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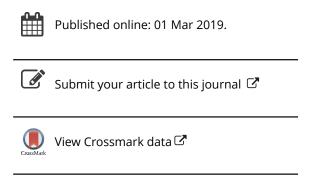
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Family outcomes in early intervention: results from a nationwide study in Portugal

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ABSTRACT

Several studies have stressed the outcomes for families who are supported by Early Intervention in the following dimensions: knowledge/information; development of competencies; well-being; and quality of life. As a result, this study assessed 999 families to examine the outcomes of Early Intervention in Portugal. Our results show that families supported by Early Intervention benefit in dimensions related to the development of competencies in the child and the family, and to the gain of information and knowledge about support and community resources, which results in perceived control and co-responsibility. The analysis of the outcomes of Early Intervention also shows that parents' education and occupation levels are determining variables for a family to benefit from the positive impact of Early Intervention. In light of such results, we present recommendations for practices in the area of Early Intervention with the aim of adapting the practices of professionals to the concerns and priorities of Portuguese families.

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KEYWORDS

Early Intervention; outcomes; families; children with special needs

Several studies present a set of outcomes perceived by families who are supported by Early Intervention (EI) in terms of knowledge and information, development of skills, well-being, and quality of life (Bailey, Hebbeler, Scarborough, Spiker, & Mallik, 2004; Cossio, Pereira, & Rodriguez, 2017, 2018; Dunst, 2002, 2015; Leite & Pereira, 2013; Pereira & Serrano, 2014).

Knowledge and information about Special Needs (SN), as well as access to community resources and services by parents, are a direct result of El, as referenced by Adler, Salanterä, Leino-Kilpi, and Grädel (2015), Coogle, Guerette, and Hanline (2013), and also, Cossio et al. (2017, 2018).

Another area considered by families as one of the outcomes of El is the development of parental skills in promoting learning, a healthy and balanced development of their children, and knowledge on how to deal with specific child behaviours. Families who have children with SN experience difficulties related to parental competences (Adler et al., 2015; Coogle et al., 2013) and, as a result, sometimes feel insecure about their ability to promote their children's development (Almeida et al., 2012). In this way, the ability of parents to understand the needs, development, and progress of their child is highly valued and a desired outcome in El (Dunst & Bruder, 2002).

Families' well-being and quality of life are also reported by several authors as being a direct result of El (Bailey, Scarborough, Hebbeler, Spiker, & Mallik, 2004; Bhopti, Brown, & Lentin, 2016; Cossio, Pereira, & Rodriguez, 2018; Kuhlthau et al., 2011; Kuo, Bird, & Tilford, 2011; Warfield, Hauser-Cram, Krauss, Shonkoff, & Upshur, 2000).

Bailey, Scarborough, et al. (2004) also concluded that families feel that EI professionals have helped them to take on a more positive perspective of their child's future with SN. This data is asserted by Bhopti et al. (2016), who state that El influences both the physical and psychological health of parents of children with SN.

Poston et al. (2003) point out the importance of valuing the expectations of families, with this being a critical factor in their perceived quality of life. At this level, families express the need for help to cope with the consequences of a lack of time and attention for themselves, as well as for other family members. These expectations are also valued by families in regard to the development of work skills and opportunities, in terms of training and employment, as far too often parents of children with SN need to reduce their number of hours of work, or even to become unemployed, in order to be able to take care of their child (Kuhlthau, Hill, Yucel, & Perrin, 2005; Kuo et al., 2011).

Family cohesion, that is, the degree of emotional attachment that binds family members is also considered to be a benefit that emerges from EI support at the level of the family's quality of life (Mackay, 2003; Mahoney & Perales, 2005; Margalit & Kleitman, 2006; Warfield et al., 2000). Indeed, Margalit and Kleitman (2006) ascertained that the degree of family cohesion is higher after one year of support from El. Warfield et al. (2000) report that families with a strong sense of cohesion have the potential to foster optimal developmental opportunities for their children, while Mackay (2003) further adds that families with a strong emotional attachment are better able to cope with potentially adverse factors, such as challenges and stress.

