencies. These results are consistent with the fact that the goal of preventive interventions is to increase those protective factors that help participants positively face difficult situations such as divorce (Enns et al., 2016). Nevertheless, most of the studies of this meta-analysis include measures of mental health in which the interventions are not directly effective and do not include measures of these protective factors. Only four studies measured self-esteem (Graham et al., 2012; Omizo & Omizo, 1988; Roherty, 2000; Short, 1998) or divorce adjustment (Alpert-Gillis et al., 1989; Kramer & Washo, 1993; Pedro-Carroll et al., 1992; Pedro-Carroll & Alpert-Gillis, 1997). Therefore, we call for future research to test the potential explanatory mechanisms of the interventions, including the

children's competencies that are directly promoted by the programs and examining their relationship with changes in mental health.

Also, the lack of direct effects of the interventions on children's mental health problems could be explained by the preventive nature of these interventions. Preventive interventions are carried out in general samples where only a few children are expected to develop psychological symptomatology, so floor effects can explain the limited changes in mental health (Durlak & Wells, 1997; Stathakos & Roehrle, 2003). In this vein, some longitudinal studies have observed that postdivorce interventions may have a significant impact on children's mental health at follow-up (Forgatch et al., 2009; Wolchik et al., 2002, 2013). Therefore, literature on preventive interventions for divorce would benefit from the recruitment of large samples and long longitudinal methods to determine whether the intended effects of the interventions on children's psychological problems actually occur.

A second objective of the current study was to analyze the impact of postdivorce interventions on family functioning due to their importance in explaining the impact of divorce on children (Amato, 2014). This meta-analysis differs from previous ones in its approach to this issue by including family factors (e.g., interparental conflict and parent–child relationship) as putative mediators of preventive interventions for children from divorced families. Results indicated large but nonsignificant effect sizes on parent–child relationships due to the high variability between studies, highlighting the need to examine important moderators (Stathakos & Roehrle, 2003; Strouse & Roehrle, 2011).

Consequently, a third goal was to examine the study characteristics that may account for this variability across intervention effects. Our findings indicated that there was a high homogeneity in the intervention effects between studies and, in those cases in which there was significant variability (i.e., anxiety/depression, family functioning, and parent–child relationship), the effects of the moderators were null or unreliable due to the small number of studies. In fact, many of the moderators of family functioning showed no variability between studies, or some of the categories were represented by only one study. The presence of an unbalanced representation of the moderator categories can bias the moderating effects, increasing Type I error and reducing the statistical power (Heo & Leon, 2010; Rubio-Aparicio et al., 2017). Moreover, the lack of significant moderation effects could be due to the low potency of the small sample of studies on many moderations, which reduces the probability of finding true effects (Button et al., 2013).

The reason for this small number of studies is that family-related factors are not systematically incorporated into interventions focused on children, either parent- or child-oriented. Despite the importance of family factors for children's psychosocial well-being (van Dijk et al., 2020), parent-directed interventions usually measure only family-related outcomes but do not measure children's outcomes (Cookston et al., 2007; Schramm & Calix, 2011). Some exceptions are the five studies summarized in the present meta-analysis (i.e., Graham et al., 2012; Martínez-Pampliega et al., 2015; Sandler et al., 2020; Wolchik et al., 1993, 2000). Similarly, the conceptual discrepancies in the parenting construct (Sandler et al., 2018; van Dijk et al., 2020) impeded its categorization. Although some family-related outcomes were included (i.e., interparental conflict and parent–child relationship quality), a consensus on the parenting concept is required to analyze the intervention's impact on children. A suggestion for future research is that interventions oriented toward parents or children assess both children-related and family-related outcomes to examine whether the intervention's effects on family functioning also promote children's personal resources and psychosocial functioning.

