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Examination of Interactional Behaviours Between Turkish Fathers and Their Children with Autism Spectrum Disorder*

Abstract

The aim of the present study was to examine the relationship between Turkish fathers' interactional behaviors and the engagement of their children with Autism Spectrum Disorder (ASD). The study is a descriptive and correlational study and the participants were thirty father-child dyads in which all children were diagnosed with ASD. Thirty father-child interactions were videotaped for 15-25 minutes in a free-play context. Interactional behaviors of fathers were analyzed by the Maternal/Parental Behavior Rating Scale-Turkish Version (Diken, 2009) while interactional behaviors of children with ASD were analyzed by the Child Behavior Rating Scale-Turkish Version (Diken, 2009). The results revealed that fathers exhibited a moderate to low level of interactional behaviors while interacting with their children with ASD. When sensitivity-responsivity and emotional expressiveness behaviors of fathers increased in a positive way, interactional behaviors or engagement of children with ASD also increased in a positive way. On the other hand, when achievement-oriented, directive or teaching-oriented interactional behaviors of fathers increased, children with ASD showed less interactional or engagement behaviors. Finally, the educational level and age of fathers influenced some interactional behaviors of fathers.

Keywords: Fathers, Father-child interaction, children with autism spectrum disorders, Turkey, Autism Spectrum Disorder.

Introduction

The human being, who is born as a social being, begins to communicate with his/her environment from the moment he/she is born. Although an individual cannot speak yet, his/her establishing eye contact, making meaningless sounds, smiling and crying are a part of the communication he/she establishes with the parent. In this period, as well as meeting the child's physical needs, meeting the need for communication can affect mother-infant attachment. Parent-child interaction that starts with the attachment process can be affected by the

characteristics of the infant, as well as the characteristics of the mother and father. For example, compared to infants with normal development, infants with developmental challenges may exhibit fewer behaviors of establishing eye contact, looking at the adult, and smiling, and their crying frequency and time may be higher. It is reported that children with intellectual disabilities exhibit fewer behaviors of initiating and maintaining social interaction and giving rewarding feedback to adults and that their non-verbal interactions and joint attention are limited (Ceber-Bakkaloğlu and Sucuoğlu, 2000). All these characteristics

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can cause parents, especially mothers, to develop a different communication style with their children with developmental challenges than the communication they establish with their children with normal development (Giralonetto and Tannock, 1994; Kaiser, Hester and McDuffie, 2001). The studies demonstrate that mothers having a child with developmental disability exhibit communication initiation and persisting behaviors more than mothers having children with normal development, in short, they are more directive, they follow a more adult-centered and more instructive way in their interactions with their children and they are less sensitive (Ceber-Bakkaloğlu and Sucuoğlu, 2000; Hancock, Kaiser and Delenay, 2002; Girolanetto et al., 2002; Doussard-Roosevelt, Joe, Bazhenova and Porges, 2003; Ruble, McDuffie, King and Lorenz, 2008; Sucuoğlu, 2001; Turan, 2012).

The quality and mutual impact of parent-child interaction in early childhood are expressed by many studies. As the sensitive-responsive behaviors of parents increase, their children display development in cognitive, language-communication, and social-emotional development areas (Toher-Kokmaz, 2015). This difference related to parents' interactional behaviors creates the same effect not only in children with normal development but also in the development of children with special needs or children who are at developmental risk (Mahoney and Perales, 2003; Toher-Kokmaz, 2015). Therefore, it is important to determine the quality of interaction of children with special needs or children who are at developmental risk with their parents and to establish action plans for this purpose.

ASD is a serious developmental disorder which is mostly observed in the first three years of life, more common in boys than girls and was identified with a number of symptoms in the DSM-V published by the American Psychiatry Association (APA) in 2013. These symptoms include social communication and social interaction deficiencies in different environments, and limited-repetitive behavior, interest, and activities. Social communication and interaction deficiencies manifest themselves in three different situations, including deficiencies in the social-emotional

field, deficiencies in nonverbal communication, and difficulties in establishing and maintaining an age-inappropriate relationship. Limited-repetitive behaviors, interests, and activities manifest themselves in four different situations, including stereotypic or repetitive speech, motor movements and object use, extreme attachment to routines and displaying resistance to change, abnormal, fixed and limited interest (American Psychiatry Association APA, 2013).

The deficiencies displayed by children with ASD in social and communication skills become the main determinant of ASD. When studies examining the relationship between the behaviors of children with ASD and parental behaviors are reviewed, it is observed that the child and the parent mutually affect the quality of the parent-child interaction. It was determined that parents' interactional behaviors were related to the variables such as the child's level of autism, the severity of autism symptoms, and the level of problem behaviors. For children with ASD who have limited social interaction skills, the quality of parents' interactions, as the greatest interaction partner, is of great importance in the development of these skills. From another point of view, limitations related to the social interaction of children with ASD may prevent the maximization of the potential of children with ASD by preventing their parents from revealing their interaction styles. In this respect, it is expected that knowing the quality of parent-child interaction will contribute to the creation of more effective and efficient family-centered intervention practices. In the studies, various parental behaviors have been defined in order to reveal the quality of parent-child interaction. Generally, these behaviors are classified as being sensitive, being responsive, being effective, acceptance, being emotionally expressive, being directive, being achievement-oriented, etc. While some of these parental behaviors affect the quality of interaction positively, some others may affect it adversely. Parental responsiveness is a behavior that should be in a qualified parent-child interaction, and it expresses the consistency and frequency of the parent's responses to the child's behaviors. These responses are expressed as supportive responses that correspond to the child's intentions,

