

Title: The effectiveness of a child day-care program in child welfare services.

Abstract: Family support initiatives aimed at guaranteeing children's rights and preserving the family are undergoing extensive diversification, to meet the specific needs and strengths of families. Child day-care initiatives constitute a novel approach in child welfare services, as a way to complement family service for at-risk families. They are delivered in a child-group format and follow a psycho-educational methodology. This study analyzed the impact of a novel child day-care program on children's quality of life, adjustment and development, and explored the moderating role of different child and family dimensions on the program's impact. For this purpose, we followed a pretest-posttest evaluation with a control group ($N = 83$). The results showed improvements in different facets of children's quality of life, as well as a positive impact in other adjustment and developmental dimensions, such as social skills, internalizing problems, and intelligence. Interaction effects were found between internalizing problems and children's sex, and between academic competence and family risk level. In conclusion, this article brings the first wave of evidence about the effectiveness of child day-care programs for supporting at-risk children from a preservation approach. Practical implications for child welfare services are discussed.

Highlights:

- The effectiveness of a novel child day-care program was tested.
- Children's quality of life significantly improved in comparison to the control group.
- Participants showed improvements in their social skills, internalizing problems, and intelligence.
- Interaction effects were found between internalizing problems and children's sex, and between academic competence and family risk level.
- Child day-care programs seem to be effective resources for supporting at-risk families.

Keywords: Child day-care, family preservation, child welfare, quality of life, effectiveness, program evaluation.

1. Introduction

Even though parenting behaviors and practices have a private character, today parenthood is better understood as a resource that must be supported and protected, given the crucial role it plays in the development and well-being of the new generations (Rodrigo, Almeida, & Reichle, 2016). Family support as a child welfare measure is a social priority for government bodies in most European countries, as the available evidence supports its effectiveness in promoting child well-being in disadvantaged family contexts (Gilbert, 2012).

It is well documented that, in at-risk families, children's development is hindered, and this also applies to their experiences in other contexts such as their academic life and peer relationships (Farrell, Simpson, Carlson, Englund, & Sung, 2017; Jiménez, Dekovic, & Hidalgo, 2009; Metzler, Merrick, Klevens, Ports, & Ford, 2017). Moreover, early family adversity has long-lasting effects on development and can be intergenerationally transmitted (Merrick, Leeb, & Lee, 2013). Growing up in at-risk families has detrimental effects on cognitive and linguistic development (McElroy & Rodriguez, 2008; Rodriguez, 2016; Rodriguez & Tucker, 2015) as well as on social-emotional skills (Braet, Van Vlierberghe, Vandevivere, Theuwis, & Bosmans, 2014; Gresham, 2015). Although research shows a wide variability of outcomes, depending on children's age and gender, there is consistent evidence about a high prevalence of maladjustment issues in children from at-risk families, especially externalizing behavior problems (Gresham, 2015; Hunter, Gresham, & Chenier, 2014). Moreover, growing up in at-risk families has a negative effect on children's quality of life, which is associated with different developmental facets and child adjustment, both in community and clinical settings (Bot, De Leeuw Den Bouter, & Adriaanse, 2011; Papadopoulou, Malliou, Kofotolis, Vlachopoulos, & Kellis, 2016; Sharpe, Patalay, Fink, Vostanis, Deighton, & Wolpert, 2016).

In most European countries, the current legislation establishes that children should stay with their families of origin whenever possible. In Spain, the 1996 Organic Law on the Legal Protection of Children and Young People (BOE, 1996) was the starting point towards this goal. This law established that local administrations would be in charge of family preservation interventions. The current national and regional laws (BOE, 2015; BOJA, 2016) regulate the aims and organization of the child welfare system, determining the catalogue of available resources and programs to serve at-risk families. Like in most European countries, the purpose of these interventions is to ensure that children's developmental and educational needs are met within their family (Berry & McLean, 2014; DePanfilis & Costello, 2014).

In Spain, the public system of child welfare services assists both to families who voluntarily come to ask for some type of help and to families who are referred by other institutions (i.e., the educational, health or legal systems) that have the obligation of safeguarding the welfare of children. When a family enters the child welfare system, a multidisciplinary team evaluates their needs and elaborates a case plan accordingly. This individualized, needs-based plan includes the participation in programs or resources that are deemed appropriate.

The need to attune interventions to specific family needs, which is covered by current laws, has led to a significant diversification of family support and preservation services, with different intervention types (e.g., psycho- or socio-educational, therapeutic, community-based), formats (e.g., group or individual) and targets (e.g., parents, children or the whole family) (Berry & McLean, 2014; Frost, Abbott, & Race, 2015). This need to diversify family support services is at the top of the European agenda on child welfare (Council of Europe, 2011). In practical terms, this means following the principles of progressive universalism (i.e., support available for all, with more support for those who need it most) (Molinuevo, 2013). This has led to the emergence of secondary prevention initiatives directed at families with high-risk profiles

for family preservation purposes, in situations where parents cannot temporarily meet the developmental needs of their children. This preservation approach is aimed not only at avoiding the placement of children in foster care, but also at reinforcing and optimizing family functioning from a preventive perspective. This approach implies that child welfare services should serve as a kind of second chance for at-risk families to guarantee children's and families' well-being (Chaffin, Bonner, & Hill, 2001). Novel interventions from this preservation approach are required within the child welfare system.

In accordance with these approaches, recently in Spain novel child welfare services have emerged locally. This paper is part of a larger research project assessing the effectiveness of a Child day-care (CDC) run by the child welfare services of Seville City Hall (Andalusia). CDC is a family preservation resource for at-risk families and delivered through a child-group psycho-educational intervention on a daily basis. As a novel resource in the child welfare system, the impact of CDC should be examined (Collins, Kim, & Amodeo, 2010).

