Eğitim ve Bilim
2012, Cilt 37, Sayı 163

Education and Science
2012, Vol. 37, No 163

An Exploration of Interactional Behaviors of Turkish Mothers and their Children with Special Needs: Implications for Early Intervention Practices

Türk Annelerinin ve Özel Gereksinimli Çocuklarının Etkileşimsel Davranışlarının Araştırılması: Erken Müdahaleye Yönelik Öneriler

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Abstract

The present study explored 148 Turkish mothers' styles of interaction and interactive engagement behaviors of their children who have special needs (speech and language delays, mild intellectual disabilities, and autism). Video recordings mother-child interactions were analyzed using the Turkish Version of Maternal Behavior Rating Scale (TV-MBRS; Diken, 2009) and the Turkish Version of Child Behavior Rating Scale (TV-CBRS; Diken, 2009). Results revealed that the groups differed in terms of sensitivity, praise, directiveness and pace of the TV-MBRS and all of the TV-CBRS items. Implications for early intervention in Turkey were provided.

Keywords: Mother-child interaction; children with special needs; speech and language delays; mild intellectual disabilities; autism; early intervention.

Öz

Bu çalışmada 148 Türk annenin özel gereksinimli çocukları (gecikmiş dil ve konuşma, hafif düzeyde zihinsel yetersizlik ve otistik bozukluk - otizm gösteren çocuklar) ile karşılıklı etkileşimsel davranışları araştırılmıştır. Annelerin çocukları ile etkileşimleri video kaydına alınmış, kaydedilen video kayıtları Ebeveyn Davranışını Değerlendirme Ölçeği-Türkçe Versiyonu (EDDÖ-TV; Diken, 2009) ve Çocuk Davranışını Değerlendirme Ölçeği-Türkçe Versiyonu (ÇDDÖ-TV; Diken, 2009) ile analiz edilmiştir. Bulgular EDDÖ-TV'de yer alan duyarlı olma, pekiştireç kullanma, yönlendirici olma ve etkileşim hızı davranışlarında ve ÇDDÖ-TV'de yer alan çocukların etkileşimsel davranışlarında gruplararası fark olduğunu göstermiştir. Erken müdahale uygulamalarına dönük öneriler sunulmuştur.

Anahtar Sözcükler: Anne-çocuk etkileşimi, özel gereksinimli çocuklar, gecikmiş dil ve konuşma, hafif düzeyde zihinsel yetersizlik, otistik bozukluk (otizm), erken müdahale.

Introduction

Children, who only have the reflex actions following the birth, start to change themselves and their environment immediately. Immediate environment, especially the mother in this context, is the major factor having the most impact on the development of the newborn baby. Theories such as the Ecological theory (Brofenbrenner, 1979) and the Transactional theory (Sameroff & Fiese, 2000) concerning child development emphasize that environment has both direct and indirect effects on a child's development and this effect is mutual. These theories state that a child's close environment (especially family environment) and primary caretakers (especially mother) who spend time with the child have the greatest impact on all the developmental domains of the child.

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Guralnick (2001), for example, put a great emphasis on family patterns of interaction that promote child development the most. For Guralnick, the focus is placed upon parent-child transactions, family-orchestrated child experiences and on the help provided to parents in order to maximize their childeren's health and safety.

There has been a noticeable progress in the field of early intervention/early childhood special education (EI/ECSE) concerning the importance of parent-child interaction and its assessment since the beginning of 1990s. The theories and statements of prestigious institutions regarding EI/ECSE that emphasizes child's interaction with her/his close environment on practice have led EI/ECSE programs concerning children who have developmental delays or who are at risk for developmental delays to have become family-centered. It was stated that EI/ECSE programs would not reach their goals both for the child and for the family without the family's active attendance (Diken, 2009; Sameroff & Fiese, 2000). Therefore, there appears to be two important results concerning the EI/ECSE programs. First, the level of competence in any period of early development (and this level can be reached through some special efforts or the normal developmental process) is directly related to the child's competence in the future. Second, it is necessary to take the effects of the child's family and social environment on her/his development into consideration to anticipate her/his later development. Briefly, if EI/ECSE programs aim at only individual changes on the child, they might not be successful. Therefore, it is essential to realize the environment in which there are many people who affect the child's development at different levels for a successful EI/ECSE to support. Sufficient parent-child (especially mother-child) interaction in developed countries (such as the United States) is the key element of EI/ECSE programs that are provided for children with developmental delays and who are at risk and for their families (Sameroff & Fiese, 2000).

