



Are Parental Disciplinary Practices Associated with the Vocabulary of Children with Suspected DLD? Ebeveynlerin Disiplin Uygulamaları GDB Şüphesi Olan Çocukların Kelime Hazineleri ile İlişkili midir?

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Article Information	ABSTRACT
Received: 17.01.2023	<p>Aim: Parents play an important role in children's language development, specifically in the development of vocabulary. There are studies in the literature that have investigated the relationship between parental behaviors, parental stimulation, and children's vocabulary. This study aims to examine the relationship between parental disciplinary practices and the vocabulary of children with suspected developmental language disorder (DLD). Subjects and Method: This study included 72 children with suspected DLD between 24 and 48 months of age and their parents ($M = 34.22$, $SD = 6.52$). Data were collected face-to-face at the Speech and Language Clinic of Ankara Yıldırım Beyazıt University Hospital. For data collection, a demographic information form, The Turkish Test of Early Language Development (TEDIL), Turkish Version of the Language Development Survey (DIL-TAR), and the Parenting Scale were used. TEDIL was administered to the child by the clinician, while DIL-TAR and the Parenting Scale were completed by the parent. Descriptive analyses and Pearson correlation tests were conducted with IBM's SPSS 21.00 software package. Results: According to the findings of our study, the mean number of words in children's vocabulary was 77.5. The mean score obtained on the parenting scale was 109. A significant positive correlation was determined between children's vocabularies and parents' disciplinary practices ($r = 0.97$, $p < 0.01$). Conclusion: The results of this study indicate that the vocabularies of children with suspected DLD increase as the functionality of parental disciplinary practices increases.</p>
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Keywords: Developmental language disorders, parenting behavior, vocabulary development

Makale Bilgisi	ÖZ
Geliş Tarihi: 17.01.2023	<p>Amaç: Ebeveynler, çocukların dil gelişiminde, spesifik olarak kelime hazinesinin gelişiminde önemli rol oynarlar. Literatürde ebeveynlerin davranışları, ebeveynlerin sağladıkları uyaranlar ile çocukların kelime hazinesi arasındaki ilişkiyi inceleyen çalışmalar yer almaktadır. Bu çalışmada ise ebeveynlerin disiplin uygulamaları ile gelişimsel dil bozukluğu (GDB) şüphesi olan çocukların kelime hazineleri arasındaki ilişkiyi incelemek hedeflenmiştir. Örneklem ve Yöntem: Çalışmaya 24-48 ($M = 34.22$, $SD = 6.52$) ay arasında GDB şüphesi olan 72 çocuk ve ebeveyni dahil edilmiştir. Çalışmanın verileri yüz yüze Ankara Yıldırım Beyazıt Üniversitesi Hastanesi Dil ve Konuşma Terapisi Kliniği'nde toplanmıştır. Veriler toplanırken demografik bilgi formu, Türkçe Erken Dil Gelişimi Testi (TEDİL), Dil Gelişimi Tarama Envanteri (DİLTAR) ve Ebeveynlik Ölçeği kullanılmıştır. TEDİL klinisyen tarafından çocuğa uygulanmış ve DİLTAR ile ebeveynlik ölçeği ise ebeveyn tarafından doldurulmuştur. Verilerin analizi için SPSS 21.00 paket programında tanımlayıcı analizler ve Pearson korelasyon testleri kullanılmıştır. Bulgular: Çalışmamızın sonuçlarına göre çocukların kelime hazinesindeki ortalama kelime sayısı 77,5'dir. Ebeveynlik ölçeğinden elde edilen ortalama skor ise 109'dur. Çocukların kelime hazinesi ile ebeveynlerin disiplin uygulamaları arasında pozitif yönde anlamlı bir korelasyon bulunmuştur ($r = 0.97$, $p < 0.01$). Sonuç: Bu çalışmanın bulguları, ebeveynlerin disiplin uygulamalarında fonksiyonellik arttıkça, GDB şüphesi olan çocukların kelime hazinesinin de arttığını vurgulamaktadır.</p>
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Anahtar Kelimeler: Gelişimsel dil bozuklukları, ebeveynlik davranışı, kelime hazine gelişimi

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Introduction

Developmental language disorder (DLD) is a condition that represents the presence of a language impairment that is not related to a neurological, sensory, generic, or cognitive etiology (Bishop et al., 2017). In studies conducted to determine the prevalence of language disorder, which is commonly encountered in children, results varied between 3% and 7%, while the risk of developmental language disorder was reported as 6.2% (St Clair et al., 2019). Individuals with DLD may present problems in the phonological, morphological, syntactic, semantic, and pragmatic domains of language (Berko-Gleason, 2005). Beyond these components, affected areas may also include the social, emotional, and behavioral domains. For example, a child with DLD may exhibit difficulty understanding emotional reactions in certain situations (Ford & Milosky, 2003). Some children with language disorders exhibit low social self-esteem (Marton et al., 2005) and may even be subjected to bullying by peers (Hughes, 2014).