wishes, and actions. Ruble et al. (2008) evaluated parental responsiveness with the Social Interaction Rating Scale in their study. The scale evaluates parental responsiveness with 6 sub-factors: contingency, directiveness, initiation toward the child, affect, maintenance of interaction with the child, and movement with the child. In the study in which they examined the relationship between the responsiveness of 30 mothers and 5 fathers and the social interaction behaviors of children with ASD, they found out that the demographic characteristics of the parent and the child (age, gender, economic income, etc.) do not affect the quality of interaction. While no relationship between the parent's interaction style and the child's cognitive level was determined, a relationship between the parent's responsiveness and the child's behaviors of initiating interaction with adults was found. According to the social learning theory, children learn language by interacting with their parents or their environment. The way to strengthen the child's language acquisition is that parents show the rules, contexts, and models of language to their children by talking to them abundantly. While doing so, it is important to provide language inputs close to the child's level of comprehension (Ülke-Kürkçüoğlu, 2010). According to the transactional model, which is one of the basic theories of special education in early childhood and which advocates the mutual impact of the child on the immediate environment and the immediate environment on the child's development, the verbal responsiveness of the parent in early language development facilitates language acquisition. The parents' understanding of the child's signs and making verbal comments about the activity during which the child maintains attention increase word productivity in both normally developed children, and children with developmental retardation and children with ASD. Word productivity requires the parent's naming of the object that the child is interested in and the child's understanding of this relationship. This process is quite difficult for children with ASD. Therefore, the creation of intense learning environments related to these object-to-name matchups will make this learning permanent. At the same time, it is necessary to make this verbal input

processable for children with ASD, and the most important factor that provides this is that the verbal input is related to the object/activity that the child is interested in. McDuffie and Yoder (2010) considered parental responsiveness as the parent's word generation with regard to what the child is paying attention to at that moment, and the parent's word generation as a response to verbal communication interventions of the child (using linguistic mapping, imitation, expansion techniques). Both situations were determined to be positively related to word productivity in children with ASD. In a study examining the variables affecting language skills such as parental behaviors and characteristics of children with ASD (the child's age, nonverbal IQ, play skills, and imitation), while children's response to joint attention interventions by others, and the parent's sensitivity and responsiveness against play interest of the child and activities initiated or played by the child were highly correlated with language development, no relationship was found out between these two variables and the characteristics of the child. In the same study, it was found out that the language acquisition of the children of mothers who were highly compatible with their children was faster than the language acquisition of the children of mothers who were compatible with their children at a low level (Siller and Sigman, 2008).

One of the basic behaviors that enable the formation of qualified parent interaction may be the parent's behavior of being sensitive. The parent's sensitivity shows how sensitive the parent is to the child's play interest and to the activities that he/she has initiated or played. In other words, it can be defined as the parent's visual monitoring of the child's activities and behaviors and talking about it, participating and showing interest in it. Parental sensitivity requires monitoring the child's leadership. In the study conducted, Watson (1998) compared the behaviors which were displayed by the parents of preschool children with typical development and children with ASD while monitoring the child's leadership during play interactions. In the study, the evaluation was made by matching the receptive language skills of children with ASD and children with typical development. Paren-

tal behaviors were divided into three categories: expressions about what the child is interested in (child-centered), expressions not related to what the child is interested in (non-child-centered), and other (such as the parents' feelings). According to the results of the study, both children with ASD and children with typical development and their parents produced a similar number of words. While there was no significant difference between the number of words produced as child-centered by the parents in both groups, the number of non-child-centered words of the parents of children with ASD was higher than that of the parents of children with typical development. When the purposes of the use of non-child-centered words were examined, it was observed that generally these words were produced in order to regulate inappropriate behaviors of autistic children. The parents used non-child-centered expressions also in order to attract and maintain the child's attention.

The parent's emotional expressiveness behaviors express the parent's communication and behaviors, which accept and approve the child and what the child does, and the degree of enjoying interaction with the child, the use of verbal reinforcement, and positive attitudes and behaviors that are exhibited against the child, such as kissing, embracing, caressing, and the tone of voice. The emotional expressiveness behaviors of the parent can affect children's interactional behaviors. Steelman, Assel, Swank, Smith, and Landry (2002) demonstrated in their longitudinal study that parents who exhibit a warm, responsive interaction style towards their children (12 months) contribute positively to their children's social skills in the following period (54 months). In the study, it is stated that the parent's child-raising attitude affects both the parent's warm responsiveness and the following social skills of the child. According to the study, the parent's warm responsiveness encourages the child in communication and can initiate a more intense interaction process between the parent and the child. It is thought that this interaction contributes to both the child's language development and social development.

While responsiveness, sensitivity and emotional expressiveness behaviors of parents in interaction affect the nature of parent-child interaction positively, the parent's directiveness and being achievement-oriented may adversely affect the nature of the interaction. Being achievement-oriented directive refers to orders, instructions, wishes, and implications of the parent in order to direct the child's behaviors. Landry et al. (2000) determined that the parent's directive behavior was positively related to the support of cognitive and responsiveness skills of children aged 2 - 3.5 years and that it had negative effects on the cognitive and social skills of children over 4.5 years of age. The study suggests that directing should decrease as children progress in developmental areas and as they begin to gain independence. However, although the discrete trial training technique used to teach a new skill to children with ASD includes a lot of directiveness, it is effective in teaching a new skill. Therefore, as directing may have different effects in different areas of development, it may also have positive or negative effects depending on the skills to be taught (Ruble et al., 2008). In the study in which Diken and Mahoney (2013) investigated the interaction between Turkish mothers and their preschool children with ASD, the mothers were observed to be directive at high levels in the interaction with their children with ASD, similarly to mothers in western countries. Furthermore, in this study, 3 different parental interaction styles, including directiveness - not effectiveness, directiveness-achievement-oriented and responsiveness, emerged. Another study with similar results examined the interactions between mothers and their children with severe ASD in terms of parent and child behaviors. According to the results of the study, it was determined that mothers had a high level of directiveness interaction style in their interaction with their children, however, the levels of having the emotional expressiveness and responsive interaction style were low (Töret, Özdemir and Özkubat, 2015). Carter (2001) investigated whether there was a difference between children with ASD who played with toys they chose by themselves and those who played with toys chosen by the adult, in terms of the problem behaviors

and interactional behaviors they exhibited, and the acquisition of language skills. According to the results of the study, it was stated that autistic children initiated more communication when they played with the toys they chose by themselves, they exhibited fewer problem behaviors, and they learned the targeted morpheme more easily.

When studies conducted in Turkey on the interaction patterns of Turkish parents and their children with ASD are reviewed, it is observed that mothers who have children with ASD have a low level of sensitivity in their interactions in the context of their children's interests and the games they initiate or maintain, in other words, they have limitations in observing and considering their children's behaviors. Furthermore, it is observed that mothers are less responsive and that emotionally, the mothers' level of enjoying the interaction with their children, being warm in the interaction, and their level of emotional expressiveness are low. Parents offer more intense verbal stimuli to attract the attention of their children, and they behave directive at a high level. With a holistic approach, it is revealed that mothers with children with ASD appear to be passive in the interaction process (Diken, 2012; Diken and Mahoney, 2013; Toper-Korkmaz, 2015; Töret et al., 2015).