1.1. Child day-care in the child welfare system

Child day-care (CDC) initiatives have been developed widely in early education settings for compensatory purposes, particularly in USA (Statham, 2000). As a novel resource in the child welfare system, child day-care initiatives are being developed for family preservation purposes. Despite variability, the extant research focused on CDC shows that these services share several characteristics: they are aimed at children whose families are facing a crisis, under threat of out-of-home placement and/or at risk of social exclusion; they follow a socio-educational approach; and they are delivered through a group format. In this study, we will treat CDC as a complementary family preservation service for parents who temporarily lack the resources required to meet child rearing tasks (Celebioglu & Aktan 2014; Pölkki & Vornanen, 2015; Villumsen & Kristensen, 2015).

As novel initiatives, CDC resources do not have extensive scientific evidence regarding their effectiveness in the child welfare system. There is consensus about the need to implement evidence-based interventions, despite the fact that this constitutes a challenge for public child-welfare agencies. This underlines the need for rigorous effectiveness assessments of novel initiatives (Collins et al., 2010).

Most of the existing research on CDC effectiveness has been limited to describing the characteristics of these interventions in early education settings or to analysing user satisfaction (e.g., Hall et al., 2015; Rentzou, 2013). Other studies on the impact of CDC have studied their usefulness for practitioners or practitioner satisfaction (e.g., Bauters & Vandebroek, 2017; Schreyer & Krause, 2016; Toroya, Oakley, Laing, Roberts, Mugford, & Turner, 2004).

The available evidence on the impact of CDC on children and families suggests that these resources have a positive impact on child health and physical well-being, such as eating habits or physical activity (Davis, Sanders, FitzGerald, Keane, Canaca, & Volker-Rector, 2013; Tandon, Garrison, & Christakis, 2012; Zahnd, Smith, Ryherd, Cleer, Rogers, & Steward, 2017), as well as on family functioning and parenting competence (Collins et al., 2010; Cross, Gottfredson, Wilson, Rorie, & Connell, 2010; James, 2011; Wasserman, 2010).

Regarding the developmental impact of CDC, research points to improvements in self-care, cognitive-linguistic and socio-emotional skills (Celebioglu & Aktan, 2014). CDC can also be a source of emotional security and well-being for children (Pölkki & Vornanen, 2015). Furthermore, benefits in the cognitive realm are usually translated into improvements in learning processes (Auger, Farkas, Burchinal, Duncan, & Vandell, 2014; Connors, Friedman-Krauss, Morris, Page, & Feller, 2014).

Program evaluation cannot be limited to analyzing its efficacy. It is also necessary to identify which family profiles would benefit the most from different programs (Collins et al., 2010; Royse, Thyer, & Padgett, 2015). Because the inclusion

of resources like CDC in the child welfare system is quite recent, there is still no available evidence regarding which individual or family characteristics moderate the effectiveness of this program. However, the extant data about other family support resources suggest that features such as the current risk level, the ease of accessing the resource or prior expectations may moderate the intervention effects (Mytton, Ingran, Manns, & Thomas, 2014). Likewise, regarding children's characteristics, the existing data about gender differences in adjustment problems suggest that we must study the differential impact of CDV in boys and girls (Luthar, Cicchetti, & Becker, 2000).

In sum, the available data suggests overall that CDC may, to some extent, buffer the detrimental consequences of family adversity on children's quality of life and development (Font & Maguire-Jack, 2015). However, to our knowledge, these positive impacts have not been examined in child welfare services. To fill this gap, this study assessed the effectiveness of a novel child day-care program in child welfare services. Specifically, this study (1) analyzed the impact of CDC on children's quality of life, adjustment and development; and (2) explored the moderating role of different child and family dimensions on the impact of CDC.

2. Method

2.1. Participants

The sample consisted of 83 families enrolled in child welfare services of Seville City Hall (Andalusia). All families received monthly family counseling and supervision from family preservation practitioners in child welfare services. Besides these interventions which were common to all families, the children from 43 of these families were participating in a child day-care initiative (CDC) run by child welfare services (intervention group, IG). The other 40 families were only receiving family counselling and supervision but their children were not part of the CDC initiative (control group, CG).

Baseline socio-demographic profiles and family risk levels for both IG and CG are shown in Table 1. They were nearly all four-member families, with an average of two children. Approximately half of the families were two-parent and had a stable income. About 10 negative life events had occurred in these families during the previous three years. The main caregiver was the mother in most cases, and had attained a low-medium educational level (44.29% with primary studies and 30.00% with secondary studies), and employed under precarious conditions. Variability in children's age and gender was found.

Equivalence between IG and CG was examined performing ANOVAs for quantitative variables and χ^2 test for qualitative variables. No statistical differences were found in the baseline characteristics listed in Table 1 between IG and CG, except for children's age (IG children were younger on average) and main caregiver employment status (IG caregivers were more frequently employed).

INSERT TABLE 1 ABOUT HERE

2.2. Measures

The main caregivers of IG and CG filled in a questionnaire on the target child's quality of life, and provided information regarding caregiver's and family's socio-demographic and risk profiles. Moreover, for IG, an external evaluator completed a child intelligence scale, and practitioners reported on children's social skills, behavioral problems and academic competence. The differences between the measures used for IG and CG groups were due to the fact that for the CG group we could only rely on parents as informants of child outcomes. The measures are described below.

2.2.1. Measures for IG and CG

Socio-demographic and family risk profile: we compiled an ad hoc questionnaire to collect socio-demographic information about the target child (age and sex), the main caregiver (age, sex, educational level and labour conditions) and the family as a whole (structure, composition and income). Moreover, the *Stressful and Risky Life Events*

Inventory (Hidalgo et al., 2012) was used to outline the risk profile of the families. This inventory consists of a list of 16 negative life events (e.g., “*Suffering from a psychological disorder*”, “*Drug abuse*”, “*Being a victim of violence*”). The main caregiver or other close family members were asked whether they had experienced any of these events over the previous three years.