Language acquisition is interconnected with the cognitive development of children and individual differences in language abilities are viewed as important predictors of later skills. Vocabulary, which begins to develop in the toddler period, demonstrates a longitudinal interaction with language and literacy skills in the school years (Lee, 2011). Moreover, it is reported that the vocabulary of a 25-month-old child not only predicts their language skills but also their working memory and cognitive level at the age of eight (Marchman & Fernald, 2008). Another important aspect of vocabulary is that it is a common indicator of DLD. Typically, children diagnosed with DLD produce their first words later compared to typically developing children (Trauner et al., 2000). It has been shown that parents contribute significantly to children's vocabularies and are effective in building vocabulary when included in learning environments (Rowe, 2022). Macleod et al. (2013) reported that delivering parental practices with professional support can influence children's vocabulary positively.

Parental responses to children's gestures and the quality of their feedback were found to be associated with the development of vocabulary (Cartmill et al., 2013; Limia et al., 2019). Hwang et al. (2020) reported that language used in the home environment had a significant place in children's vocabulary. In light of this information, it is possible to state that the quality of parents' linguistic input is important for children's vocabulary growth. To the authors' knowledge, there are currently no studies that have been conducted in Turkey on parental disciplinary practices and children's vocabulary. The present study evaluated the relationship between functional parental disciplinary practices and the vocabulary of children with suspected DLD with a hypothesis that there will be a significant correlation between the two factors.

Subjects and Method

Research Design

This empirical research was conducted as a cross-sectional prospective study to investigate the relationship between parental disciplinary practices and vocabulary skills of children with suspected DLD.

Research Timeline and Subjects

This study included 72 children with a chronological age of 24 to 48 months ($M = 34.22$, $SD = 6.52$) who were referred to the Speech and Language Therapy Clinic due to suspicion of DLD and their parents. Data for the study were collected in the Speech and Language Therapy Clinic of Ankara Yıldırım Beyazıt University Hospital. Characteristics of children with suspected DLD and their parents are summarized in Table 1. Inclusion criteria for children with suspected DLD were as follows: 1) bilateral peripheral hearing within normal range based on parent-report and medical chart review. According to the American Speech Language Hearing Association guidelines (ASHA, 2005), we accepted that if the 500–2,000 Hz air

conduction pure tone average (PTA) was 15 decibels hearing level (dB HL) or better with a type A tympanogram, this indicated normal hearing function. Previous medical testing based on these guidelines confirmed hearing within normal limits, 2) chronological age of 24 to 48 months, 3) Turkish as native language, 4) absence of additional disabilities, and 5) no prior receipt of speech and language therapy. Exclusion criteria for the study group included 1) presence of otological disorders, 2) frequent history of ear infections, 3) hearing impairment, 4) Turkish as a second language, and 5) presence of any disability or chronic illness. The following conditions were sought for the inclusion of parents: 1) a minimum of elementary school graduation, 2) Turkish as native language, and 3) being the primary caregiver of the child. Informed consent was obtained for all participants after the procedures were fully explained.

Table 1. Demographic Characteristics of the Children and Parents ($n = 72$)

Respondents	Frequency (%)
Gender	
Girl	39 (54%)
Boy	33 (46%)
Age ($M = 34.22 \pm 6.52$)	
TEDIL* Scores	
Receptive	97.21 \pm 13.60
Expressive	82.15 \pm 13.18
Father's Education	
Primary School	5 (7%)
Middle School	7 (10%)
High School	19 (26%)
Associate degree	11 (15%)
Bachelor's degree	30 (42%)
Mother's Education	
Primary School	9 (13%)
Middle School	13 (18%)
High School	17 (24%)
Associate degree	8 (11%)
Bachelor's degree	25 (35%)

*The Turkish Test of Early Language Development

Assessment Tools

A total of four assessment tools were used. They included the demographic information form, The Turkish Test of Early Language Development (TEDIL), Parenting Scale, and the Turkish Version of the Language Development Survey (DIL-TAR).

Demographic Information Form: Information regarding children and their parents was obtained through this form. Besides information such as children's and parents' ages, genders, and place of residence; prenatal, perinatal, and postnatal information was also collected.