Diken (2012) compared the interactional behaviors of Turkish mothers and their children with three special needs groups; children with speech and language delay, children with moderate intellectual disability, and children with ASD. In general, it was stated that mothers having children with ASD and with moderate intellectual disability were less sensitive than mothers having children with speech and language delay. In the study, it was observed that mothers having children with ASD were more using verbal reinforcements and that they established communication faster than other mothers. While the fact that mothers having children with ASD were more using verbal reinforcements and establish communication faster was significantly correlated to their being achievement-oriented, meaning the emergence of the need to manage a skill teaching and interaction in mothers (Diken, 2012).

Although individuals who come first to mind when talking about parent-child interaction are mothers, changing parenting roles make it necessary for fathers to actively participate in the lives of their children. Numerous studies indicate the importance of father participation in child development. Father participation is observed to decrease undesirable behaviors and adaptation problems in children and increase academic achievement. Moreover, there are also study results which demonstrate that father participation attenuates the burden of mothers related to child care and reduces stress levels of mothers. The father's spending time in one-to-one interaction with the child, his presence with the child in various activities of the child, and taking responsibility for the child are the main dimensions of father participation (Meral, 2006). When these dimensions are considered, father participation makes interaction with the child compulsory directly and indirectly. Through the training programs to be prepared by using the results of the evaluation made by knowing the quality of the father-child interaction, the development of the father-child interaction in the desired direction can be provided. In this way, it can be thought that a qualified father-child interaction will contribute to the child's cognitive, language-communication and social/emotional development areas. Therefore, considering the effects of parent-child interaction, determining the quality of father-child interaction is as important as knowing the quality of mother-child interaction. Most of the studies conducted on children with ASD in Turkey were performed together with mothers. Although there are studies conducted on children with intellectual disabilities and their fathers in the literature, studies conducted on children with ASD and their fathers have not been encountered. As a result of this study, it is thought that describing fathers' interaction with their young children diagnosed with ASD will contribute positively to the practice and future studies. Considering the importance of the father role model in early childhood, this study is expected to be the source in the development of parent training programs which will enable especially fathers to play an active role in raising children.

The purpose of this study is to examine interactional behaviors Turkish fathers with their children with Autism Spectrum Disorder (ASD). Answers to the following questions were sought for this purpose: (1) What are the interactional behaviors of the fathers of children with ASD?, (2) What are the interactional behaviors of children with ASD?, (3) Is there a significant relationship between the interactional behaviors of children with ASD and their fathers? (4) Is there a significant relationship between the age and educational level of fathers and their children's interactional behaviors?

Method

Participants

Father participants. There were thirty volunteer, provided consent, fathers participated in the study. While the ages of fathers ranged from 29 to 50 years, their mean age was 35.9 years. Of the participating fathers, 8 had primary education, 3 of them had secondary education, 9 of them had high school education, 3 of them had university education (undergraduate degree), 6 of them had graduate degree (master degree), and 1 of them had doctorate degree. Information on the demographic characteristics of the father participants was presented in Table 1.

Child participants. In line with the purpose of the study, of the child participants, who have not any other additional diagnoses except ASD, 5 were girls and 25 were

boys. The ages of the child participants ranged between 32-76 months, and the mean age is 58.6 months. The ages at which children were diagnosed vary between 2-3 years, and the mean duration of their benefiting from special education services was 19 months. The Turkish Version of the Gilliam Autism Rating Scale-2 (GARS-2-TV; Diken, Ardiç, Diken and Gilliam, 2012) was applied to confirm the ASD diagnoses of the children who had a medical diagnosis of ASD. According to this scale's data, it was determined that "the probability of observing ASD is quite high" in all children with ASD in the study group. Information on the demographic characteristics of child participants was presented in Table 2.

Research Design

This study is a descriptive and correlational study (Gay, Mills and Airasian, 2006) on the examination of the interactional behaviors of children with ASD and their fathers.

Data Collection Tools

In the study, the Demographic Information Form, Maternal/Parental Behavior Rating Scale-Turkish Version (M/PBRS-TV; Diken, 2009), Child Behavior Rating Scale-Turkish Version (CBRS-TV; Diken, 2009), and the Gilliam Autism Rating Scale-2-Turkish Version (GARS-2-TV; Diken et al. 2012) were used as data collection tools.

Table 1.

Demographic Information of Fathers

Variables Related to Fathers	Mean	SD	Min.-Max.
Age	36	4.7	29.0-50.0
Father's Education Status	f	%	
Primary school	8	26.7	
Secondary school	3	10.0	
High school	9	30.0	
University	3	10.0	
Master	6	20.0	
Doctorate	1	3.3	

Table 2.

Demographic Information of Children

Variables Related to Children	Mean	SD	Min.-Max.
Age (months)	59	13.2	32.0-76.0
Age of diagnosis (months)	2.8	0.8	1.00-4.00
Duration of receiving special education (months)	19.2	11.0	1.00-36.00
GARS-2-TV (Autism Disorder Index)	95.2	14.5	68.0-125.00

Demographic information form. In the study, an information form, in which demographic information of the participants was recorded, was developed by the researchers. Information related to variables, such as the age, gender, diagnosis, and educational status of the child and father was recorded in this form.

Parental/Maternal Behavior Rating Scale-Turkish Version (P/MBRS-TV).

To evaluate the behaviors of father participants during their interaction with their children, the Parental/Maternal Behavior Rating Scale-Turkish Version (PBRSTV) was used. The PBRSTV was developed by Mahoney in 2008 under the name of the Maternal Behavior Rating Scale (MBRS). Although its name include maternal, the scale can be used with both parents and other adults who have interactional moments with their children. In Turkey, the validity and reliability studies of the scale were performed on 123 mother-child dyads by Diken (2009). The validity analysis of the MBRS-TV demonstrated that the Kaiser-Meyer-Olkin (KMO) value was .84 and Barlett's test was significant, while the common variance values of the items ranged between .60 and .82. Considering the fact that three factors in the Turkish version of the PBRSTV explain 73.40% of the variance, these results on reliability suggest that the three subscales reflect the desired psychometric values. In summary, these results reveal that the MBRS-TV is a valid and reliable scale used to evaluate parents' interactional behaviors exhibited during the parent and child interaction (Diken, 2009).