Besides, it is important to note that over half of the studies did not implement random allocation of participants. The lack of random allocation can dramatically increase the bias in intervention effects, as confounding variables can interact with the allocation selection (Schulz & Grimes, 2002). Future interventions could increase the robustness of the methods by developing adequate random allocation of participants to the intervention and control groups.

In contrast to this study, in which the global effect was 0.12, previous meta-analyses have observed global, larger effect sizes of postdivorce interventions on children's global adjustment with global effects ranging from 0.36 to 0.43 (Durlak & Wells, 1997; Fackrell et al., 2011; Stathakos &

Roehrle, 2003). One possible explanation for this difference may be that random effect sizes were computed in the current study, so measuring errors and variability between studies were considered when conducting the analyses. This procedure makes analyses more robust but also reduces the potential of finding significant effect sizes (Borenstein, Hedges, & Rothstein, 2007; Borenstein, Hedges, Higgins, et al., 2007). Nevertheless, this difference does not apply to the meta-analysis of Fackrell et al. (2011), which applied random computation of effect sizes, although the interventions included in that meta-analysis differed significantly from those in the present study.

In fact, several other differences were encountered in the meta-analytical methods. The number of studies included differs from those in the present meta-analytic review. Durlak and Wells (1997) reported a global effect from only seven studies, Fackrell et al. (2011) included 10 studies with control groups, and Lee et al. (1994) provided data from 15 studies.

Other differences are encountered regarding the searching and inclusion criteria. In this regard, Durlak and Wells' (1997) study is focused only on mental health outcomes and does not analyze concrete variables (e.g., anxiety or depression). Lee et al.'s (1994) meta-analysis only includes published peer-reviewed articles, and Fackrell et al.'s (2011) study is the most rigorous one and includes German articles and unpublished data but only addresses court-mandated educational programs for parents and collapses post and follow-up measures. In all these cases, the methodological differences are so numerable that it is difficult to compare the results to those of the present study.

The most similar meta-analysis is that developed by Stathakos and Roehrle (2003), which includes data from 23 studies and 1615 children and adolescents, and examines the specific effects on only four outcomes. In this sense, the number of variables studied in the present meta-analysis extends this research to 17 specific outcomes (21 pooled effects), 258 effect sizes, and 4261 individuals comprising the current data pool. Moreover, this meta-analysis includes unpublished literature and theses that were excluded from the study of Stathakos and Roehrle (2003). Besides, this meta-analysis excludes repeated samples between studies and includes interventions that had been developed one decade later and might have more rigorous implementation. Therefore, the absence of global significant effects, compared to other meta-analyses, could be due to the methodological differences and the inclusion of different variables in the examination of children's adjustment.

The present study has several limitations. First, as previous meta-analyses of postdivorce interventions have shown (Stathakos & Roehrle, 2003; Strouse & Roehrle, 2011), the most salient difficulty relates to the categories of the measured variables. There is no systematic consensus on including information about the sample and intervention characteristics, as observed in the difficulty of coding some moderators (e.g., parents' gender, informant, time since divorce, mean and standard deviation of children's age, custody types). Consequently, it is difficult to determine the factors involved in this process, as well as the conditions and characteristics that may moderate and mediate the negative impact of divorce on children. Better coordination of research and interventions would permit global comparisons and interpretations of the findings.

Second, although the present study included the search of unpublished data through the references in the identified articles and by emailing the corresponding authors of these studies, other search procedures (e.g., private university databases or institutions' reports) could lead to a larger number of unpublished studies. In this regard, the publication bias could be greater if unpublished data are used because that literature may report fewer significant effects than published studies (Fackrell et al., 2011).

In conclusion, this meta-analysis indicates that preventive interventions have beneficial effects on children by enhancing their self-esteem and improving their adjustment to divorce, but they do not directly impact children's mental health. Moreover, this research identifies those conditions under which these interventions promote better family functioning, it increases the understanding of postdivorce intervention effects on children and provides guidelines for future research.

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## SUPPORTING INFORMATION

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