KIDSCREEN-27: The KIDSCREEN-27 parent-report was used to evaluate the children’s perceived quality of life (The European Kidscreen Group, 2006). This questionnaire consists of 27 items that are rated on a scale from 1 (*not at all/poor*) to 5 (*extremely/ excellent*), with five subscales named: physical well-being (e.g., “*Has your child been physically active (e.g. running, climbing, biking)?*”); psychological well-being (e.g., “*Has your child felt lonely?*”); parent relations and autonomy (e.g., “*Has your child felt that his/her parent(s) treated him/her fairly?*”); social support and peers (e.g., “*Has your child had fun with his/her friends?*”); and school environment (e.g., “*Has your child been able to pay attention?*”). The standardized Cronbach’s alpha for the KIDSCREEN-27 subscales was acceptable (physical well-being $\alpha = .69$; psychological well-being $\alpha = .66$; parent relations and autonomy $\alpha = .68$; social support and peers $\alpha = .79$; school environment = $.72$). The general-QoL index score was also computed. Cronbach’s alpha for the general-QoL index was $\alpha = .82$.

2.2.2. Measures for IG only

Wechsler Intelligence Scale for Children-Fourth Edition (WISC- IV): To assess children’s intellectual abilities, the WISC- IV was used (Wechsler, 2003). This scale has a total of 15 different tests (five of them being optional), grouped into four index scores that comprise different subtests: Verbal Comprehension (Similarities, Vocabulary, and Comprehension); Perceptual Reasoning (Block Design, Picture Concepts, and Matrix Reasoning); Working Memory (Digit Span and Letter-Number Sequencing); and Processing Speed (Coding and Symbol Search). It also provides a total index of children’s IQ, which was the score we used in this study (α total IQ = $.66$).

Social Skills Rating System (SSRS): to assess children's personal and social adjustment we used the caregiver report version of the SSRS (Gresham & Elliot, 1990). This inventory provides information on children's social behaviors. In this study we administered the three different versions of this scale, depending on the target child's age: preschool (3-5 years old, 42 items); school (6-11, 50 items); and adolescents (over 12, 42 items). Social skills and behavioral problems (externalizing and internalizing) were evaluated using a 3-point Likert scale (0 = *never* - 2 = *very often*), while academic competence was evaluated using a 5-point Likert scale (1 = *very low* - 5 *very high*). The reliability indexes obtained in our study were generally satisfactory (social skills $\alpha = .93$; behaviour problems $\alpha = .81$; academic competence $\alpha = .71$).

2.3. Setting

In Andalusia, CDC are quite recent and have only become generalized as a public child welfare resource since the early 2000s (BOJA, 2000). CDC's main aim is to complement child rearing functions that are not being adequately fulfilled by the family for a number of reasons (e.g., precarious work situation, difficulties in balancing work and family life, family relations issues, poor social support networks to assist with child rearing tasks).

The child day-care program run by Seville City Hall serves on average 150 children per year, and its purpose is to keep children in their families of origin while guaranteeing their developmental, educational and social integration needs, avoiding children's institutionalization. It is a specialized resource, complementing the intervention of social community services. It is targeted at children between 3 to 15 years-old who are at-risk of negative developmental outcomes. It provides a comprehensive care service after school from Monday to Friday as well as during school holidays, offering a space for socialisation, education and creative leisure (Seville City Hall, 2015). Although children are the direct recipients of day care, their parents are also supported to help them regain the autonomous exercise of their

parental duties. To accomplish this goal, the intervention aims, strategies and activities are designed collaboratively between the practitioners and parents, and parents voluntarily attend to some activities (e.g., school homework support, workshops, assemblies to scrutinize children's behaviour, discussing the results from psychological evaluations). Parents' level of engagement in these activities is variable and generally not very high; each family attend to those activities that are the most interesting for them. Front-line practitioners in the child day-care program are social educators who intervene directly with children and work in close coordination with the interdisciplinary social service teams.

2.4. Procedure

The IG consisted of the population of families receiving the CDC intervention during the data collection period. The CG was made up of comparable families enrolled in child welfare services but who were not receiving the CDC intervention because they lived in a city district (with similar socio-demographic characteristics) where the CDC intervention had not yet been implemented. Families from both groups met the following criteria: they were enrolled in child welfare services; and they had children considered to be at risk for negative developmental outcomes.

The study followed a multi-informant approach. Two trained researchers, external to the program, interviewed the main caregiver of each family, the reference practitioners and assessed the children at the child welfare facilities. Every family participated in this study voluntarily, after signing an informed consent form in accordance with the Declaration of Helsinki. Every family was informed before the interview about the aims of the project, the confidential and anonymous nature of the data, and that they could leave the study at any stage. Ethics approval was obtained from the ethics committee of the Andalusian Government. No monetary incentives were offered. The average time length between pre- and posttest assessment for IG and CG was 9 months, which corresponded approximately to the school year.

2.5. Preliminary analyses

Statistical analyses were performed with SPSS v-18 (IBM SPSS, 2010). Missing data at item level were examined using the missing value analysis. A random distribution of the data was checked according to Little's MCAR test. Less than 5% of missing data were found per item, and less than 10% of items were missing per scale. Therefore, the SEM procedure was performed to impute data. Univariate and multivariate outliers were examined using box plots and Mahalanobis' distance, respectively (Tabachnik & Fidell, 2007). Two multivariate outliers were found and excluded from subsequent analyses.

A pretest-posttest evaluation was followed, with a control group available for measures reported by the parents. Thus, repeated-measures ANOVAs were performed. Statistical assumptions for parametric tests were checked and confirmed following Hair, Anderson, Tatham and Black's (2004) recommendations (i.e., linearity, normality, homogeneity, and absence of multi-collinearity and singularity). As an exception, high kurtosis for psychological wellbeing was found.