To have supporting relationships with other parents of children with SN is considered to influence the quality of life of families supported by EI (Baum, 2004; Bitsika & Sharpley, 2000; Edwards & Gallagher, 2014; Kerr & McIntosh, 2000; Mackintosh, Myers, & Goin-Kochel, 2005). According to Baum (2004), and to Bitsika and Sharpley (2000), parental support groups enable the reconstruction of emotional balance and stability, as well as the reduction of anxiety and depression in families supported by El. Moreover, families supported by El consider parental meetings important to obtain support and resources from the community (Edwards & Gallagher, 2014; Mackintosh et al., 2005; Solomon, Pistrang, & Barker, 2001).

Currently, in Portugal, there is a change underway in the organization and functioning of El teams, highlighted in the publication of the Decree-Law no. 281/2009, of 6 October, whose main objective is the creation of a National System of Early Childhood Intervention. Decree-Law no. 281/2009 further defines El as a set of integrated support measures centred on the child and family. Support is therefore intended for children up to six years old who have SN or who are at risk of developmental delays, as well as their families.

In Portugal, El is provided by a group of professionals in the areas of education, health, and social welfare, which together create the Local Early Intervention Team. The goals of Local Early Intervention Teams are to: a) identify children and families for National System of Early Childhood Intervention; b) ensure the monitoring of children and families that do not meet the eligibility criteria for El; c) prepare and execute the Individual El Plan; d) identify and streamline community resources; (e) ensure an appropriate transition process for each child to other educational programmes, services, or contexts; f) articulate the contexts and the professionals where the child is included.

The support provided by El is given by only one of the professionals who integrates the Local Early Intervention Team, who is called the case coordinator. This professional promotes the cohesion, cooperation, participation, satisfaction, and fluency of communication between the family and the Local Early Intervention Team professionals (King et al., 2009; Shelden & Rush, 2001).

Therefore, Decree-Law no. 281/2009 compels us to search for answers about the outcomes of El for Portuguese families. As a result, the following research questions were defined:

Research Question 1: Do families consider receiving outcomes from El support?

Research Question 2: In what dimensions, knowledge/information; control/co-responsibility; and development of competencies in the child and in the family, families consider receiving outcomes from El support?

Research Question 2: Parents' education and occupation levels influence their perception of the outcomes of EI?



Methods

Participants

Participants were 999 families with children with SN who had been supported by Local Early Intervention Teams in Portugal, for at least six months, in the year 2015. Most of the participants were mothers (81.2%), while 13.7% were fathers, 3.1% were grandparents, and 2.0% corresponded to other degrees of kinship (e.g. cousin, aunt, godmother, sister, legal guardian).

Regarding parents' educational level, three levels of schooling were considered, namely: primary to middle school (up to the 9th year of schooling), secondary education (from the 10th to the 12th year of schooling), and higher education.

The majority of fathers had a primary to middle school education (56.2%), 25.1% had a secondary education, and 18.6% had a university degree. The majority of mothers had a primary to middle school education (44.6%), 31.5% had a secondary education, and 23.8% had a university degree.

Most fathers (41.3%) had very low-level jobs, 21.5% had low-level jobs, 17.1% had high-level jobs, 3.3% had very high-level jobs, and 16.7% were unemployed. Most mothers (36.6%) had very low-level jobs, 17.8% had low-level jobs, 16.9% had a high-level job, 4.1% had a very high-level job, and 24.5% were unemployed.