Parent-child interaction that starts at birth has taken many researchers' attention and become a topic of investigation for years. In many studies concerning parent-child interaction, meaningful relationships between mothers' interaction with children and their development (e.g., Horodynski & Gibbons, 2004; Mahoney, Boyce, Fewell, Spiker & Wheeden 1998), the importance of parent-child interaction for individuals with typically developing (e.g., Bakeman & Brown, 1980; Hess & McDevitt, 1984; Matas, Arend & Sroufe, 1978) and at risk children (e.g., Cohen & Beckwith, 1979; Goldberg, Lojkasek, Gartner & Corter, 1989; Klein, 1991) were reported (Cited in Moore & Saylor, 1998). In many studies, it was found that the environment in which the baby lives is related to baby's development and therefore the competence that he/she possesses; mother-child interaction is one of the most important factors affecting the baby's linguistic, cognitive and psyhco-social development (Heath, 2005). For example, in Beckwith's study in 1987 with 126 premature children whose ages were between 4 months to 5 years; in Klein's study in 1991 with 42 children who had low birth weight, it was found that there were positive relationships between sufficient mother-child interaction and children's developmental and cognitive performance (Cited in Moore & Saylor, 1998). Studies also show that maternal behaviors which are directive but not responsive do not support the improvement of children with developmental delays. For instance, Mahoney, Powell and Finger (1985) showed that three parent behaviors such as child centeredness, the rate of stimulus and control are related to the developmental level of 60 children with mental retardation at that time. In the study, it was found out thatmothers of children who had higher development scores were more child-centered but less controlling and success-oriented (Cited in Mahoney, Powell & Finger 1986). Mahoney (1988) investigated the communicational behaviors of mothers in a different study with the same sample group. It was observed that mothers of the children who had the highest expressive language scores and attempted to communicate most were considerably responsive to their children's behaviors. It was reported that mothers of the children who had a low expressive language scores and attempted to communicate less were not responsive but had a tendency to lead.

Parents and children mutually affect the quality of parent-child interaction. Children who are perceived as to be disobedient and destructive by their parents get fewer comments but much

more instructional words. There is a close relationship between positive behavior management and language support in a routine parent-child interaction. Parents who are non-responsive might hardly control their children's behavior and might not be able to provide them with a rich language environment. For example, Hart and Risley (1995) found out that when parents seldom spoke with their children and modeled for the vocabulary, they interacted with their children often by using a negative interaction tone and by giving more instructions to them (Cited in Hancock, Kaiser & Delaney, 2002).

Children with developmental delays or retardations and their parents might have difficulties in interacting positively and constantly. It is mentioned in the literature that parents who behave in a warmer, accepting and helping way have better parenting skills and competent parenting (Bogenschneider, Small, & Tsay, 1997). On the other hand, parents who think that when they put children's behavior under control the needs of children will be met are described as parents who have over directive and authoritative parenting behaviors (Belsky, Lerner, & Spanier, 1984). For example, in a study on children with developmental delays and their mothers, it was observed that in case mothers demonstrated less supervisor behaviors and became more child-centered, there would be progress in children's current developmental condition. However, it was seen that when parents demonstrated more directive but non-responsive behaviors, there was no progress in children's development (Mahoney & Powell, 1988). In another study, I. H. Diken (2009) explored the relationship between interactional behaviors and self-efficacy beliefs of mothers of Turkish children with language delays. He found that while mothers were responsive and sensitive, they were on the other hand not warm enough and used verbal reinforcement at low level. In addition, it was that most of mothers were very directive. That mothers with high perception of self-efficacy used more verbal reinforcement and were more success-oriented. Mahoney, Kim, and Lin (2007) propound that parents and adults who interact in a responsive manner, facilitate the use of behaviors such as initiation, discovery, and joint attention and encourage children to use them. In other words, it is mentioned that parents and adults might help their children use the pivotal behaviors (e.g., social play, initiation, joint attention, joint activity, discovery, cooperation and empathy) automatically or practice on them in routine activities giving them an opportunity to interact.

