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# Parental Outcomes in Early Intervention for Children with Special Educational Needs and Disabilities

## Abstract

*Parents' outcomes in early intervention for children with special educational needs and disabilities (SEND) have not received close study in the United Arab Emirates (UAE). In pursuit of this goal, a quantitative method used to collect quantitative data and investigate parents' outcomes. Therefore, the family outcomes survey (FOS) was utilised to collect data from parents whose children were served in four rehabilitation centres across the UAE. Descriptive statistics, the independent t-test, and one-way ANOVA were used to address the main research question and examine the study hypotheses. The results of the study indicated high parent outcomes in two areas: understanding the child's needs and providing support; meanwhile, other outcomes did not achieve the cut-off score. Additionally, statistical differences were found among outcomes in relation to the family services programme, type of disability (in favour of parents of children with developmental delay and Down syndrome), and according to service duration (in favour of parents of children receiving services for 13 months or more). Accordingly, this study results were discussed in light of the previous literature and provided recommendations to enhance parents' outcomes in early childhood intervention programmes.*

**Keywords:** Early Childhood Intervention, Parents, Special Needs, Disability.

## Introduction

The Emirates Early Intervention Programme (EEIP) was established in 2010 with the launch of the 'My First Steps' initiative in Ras Al Khaimah (RAK) - UAE, and the early childhood intervention (ECI) services spread across the other Emirates through the Ministry of Community Development (MOCD) centres. To ensure the quality of the delivered services, the Ministry established standards for them. The EEIP primarily promotes services in centre-based settings, including educational and therapeutic support services as well as family training and counselling; these services were

provided through two main programmes, namely, educational classes and family services. Establishing the outcomes of early intervention programmes is critical for further enhancement and development, which is in turn important for policy makers and general government accountability (Epley, Summers, & Turnbull, 2011; Raspa et al., 2010).

Many scholars have noted the importance of the roles played by parents of children with special educational needs and disabilities (SEND) in the early ages, as they perform crucial functions at home and in other natural environments related to the observation of daily life activities and skills development (Acar &

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Akamoğlu, 2014). Although focusing on child development is a primary goal of ECI, paying attention to family outcomes and acquired family skills as a result of the intervention is also decisive. However, within ECI services, the focus remains on the children rather than on families that spend more time with their children, although many scholars consider family outcomes to be an essential component to produce high-quality services (Epley et al., 2011). Thus, parents' outcomes are less obvious and remain under-researched (Gavidia-Payne, Meddis, & Mahar, 2015).

Bailey, Raspa and Fox (2011) emphasise the need to conduct additional research to study family outcomes and its relation to child's progress in a range of areas, which might help design individualized family services in response to families' specific concerns and their children's unique needs.

The UAE's ECI programme provides services to children with disabilities and developmental delays as well as to their parents. However, little is known of the benefits and outcomes that accrue to parents in relation to the provision of services at the early intervention stage. The investigation of family outcomes may produce a deeper understanding of the roles of all family members in an intervention, as well as the effectiveness of the early intervention approach used to empower families as primary partners.

Little work has been done on the outcomes and advantages obtained by families from early intervention programmes (Raspa et al., 2010). Instead, the focus has fallen on child outcomes as a fundamental criterion on the effectiveness of the services (Bailey et al., 1998).

The quality standards of ECI dictated by MOCD (Al Khatib, 2016) ensure the enhancement of family skills and practices and improvements to the interaction between parents and their children as essential intervention goals, which entails a great opportunity to focus on parents through service provision associated with children's development that will ultimately benefit them (Bailey et al., 2011; Bailey et al., 2006).

This study goes one step further in examining family outcomes and investigating the relationship between parents' outcomes and other aspects that are related to type of special needs or disabilities, implemented approach, and duration of services.

### **Research Objectives**

1. To investigate the parents' levels of outcomes in ECI programmes.
2. To examine the relationship between parents' outcomes in an ECI programme and

the type of programme, type of SEND and service duration.

## **Review of the Literature**

### **Family-Focused Paradigm Shift**

Most early intervention theories have focused on the child outcomes as the primary pivot in the effectiveness of the services delivered; however, the essential rationale of ECI has changed as a result of studies that found broad outcomes for these services that include the entire family (Bailey et al., 1998). Such work provided extensive evidence on the roles of the parents and families in early intervention services, as the family context creates conditions that aid with children's development, especially prompting the child to spend more time interacting with family members in daily life activities (Freeman, 2003). Bailey et al. (2006) conducted an investigation in five main domains, including family understanding the child's strengths and needs, knowing the child's rights, supporting the child's learning and development, receiving assistance from others, and participating in social activities.