Child Behavior Rating Scale-Turkish Version (CBRS-TV).

To evaluate the interactional behaviors of the child participants with their fathers, the Child Behavior Rating Scale-Turkish Version (CBRS-TV) was used. The CBRS was developed by Mahoney and Wheeden in 1999 under the name of the Child Behavior Rating Scale (CBRS). In Turkey, the validity and reliability studies of the scale were performed by Diken (2009) on 123 mother-child dyads (2009). The validity analyses of the CBRS-TV demonstrated that the Kaiser-Meyer-Olkin (KMO)

value was .82 and Barlett's test was also significant. Considering the fact that the two-factor structure explains 78.86% of the variance, these results on reliability suggest that the scale and its sub-dimensions reflect the desired psychometric values. In summary, these results reveal that the CBRS-TV is a valid and reliable scale used to evaluate children's interactional behaviors exhibited during the parent and child interaction (Diken, 2009).

Gilliam Autism Rating Scale-2 Turkish Version (GARS-2-TV).

To confirm the ASD diagnoses of the children who had a medical diagnosis of ASD, the Gilliam Autism Rating Scale-2-Turkish Version (GARS-2-TV) was used. The GARS-2-TV is an autism rating scale of which validity and reliability studies in Turkey were performed by Diken et al. (2012) with 1191 participants. In addition to the screening and diagnosis of individuals aged between 3 and 23 years and exhibiting autistic characteristics, the GARS-2-TV is a rating scale which can be used in the assessment of severe problem behaviors, determination and evaluation of behavioral progress, determination of goals for an individualized education plan, and data collection for scientific studies (Diken et al., 2012). According to the scale, ASD "is very likely to be observed" in individuals with an autistic disorder index of 85 or higher, "there is the possibility of observing autistic disorder" in individuals with an autistic disorder index between 70-84, and "there is no possibility of observing autistic disorder" in individuals with an autistic disorder index of 69 and lower (Diken et al., 2012).

Data Collection Process, Coding, and Reliability Analysis

The study group.

The study group was selected by means of "criterion sampling", which is one of the "purposive sampling" methods among non-random sampling methods (Gay, Mills and Airasian, 2006). In this study, research was conducted with 30 child-father dyads, in which children had ASD. Some prerequisite characteristics for children and fathers were taken into account

when creating the study group. These prerequisites are as follows: children's being not older than 76 months, children's being diagnosed with ASD, children's not having any additional disability except the diagnosis of ASD, fathers' being voluntary to participate in the study, and fathers' signing a consent to participate in the study. In order to determine the children and their fathers who met these prerequisites, the records of the province of Uşak Guidance Center, which is the one of centers in several provinces where special education services were being coordinated for children with established disabilities and their parents, were examined and the children who could participate in the study were identified by discussing with different private special education rehabilitation centers, where children with special needs and medical diagnose get special education and other related therapeutic services in Turkey, in Adapazarı, Ankara, Afyon, Adana, Kilis, Maraş, Mersin and Şanlıurfa provinces. Afterward, both phone and face-to-face interviews were conducted with the families. In the interviews, information about the study was provided, and the study was carried out with fathers who volunteered to participate in the study.

Retrieval of interaction records.

Interaction records were taken in special education and rehabilitation centers where children attended. Therefore, the rooms where the study was conducted were tried to be made suitable for interaction. The rooms were fitted with a carpet to allow interaction on the floor, and there were a small table and a chair for children in order to be able to perform a desk-based activity, and a chair for adults. There was also a cupboard with open shelves to help them better select the materials they might want to use in interaction. In the rooms where the study was carried out, there were developmentally appropriate toys that the children could use during their interactions with their fathers (e.g. toy cars, dolls, toy telephone, kitchen equipment, tinker and doctor play sets, plug-in toys, puzzles, figure box, animal models), tools and materials for desk activities (e.g. paper, crayons, coloring books) and storybooks. Each of the toys and equipment was selected by tak-

ing the age, development level, and skills of the children into consideration. Before the record, the fathers were told to spend time in the same way they spend it at home with their children. No interference was made into interactions or the father and child before and during the records. Furthermore, a camera was used to record the interactional behaviors exhibited by fathers during the free play interaction. Interactions were recorded at least for 15 minutes and at most for 30 minutes. During the evaluation of the interactions, the first 5 minutes were excluded in order to give time to the child-father dyad to get used to the environment. In this way, the effect of the camera was tried to be reduced. Scoring was started after the first 5 minutes. The camera recordings were also used in the evaluation of interobserver reliability and the data related to the P/MBRS-TV and CBRS-TV.

Encoding the interaction records and inter-coder reliability. Interaction records were coded by two coders using the P/MBRS-TV and CBRS-TV. Before the coding of the father-child interaction records, the coder underwent a training process. In the study, the researcher, who adapted the P/MBRS and CBRS to the Turkish language (the second coder), provided training to the first coder. Selected by the random method, 30% of the data were coded by the second coder to examine inter-coder reliability. Inter-coder reliability was examined by Spearman's rank order correlation analysis, and was found to be 92 % for both the P/MBRS-TV and CBRS-TV.

Results

Results regarding the interactional behaviors of fathers directed to their children with ASD

The interactional behaviors of fathers directed to their children with ASD were evaluated using the PMBRS-TV, and descriptive statistics such as mean and standard deviation were calculated and reported in Table 3. When Table 3 is examined in terms of the sensitivity-responsiveness subscale, it is observed that fathers had a low level of sensitivity to the play interests of their children with ASD and to the activities initiated or

played by the children, they took the interests of their children into consideration occasionally, and they did not participate in the activity, play and interest of the child. When examined in terms of responsiveness, it is observed that fathers were not responsive, in other words, the fathers' reactions were not as supportive as to stop the child's activity, or to direct the child to do something different from what he/she intended to do. The fathers were observed to be ineffective in attracting the child's attention, in maintaining the interest of the child in interaction and in joining the play/activity by balancing the ability to receive the mutual order. Fathers were generally able to find a number of ways to attract the attention of the child, but these ways were quite limited in number, and in fathers, long-term stagnation and tendency to repeat themselves frequently were observed.