Many researchers put forward that the characteristics of parents' interaction are related to cognitive, linguistic and social development of children. Studies carried out since 1970s have showed that parent's characteristics like sensitiveness, responsiveness, leading, being success-oriented, warm in interaction and enjoying the process are related to children's different developmental domains. For example, results of several studies revealed that parental responsiveness positively influence cognitive development (e.g., Beckwith, Rodning, & Cohen, 1992; Landry, et. al., 1997), communication development (e.g., Bornstein, Tamis-LeMonda & Haynes 1999) and socio-emotional development (e.g., Kochanska, Forman & Coy, 1999; Vereijken, Ricksen-Walraven & Kondo-Ikemura, 1997).

There is a limited number of studies on interactional behaviors of mothers of children with special needs in Turkey. In one of these studies, Ceber-Bakkaloğlu and Sucuoğlu (2000) compared mother-child interactions in children with intellectual disability and children with normal development. Results indicated that children with intellectual disabilities initiated and maintained fewer interactions, responded less, and showed less interactive play behaviors than did children with normal development. Results also showed that children with intellectual disability showed more negative, inappropriate responses or behaviors than did children with typical development. Regarding mothers' interactional behaviors, mothers of children with intellectual disability showed fewer responses, less interest and fewer choosing appropriate toy behaviors and more interactional initiation, positive emotions than did mothers of children with typical development.

In another study, Topbas, Mavis and Ozdemir (2003), explored interactional behaviors of mothers of 6 children with typical development and 8 children with speech and language

delays. More specifically, they investigated child-directed talk behaviors of mothers. Children's ages ranged from 18 to 36 months. Results indicated that both groups showed differences in terms of the number of use of child-directed talk strategies or efforts. Both groups showed more requestive (manding) behaviors rather than regulative/directive and controlling behaviors. It was noted that mothers of children with speech and language delays used more requestive behaviors whereas mothers of children with typical development showed more controlling behaviors, more interactive and responsive, trying to join their children more to the activities or plays. Mavis (2004), in her descriptive study, explored communicational behaviors of Turkish parents with their pre-language level of young children. It was found that as showing more requestive (manding) and controlling interactional behaviors, Turkish parents were described as regulative/directive parents in terms of communicational behaviors.

Diken (2009) also studied interactional behaviors of mothers of children with speech and language delays along with exploring their self-efficacy beliefs. He studied with nineteen mother-child dyads. It was found that mothers were sensitive and responsive, but used fewer positive verbal statements and showed low level of warmth. Most mothers were also observed as directive in their interactions. Mothers who had high level of self-efficacy used more positive verbal statements and showed more teaching oriented interactional behaviors.

Mahoney and Wheeden (1997) state that parents (especially mothers) are the most meaningful agencies who have considerable influence on development of their children. They also point out that observations of parent-child interactions can serve to identify the characteristics parents possess that make them effective teachers in children's natural environment; therefore, it is important to evaluate parent-child interaction. In Turkey, there is no study exploring reciprocal mother-child interactional behaviors in various groups (Speech and Language Delay, Mild Intellectual Disability, and autism) with special needs. Studying and identifying reciprocal interactions of parents and their children with various special needs can help especially interventionists or early childhood special educators use this information on planning and carrying out interventions. Exploring interactional behaviors of parents and their children with special needs in different cultures will also add more insights into cross-cultural parent-child interaction literature. Therefore, the purpose of this study was to explore Turkish mothers' styles of interactions and interactive engagements of their children with speech and language delays, intellectual disabilities, and autism. For this purpose following questions were addressed: (1) Is there a significant difference between interactional behaviors of Turkish mothers of children with speech and language delays (SLD), mild intellectual disabilities (MID), and autism?, (2) Is there a significant difference between interactive engagements of Turkish children with SLD, MID, and autism.

Method

Participants

Participants included 148 mother-child dyads. Seventy-three children with speech and language delays (SLD), 25 children with mild intellectual disabilities (MID), and 50 children with autism (autistic disorder) were the participant children in the study. Out of 148, 102 were male and 46 were female. Children's age ranged from 18 months to 72 months with a mean of 50.11 months (SD=12.44). More specifically, age of children with SLD ranged from 22 to 71 months with a mean of 46.25 (SD=10.18), age of children with MID ranged from 18 to 72 months with a mean of 51.92 (SD=16.19), and age of children with autism ranged from 24 to 72 months with a mean of 54.86 (SD=11.71). One can suggest that matched pairs could be created with regard to the chronological or developmental ages of the participants since the current sample was quite heterogeneous with regard to age. The researcher did not have access to developmental age data of all participants. On the other hand, chronological age did not correlate significantly with the

total engagement score. Thus, age-based matching was not realized.