The researchers reviewed the literature on family outcomes in ECIs, seeking to establish a stable theoretical framework for results related to the parents and to substantiate the results of previous studies. Smith (1988) described the implications of effective family participation in the early intervention stage for both the child and the family. The effects of the intervention can be reflected in the development of children's skills, and the implications are clearly manifest of the outcomes of the family as a whole. These outcomes appear through the family's acquisition of important skills related to empowering and training children, mutual family support and the ability to benefit from community sources (Raspa et al., 2010).

More recently, Wicks, Paynter and Adams (2019) recruited 97 mothers of children with ASD in their longitudinal to predict family potential outcomes in the ECI. The authors found that family factors were crucial indication to predict ECI outcomes, meanwhile characteristics of their children were not significance. The study recommended a paradigm shift in the way of outcomes assessment which focuses on families' views as fundamental elements. In the same vein, McManus et al, (2020) found that the family-centered approach in ECI that based on recognizing families' involvement in decision making and effective communication with them was associated with positive family outcomes.

Early intervention is administered to children at preschool ages and their families in various settings with the goal of enhancing their ability to reach different developmental stages

(Bruder, 2010; Zheng, Maude, Brotherson & Merritts, 2016). Previous studies have found such interventions to have important impacts and produce a wide range of outcomes on families (Epley et al., 2011). From an intensive literature view, Bailey, et al. (2006) determined five main family outcomes, which are as follows: knowing the child's rights, understanding the child's abilities, supporting the child's development, receiving support and developing the ability to access necessary services in society.

### **Family Satisfaction**

To evaluate families' satisfaction with ECI services, McWilliam et al. (1995) focused on family outcomes in a range of interventions, adopting a mixed-methods study. The quantitative part of the study used a random mail survey to gather data. In all, 539 families responded to the 30-item questionnaire, and the results showed that families were receiving all the support needed for them and their children; while home-based parents were more satisfied than centre-based ones, other respondents said that they required more support in different aspects of the global development of their children.

To better measure family outcomes with reference to ECI programmes, Raspa et al. (2010) surveyed (1,666) parents of children with SEND who were implementing FOS and found high-level outcomes in different domains of the survey. The means of the survey subdomains showed that the parents scored high in the fields of children's attainment of new developmental skills, family access to healthcare services, active participation in team meetings and understanding of the children's unique needs. The results indicated that parents rated below average in their awareness of the available services appropriate for their children and the extent of their children's involvement in daily life activities, in addition to their satisfaction with the time spent in early intervention.

### **Family Knowledge**

Epley et al. (2011) also implemented FOS on 77 parents who have children with disabilities and developmental delays in early ages. It was found that the parents' scores on the FOS ranged between 2.8–7.0 with a mean of 5.5, placing family outcomes above the cut-off point of the scale (5.0). Moreover, the results showed no correlation between family outcomes in ECI and the type of special need or length of services to be received. Noyes-Grosser et al. (2014) used a mixed-methods approach to investigate the outcomes of families with children with autism in ECI. A cross-sectional survey of 84 family members who benefited from early intervention

or had previously benefited from it over the previous three years of the study, in addition to 216 stakeholders, was conducted. The findings revealed that ECI has a favourable impact on family knowledge of their children's needs and rights, as well as their ability to interact with other families and service providers. However, the families did not acquire sufficient skills to transfer their knowledge to members of the extended family.

These findings were in line with the work of Gavidia-Payne et al. (2015), conducted in Australia, to understand family outcomes in the early childhood stage. The researchers administered FOS to 29 parents of children with special needs aged between 24 and 71 months. The parents scored high on knowledge of their children's needs, service effectiveness and understanding of their children's rights. The study also demonstrated a correlation between the outcomes of the families and the children, along with the impact of active engagement by the family on these outcomes. The results also showed that these outcomes appeared to be higher for families of younger children with autism.

In the same vein, Spence (2018) used a mixed-method approach with 39 parents to investigate families' outcomes in ECI. The participants filled out a survey followed by interviews to show their experiences and feelings. Results showed that most parents were satisfied with their EI experiences which is associated with the knowledge they have about their roles toward their children, as well as their active communication and collaboration with service providers. Moreover, Noyes-Grosser et al. (2018) found that parents reported that EI helped them to know their rights, effectively meet their children's needs and perform their roles toward their children to develop and learn. They attributed the improvements in their children's abilities to their understanding of their roles to facilitate the developmental progress.