When the levels of emotional expressiveness of fathers are examined, a low level of acceptance is observed in fathers, in other words, although fathers appear to be positive towards the child, they mostly exhibit a neutral stance. Fathers are observed to enjoy little the interaction with the child. Fathers rarely used verbal expressions during interactions. Positive behaviors and attitudes, such as affectionate words, embracing, kissing, and the tone of voice, exhibited by fathers towards their children are at a low level. Fathers communicated occasionally during the interaction, and parents' body language, quality of voice, and facial expressions displayed a feature from emotionless to neutral. In short, fathers were

found to be emotionally expressive at a low level.

When Table 3 is examined in terms of the achievement-orientedness and directiveness subscale, it is observed that fathers did a few attempts at a moderate level to encourage the child's sensory-motor/cognitive development, and these attempts were realized as interactions via the game, rather than teaching. In the study, it was found out that fathers were moderately directive, in other words, they allowed the independence of the child while trying to influence the choice of activity. Fathers, who are moderately directive, are observed to be ready to make suggestions and to direct at any time. The pace, speed, of fathers' behaviors was generally slower than the average. The father may exhibit an inconsistent tempo, which can pass from active participation to a stagnant state.

Results regarding the interactional behaviors of children with ASD directed to their fathers

The interactional behaviors of children with ASD directed to their fathers were evaluated by using the CBRS-TV, and descriptive statistics such as mean and standard deviation were calculated and reported in Table 4. When the results are examined in order to evaluate the degree of attention paid by children with ASD, it is observed that children with ASD showed attention at a moderate level, they did not participate as much as they participated in activities, and they tended to avoid the activity or change the activity.

Table 3.

Results regarding the interactional behaviors of fathers directed to their children with ASD

P/MBRS-TV	Mean	SD	Min.-Max.
Sensitivity-Responsiveness (Total-Subscale)	2.7	1.6	1.0-5.0
Sensitivity	2.2	1.5	1.0-5.0
Responsiveness	2.4	1.5	1.0-5.0
Effectivity	2.4	1.5	1.0-5.0
Creativity	2.0	1.2	1.0-5.0
Emotional Expressiveness (Total-Subscale)	2.8	0.9	1.0-4.0
Acceptance	2.9	1.1	1.0-5.0
Enjoyment	3.0	0.9	2.0-5.0
Using Verbal Reinforcement	2.3	0.9	1.0-4.0
Warmness	2.7	1.4	1.0-5.0
Emotional Expressiveness	2.8	0.9	1.0-5.0
Achievement-Orientedness (Total-Subscale)	2.8	0.9	1.0-5.0
Achievement-Orientedness	2.3	1.4	1.0-5.0
Directiveness	3.4	1.2	1.0-5.0
Pace	2.6	1.0	1.0-5.0

Table 4.

Results Regarding the Interactional Behaviors of Children with ASD Directed to Their Fathers

CBRS-TV	Mean	SD	Min.-Max.
Attention (Total-Subscale)	3.1	1.6	1.0-5.0
Attention	3.2	1.7	1.0-5.0
Persistence	2.8	1.7	1.0-5.0
Participation	2.8	1.6	1.0-5.0
Cooperation	3.2	1.5	1.0-5.0
Initiation (Total-Subscale)	2.7	1.2	1.0-5.0
Initiation	2.4	1.4	1.0-5.0
Joint Attention	2.8	1.6	1.0-5.0
Emotional Status	3.0	1.2	1.0-5.0
CBRS-TV (Total-Scale)	20.57	9.82	1.0-5.0

When the persistence sub-item, which is evaluated as an effort of the child to participate in the activity, was examined, it was determined that children with ASD exhibited continuity at a low level and rarely repeated the behavior, and when they had difficulty, they made a second attempt but immediately gave up. Children often seem passive during the interaction, and their behaviors are mostly usual/predicted behaviors. Children with ASD, who exhibit a low level of participation, are observed not to participate in the activities openly in most of the sessions. When the degree of compliance of the child with the adult's wishes and suggestions is examined, a moderate level of cooperation in children is observed. Children, who cooperate at a moderate level, can avoid cooperation initiatives, as much as they adapt to the wishes and suggestions of the adult. According to the results of the study, children with ASD are observed to initiate activities at a low level. Children with low levels of activity initiation attempts may also be defined as children who attempt to initiate an activity several times during the activity, who are generally passive or who just respond to the adult's wishes. When the results are examined, children with ASD are observed to exhibit low joint attention skills in initiating communication with adults. During the interaction process, it was observed that children generally exhibited low satisfaction and stagnant and neutral behaviors, in short, their levels of enjoying the interaction were moderate.

The relationship between the interactional behaviors of fathers and their children

The relationship between the interactional behaviors of fathers and their children with ASD was examined by Pearson's correlation analysis. In the interpretation

of the correlation values, the interpretation of the correlation values proposed by Cohen in 1988 was taken into consideration. According to this, there is a "small" relationship when $r=.10$ to $.29$ or $r=-.10$ to $-.29$, a "moderate" relationship when $r=.30$ to $.49$, or $r=-.30$ to $-.49$, and a "large" relationship when $r=.50$ to 1.0 or $r=-.50$ to -1.0 (Pallant, 2005, p.126). The results of the analysis are presented in Table 5.

When the relationship between the P/MBRS-TV and CBRS-TV subscales is examined, there is a moderate, positive significant relationship between the Sensitivity Responsiveness subscale of the PBRs-TV and the Attention and Initiation subscales of the CBRS-TV. In other words, it was found out that the attention and initiation interactional behaviors of children increased as the sensitivity responsiveness behaviors of fathers increased. There is a high and positive significant relationship between the Effectivity subscale of the P/MBRS-TV and the Attention, Participation and Joint Attention subscales of the CBRS-TV. This result means that as the active participation of fathers in the activity and in the play interaction and the ability to attract the child's attention and active participation in the play/activity increase, the level of the child's motivation for the activity, the level of participation in the activity, and the rate of initiating interaction with the father increase. While there is a low, positive and significant relationship between the Emotional Expressiveness subscale of the P/MBRS-TV and the Initiation subscale of the CBRS-TV, there is a moderate, positive and significant relationship between total interactional behaviors of the child. This result implies that as the emotional expressiveness interactional behaviors of fathers increase, the total of children's

interactional behaviors also increases. There is a moderate, positive, and significant relationship between the achievement-orientedness sub-item of the P/MBRS-TV and the Attention and Initiation subscales of the CBRS-TV, and the child's total interactional behaviors. It was observed that the children's initiation, attention, and total interactional behaviors increased with the increase in achievement-oriented behavior alone. However, no significant relationship was determined between the achievement-orientedness-directiveness subscale of the P/MBRS-TV and initiation and attention behaviors of the CBRS-TV.