Children came from various educational institutions, such as state-affiliated special education schools, private special education and rehabilitation centers and university-based centers in the city of Eskisehir in Turkey. Children with SLD were evaluated at Education, Training, and Research Center for Speech and Language Disorders (called DILKOM in Turkish) of Anadolu University, whereas children with MID and autism were diagnosed by a psychiatrist or neurologist at Hospitals. They also had an official report of diagnosis (both medical and educational) from the Eskisehir Guidance and Research Center, a state center coordinating special education services affiliated with Ministry of National Education and the Province of Eskisehir Education Directorate in Turkey.

Participant mothers' ages ranged from 21 to 45 with a mean of 32.93 (SD=5.73). More specifically, age of mothers of children with SLD ranged from 21 to 42 years with a mean of 30.77 (SD=4.61), age of mothers of children with MID ranged from 22 to 43 years with a mean of 35.28 (SD=6.02), and age of mothers of children with autism ranged from 25 to 45 years with a mean of 34.50 (SD=5.30). Out of 148, 39 had a university degree, 36 had a high school degree, and 63 had an elementary school degree, whereas 10 were iliterate. More specifically, 32 mothers of children with SLD had an elementary school degree, 23 had a high school degree, and 16 had a university degree whereas 2 had no education. Regarding educational levels of mothers of children with MID, 13 mothers had an elementary school degree, 5 had a high school degree, 5 had a university degree, and 2 were illiterate. Eighteen mothers of children with autism had a university degree, 18 had an elementary school degree, and 8 had a high school degree while 6 had no education.

Instruments

The Turkish Version of Maternal Behavior Rating Scale (TV-MBRS; Diken, 2009). Mothers' styles of interaction were assessed by the Turkish Version of Maternal Behavior Rating Scale (TV-MBRS; Diken, 2009). The Maternal Behavior Rating Scale (MBRS) was originally developed by Mahoney (2008) to assess mothers' interactional behaviors with their children. It consists of twelve items including responsivity, sensitivity, effectiveness, acceptance, enjoyment, expressiveness, inventiveness, warmth, achievement, praise, directiveness, and pace. Items are rated on a 5-point Likert-type scale with ratings of 1 reflecting a low incidence of the quality being assessed and ratings of 5 indicating a high incidence. Diken (2009) translated and studied its validity and reliability with Turkish mothers of young children with various delays/disabilities. Three factors had been found in Turkish version of the MBRS. The first factor was called as "responsivity/sensitivity" including sensitivity, responsivity, effectiveness, and inventiveness items. The Factor two was called as "expressiveness" and included five items (acceptance, enjoyment, expressiveness, warmth, and praise). The third factor included achievement, directiveness and pace items and was called as "directiveness/achievement." Three factors explained 73.40% of total variance. The Kaiser-Meyer-Olkin Measure was .83. Cronbach's Alpha for "responsivity/sensitivity" subfactor was .87, for "expressiveness" subfactor was .86, and for "directiveness/achievement" subfactor was .61.

The Turkish Version of Child Behavior Rating Scale (TV-CBRS; Diken, 2009). Children's engagement was assessed by the Turkish Version of Child Behavior Rating Scale (TV-CBRS; Diken, 2009). The Child Behavior Rating Scale (CBRS) was originally developed by Mahoney and Wheeden (1999) to assess pivotal behaviors of young children. It consists of seven global engagement behaviors in children (attention, persistence, interest, cooperation, initiation, joint attention, and affect). Diken (2009) translated and studied its validity and reliability with Turkish children with various delays/disabilities. "Parallel with the structure of original CBRS," the same factor structure was found for the TV-CBRS. The TV-CBRS was found to have two subfactors assessing initiation including interest, attention, persistence, and initiation items and attention including affect, joint attention, and cooperation items. Two factors explained 63.10% of the total variance. The Kaiser-Meyer-Olkin Measure was .82. Cronbach's Alpha for initiation sub-factor was .91, for attention sub-factor was .79, and for whole scale was .90.