Based on the related literature review, research has suggested that ECIs have a crucial impact on families in general and parents' outcomes in particular, which enabled them to meet their children's unique needs and properly respond to their special needs and disabilities. Some of these outcomes are directly related to the parents' knowledge, while others are related to their understanding of their children's developmental needs in the family or centre-based intervention settings.

### **Research Methodology**

Considering that no previous study on family outcomes in ECI has been conducted in the UAE, resulting in an information shortage, this research adopted a quantitative, cross-

sectional survey design. The researchers examined parents' outcome ratings and captured a snapshot of their perspectives at a point in time. One merit of this design is its ability to measure current practices and evaluate programmes within a short amount of time (Cohen, Manion, & Morrison, 2011; Creswell, 2012).

This study used a quantitative method to collect quantitative data and investigate parents' outcomes. Thus, neither the environment nor the variables were manipulated. The data collected were compared to previous work (Creswell, 2012; Muijs, 2010).

### 1. Study Setting

This study investigated a population of parents of children enrolled in the EEIP in four Emirates (Dubai, Ajman, RAK, and Fujairah) of the UAE. This population features a range of sociocultural variables, thus the researchers divided the research sample into groups related to the study objectives.

The study included all Emirati parents whose children were receiving services within both class settings that follow individualised educational plans (IEPs) and family settings that follow individualised family services plans (IFSPs). The children were 5 years old or younger and had differing special needs and disabilities.

### 2. Sampling

The population of this study included all parents of children with SEND that obtained benefits from different services from the EEIP. The total number of them was 158 children, distributed into 100 of them in the IFSPs, and 58 in the IEPs. The researchers used random probability sampling, the most widely utilised method in quantitative research, to represent the population (De Leeuw, Dillman, & Hox, 2011). To obtain the sample of the study, a list with 158 children's names was created with an assigned number for each child, and a random numbers table was used to select children's names from the population list until a minimum of 120 children were obtained (Creswell, 2012). The researchers collected 102 questionnaires from the children's parents that were correctly filled out and valid for study purposes (Cohen et al., 2011).

Table 1 shows the sample distribution. The children's ages ranged 15–64 months, with service duration in the EEIP from 5 to 30 months. The mean time spent was 15.12 months, and the standard deviation (SD) was 9.63 months.

**Table 1.**

*Sample Characteristics (N=102)*

<b>Variable</b>	<b>N</b>	<b>%</b>
<b>Type of programme</b>		
Educational Classes	44	43.1
Family Services	58	56.9
<b>Type of SEND</b>	<b>N</b>	<b>%</b>
Autism Spectrum Disorder	21	20.6
Down syndrome	25	24.5
Global Developmental Delay	30	29.4
Sensory	9	8.8
Physical	17	16.7
<b>Service Duration</b>	<b>N</b>	<b>%</b>
6 Months or less	38	37.3
7–12 Months	14	13.7
13–24 Months	14	13.7
25 Months or more	36	35.3
Total	102	100%

Note: N, numbers.

### 3. Instrumentation

The FOS survey (Bailey, Hebbeler & Bruder, 2006) was used; this is highly credible and is widely used among researchers and it has been found to adequately measure family outcomes (Epley et al., 2011; Raspa et al., 2010).

The first part of the survey contains demographic information regarding the child's SEND, type of programme received, and time spent in it. This survey contains 18 questions distributed across six outcome domains, as follows: 1) understanding the child's needs, 2) knowing the child's rights, 3) helping the child learn, 4) providing available support systems, 5) accessing community services, and 6) receiving EI. Each of these domains is assessed with three questions that take responses on a scale from 1 to 7 points. Higher scores represent greater satisfaction.

#### 1) **Validity and Reliability**

The FOS survey has been slightly modified by the researchers to suit the local cultural environment in the UAE. To establish the validity of the questionnaire, the researchers sent it to two faculty members at the UAE University to review the items for content validity and check whether it measures the target concepts. It was also reviewed by three parents, who were asked whether the instrument seemed suitable to them (Creswell, 2012; Muijs, 2010). After the review, the researchers drew on the feedback and suggestions to improve the survey.

To assess the internal consistency of the survey, reliability analysis using Cronbach's alpha was calculated by the researchers using SPSS software (version 23), and a high level of internal consistency (0.89) across the 18 items

was obtained. In their study, Epley et al. (2011) conducted a reliability analysis for the tool and also found it to be adequate (0.88).

**2) Data Collection and Analysis**

The researchers used parents' meetings and activities organised by the rehabilitation centres in February 2017 to distribute the survey to the targeted parents. The survey contained an introduction addressed to the parents to invite them to voluntarily consent to participation. At this point, the parents were given the opportunity to present inquiries about the study or any survey items, and their queries were answered by the researchers.