There is no significant relationship between the Directiveness sub-item of the P/MBRS-TV and the Attention and Initiation subscales of the CBRS-TV. There is a moderate, positive and significant relationship between the Sensitivity, Responsiveness, and Effectivity subscales of the P/MBRS-TV and the Attention, Continuity, Participation, Cooperation, Joint Attention, and Emotional Status subscales of the P/MBRS-TV. The more sensitive and responsive fathers are to their children's interactional behaviors and the more the levels of maintaining the child's interest in interaction increase, the more children's attention, continuity, cooperation, and joint attention behaviors increase. Furthermore, these interactional behaviors of fathers increase the levels of children's enjoying the interaction.

While there is a low level, positive and significant relationship between the Creativity subscale of the P/MBRS-TV and the Attention, Continuity and Cooperation subscales of the CBRS-TV, there is a moderate, positive and significant relationship between the Joint Attention and Emotional Status subscales of the CBRS-TV. According to this result of the study, it can be stated that when fathers take the child's interest into account, follow the leadership of the child, respond to the child's movements during the play, respond in the same way to the child's call or communication efforts, balance the mutual order taking skills during the play and make creative attempts to maintain the interest of the child, their children increase attention spans, become highly motivated in the activities and enjoy this, make more attempts to initiate an activity,

make attempts by calling out or making signs frequently in order to share their experiences with the adult.

Differences Between Fathers' and Children's Interactional Behaviors According to Fathers' Educational Level

The results of the Kruskal-Wallis test (Since the data did not meet the normality criteria, non-parametric statistics were preferred), which was conducted to determine whether the subscale scores of the P/MBRS-TV and CBRS-TV significantly differed the educational level of fathers, were presented in Table 6. The educational level of fathers was divided into three categories as primary education (primary school and secondary school), high school, and undergraduate-postgraduate.

Examining Table 6, the educational level of fathers was observed to differ significantly according to the fathers' Sensitivity-Responsiveness and Emotional Expressiveness behaviors. This result demonstrates that the educational levels of fathers have different effects on their Sensitivity-Responsiveness and Emotional Expressiveness behaviors. When the mean ranks of the groups were considered, a positive increase was observed in the Sensitivity-Responsiveness and Emotional Expressiveness interactional behaviors as the educational level of fathers increased. According to the study, it was found out that educational levels of fathers did not create a significant difference in children's initiation, attention, and total interactional behaviors. Furthermore, the educational level of fathers was observed not to create a significant difference in the level of being achievement-oriented and directive. In other words, while the increase in the educational level of fathers provides an increase in the desired positive behaviors in interaction such as sensitivity-responsiveness or emotional expressiveness, it has not any effect on the attention, initiation and total interactional behaviors of children. Fathers' achievement-oriented directiveness behaviors are observed not to be affected by the educational level of the father.

Table 5.
Correlation analysis results between the interactional behaviors of fathers and their children

	CBRS Attention (Total- Subscale)	Attention	Persistence	Participation	Cooperation	CBRS Initiation (Total- Subscale)	Initiation	Joint attention	Emotional Status	CBRS (Total- Scale)
Sensitivity- Responsiveness (Total-Subscale)	.541**	.550**	.497**	.571**	.515**	.476**	.322*	.556**	.532**	.551**
Sensitivity	.425**	.459**	.403**	.458**	.415**	.387*	.290	.402**	.401**	.416**
Responsiveness	.448**	.487**	.401**	.490**	.476**	.421**	.256	.470**	.483**	.467**
Effectivity	.720**	.648**	.674**	.734**	.634**	.604**	.458**	.741**	.627**	.698**
Creativity	.385*	.378*	.391*	.418	.398*	.333*	.147	.424**	.420**	.400**
Emotional Expres- siveness (Total-Subscale)	.338*	.316*	.363*	.382*	.348*	.294	.115	.376*	.397*	.379**
Acceptance	.386*	.319*	.368*	.408**	.371*	.312*	.116	.384*	.415**	.408**
Enjoyment	.408**	.352*	.446**	.431**	.374*	.379*	.222	.533**	.442**	.442**
Warmness	.307	.287	.303	.320*	.320*	.248	.125	.321*	.316*	.317*
Using verbal reinforcement	.194	.166	.207	.217	.197	.134	-.009	.205	.261	.219
Emotional Expressiveness	.356*	.343*	.328*	.391*	.323*	.277	.128	.437**	.309*	.351*
Achievement- Orientedness (Total-Subscale)	.135	.142	.165	.108	.281	.080	.075	.232	.065	.162
Achievement- Orientedness	.400**	.472**	.476	.419**	.441**	.439**	.356*	.443	.377*	.456**
Directiveness	-.131	-.135	-.168	-.175	-.015	-.230	-.199	-.125	-.198	-.151
Pace	.058	.018	.028	.080	.078	-.025	-.034	.134	-.015	.030

*p<.05, **p<.01

Table 6.
The difference between fathers' and their children's interactional behaviors according to fathers' educational level

	Father's Education	n	Mean rank	SD	x ²	p
CBRS (Total-Scale)	Primary education	11	14.77	2	1.30	.522
	High school	9	13.61			
	Undergraduate and Higher	10	18.00			
CBRS Initiation (Total-Subscale)	Primary education	11	14.82	2	2.82	.374
	High school	9	12.56			
	Undergraduate and Higher	10	18.90			
CBRS Attention (Total-Subscale)	Primary education	11	15.14	2	1.19	.452
	High school	9	13.50			
	Undergraduate and Higher	10	17.70			
Achievement- Orientedness (Total-Subscale)	Primary education	11	16.64	2	4.83	.104
	High school	9	10.61			
	Undergraduate and Higher	10	18.65			
Sensitivity- Responsiveness (Total-Subscale)	Primary education	11	12.36	2	7.95	.018*
	High school	9	12.44			
	Undergraduate and Higher	10	21.70			
Emotional Expressiveness (Total-Subscale)	Primary education	11	10.73	2	8.66	.008*
	High school	9	14.67			
	Undergraduate and Higher	10	21.50			

*p<.05

Table 7.
Correlation Analysis Results on the Relationship Between Fathers' and Their Children's Interactional Behaviors and the Age of Fathers