The Turkish Test of Early Language Development (TEDIL): TEDIL is used to assess receptive and expressive language in children aged from 2 years to 7 years and 10 months (Topbaş & Güven, 2017). Among the test's areas of use are the evaluation of language development, determination of predisposing factors for language disorders, and identification of advantageous and disadvantageous aspects related to language skills. In TEDIL, certain items directly assess the semantic, syntactic, and morphological components while others rely on observation or parent report. The receptive language sub-test of TEDIL assesses language perception and processing abilities of children, while the expressive language sub-test

requires naming and verbal responses related to the directed questions. The receptive language sub-form consists of 37 items while the expressive sub-form consists of 39 items. Raw scores are calculated from the results obtained with TEDIL. The results can be interpreted by converting raw scores into standard scores. The average standard score is defined as 100. Standard scores between 86 and 115 are accepted as the average range. If the standard scores are higher than 115, the result is noted as above average; while standard scores of 85 and lower are noted as below average.

Turkish Version of the Language Development Survey (DIL-TAR): DIL-TAR is a tool developed to assess the expressive vocabularies and non-complex sentence production abilities of children based on parent report (Topbaş et al., 2016). This tool includes a list of 313 words in 14 different semantic categories. Parents can complete the form by selecting the “uses” or “does not use” choices for each word in the inventory. The form can be completed by parents in approximately 10 minutes. The minimum score possible on the DIL-TAR is 0 and the maximum score possible is 313.

The Parenting Scale: The Parenting Scale was constructed by Arnold and colleagues in 1993 (Arnold et al., 1993), and revised in 2007. The Turkish adaptation of this scale was completed in 2019 (Arkan et al., 2019). The scale consists of 30 items and assesses dysfunctional parenting methods by questioning the probabilities of different disciplinary practices. The total score is calculated based on three factors, namely laxness, over-reactivity, and hostility. Cronbach’s Alpha values for the scale are .85 for the laxness subdomain, .80 for the over-reactivity subdomain, and .83 for the hostility subdomain. Each item is scored on a 7-score scale. The scale has been reported to be valid and reliable. Low scores (minimum 0) on the Parenting Scale indicate functional parenting while high scores (maximum 210) indicate dysfunctional parenting.

Data Collection Process

First, the demographic information form was completed by the parents. Next, families who agreed to participate in the study and met the inclusion criteria were administered the TEDIL. Following TEDIL administration, parents were asked to complete DIL-TAR. Lastly, a parent of each child completed the Parenting Scale after which the session was concluded. The entire process lasted approximately 30 to 45 minutes.

Statistical Analysis

For the statistical analyses of our study, IBM SPSS 21 (SPSS, Chicago, IL, USA) was used. Descriptive statistics were computed first. Next, the Shapiro-Wilk method was used for testing the normality assumption. Lastly, scores obtained from DIL-TAR and the Parenting Scale were subjected to a Pearson correlation test to conclude the analysis. For correlational coefficients; 0.00-0.10 was accepted as no correlation, 0.10-0.39 as weak correlation, 0.40-0.69 as moderate correlation, 0.70-0.89 as strong correlation, and 0.90-1.00 as very strong correlation (21). Confidence intervals were set at 95%; correlations with a p -value of $<.05$ were considered significant.

Ethical Approval

This study was deemed ethically appropriate by Ankara Yıldırım Beyazıt University Health Sciences Ethics Committee (Approval number: 2021-619). All procedures in our study were conducted in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Declaration of Helsinki 2000.

Results

Descriptive statistics

Children included in our study had a vocabulary of a minimum of zero words and a maximum of 235 words. The mean number of words in children's vocabulary was 77.5. The lowest score obtained from the Parenting Scale was 31 while the highest score was 128. The mean value obtained from this scale by the participants was 109. Descriptive results for both measures are displayed in Table 2.

Table 2. Descriptive results of DIL-TAR and Parenting Scale

	Minimum	Maximum	Mean	Standard Deviation
DIL-TAR*	0	235	77.50	65.21
Parenting Scale	31	128	109	15.1

*Turkish Version of the Language Development Survey

Correlational analysis

A Pearson correlation test was performed in order to investigate the relationship between parental practices and children's vocabularies, which represents the main hypothesis of our study. According to the results of this test, a positive correlation was found between parents' disciplinary practices and their children's vocabularies ($r = 0.97$, $p < 0.01$). These results are presented in Table 3. Therefore, it appears that more positive parental practices in terms of laxness, over-reactivity, and hostility have a strong positive relationship with children's vocabularies.

Table 3. Correlation between DIL-TAR and Parenting Scale

	Parenting Scale	DIL-TAR
Parenting Scale	1.000	0.97
<i>p</i>	-	0.000*

* $p < 0.01$

Discussion

This study investigated the relationship between parents and their children's vocabularies who were referred to the SLT clinic for suspected DLD. Based on the results, the hypothesis that there will be a significant correlation between parents' disciplinary practices and their children's vocabulary was supported. The findings of our study revealed that parental disciplinary practices have a strong influence on children's vocabulary. Taken together, these results demonstrate that parents play an active role in their children's language development and help improve aspects of their language skills with the correct skills.