After the surveys were collected and confirmed to be valid for the analyses, the researchers coded the data and entered them into the computer, after which the validity of the entered data was measured to ensure the correct analysis and results.

To investigate the collected data, descriptive statistics were used to obtain a better explanation of the parents' characteristics. Additionally, the analysis of variance (ANOVA) and the independent-sample *t*-test were used to determine whether there were statistical differences in the characteristics of the parents.

**Results and Discussion**

**1. Domains of Family Outcomes**

To assess the levels of parents' outcomes in EEIP, the researchers conducted descriptive analyses, investigating the means, SD, and percentages for each item and domain on the survey, following the recommendation of Raspa, Hebbeler and Bailey (2009) to use a cut-off score of 5 and considering the score 5 or higher to indicate having achieved an outcome.

Table 2 indicates that the score means on the survey items are between 4.34 and 5.34, and parents scored above the cut-off on items 1, 2, 3, 10, 11, and 12, scoring below the cut-off on all other items, with a total FOS mean of 4.82, which also is below the cut-off. For their part, Epley et al. (2011) produced FOS scores between 2.8 and 7.0, with a mean of 5.5, which was above the cut-off. This is also different than the results of Raspa et al. (2010), which found positive outcomes for parents in general.

The lowest scores were for items 4 and 15 related to family knowledge of services and child participation in activities, respectively, which was similar to the findings of Raspa et al. (2010) that revealed low level of children's engagement in activities. By contrast, the highest score was found for item 1 that indicates family understanding of the child's development. Raspa et al. (2010) showed high scores for access to healthcare services.

**Table 2.**

*Means and Standard Deviations for the Family Outcomes Survey Items*

Item	Description	Mean	SD
1	Understanding the child's development	5.34	1.95
2	Understanding the child's special needs	5.32	1.88
3	Understanding the child's progress	5.26	2.03
4	Knowledge about services	4.34	2.15
5	Comfortable participating in meetings	4.46	2.15
6	Familiarity with child rights	4.45	2.29
7	Supporting child development and learning	4.64	1.97
8	Helping the child behave	4.59	2.16
9	Practicing new skills	4.54	2.10
10	Providing support	5.22	1.83
11	Someone to call for help	5.22	1.93
12	Doing activities that family enjoys	5.18	1.87
13	Access to medical care	4.79	2.11
14	Approach to childcare	4.52	2.26
15	Child activities and contributions	4.40	2.14
16	ECI facilitates understanding child rights	4.63	2.28
17	ECI facilitates communicating child needs	4.74	2.20
18	ECI facilitates child development	4.69	2.09
Total		4.82	1.86

Note: SD, standard deviation.

Table 3 shows parents' outcomes means and standard deviations for the six domains. Two domains, understanding the child's needs domain and providing available supports systems, scored above the cut-off and so achieved the desired outcomes, while the other domains did not. The researchers concluded that this was due to the ongoing training programmes provided to parents by the MOCD concerning children with SEND and how parents can meet their children's needs in various ways and by various methods, in addition to the family counselling and psychosocial support programmes that are provided to parents in the rehabilitation centres.

**Table 3.**

*Means and Standard Deviations for the Domains of Parents' Outcomes*

	Domain	Mean	SD
1	Understanding my child's needs	5.31	1.90
2	Knowing my child's rights	4.41	2.09
3	Helping my child learn	4.59	1.98
4	Providing support	5.21	1.81
5	Accessing community services	4.57	2.00
6	Receiving ECI	4.68	1.89

Note: SD, standard deviation

## 2. Type of ECI Programme

To investigate the parents' outcomes differences in relation to the type of programme, the means and standard deviations for both classes and family programmes were calculated. The mean for the classes programme was 4.09, and that for the family services programme was 5.37. To test whether these differences between mean values were statistically significant, an independent-samples *t*-test was conducted; a statistically significant difference ( $p = 0.000$ ) among the parents with regard to the type of programme was observed in favour of the parents of the children in the family services programme (Table 4).

**Table 4**  
*Independent T-Test for the Group Differences by Type of Programme*

Type of Programme	Number	Means	SD	T	DF	P
Educational Classes	44	4.09	1.86	-3.575	100	0.001
Family Services	58	5.37	1.68			

Note: SD, standard deviation

There were significant differences between parents' outcomes regarding the type of programme ( $t = -3.575, p < 0.05$ ) in favour of the parents of children enrolled in the family services programme. The researchers consider that this is due to the intensive training directly provided to the parents in services programmes, directed not only to the child but to the family as a whole. McWilliam et al. (1995) indicated that families whose children received family-centred interventions were more satisfied than other families, which may influence a wide range of outcomes (Bailey et al., 2011; McManus et al., 2020).