	P/MBRS Sensitivity- Responsiveness (Total-Subscale)	P/MBRS Emotional Expressiveness (Total- Subscale)	P/MBRS Achievement- Oriented (Total- Subscale)	CBRS Attention (Total- Subscale)	CBRS Initiation (Total- Subscale)	CBRS (Total- Scale)
The Father's Age	-.197	-.050	-.063	-.464**	-.288*	-.398**

*p<.05, **p<.01

Results on the relationship between fathers' and their children's behaviors and the age of fathers

The relationship between the age of fathers and the behaviors of fathers and their children was examined by Pearson's correlation analysis, and the correlation results were presented in Table 7. When the relationship between fathers' age and the PBRs-TV and CBRS-TV subscales was examined, a negative but not significant relationship was observed between the fathers' age and the fathers' interactional behaviors. A moderate level, significant and negative correlation was found between the fathers' age and the Attention subscale of the CBRS-TV and the child's total interactional behaviors. In other words, as fathers' age decreases, the duration of children's being interested in the activity during the interaction increases, i.e. children pay more attention and their interaction initiation levels increase.

Discussion

This study aimed to examine the interactional behaviors of Turkish fathers and their

children with ASD. As a result of the study, it was observed that fathers had a low level of sensitivity to the play interests of their children and to the activities initiated or played by the child, they took interests of their children into consideration occasionally, and they did not participate in the activity, play and interest of the child. Since there were not similar study results on the investigation of the interactional behaviors of children with ASD and their fathers in Turkey, any comparison could not be made. However, similar results have been obtained in other studies which investigate the interactional behaviors of children with ASD and their Turkish mothers in Turkey (Diken, 2012; Diken and Mahoney, 2013, Töret, Özdemir and Özkubat, 2015; Toper-Korkmaz, 2015). Furthermore, regarding international literature, another study, which stated that parents having children with ASD have low levels of sensitivity, was conducted by Watson (1998). In the study, the behaviors of parents, who had preschool children with typical development and diagnosed with ASD, were compared. The results of the study demonstrated that mothers having children with ASD use non-

child centered expressions more than parents who have children with typical development.

When the responsive interactional behaviors of fathers were examined, it was found out that fathers were not responsive, in other words, fathers were not supportive in stopping the child's activity or directing the child to do something else. The study, which was conducted by Töret, Özdemir, and Özkubat (2015) on the parent-child interactions of children with severe ASD and their mothers, contains similar results. In another study (Flippin and Watson, 2011), it was stated that parents exhibit more responsive interactional behaviors as the functional and symbolic play skills of their children with ASD increase. In this respect, further studies can be conducted in order to determine whether fathers' levels of responsiveness are related to what level of play behavior is exhibited by children. Toper-Korkmaz (2015) stated in the pre-test results of the study, in which they investigated the effects of an interaction-based early childhood intervention program on children with ASD and on their mothers, that the sensitivity responsiveness interactional behaviors of mothers were low before the education.

Results revealed that fathers were ineffective in including the child in communication or activity, providing cooperation and maintaining this, and during interactions, there were long-term stagnation and tendencies to repeat themselves frequently in parents. Diken (2009) states in his study that creative mothers are mothers who try to understand the interests of the child, make comments about it and try to include their children in this interaction. In this context, fathers who exhibited creativity behaviors at a low level could be characterized as sensitive and responsive at a low level. Although fathers appeared to be positive towards the child, they were mostly observed to exhibit a neutral stance. This result is supported by other research results carried out Turkish parents in Turkey (Diken, 2012; Diken and Mahoney, 2013; Töret et al., 2015). From an international perspective, another study investigating the differences in the interaction of parents and siblings, among family members, with their children (siblings) with ASD during the play (El-Ghoroury and Romanczyk, 1999), it was stated that mothers used more neutral expressions than fathers and both mothers

and fathers spent more stagnant time (periods of time when no verbal or physical behavior occurred) compared to siblings. The level of fathers' enjoying the interactions with their children was found to be low, similarly to the studies carried out on Turkish mothers by Diken (2012) and Diken & Mahoney (2013). In their study, Töret et al. (2015) also determined that Turkish mothers' enjoying the interaction with their children was low. In a study conducted by Dawson, Hill, Spencer, Galpert, and Watson (1990), the social behaviors exhibited during natural interactions between mothers and their children with ASD and between mothers and their children with typical development in the US were compared, and similarly, it was stated that mothers having children with ASD smiled less than mothers having children with typical development, as a response to their child's smiles.

In the current study, fathers were observed to rarely use verbal reinforcement during interactions, while Diken (2012), Diken and Mahoney (2013), Töret et al. (2015) stated in their studies that Turkish mothers used verbal reinforcement at a moderate level. In her study, Maviş (2004) aimed to reveal the communication profile of Turkish parents with their children, and she stated that fathers did not use the words of approval during the interaction a lot. When it was considered that fathers' positive behaviors and attitudes, such as affectionate words, embracing, kissing, and the tone of voice, which they exhibited towards the child, and their communicative emotional expressiveness in interactions with their children were at low levels, the emotional expressiveness levels of fathers were also generally found to be low.

Results also indicated that fathers did a few attempts at a moderate level in encouraging the sensory-motor/cognitive development of the child, and these attempts were realized as interactions via games rather than teaching. This result is similar to the results of the study which was conducted by Küçüker, Ceber-Bakkaloğlu, and Sucuoğlu (2001) and in which Turkish fathers played an "audience" role during interactions with their children with intellectual disabilities. Although a comparison could not be made, mothers were found to be moderately achievement-oriented in similar studies in which mother-child interactions were investigated in Turkey (Mahoney and Perales, 2005; Diken, 2012; Diken and Ma-

honey, 2013; Töret et al., 2015). While Diken (2012) and Diken and Mahoney (2013) stated in their studies that the interaction speed/pace of Turkish mothers having children with ASD was at a moderate level, in this study, it was found out that the interaction speed/pace of fathers having children with ASD were low.