Data collection

Data were collected by observations of mother-child interactions. Mothers' interactions with their children videotaped for 15-minute (ranging from 10 to 20 minutes) while they were playing with their children in a free-play context with a set of developmentally appropriate toys. The room was covered with carpet and included a table and two chairs for the purpose of table plays. Developmentally appropriate toys consisted of picture books, crayons, puzzles, cars, blocks, dolls, plastic animals, stacking ring, phone, kitchen articles, etc. Mothers were instructed to play with their children as they normally do using only the toys provided. A video-camera was used to record interactions.

Reliability

Videotaped observations were coded by two independent coders using the TV-CBRS and the TV-MBRS. The first coder who had a Ph.D. in Speech and Language had completed approximately 30 hours of training until attaining intercoder agreement of 80% on each of the two scales with the second coder, the author. Reliability was computed based on inter-coder agreement for 25% of the whole recordings. Inter-coder reliability was computed by assessing percentage of intercoder agreement as "number of agreements / number of agreements + number of disagreements x 100" (Richards, Taylor, Ramasamy, and Richards. 1999) for the TV-CBRS and the TV-MBRS. Overall exact agreement was 90% ranging from 85% to 95% for the CBRS, and 80% ranging from 70-95% for the MBRS.

Results

Mothers' interactional behaviors

After preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity and no serious violations noted, a multivariate analysis of variance (MANOVA) was computed for each set of data to compare the interactive style of three groups of mothers with their children as measured by the TV-MBRS. As can be seen in Table 1, results indicated significant group differences on some items and sub-factors. Univariate analyses of variance indicated group differences for four of twelve TV-MBRS items: Sensitivity, $F(2, 145) = 4.96$, $p < .05$; Praise, $F(2,145) = 1.37$, $p < .05$; Directiveness, $F(2,145) = 4.74$, $p < .05$; and Pace, $F(2, 145) = 3.09$, $p < .05$. In general, mothers of children with SLD had higher scores on sensitivity than did those of children with MID and autism, meaning that they were more sensitive to their children's behaviors than the other mothers. Results indicated that mothers of children with autism had higher scores on praise and pace than those of children with MID and SLD, meaning that they used more praise and were faster in their interactions than other groups of mothers. Regarding directiveness, mothers of children with MID had higher scores than those of children with autism and SLD.

Table 1.
Mothers' interactional behaviors

	Children with SLD		Children with MID		Children with Autism			
Variable	M	SD	M	SD	M	SD	F	ES
Sensitivity	3.44	1.30	2.72	1.20	2.78	1.37	4.96*	.06
Responsivity	3.19	1.42	2.84	1.01	2.82	1.27	1.39	.01
Effectiveness	3.18	1.31	3.00	1.08	2.88	1.37	.80	.01
Inventiveness	2.23	.91	2.08	.70	2.38	1.00	.95	.01
Sub-factor 1 Responsivity/Sensitivity	3.01	1.08	2.66	.86	2.72	1.06	1.71	.02
Acceptance	2.41	.78	2.52	.96	2.60	.93	.73	.01
Enjoyment	2.85	.94	3.04	.94	3.16	1.13	1.46	.02
Expressiveness	2.67	1.01	2.92	.81	3.02	.62	2.56	.03
Warmth	2.32	1.17	2.68	1.03	2.76	1.04	2.71	.03
Praise	1.63	.74	2.32	.69	2.42	1.01	1.37*	.18
Sub-factor 2 Expressiveness	2.37	.79	2.70	.75	2.79	.74	4.83*	.06
Achievement	3.04	1.39	2.71	1.10	3.34	1.25	1.99	.02
Directiveness	3.48	1.02	4.04	1.14	3.98	.98	4.74*	.06
Pace	2.70	.85	2.92	.99	3.10	.89	3.09*	.04
Sub-factor 3 Directiveness/Achievement	3.07	.82	3.23	.78	3.47	.73	3.85*	.05

*p< .05. *Note.* SLD: Speech and Language Delay, MID: Mild Intellectual Disability, ES: Effect Size

Univariate analyses of variance also indicated group differences for two of three TV-MBRS subscales (Table 1): Expressiveness, $F(2, 145) = 4.83$, $p < .05$ and Directiveness/Achievement, $F(2, 145) = 3.85$, $p < .05$. In general, mothers of children with autism had higher scores on expressiveness and directiveness/achievement than did mothers of children with MID and SLD, meaning that they were more expressive in terms of affect and showed more directive and achievement oriented behaviors.