Due to small sample size, effect size was considered for results' discussion. Partial eta squared was computed to estimate ANOVA statistic effect size. Partial eta squared was considered negligible if $< .01$, low between $> .01$ and $< .06$, medium between $.06$ and $< .14$, and large if $.14$. As reported in Table 1, Chi square was computed to test equivalence between IG and CG. In this case, Cramer's V was the reported statistic effect size. Cramer's V was considered negligible if $< .10$; low between $> .10$ and $< .30$; medium between $> .30$ and $< .50$; and high if $> .50$ (Cohen, 1988).

3. Results

First, information about child quality of life was available for IG and CG. Thus, effectiveness analyses were performed with separate repeated-measures ANOVAs on quality of life sub-scales. Due to differences between groups on children's age, this

dimension was controlled as a co-variable. The interaction effect QoL x Group was examined (0=*control*, 1=*intervention*) and reported in Table 2, after controlling for children's age. As Table 2 shows, despite children's age, IG children exhibited significantly more improvement between pre and posttest in comparison to CG in physical well-being, psychological well-being, autonomy and parent relations, and social support and peers with a medium effect size.

INSERT TABLE 2 ABOUT HERE

Second, we followed an in-depth examination of effectiveness for those dimensions available exclusively for IG. To do so, we performed separate repeated-measures ANOVAs on general quality of life, social skills, externalizing problems, internalizing problems, academic competence and intelligence. Main effects were examined. Moreover, several interaction effects were analyzed: children's sex, children's age and family risk level. As a dichotomic variable, children's sex (0=*girl*, 1=*boy*) was included as an inter-subject factor. As continuous variables, children's age and family risk level were included as covariables. The results of these analyses are summarized in Table 3. An examination of main effects showed significant improvements for IG after the intervention in global quality of life, social skills, internalizing problems and intelligence with medium to large effect sizes. Interaction effects were apparent between internalizing problems and children's sex, and between academic competence and family risk level, with medium and large effect sizes, respectively (see Table 3).

INSERT TABLE 3 ABOUT HERE

Significant interaction effects are plotted in Figure 1. For representation purposes, family risk level was dichotomized according to the 50th percentile. Figure 1 shows that internalizing problems diminished significantly more for girls than for boys, and academic competence improved significantly more for children whose families had suffered from more negative life events, i.e., had a higher risk level.

INSERT FIGURE 1 ABOUT HERE

4. Discussion

The purpose of this study was to assess the effectiveness of a novel child day-care initiative in child welfare services. Overall, the results suggest a moderately positive impact of this program on child development and quality of life. On the one hand, analyses comparing the intervention and the control group revealed that CDC participants had significantly higher improvements in different facets of their quality of life, specifically in physical well-being, psychological well-being, autonomy and parent relations, and social support and peers. On the other hand, the in-depth examination of effectiveness exclusively for the intervention group showed a positive impact in other adjustment and developmental dimensions such as social skills, internalizing problems, and intelligence. Nonetheless, no positive effects of the CDC were observed on school environment, externalizing problems or academic competence.

These results largely concur with those obtained in studies evaluating similar interventions, reflecting improvements in several dimensions of child development such as interpersonal skills, cognitive-linguistic competences and emotional development (Celebioglu & Aktan, 2014; Pölkki & Vornanen, 2015). The amelioration in children's physical well-being was to be expected, given that one of the explicit goals of CDC is for children to acquire healthier habits and improve their self-care skills. Most day-care services that involve direct and specialized interventions with children have shown similar positive effects on this dimension (Davis et al., 2013; Tandon et al., 2012; Zahnd et al., 2017). As for the positive impact of CDC on children's social skills, the fact that this program is delivered in a group format implies that peer relationships management is also a focal point of the intervention, which is defined as a socialization space for at-risk children (Seville City Hall, 2015).

The impact of CDC was particularly positive on emotional development, proved by changes in both internalizing problems and social skills, as well as moderated

improvement in psychological well-being. It is worth mentioning those improvements observed in difficulties associated with internal psychological processes, due the literature about at-risk children mostly highlights externalizing behavioural problems (Gresham, 2015; Hunter et al., 2014). Likewise, interactive effects were found according to gender, with girls experiencing a more positive effect on internalizing problems than boys. This could mean that the CDC is a more effective resource for girls when considering internalization problems, or that it is easier to obtain greater improvements when the baseline competence levels are lower and thus there is a greater margin for improvement (Luthar et al., 2000).

Besides the improvements that were observed in children, the moderately positive impact of CDC on family functioning is also worth noting. As mentioned previously, this program also intervenes with parents to support them in their parenting role. The positive impact on child-parent relationships as perceived by the parents has also been described in other studies, revealing the effectiveness of this type of child welfare service in improving family functioning and parenting competence (Collins et al., 2010; Cross et al., 2010; James, 2011; Wasserman, 2010).

Concerning school-related results, main effects did not reveal a significant improvement, in spite of the fact that CDC incides explicitly in this facet through school homework supervision and support. The achievement of visible results may well be hampered because the CDC intervention is not delivered from the school context, and does not have a cooperative intervention plan with school teachers. However, the improvement that was registered in children's intellectual performance gives us a reason to be optimistic, since intelligence is closely related to academic achievement, being a prerequisite to the succesful accomplishment of academic tasks (Goossens, 2006). Thus, the improvement of participating children's intelligence may favour an increase in academic competence in the long run, an effect that could be boosted if schools became more involved in the CDC program.

Although main effects of the CDC on academic competence were not found, we did observe interactive effects according to families' risk profile. The fact that children from higher risk families had a significant improvement in their academic competence probably reveals the high impact of this type of resources on families that exhibit greater difficulties in being sensitive and adequately fulfilling children's academic adjustment needs. This result is in consonance with the most recent risk and protection models that refer to protective-enhancing effects: that is, the improvement in people's competence in high-risk conditions (Luthar et al., 2000).