In relation to another research question of this study, in the context of father-child interaction, the related results were achieved with regard to the interactional behaviors of children to their fathers in the interaction between children with ASD with their fathers. When the results were examined for the purpose of evaluating the degree of attention paid by children with ASD to the activity, it was observed that children with ASD showed attention at a moderate level, they did not participate as much as they participated in activities, and they tended to avoid the activity or change the activity. This result differs from the results of the studies carried out in Turkey by Topper-Korkmaz (2015) and Töret et al. (2015). In these studies, children with ASD were determined to exhibit attention skills at a low level. It can be thought that this difference occurring in the present study may be related to the fact that fathers have low achievement-oriented directive behaviors. This is because the studies state that there is a negative relationship which displays that as the parent's achievement-oriented directive behaviors decrease, the child's attention behaviors increase (Kim and Mahoney, 2004; Kim and Mahoney, 2005; Mahoney & Perales, 2005).

According to the study, when the persistence subscale, which is evaluated as an effort of the child to participate in the activity, was examined, it was determined that children with ASD exhibited continuity at a low level and repeated the behavior rarely, and when they had difficulties, they made a second attempt but immediately gave up. This result is supported by similar research results (Mahoney and Perales, 2003; Mahoney and Perales, 2005; Diken, 2012). In the study, it is observed that children participated in the activities at a low level, in other words, they often seemed passive during the interaction period, and their behaviors were mostly usual/predicted behaviors. Similarly to the findings of the study by Diken (2013), children were observed not to participate in the activity openly in most of the sessions, i.e. to exhibit a low level of

participation. The examination of the degrees of compliance of the child with the adult's wishes and suggestions reveals that there was a moderate level of cooperation in children. Children who cooperate at a moderate level can avoid cooperation initiatives, as much as they adapt to the wishes and suggestions of the adult. Diken (2009) reported that children, who exhibited high compliance, had a low level of communication initiation. According to the results of the study, children who exhibited a low level of activity initiation behavior can be defined as children who respond only to the adult's wishes. As it was observed in many studies (Whalen, Schreibman and Ingersoll, 2006; Vismara and Lyons, 2007; Schietecatte, Roeyers and Warreyn, 2012), the lack of joint attention skills in children with ASD was also observed in this study. Children displayed a low level of joint attention skills in the process of interaction with their fathers. This result shows similarity with the results of other studies, in which the interactional behaviors of children with ASD were examined (Diken and Mahoney, 2013; Topper-Korkmaz, 2015; Töret et al., 2015). Another result obtained in the study was that children generally exhibited low satisfaction and stagnant and neutral properties during the interaction process, in short, their levels of enjoying the interaction were moderate. This result supports the findings of other studies (Mahoney and Perales, 2005; Diken, 2012).

When the results on the relationship between the interactional behaviors of children and their fathers were examined, it can be observed that as fathers' sensitivity and responsiveness behaviors increase, children's attention and initiation levels, and total interactional behaviors increase. This result is supported by similar research findings (Mahoney and Perales, 2003; Kim and Mahoney, 2004; Kim and Mahoney, 2005; Mahoney and Perales, 2005; Diken, 2012; Diken and Mahoney, 2013; Töret et al., 2015). Behaviors, such as being sensitive, responsive, effective, and being creative, are parental behaviors which increase the attention, continuity, participation and joint attention skills of children and are considered to be qualified parental behaviors, and the contribution of these behaviors to the development areas of children was examined by many researchers (Jones and Carr, 2004; Ingersoll and Schreibman, 2006; Karaaslan, Diken, and Mahoney, 2013;

Karakan, 2011). In this context, it can be thought that increased attention, continuity, participation and joint attention skills with the qualified parental behaviors may be the cause of this contribution in the areas of development.

In the study, it was observed that there was a positive significant but a low-level relationship between the emotional expressiveness levels of fathers and the attention levels of children. It was determined that as fathers' emotional expressiveness levels increase, the total interactional behaviors of children also increase. When the acceptance and enjoyment sub-items in the emotional expressiveness subscale are examined, it is observed that as the levels of acceptance and enjoyment of fathers increase, the participation and emotional status levels of children also increase. This result shows similarity with the studies in which Mahoney and Perales (2003), Kim and Mahoney (2004), Kim and Mahoney (2005), Mahoney and Perales (2005), Diken (2012), Diken and Mahoney (2013), Töret et al. (2015) stated that mothers with low emotional expressiveness were ineffective in increasing children's interactional behaviors.

One of the aims of this study was to reveal whether the demographic characteristics of fathers create a difference in the interactional behaviors of fathers and their children. According to the results of the study, the educational levels and ages of fathers were observed to have an effect on the interactional behaviors of fathers and their children. As the educational level of fathers increases, a positive increase also occurs in the sensitivity-responsiveness and emotional expressiveness interactional behaviors. In other words, as the educational level of fathers increase, they exhibit more sensitive and responsive parental behaviors in the interactions with their children, behave warmer to their children, and establish more close relationships with their children. On the other hand, it was observed that the educational levels of fathers did not create any significant difference in children's initiation, attention, and total interactional behaviors. With regard to the age of fathers, as the age of fathers decreases, the duration of children's being interested in the activity during the interaction increases, in other words, they show less inattention, and their levels of interaction initiation and the total interactional be-

haviors increase. However, fathers' ages were observed not to create a significant difference in the interactional behaviors of fathers. Similarly, Ruble et al. (2008) investigated the relationship between social interactional behaviors of children with ASD and primary caregivers' responsiveness behaviors, but they did not find a significant relationship between primary caregivers' demographic characteristics and responsiveness behaviors.

In conclusion, this study revealed that fathers and children with ASD exhibit positive interactional behaviors at low to moderate levels both in the interactions between fathers and their children with ASD and in the interactions of children with ASD with their fathers. Moreover, it was observed that children's attention and initiation behaviors and total interactional behaviors increased as father's sensitivity-responsiveness and emotionally expressiveness behaviors increased and their achievement-oriented and directive behaviors decreased. Another result obtained from the study was that the educational level of fathers and their being young affected the interaction positively.

Results should be interpreted with the limitations of the study. The study represents only 30 Turkish father-child interactions; therefore, when one try to generalize the results to Turkish culture, s/he should have in my mind results do not reflect all Turkish fathers. More studies with more explanations of profiles on Turkish fathers might help to generalize results. Studies with fathers with difefernt age group of children with ASD should be carried out since the focus on research with fathers has been ignored in the related field. It is believed that studies with fathers will bring great insights regarding early intervention practices to involve both parents in the education of their children with ASD. In the study, age and language levels of children with ASD were not controlled; therefore, future studies with age and language level controlled should be carried out.

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