Recruitment procedures

Once the authorization from the National System of Early Childhood Intervention was obtained, Local Early Intervention Teams in Portugal were contacted. From the 144 teams contacted, only 65 agreed to collaborate. The professionals from the 65 Local Early Intervention Teams were then asked to submit questionnaires to the families, to be completed and placed in an envelope which they could easily seal, after having filled out the questionnaire. This procedure was carried out to safeguard the confidentiality of the participants. It was also requested that the questionnaire should be completed by only one family member. In total, 2493 questionnaires were sent out, and 1005 questionnaires were returned, for a rate of 40.3%. Of the 1005 questionnaires received, six were excluded, since they only included responses referring to sociodemographic data. Thus, the sample of the present study consisted of 999 families of children with SN, aged between six months and six years, in mainland Portugal. Data collection took place over 10 months.

Data collection instrument

The Early Intervention Benefits Identification Questionnaire for the Family (Leite & Pereira, 2017), adapted from Harbin and Neal (2003), was used as a data collection tool. This questionnaire consists of two parts: Part 1 -Sociodemographic information; Part II - Identification Questionnaire of the Benefits of Early Intervention for the Family.

Part I – Sociodemographic Information. The first part of the questionnaire consists of: a) the parents' personal and socioeconomic details, namely their level of schooling and profession; b) personal factors of the child supported by EI, namely age, gender, and type of SN; c) factors associated to the characterization of the support provided by Local Early Intervention Teams, particularly the overall El support time, the time of support provided by the case mediator, and the support context.

Part II - The Early Intervention Benefits Identification Questionnaire for the Family (Leite & Pereira, 2017). This 22-item questionnaire has three dimensions: knowledge/information (four items); control/co-responsibility (eight items); and development of competencies in the child and in the family (10 items). Items cover a set of benefits: knowledge about the child's condition, such as 'Knowing our child's difficulties, delays, or special needs'; support relationships between family members, friends, and professionals, such as 'Having, if you wish, a relationship of help with another family that has children with special needs similar to those of our child'; inclusion and participation

in the community, such as 'Participating with our child in community activities' as a result of participation in El. Responses were provided on a 6 point Likert scale (ranging from 1 = often disagree to 6 = strongly agree). Cronbach's alpha for these 22 items was .90.

Data analysis procedures

The descriptive analysis method was used to analyze the average household's perception about the outcomes of El support taking into account the three dimensions under analysis ((Research Question 1). The One-way ANOVA was used to identify significant differences in outcomes taking into account independent variables such as parents' education and occupation levels (Research Question 2).

Results

Results will be presented according to the three research questions asked:

Do families consider receiving outcomes from El support?

Regarding the analysis of the different items of the questionnaire, there is variance of averages between 4.10 and 5.60, and a total mean of 4.92 (4 = 1 sometimes agree, 5 = 1 often agree).

The items with the highest average are, respectively and in descending order, item 5 – 'Facilitate and promote the development of our child' (5.60); item 12 – 'Identify the strengths, needs, and progress of our child' (5.42); item 1 – 'Understanding the difficulties, delays, or special needs of our child' (5.40), and item 15 – 'Feeling hopeful and optimistic about our child's future' (5.39).

The items with the lowest average are, respectively and in ascending order, item 17 - 'Having, if you wish, a helping relationship with another family ... ' (4.10); item 21 – 'Participating in the organizations/associations that exist in our community ... ' (4.10), item 19 – 'Finding someone to take care of or stay with our child.' (4.14), and item 22 – 'Participating in activities which can improve the support for children with special needs ... ' (4.24).

From the analysis of the mean values obtained, families do consider to receive outcomes from El support. These outcomes are more evident in the dimensions of competence development in the child and family (M = 5.26), and knowledge/information (M = 5.19), when compared to the mean values obtained in the control/co-responsibility dimension (M = 4.37) (see Table 1).

Parents' education and occupation levels influence their perception about the outcomes of EI?

In order to accurately analyze this question, we have regrouped parents' education levels, considering the higher level of one of the parents, as defined by Machado et al. (2003). Therefore, the three levels of schooling followed in Portugal (primary to middle school, secondary education, and higher education) were considered.

From the analysis of Table 2, there are no statistically significant differences in the knowledge/ information dimension, taking into account the defined levels of education (p = .089). Also, there

Table 1. Distribution of items in three dimensions.