Children's engagement

After preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity and no serious violations noted, a multivariate analysis of variance (MANOVA) was computed for each set of data to compare engagement levels of three groups of children with delays/disabilities as measured by the TV-CBRS. As can be seen in Table 2, results indicated significant group differences on all the items and subscales of the TV-CBRS. Univariate analyses of variance indicated group differences for all the TV-CBRS items: Interest, $F(2, 145) = 15.19$, $p < .05$; Attention, $F(2, 145) = 12.24$, $p < .05$; Persistence, $F(2, 145) = 10.46$, $p < .05$; Initiation, $F(2, 145)= 12.86$, $p < .05$; Affect, $F(2, 145) = 13..44$, $p < .05$; Joint Attention, $F(2, 145) = 22.85$, $p < .05$; and Cooperation, $F(2, 145) = 8.39$, $p < .05$. Univariate analyses of variance also indicated group differences for two sub-factors and the total TV-CBRS (see Table 2): Attention, $F(2, 145) =14.66$, $p < .05$; Initiation, $F(2, 145) =20.74$, $p < .05$; and Total Engagement $F(2, 145) = 20.59$, $p < .05$. In general, children with SLD had higher scores on all the items of the TV-CBRS than did those of children with MID and autism, meaning that they significantly engaged more than other children.

Table 2.
Children's engagement

	Children with SLD		Children with MID		Children with Autism			
Variable	M	SD	M	SD	M	SD	F	ES
Attention to activity	4.12	1.13	3.24	.93	2.96	2.96	15.19*	.17
Persistence	4.08	1.27	3.24	1.01	2.94	1.48	12.24*	.14
Involvement	3.93	1.33	3.00	1.08	2.88	1.49	10.46*	.13
Cooperation	4.15	1.16	3.04	1.09	3.18	1.36	12.86*	.15
Sub-factor 1								
Attention	4.00	.95	3.20	.90	2.95	1.25	14.66*	.17
Initiate Activities	4.16	1.00	3.64	1.15	3.22	1.20	13.44*	.13
Joint Attention	4.03	1.13	3.20	1.04	2.56	1.34	22.85*	.24
Affect	3.86	1.08	3.28	1.17	3.02	1.24	8.39*	.10
Sub-factor 2								
Initiation	4.11	.90	3.30	.91	2.99	1.14	20.74*	.22
Total Engagement	4.05	.84	3.23	.85	2.97	1.08	20.59*	.22

*p< .05. *Note.* SLD: Speech and Language Delay, MID: Intellectual Disability, ES: Effect Size

Discussion

With the purpose of exploring Turkish mothers' style of interactions and interactive engagements of their children with SLD, MID, and autism, the author found differences between interactional behaviors of Turkish mothers of children with SLD, MID, and autism. Results indicated that, in general, Turkish mothers of children with SLD had higher scores on sensitivity than did those of children with MID and autism, meaning that they were more sensitive to their children's behaviors than other mothers. Mothers of children with SLD had an average score between moderate to high sensitivity, whereas mothers of children with MID and autism had an average score between low to moderate sensitivity. More specifically, mothers of children with SLD seemed to be aware of the child's interests and consistently monitor the child's behavior but were inconsistent in detecting more subtle and hard-to-detect communications from the child while mothers of children with MID and autism occasionally showed interest in the child's behavior or activity, might suddenly notice where child was looking or what child was touching but did not continue to monitor child's behavior or engage in activity. They seemed to be aware of the child's interests, consistently monitored child's behavior but ignored more subtle and hard-to-detect communications from the child. In a similar study, Ceber-Bakkaloğlu and Sucuoğlu (2000) compared mother-child interactions in children with intellectual disability and children with normal development, it was found however that Turkish mothers of children with intellectual disability showed fewer responses and less interest than mothers of children with typical development. In I. H. Diken's (2009) study, he studied interactional behaviors of Turkish mothers of children with SLD along with exploring their self-efficacy beliefs and found that Turkish mothers of children with were sensitive in their interactions with their children with SLD.