5. Conclusions and practical implications

Our results overall have provided the first empirical accounts of CDC being an effective resource for supporting at-risk children from a preservation approach. The observed positive impact on children's quality of life and development reveals that the intervention carried out by CDC complements the educational tasks that, for different reasons, are not being successfully fulfilled in natural developmental contexts for children (i.e., family, school).

This study constitutes, to the best of our knowledge, the first attempt at assessing the effectiveness of CDC in Spain. CDC is a novel resource in the realm of family preservation programs, therefore requiring more trials that will allow for studies with larger samples and statistical power. Although this pilot evaluation relies on a small sample, its strengths should be noted: it relied on multiple informants, used direct measures of child development, and included a control group of at-risk parents with characteristics comparable to the intervention group. Nonetheless, this study also had limitations. Firstly, we would have liked to have included a control group of children with similar characteristics to those who participated in CDC, since this would have allowed us to include direct measures of child development in comparative analyses, besides parental reports of children's quality of life. Secondly, to adhere to current program evaluation guidelines, we would have liked to have conducted a follow-up evaluation

after children were discharged from CDC. This would have allowed us to determine the duration of the positive effects achieved by the intervention. Thirdly, the variability in parents' level of engagement made it difficult to control this variable and therefore we were not able to analyze the extent to which it influenced the results. Finally, this study would have gained by taking direct measures in the school context, since it is desirable to include different informants and settings in program evaluations (Barrat, 2012).

Some implications for policy and practice can be drawn from our results. The CDC itself has shown to be a valuable family preservation resource, in line with the evidence-based movement that is gaining ground in the family support arena. Promoting children's quality of life is fundamental for their positive development and to protect them from risk factors present in their environments (Campione-Barr, Basset, & Kruse, 2013; Lipschitz-Elhawi & Itzhaky, 2008). Thus, the positive effect CDC has had on children's quality of life proves that this kind of resource must be included in the services portfolio of child welfare agencies.

The fact that we were did not control for the impact of parental engagement level in the CDC activities prevents us to draw conclusions about the importance of family engagement in CDC outcomes. Nonetheless, this study suggests that engaging parents in the daily activities of this kind of service could be considered a good practice. It would allow caregivers to maintain and strengthen their parenting skills, thereby extending the impact of the intervention beyond children to encompass the family context as a whole. Moreover, the modest positive effects of CDC on children's academic competence suggest the need to involve schools in this kind of intervention. In sum, this program could have a more positive impact if it managed to involve different developmental agents and contexts (Cheng & Lo, 2016; Kim, Pierce, Jagers, Imburgia, & Hall, 2016; Xu, Ahn, & Bright, 2017).

Lastly, there need to be more studies about which service characteristics are associated with better intervention outcomes. The current evidence-based approach to

program evaluations has noted that it is not enough to demonstrate that interventions are efficacious. Assessing effectiveness is becoming key, chiefly to identify which family profiles would benefit more from these costly resources and which implementation conditions are associated with better results (Collins et al., 2010; Gottfredson, Cook, Gardner, Gorman-Smith, Howe, Sandler, & Zafft, 2015; Royse et al., 2015). Data from these studies would make it possible to refine and improve family preservation interventions, and subsequently promote and guarantee the healthy development of all children and their families, an essential condition for societies if they are to achieve their full health, social, and economic potential (Font & Maguire-Jack, 2015; Schofield, Lee, & Merrick, 2013).

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7. References

- Auger, A., Farkas, G., Burchinal, M. R., Duncan, G. J., & Vandell, D. L. (2014). Preschool center care quality effects on academic achievement: An instrumental variables analysis. *Developmental Psychology, 50*, 2559-2571. doi: 10.1037/a0037995
- Barratt, S. (2012). Incorporating multi-family days into parenting assessments: The Writtle Wick model. *Child & Family Social Work, 17*, 222-232. doi:10.1111/j.1365-2206.2012.00835.x
- Bauters, V., & Vandebroek, M. (2017). The professionalization of family day care in Flanders, France and Germany. *European Early Childhood Education Research Journal, 25*(3), 386-397. doi: 10.1080/1350293X.2017.1308164
- Berry, M., & McLean, S. (2014). Family preservation. In G. P. Mallon, & P. M. Hess (Eds.), *Child welfare for the twenty-first century. A handbook of practices, policies, and programs* (pp. 270-287). New York: Columbia University Press.

- BOE (1996). 17-01-1996 *Ley Orgánica 1/1996 de protección jurídica del menor, de modificación del Código Civil y de la Ley de Enjuiciamiento Civil*. Retrieved from <https://www.boe.es/buscar/pdf/1996/BOE-A-1996-1069-consolidado.pdf>
- BOE (2015). 28-07-2015 *Ley 26/2015 de modificación del sistema de protección a la infancia y a la adolescencia*. Retrieved from <https://www.boe.es/buscar/pdf/2015/BOE-A-2015-8470-consolidado.pdf>
- BOJA (2000). 28-07-2000 *Order from Presidency and Social Services Government about Material and functioning requirements for social services in Andalusia* [ORDEN de 28 de julio de 2000, conjunta de las Consejerías de la Presidencia y de Asuntos Sociales, por la que se regulan los requisitos materiales y funcionales de los Servicios y Centros de Servicios Sociales de Andalucía y se aprueba el modelo de solicitud de las autorizaciones administrativas]. Retrieved from <http://www.juntadeandalucia.es/boja/2000/102/1>
- Bot, M., De Leeuw Den Bouter, B. J. E., & Adriaanse, M. C. (2011). Prevalence of psychosocial problems in Dutch children aged 8-12 years and its association with risk factors and quality of life. *Epidemiology and Psychiatric Sciences*, 20, 357-365. doi: 10.1017/S2045796011000540
- Braet, C., Theuwis, L., Van Durme, K., Vandewalle, J., Vandevivere, E., Wante, L., Moens, E., Verbeken, S., & Goossens, L. (2014). Emotion regulation in children with emotional problems. *Cognitive Therapy and Research*, 38(5), 493-504. doi: 10.1007/s10608-014-9616-x
- Campione-Barr, N., Basset, K., & Krues, A. (2013). Differential associations between domains of sibling conflict and adolescent emotional adjustment. *Child Development*, 84(3), 938-954. doi: 10.1111/cdev.12022