	N	Min-Máx	Mean	DP
Knowledge / Information	999	1–6	5.19	.87
Control / Coresponsibility	999	1–6	4.37	1.27
Development Competencies	999	1–6	5.26	.80
Total	999			



Table 2. Differences in the three dimensions of benefits according to parents' educational level.

	Education level of parents	Ν	Mín-Máx	Mean	DP	F	Gl	Sig.
Knowledge Information	Primary to middle school	394	1–6	5.21	.92			
	Secondary	333	2–6	5.24	.79			
	Higher	272	1–6	5.09	.88			
	Total	999	1–6	5.19	.87	2.420	998	.089
Control / Coresponsibility	Primary to middle school	394	1–6	4.54	1.19			
	Secondary	333	1–6	4.47	1.20			
	Higher	272	1–6	4.01	1.38			
	Total	999	1–6	4.37	1.27	16.036	998	.000
Bonferroni	Primary to middle school > Higher* Secondary > Higher*							
Development competencies	Primary to middle school	394	1–6	5.29	.81			
	Secondary	333	1–6	5.35	.68			
	Higher	272	2–6	5.11	.88			
	Total	999	1–6	5.26	.80	7.426	998	.001
Bonferroni	Primary to middle school >	Higher* S	Secondary > H	ligher*				

^{*} $p \le .05$.

was no differentiation in the mean values in the three groups of schooling defined (primary to middle school, secondary education, and higher education). However, only in the dimensions control/coresponsibility (p = .000), and development of competences (p = .001), were there statistically significant differences.

The Bonferroni test was used to determine the existence of contrasts between the three groups of schooling in the factors control/co-responsibility and development of competences. Statistically significant differences were found between families with primary to middle school and secondary education, when compared to families with a higher education level.

Regarding the occupation of the father and mother, three levels were considered (low, mediumlow, medium-high, and high), according to the designation adopted in psychological studies and education in Portugal. Level 1 - Low occupation level: construction workers; housekeepers; rural workers, or fishery workers; Level 2 - Low occupation level: Drivers, hairdressers, or public service employees; Level 3 - High and very high occupation level: teachers, nurses, tradesmen, doctors, lawyers, senior state and business officials, or businessmen.

We regrouped the parents' occupations, having considered the highest profession level of one of the parents, as recommended by Machado et al. (2003).

From the analysis of Table 3, there are statistically significant differences in the perceptions of the families about the outcomes of El, according to the three factors: knowledge/information (p = .036), control/co-responsibility (p = .000), and development of competencies (p = .001), taking into account the parents' occupation.

Table 3. Differences in the three dimensions of benefits according to parents' ocupation.

	Parents' Ocupation	Ν	Mín-Máx	Mean	DP	F	Gl	Sig.
Knowledge/Information	Low level	352	1–6	5.26	.88			
	Medium low level	300	1–6	5.20	.88			
	Medium high and high levels	347	1–6	5.10	.84			
	Total	999	1–6	5.19	.87	3.346	998	.036
Bonferroni	Low level > medium high and high levels*							
Control/Coresponsibility	Low level	352	1–6	4.62	1.16			
	Medium low level	300	1–6	4.46	1.16			
	Medium high and high levels	347	1–6	4.04	1.38			
	Total	999	1–6	4.37	1.27	19.719	998	.000
Bonferroni	Low level > medium low level a	and high	* Medium l	ow level >	Mediun	n high and	high le	evels*
Development of competencies	Low level	352	1–6	5.36	.79		,	
	Medium low level	300	1–6	5.30	.73			
	Medium high and high levels	347	2–6	5.13	.84			
	Total	999	1–6	5.26	.80	7.583	998	.001
Bonferroni	Low level > medium low level a	and high	* Medium l	ow level >	Mediun	n high and	high le	evels*

^{*} $p \le .05$.