As another finding, it was found that mothers of children with autism had higher scores on verbal praise than those of children with MID and SLD, meaning that they used more verbal praise in their interactions than mothers of the other groups. In the current study, although the degree of using verbal praise changes from moderate to very low verbal praise, mothers of children with autism used verbal praise between low and moderate. It means that they used verbal praise from infrequently throughout the interaction to an average amount of verbal praise during the interaction. Mothers of children with SLD had the lowest score and used very low praise,

meaning that verbal praise was not used by the mothers in the interaction even in situations which would normally elicit praise from the mother. Results also revealed mothers of children with autism had higher scores on pace, meaning that they were faster in their interactions than other groups of mothers. The situation of using fewer verbal praise by mothers of children with SLD in their interactions was also found in I. H. Diken's (2009) study with Turkish mothers of children with SLD. The reason that mothers of children with autism used more verbal praise and faster in their interactions might be that they emphasize more on teaching certain skills to their children because of the nature of the autism their children had. As can be seen in Table 1, mothers of children with autism had the highest score on 'Achievement' interactional behavior which is regarding teaching oriented interactional behaviors.

Regarding interactional behavior of directiveness, mothers of children with MID had higher scores than those of children with autism and SLD. Interactional behavior of directiveness measures the frequency and intensity in which mothers' requests, commands, hints or attempts in other manners to direct the child's immediate behavior. At this point, mothers of children with MID and autism had a very close mean score on this item (see Table 1). A score of four means that mothers were very directive, meaning that they occasionally withheld suggestions but more often indicated what to do next or how to do it. Mothers of children with SLD in this study seemed to be moderately directive when compared with the other groups, meaning that mothers' tendency to make suggestions and direct the child was about equal to the tendency to allow the child self-direction. In related studies with Turkish mothers, Topbas, Mavis and Ozdemir (2003), noted that mothers of children with speech and language delays used more requestive behaviors, as showing more requestive (manding) and controlling interactional behaviors. Mavis (2004) described Turkish parents as regulative/directive parents in terms of communicational behaviors. In another study, I. H. Diken (2009), pointed out that most mothers were observed as directive in their interactions. Although the studies quoted were all with mothers of children with SLD, as in the current study directiveness is noted. Results of studies carried out in other countries (e.g., Cunningham, et. al., 1981; Mahoney & Robenalt, 1986) showed also that mothers of children with disabilities were more dominant and directive and less responsive than mothers of typically developing children. In the current study since children with SLD did not have intellectual problems, they needed less directiveness from their parents. Why mothers of children with MID and autism had a very close mean score on directiveness and showed higher directive behaviors than those of children with SLD might be explained with the nature of MID and autism. Since children with MID and autism deal with intellectual problems, and show less certain developmental skills than children with SLD, mothers of these children might feel that they needed to direct interactions to teach certain skills during interactions. As can be seen in Table 1, mothers of children with autism and MID had higher scores on 'achievement' interactional behavior which is regarding teaching oriented interactional behaviors.

In this study, interactional behaviors of Turkish children with SLD, MID, and autism were also explored as the second research question. Results revealed that, in general, children with SLD had higher scores on all the items of the TV-CBRS than did those of children with MID and autism. That is,they significantly engaged more than other children. More specifically, regarding "attention to acitivity" children with SLD had a score of four (High). They stayed with the activities during the majority of the session while children with MID had a score of three (moderate). That is, they attended the activities about as often as they did not and children with autism had a score of two (low), meaning that they could be described as generally inattentive for the activity, more often inactive, avoidant of the activities, or engaged in changing activities. Regarding the item "persistence", children with SLD showed high persistence. That is, although they had some periods in which they quickly gave up or during which repetitions of behaviors were rarely seen, in general, the child could be described as high in persistence. They were often observed to practice behaviors or made second and third attempts when having difficulty. Children with MID showed moderate persistance. Moderate persistance means that they had extended periods in which they seemed to be practicing behaviors, but just as often had periods

in which they did not practice. Children with autism sowed low persistance, meaning that they infrequently demonstrated repetition of a behavior.

Regarding "involvement" interactional behavior, children with SLD could be described as highly involved. During the majority of the session, they appeared to derive satisfaction from their participation in the activities. Children with MID seemed to derive some satisfaction from the activities. Children with autism almost had the same interactional behaviors as children with MID had. However, they, for the most part, did not derive satisfaction from their participation in the activities. They showed largely neutral affect and appeared passive during the interaction. The degree to which the child attempts to comply with the requests or suggestions of mother is measured using the item of "cooperation" interactional behavior. Children with SLD showed high "cooperation". It means that they usually attempted to cooperate with mothers' requests or suggestions while children with MID and autism seemed to show moderate cooperation, meaning that they attempted to cooperate with mothers' requests or suggestions about as often as they did not cooperate. In terms of initiating activities, children with SLD consistently attempted to initiate activities. Although they initiated regularly, they occasionally became uninvolved or passive during the interaction while children with MID and autism on several occasions attempted to initiate activities. There were also several periods in which they were passive, uninvolved or responding only to mothers' agenda.