- Celebioglu, O., & Aktan, E. (2014). Effectiveness of Multipurpose Unit Early Classroom Intervention Program for 4-5-Year-Old Children. *Educational Sciences: Theory and Practice*, 14(5), 1851-1860. doi: 10.12738/estp.2014.5.2065
- Chaffin, M., Bonner, B. L., & Hill, N. E. (2001). Family preservation and family support programs: Child maltreatment outcomes across client risk levels and program types. *Child Abuse & Neglect*, 25(10), 1269-1289. doi:10.1016/S0145-2134(01)00275-7
- Cheng, T., & Lo, C. (2016). Linking worker-parent working alliance to parent progress in child welfare: A longitudinal analysis. *Children and Youth Services Review*, 2016, 71(C), 10-16. doi 10.1016/j.chilyouth.2016.10.028
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Collins, M. E., Kim, S. H., & Amodeo, M. (2010). Empirical studies of child welfare training effectiveness: Methods and outcomes. *Child y Adolescent Social Work Journal*, 27(1), 41-62 doi 10.1007/s10560-009-0190-0
- Connors, M.C., Fridman-Krauss, A., Morris, P. A., Page, L. C., & Feller, A. (2014). *The role of classroom quality in explaining head start impacts*. Retrieved from ERIC. (ED562861).
- Council of Europe (2011). *Recommendation Rec(2011)12 of the Committee of Ministers to member states on children's rights and social services friendly to children and families*. Available at Council of Europe: <http://www.coe.int/es>.
- Cross, A. B., Gottfredson, D. C., Wilson, D. M., Rorie, M., & Connell, N. (2010). Implementation quality and positive experiences in after-school programs. *American Journal of Community Psychology*, 45(3-4), 370-380. doi: 10.1007/s10464-010-9295-z
- Davis S. M., Sanders S. G., FitzGerald C. A., Keane P. C., Canaca G. F., & Volker-Rector R. (2013). CHILE: An Evidence-based preschool intervention for obesity

- prevention in Head Start. *Journal of School Health*, 83(3), 223-229. doi:
10.1111/josh.12018
- DePanfilis, D., & Costello, T. (2014). Child protective services. In G. P. Mallon, & P. M. Hess (Eds.), *Child welfare for the twenty-first century. A handbook of practices, policies, and programs* (pp. 236-252). New York: Columbia University Press.
- Farrell, A. K., Simpson, J. A., Carlson, E. A., Englund, M. M., & Sung, S. (2017). The impact of stress at different life stages on physical health and the Buffering effects of maternal sensitivity. *Health Psychology*, 36(1), 35-44. doi:
10.1037/hea0000424
- Font, S. A., & Maguire-Jack, K. (2015). Pathways from childhood abuse and other adversities to adult health risks: The role of adult socioeconomic conditions. *Child Abuse & Neglect*, 51, 390-399. doi: 10.1016/j.chiabu.2015.05.013
- Frost, N., Abbott, S., & Race, T. (2015): *Family support*. Cambridge: Polity.
- Gilbert, N. (2012). A comparative study of child welfare systems: Abstract orientations and concrete results. *Children and Youth Services Review*, 34(3), 532-536
doi:10.1016/j.chilyouth.2011.10.014
- Goossens, L. (2006). Emotion, affect, and loneliness in adolescence. In S. Jackson and L. Goossens (Eds.), *Handbook of adolescent development* (pp. 51-70). Padstow, Cornwall: Psychology Press.
- Gottfredson, D. C., Cook, T. D., Gardner, F. F., Gorman-Smith, D., Howe, G. W., Sandler, I. N., & Zafft, K. M. (2015). Standards of evidence for efficacy, effectiveness, and scale-up research in prevention science: Next generation. *Prevention Science*, 16(7), 893-926. doi: 10.1007/s11121-015-0555-x.
- Gresham, F. M., & Elliot, S. N. (1990). *Social Skills Rating System*. Circle Pines: American Guidance Service.

- Gresham, F. M. (2015). Evidence-based social skills interventions for students at-risk for EBD. *Remedial and Special Education, 36*, 100-104. doi: 10.1177/0741932514556183
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2008). *Multivariate analysis* (5th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hall, J., Eisenstadt, N., Sylva, K., Smith, T., Sammons, P., Smith, G., ... & Hussey, D. (2015). A review of the services offered by English Sure Start Children's Centres in 2011 and 2012. *Oxford Review of Education, 41*(1), 89-104. doi 10.1080/03054985.2014.1001731
- Hidalgo, M. V., Menéndez, S., Sánchez, J., Lorence, B., Jiménez, L., Arenas, Á., & Pérez, J. (2012). *Assessment tools for at psychosocial risk family contexts*. Unpublished document, Seville, Spain: University of Seville.
- Hunter, K., Gresham, F. M., & Chenier, J. (2014). Evaluation of check in/ check out for students with internalizing problems. *Journal of Emotional and Behavioral Disorders, 22*, 135-148. doi: 10.1177/1063426613476091
- IBM SPSS (2010). *IBM SPSS statistics base 18*. Chicago, IL: SPSS.
- James, S. (2011). What works in group care? A structured review of treatment models for group homes and residential care. *Children and Youth Services Review 33*(2), 308-321. doi: 10.1016/j.childyouth.2010.09.014
- Jiménez, L., M. Dekovic, & Hidalgo, M. V. (2009). Adjustment of school-aged children and adolescents growing up in at-risk families: Relationships between family variables and individual, relational and school adjustment. *Children and Youth Services Review, 31*, 654-661. doi: 10.1016/j.childyouth.2008.12.007
- Kim, J., Pierce, B. J., Jagers, J. W., Imburgia, T. M., & Hall, J. A. (2016). Improving child welfare services with family team meetings: A mixed methods analysis of caseworkers' perceived challenges. *Children and Youth Services Review, 70*, 261-268. doi: 10.1016/j.childyouth.2016.09.036