The Bonferroni test was used to determine the existence of a contrast between the three occupation levels in the three factors. As a result, it was possible to verify that there are statistically significant differences between families with a low occupation level and families with medium-high and high occupation levels in concern to the knowledge/information factor. Also, there are statistically significant differences between families with a low and medium-low occupation level, and families with a medium-high and high occupation level, in the control/co-responsibility and in the competence development factors.

Discussion

The results obtained in this study show that families perceive to obtain outcomes when they are supported by EI in the dimensions related to the development of competences in the child and the family, to a gain of information and knowledge about existing community support and resources, and to a sense of control/co-responsibility of the family in the EI process.

The analysis of the outcomes of El also demonstrated that parents' level of schooling and employment may work as decisive variables in the attainment of outcomes for the families. These results are supported and explained by some studies by several authors (Bailey, Hebbeler, et al., 2004; Dunst, Hamby, & Brookfield, 2007a; Dunst, Leet, & Trivette, 1988; Leite & Pereira, 2013; Sampaio & Geraldes, 2006; Warfield et al., 2000).

More specifically, with regard to parents' level of schooling, we found that families with primary to middle school and secondary education present higher values regarding the outcomes of El in the dimension of child and family competency development, in comparison with parents with higher education levels. These results are similar to those obtained by Kirby, White, and Baranek (2015), and by Leite and Pereira (2013). It is possible to ground these results on the ease of access to information by parents with a higher level of schooling outside the El support system (Bailey, Hebbeler, et al., 2004; Gowen, Christy, & Sparling, 1993). On the other hand, families with a primary to middle school or secondary level of schooling show more difficulties in getting involved within their communities, which translates into fewer opportunities for access to information (Bailey, Blasco, & Simeonsson, 1992; Boushey, Brocht, Gundersen, & Bernstein, 2001; Dunst et al., 1988; Park, Turnbull, & Turnbull, 2002).

Regarding the variable parents' job, our results show that families with a low and medium-low level jobs present higher values regarding their perceptions about the outcomes of EI, in the dimensions of competence development in the child and in the family, knowledge/information, and control/co-responsibility, when compared to families with high and medium-high professions. These results may suggest that families with a higher level job tend to evaluate practices as being less family-centered (Dunst, Hamby, et al., 2007a), resulting in a decrease of the perceived outcomes of EI. However, these results contradict the results obtained in several research studies that refer to the absence of statistically significant differences in the variable parents' job (Epley, Summers, & Turnbull, 2011; Mackintosh et al., 2005; McWilliam, Tocci, Sideris, & Harbin, 1998; Mohammed Nawi, Ismail, & Abdullah, 2013; Olmsted et al., 2010).

Limitations and future research

The first limitation of this study is the use of a questionnaire as a data collection instrument. Although the questionnaire method is recommended by the *Early Childhood Outcomes Center* (Bailey, Bruder, & Hebbeler, 2006), it presents some disadvantages, since it does not allow the researcher to delve deeply into what families think about the outcomes of El. To obtain a clearer interpretation of the data obtained, we consider that an interview or focus group could be appropriate methods to seek further clarification and interpretation of the data.

Secondly, the results reflect only the perspectives of one of the family members, namely the mother of the child supported by El. Future studies should consider other elements of the

family, such as both parents, in order to obtain different points of view about this phenomenon.

Implications for practice

Our results show that families considered obtaining outcomes from being supported by El. Thus, these data contribute to highlight the importance of El in the lives of families, thus stressing the need to hire professionals with specific training in the area of El in Portugal, so that they can, in a more consistent and qualified way, apply the best practices for El, namely the family-centered approach, transdisciplinarity, and support in the natural contexts (Division for Early Childhood, 2014). Such data may also help professionals to tailor their practices to the specific needs, priorities, and individuality of the supported families (Dunst, Trivette, & Hamby, 2007). Furthermore, the results of this study can also promote a more effective knowledge on behalf of the families regarding the role of El and its scope when responding to their concerns and priorities.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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