On 'joint attention', which measures the extent to which the child initiates interaction with the adult, children with SLD attended their mothers for the majority of the session and were often observed to actively share experiences through eye-contact and vocalization. Children with MID attended mothers approximately half of the time and demonstrated periods of eye-contact or other sharing behaviors, but equally demonstrated periods of inattention, whereas children wih autism had low level of joint attention. With low level of joint attention, they occasionally attended to mothers by demonstrating eye-contact. For the most part, however, they did not attempt to share experiences with mothers. With the interactional behavior of "affect", the child's general emotional state during the interaction was assessed. A child receiving a high score on this item overtly demonstrates positive affect and enjoyment whether it be directed toward the adult or activity itself. Although the three groups had a mean score between three and four, children with SLD, for the most part, can be described as happy. They showed some neutral affect, but most often appeared to be happy during the session, while children with MID and autism, in general, displayed low intensity enjoyment.

To discuss the child engagement data as a whole, in general children with SLD had higher scores on all engagement behaviors than children with MID and autism while children with MID had higher scores than children with autism. In the current study, as the nature of SLD, children with SLD showed only expressive language delays with no sign of any sendrome or disability. Therefore, one can hypothsize that they were more like normally developing children except for delays in expressive language. However, the other two groups had a diagnosis of disability, either mild intellectual disability showing a certain degree of intellectual deficits on cognitive development or autism showing main deficits on social interaction, communication and stereotype behaviors. Prior research studies (e.g., Landry, Taylor, Guttentag, & Smith, 2008; Marfo, 1992; Spiker, Boyce, & Boyce, 2002) show that children with disabilities were less actively engaged than were their typically developing peers. Studies with Turkish sample also showed that children with intellectual disabilities initiated and maintained less interactions, responded less, and showed less interactive play behaviors, showed more negative, inappropriate responses or behaviors than children with typical development (Ceber-Bakkaloğlu & Sucuoğlu, 2000).

Implications for practices of EI/ECSE in Turkey

The current study provides two important insights that should be considered when providing EI/ECSE services to children with special needs and their parents. The first implication is related to the assessment of parent-child interaction. As Mahoney and Wheeden (1997) point out

that development of children is mainly influenced by the way their parents (especially mothers) interact or behave; therefore, observations of parent-child interactions can serve to identify the characteristics parents possess that make them effective teachers in children's natural environment. In Turkey, while working with young children with disabilities and their parents, professionals should make the assessment of parent-child interaction as a main data in order to see the real picture of the interaction and to plan the best intervention program for the child and her/his family. The second implication is related to planning early intervention programs to improve the quality of parental interactional behaviors. At this point, teaching responsive strategies to parents that make them interact well with their children during daily routines should be a main part of any EI/ECSE practice in Turkey as results of several studies revealed that parental responsiveness positively influence cognitive development (e.g., Beckwith, Rodning, & Cohen, 1992; Fewell, et. al., 1996; Landry, et. al., 1997), communication development (e.g., Bornstein, Tamis-LeMonda & Haynes 1999; Hoff-Ginsberg & Shatz, 1982) and socio-emotional development (e.g., Kochanska, Forman & Coy, 1999; Vereijken, Ricksen-Walraven & Kondo-Ikemura, 1997).

Limitations and suggestions

Results of current study should be interpreted by considering some limitations of the study. Firstly, although it was stated at the method section as chronological age did not correlate with the total engagement score at a statistically significant level and age-based matching was not realized for children, it would be better to conduct analysis by matching groups of their children based on their developmental levels and matching groups of mothers based on their educational levels and socio-economic status. Further research should be carried out by matching the groups with such variables and then comparing them. Secondly, it would be better to have approximate number in each group when we compare them. In our case, even though groups differred in terms of number of participants, no serious violations were noted while checking the assumptions. Further studies considering these limitations will add greater insights in knowledge base of interactions of Turkish mothers with their children with special needs. Similar studies should also be carried out with younger and other groups of children with special needs.

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