- Lipschitz-Elhawi, R., & Itzhaky, H. (2008). The contribution of internal and external resources emotional adjustment: a comparison of at-risk and normative adolescents. *Child and Adolescent Social Work Journal*, 25(5), 385-396. doi: 10.1007/s10560-008-0141-1
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: a critical valuation and guidelines for future work. *Child Development*, 71(3), 543-562. doi: 10.1111/1467-8624.00164
- McElroy E. M., & Rodriguez C. M. (2008). Mothers of children with externalizing behavior problems: Cognitive risk factors for abuse potential and discipline style and practices. *Child Abuse & Neglect*, 32, 774-784. doi: 10.1016/j.chiabu.2008.01.002
- Merrick, M. T., Leeb, R. T., & Lee, R. D. (2013). Examining the role of safe, stable, and nurturing relationships in the intergenerational continuity of maltreatment- introduction to the special issue. *Journal of Adolescent Health*, 53(5), S1-S3. doi: 10.1016/j.jadohealth.2013.06.017
- Metzler, M., Merrick, M. T., Klevens, J., Ports, K. A., & Ford, D. C. (2017). Adverse childhood experiences and life opportunities: shifting the narrative. *Children and Youth Services Review*, 72, 141-149. doi: 10.1016/j.childyouth.2016.10.021
- Mytton, J., Ingran, J., Manns, S., & Thomas, J., (2014). Facilitators and barriers to engagement in parenting programs: a qualitative systematic review. *Health Education & Behavior*, 41(2), 127-137. doi: 10.1177/1090198113485755
- Molinuevo, D. (2013). *Parenting support in Europe*. Dublin: Eurofound.
- Papadopoulou, D., Malliou, P., Kofotolis, N., Vlachopoulos, S. P., & Kellis, E. (2016). health-related quality of life in children attending special and typical education Greek schools. *International Journal of Disability, Development and Education*, 64(1), 76-87. doi: 10.1080/1034912X.2016.1158399

- Pölkki, P. L., & Vornanen, R. H. (2015). Role and success of Finnish early childhood education and care in supporting child welfare clients: Perspectives from parents and professionals. *Early Childhood Education Journal*, 6(44), 581-594. doi: 10.1007/s10643-015-0746-x
- Rentzou, K. (2013). Exploring parental preferences: care or education: what do Greek parents aspire from day care centres? *Early Child Development and Care*, 183(12), 1906-1923. doi: 10.1080/03004430.2013.767247
- Rodrigo, M.J., Almeida, A., & Reichle, B. (2016). Evidence-based parent education programs: A European perspective. In J. Ponzetti (Ed), Evidence-based parenting education: A global perspective (pp. 85-104). New York: Routledge.
- Rodriguez, M. C. (2016). Predicting parent-child aggression risk cognitive factors and their interaction with anger. *Journal of Interpersonal Violence*, 12, 1-20. doi: 10.1177/0886260516629386
- Rodriguez C. M., & Tucker M. C. (2015). Predicting maternal physical child abuse risk beyond distress and social support: Additive role of cognitive processes. *Journal of Child and Family Studies*, 24, 1780-1790. doi: 10.1007/s10826-014-9981-9
- Royse, D., Thyer, B. A., & Padgett, D. K. (2015). *Program evaluation: An introduction to an evidence-based approach*. Boston: Cengage Learning.
- Schofield, T. J., Lee, R. D., & Merrick, M. T. (2013). Safe, stable, nurturing relationships as a moderator of intergenerational continuity of child abuse and neglect: A meta-analysis. *Journal of Adolescent Health*, 53(5), S32-S38. doi: 10.1016/j.jadohealth.2013.05.004
- Schreyer, I., & Krause, M. (2016). Pedagogical staff in children's day care centres in Germany- links between working conditions, job satisfaction, commitment and work-related stress. *Early Years*, 36(2), 132-147. doi: 10.1080/09575146.2015.1115390

- Seville City Hall (2015). *Day-care program for children and adolescents at psychosocial risk* [Programa del Servicio “Unidad de Día” para la infancia y Adolescencia en situación o riesgo de exclusión]. Retrieved from <http://www.sevilla.org/ayuntamiento/competencias-areas/area-de-bienestar-social-y-empleo/servicios-sociales/publicaciones-servicios-sociales/programa-unidad-de-dia>
- Sharpe, H., Patalay, P., Fink, E., Vostanis, P., Deighton, J., & Wolpert, M. (2016). Exploring the relationship between quality of life and mental health problems in children: implications for measurement and practice. *Eur Child Adolesc Psychiatry, 25*, 659-667. doi: 10.1007/s00787-015-0774-5
- Statham, (2000). *Outcomes and Effectiveness of Family Support Services: A Research Review*. London: Institute of Education, University of London.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Pearson Education.
- Tandon, P. S., Garrison, M. M., & Christakis, D. A. (2012). Physical activity and beverages in home- and center-based child care programs. *Journal of Nutrition Education and Behavior 44*(4), 355-359. doi:10.1016/j.jneb.2011.10.009
- The European Kidscreen Group (2006). *The KIDSCREEN questionnaires. Quality of life questionnaires for children and adolescents*. Lengerich: Pabst Science Publ.
- Toroya, T., Oakley, A., Laing, G., Roberts, I., Mugford, M., & Turner, J. (2004). The impact of day care on socially disadvantaged families: an example of the use of process evaluation within a randomized controlled trial. *Child: Care, Health & Development, 30*(6), 691-698. doi: 10.1111/j.1365-2214.2004.00481.x
- Villumsen, A. M., & Kristensen, O. S. (2015). When risk becomes invisible in the everyday life of day care. *Early Years, 36*(1), 17-32. doi: 10.1080/09575146.2015.1093463

Wasserman, D. L. (2010). Using a systems orientation and functional theory to enhance theory-driven human service program evaluations. *Evaluation and Program Planning*, 33(2), 67-80. doi: 10.1016/j.evalprogplan.2009.06.005

Wechsler, D. (2003). *Wechsler Intelligence Scale for Children-Fourth Edition*. San Antonio, TX: The Psychological Corporation.