## 3. Type of SEND

To investigate the parents' outcomes differences in ECI in relation with the child's SEND, the means and standard deviations of the parents' responses were calculated (Table 5).

**Table 5.**  
*Means and Standard Deviations of Parents' Outcomes by Child's Type of Special Educational Needs and Disabilities*

Type of SEND	N	Mean	SD
Autism Spectrum Disorder	21	2.57	.629
Down syndrome	25	6.21	.831
Developmental delay	30	6.13	.940
Sensory	9	5.00	1.427
Physical	17	3.13	1.372
Total	102	4.82	1.866

Note: SEND, special educational needs and disabilities; SD, standard deviation

The researchers also performed a one-way ANOVA to test for statistically significant differences among the mean values. Statistically significant differences were found among parents' outcomes in accordance with the child's type of SEND ( $F = 64.090, p < 0.05$ ). To precisely identify the differences in mean values, the researchers utilised the Scheffe post-hoc test for comparisons. The results showed a statistical difference between the parents' outcomes for children with developmental delays and Down syndrome on one side and the parents of children with other disabilities on the other, where the differences were in favour of the parents' of children with developmental delay and Down syndrome.

The researchers concluded that children with developmental delays and children with Down syndrome do not have complex developmental or behavioural problems relative to other disabilities, so their response to the treatment can be expected to be better than children with autism and other completed neurodevelopmental disorders (Gaad, 2006; Massachusetts Department of Public Health, 2013). This result was not consistent with those of Epley et al. (2011), and Wicks, et al. (2019) who found that family outcomes were not correlated with children's characteristics. The researchers attributed this difference to cultural differences and differences in measures.

## 4. Service Duration

To investigate the parents' outcomes differences in relation to service duration, the means and standard deviations for the parents' responses were computed; the results are presented in Table 6.

**Table 6.**  
*Means and Standard Deviations of Parents' Outcomes by Service Duration*

Service Duration	N	Mean	SD
6 Months or less	38	3.33	1.404
7-12 Months	14	3.30	1.387
13-24 Months	14	5.72	.757
More than 24 Months	36	6.62	.230
Total	102	4.82	1.866

Note: SD, standard deviation

A one-way ANOVA was conducted to determine statistical differences among the mean values. Statistically significant differences were found in parents' outcomes in relation to service duration ( $F = 74.531, p < 0.05$ ). To establish the differences in mean values, the researchers utilised the Scheffe post-hoc test for comparisons. The results indicated statistical differences for the parents' outcomes regarding

children who received services for 13 months or longer, and the parents whose children were receiving services for 12 months or less, with the differences being in favour of parents of children who were receiving services for 13 months and more.

This result is similar to the findings of Raspa et al. (2010), which indicates that the longer the time that the child spends in ECI, the better the outcome of the family. However, the findings of Epley et al. (2011) indicated that family outcomes were not correlated with the duration of ECI services. The researchers attributed this difference to the diversity of cultures and different approaches to ECI programmes.

### Research Limitations

This study had some limitations. First, it is limited to the population of the EEIP alone, although other programmes are offered in the UAE by local governments, which could limit the generalisability of the results. Second, the outcomes of early intervention were investigated in terms of the parents' perspective; however, families also include siblings and sometimes extended family members, which have a crucial impact on the life of the child and could participate in the IFSP. Moreover, the majority of the respondents were mothers, which hindered the generalisation of the results to fathers or other family members. Finally, the parents' outcomes in this study were only determined through one survey instrument, where a more comprehensive understanding of the parents' outcomes might be acquired through interviews and document analysis.

### Conclusion

The findings showed that parent's level outcomes in ECI were high in the areas of understanding the child's needs and providing support; meanwhile, the parents' outcomes were in other areas (knowing their children's rights, Helping their children learn, Accessing community services and Receiving ECI) were very close to the cut-off, but did not achieve it. Further, the study indicated that there were statistical differences among parents' outcomes in relation to the type of provided programme, type of children's SEND and service duration.

These findings imply the importance of increasing parents' awareness about available services provided for children with SEND, and empowering them to advocate for their children's rights. On top of that, the findings provide valuable knowledge to policy-makers to use a family-centred approach when design ECI programmes which take into account the unique needs of children and families, and create new opportunities for children to be trained in natural

environments. A further study on parents' outcomes in ECI is needed to investigate the progress of children with SEND in different developmental areas.

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