Xu, Y., Ahn, H., & Bright, C. L. (2017). Family involvement meetings: Engagement, facilitation, and child and family goals. *Children and Youth Services Review*, 79, 37-43. doi: 10.1016/j.childyouth.2017.05.026

Zahnd, W. E., Smith, T., Ryherd, S. J., Cleer, M., Rogers, V., & Steward, D. E. (2017). *Journal of School Health*, 87(6), 465-473. doi: 10.1111/josh.12515

Table 1

Baseline characteristics for IG and CG

	IG	CG	Differences
Family			
N° family members	$M = 4.21 (SD = 1.22)$	$M = 4.45 (SD = 1.30)$	$F = 0.70$ <i>n.s.</i>
N° children	$M = 2.31 (SD = 1.03)$	$M = 2.03 (SD = 0.85)$	$F = 1.52$ <i>n.s.</i>
Two-parent structure	38.46%	57.58%	$X^2 = 2.62$ <i>n.s.</i>
Stability of income	47.06%	54.55%	$X^2 = 0.38$ <i>n.s.</i>
N° of risk factors	9.03 (4.57)	10.20 (4.19)	$F = 1.20$ <i>n.s.</i>
Main caregiver			
Woman	82.05 %	90.91%	$X^2 = 1.17$ <i>n.s.</i>
Age	$M = 39.10 (SD = 6.19)$	$M = 39.09 (SD = 5.93)$	$F = 0.01$ <i>n.s.</i>
Educational level			
Below compulsory education	4.55%	27.27%	$X^2 = 5.36$ <i>n.s.</i>
Primary	45.45%	33.33%	
Secondary or higher	50.00%	39.39%	
Employed	43.75%	70.83%	$X^2 = 4.07 (V_{Cramer} = .27)$
Unskilled work	84.21%	92.86%	$X^2 = 0.57$ <i>n.s.</i>
Work regulated by contract	57.14%	35.71%	$X^2 = 1.54$ <i>n.s.</i>
Child			
Girls	33.33%	50.00%	$X^2 = 0.17$ <i>n.s.</i>
Age	$M = 7.56 (SD = 2.65)$	$M = 12.83 (SD = 2.81)$	$F = 46.77 (\eta^2_{partial} = .46)$

n.s. non significant, * $p < .001$

Table 2.

Descriptive statistics and change on child quality of life sub-scales (IG x GC) after controlling for children's age

	IG		CG		Interaction x Group <i>F</i> (η^2_{partial})
	<i>M</i> (<i>SD</i>)		<i>M</i> (<i>SD</i>)		
	Pretest	Posttest	Pretest	Posttest	
Quality of life					
Physical well-being	3.85 (0.71)	4.12 (0.57)	3.86 (0.86)	3.57 (0.85)	5.06* (.07)
Psychological well-being	4.07 (0.42)	4.08 (0.49)	3.86 (0.68)	3.67 (0.62)	3.80* (.06)
Autonomy and parent relations	3.16 (0.60)	3.30 (0.62)	3.70 (0.72)	3.11 (0.59)	8.31*** (.11)
Social support and peers	3.27 (0.74)	3.48 (0.68)	3.48 (0.95)	3.17 (0.84)	3.93* (.06)
School environment	3.49 (0.74)	3.59 (0.79)	3.12 (1.10)	3.08 (1.11)	0.01 ^{<i>n.s.</i>}

Note. Boldfaced contrasts indicate statistically significant effects. ^{*n.s.*} no significant, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$

Table 3.

Descriptives and change on general child quality of life, social skills, behaviour problems, academic competence and intelligence

for IG

	Descriptives <i>M (SD)</i>		Main effect <i>F (η²_{partial})</i>	Interaction x Child sex <i>F (η²_{partial})</i>	Interaction x Child age <i>F (η²_{partial})</i>	Interaction x Family risk level <i>F (η²_{partial})</i>
	Pretest	Posttest				
Global quality of life	3.68 (0.43)	3.79 (0.43)	6.58* (.14)	0.34 <i>n.s.</i>	0.50 <i>n.s.</i>	0.01 <i>n.s.</i>
Social skills	1.16 (0.39)	1.29 (0.39)	5.54* (.13)	3.07 <i>n.s.</i>	0.04 <i>n.s.</i>	1.69 <i>n.s.</i>
Externalizing problems	0.65 (0.44)	0.63 (0.53)	0.01 <i>n.s.</i>	2.57 <i>n.s.</i>	0.01 <i>n.s.</i>	3.75 <i>n.s.</i>
Internalizing problems	0.51 (0.42)	0.39 (0.32)	6.86* (.16)	4.62* (.11)	1.76 <i>n.s.</i>	0.22 <i>n.s.</i>
Academic competence	2.89 (0.80)	3.01 (0.78)	2.61 <i>n.s.</i>	1.29 <i>n.s.</i>	1.48 <i>n.s.</i>	9.45*** (.22)
Intelligence	32.48 (23.27)	37.60 (24.76)	6.76* (.23)	0.75 <i>n.s.</i>	0.01 <i>n.s.</i>	0.08 <i>n.s.</i>

Note. Boldfaced contrasts indicate statistically significant effects. *n.s.* no significant, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$

Figure 1.

Interaction effects of child sex on internalizing problems and family risk level on academic competence