Parents have been described to have an important effect on the development of children's vocabularies. For example, inclusion of parents in active learning settings is reported to help build vocabulary (Rowe, 2022). One study on language acquisition explained that it is important for professionals to provide education to parents about parental input and highlighted the importance of parental practices (Macleod et al., 2013). It has also been documented that parent responses to children's gestures can have a facilitatory effect on the vocabulary of bilingual children (Limia et al., 2019). Cartmill et al. (2013) reported that the quality of the stimuli provided by the parents was indicative of the vocabulary that would develop in later periods. Considering that the disciplinary practices are a part of daily life, results from our study contribute to the

emerging literature on parental factors contributing to language development. Another study by Hwang et al. (2020) showed that the language used at home was associated with children's success with vocabulary. Since the parenting scale used in our study includes daily routines of children in the home environment, our results support the findings from previous research.

The results of our study suggest that the vocabularies of children with suspected DLD should be thoroughly evaluated. Parents play an important role in children's vocabularies regardless of the presence of a DLD diagnosis. Some of these roles are communicating effectively and playing games involving shared attention. Parental disciplinary practices are also an important aspect of the parent-child dynamic. These practices (e.g., when the child misbehaves, emotional situations are experienced, the child is asked to fulfill a task, or the child disturbs the parent) are necessary in situations that parents encounter frequently in daily life. These moments also offer a chance for communication between the parent and the child. Given that communication is founded upon purposeful interactions (greeting, requesting, informing, etc.), it is not surprising that responses provided by the parent influence the vocabulary skills of their children. Accordingly, the results of our study provide a basis for the notion that there is a strong relationship between parental disciplinary practices and children's vocabulary skills. Along with the other parental practices found in the literature (e.g., shared book-reading, regulation of parental reactions), the functionality of parental disciplinary practices appears to have a positive correlation with language development. In this context, it is possible to state that our study offers results that are consistent with the literature and contributes to understanding the association between parental disciplinary practices and children's vocabulary.

The present study has certain limitations. One of these limitations is the sample size. Our study included 72 children and their parents who presented to our clinic due to a suspicion of DLD. This sample size is likely to be insufficient for generalizing the results to reach absolute conclusions. Although the range of the children's ages was limited to 24-48 months, it is possible that ages outside of that range have effects on vocabulary development. Samples constructed with narrower age ranges may produce more clear results. By examining different ages, comparisons can be made between different age groups to understand the effects of development on the relationship between parenting practices and vocabulary skills. Finally, variability in the sociocultural and socioeconomic levels of the parents might have influenced the provided responses. Future studies can obtain more information about children with suspected DLD and their parents. Parents could be grouped in terms of sociocultural or socioeconomic level. In terms of data analysis, factors such as maternal education or marital status could be included as covariates to examine whether results are affected by potentially confounding factors. Future studies can also examine different correlations by using other scales that examine the behavior of parents in addition to parental disciplinary practices.

Conclusions and Recommendations

This study supports the notion that parental disciplinary practices and the vocabularies of children with suspected DLD are highly correlated. As such, we can draw some general conclusions and recommendations from the results of this study regarding children with suspected DLD. With an understanding that there is a strong relationship between parenting practices and aspects of children's language skills, it would be helpful to conduct more detailed interviews regarding these factors from a clinical perspective. For example, the functional/dysfunctional disciplinary practices of parents that present to speech and language clinics for a suspicion of DLD can be assessed with a special focus on the variables discussed in the present study. This would provide a tailored evaluation that is family-specific and provide more information for planning

treatment, when warranted. Perhaps most importantly, parents with children who visit the clinic can be educated about the potential relationship between parenting disciplinary practices and children's vocabulary development.

This study also demonstrates the importance and necessity of speech and language evaluation to increase parents' awareness of factors influencing language development to prevent secondary social, emotional, and academic complications, and promote early intervention. Further studies on the relationship between parenting practices and children's language development are needed in larger groups with and without suspected DLD.

Ethical Approval

This study was deemed ethically appropriate by Ankara Yıldırım Beyazıt University Health Sciences Ethics Committee (Approval number: 2021-619). All procedures in our study were conducted in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Declaration of Helsinki 2000.

Conflict of Interest

Authors declare that they have no conflict.

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Author Contributions

Mariam KAVAKCI was responsible for research design, data entry, data analysis, and writing. Halil Tayyip UYSAL was responsible for research design, data entry, and writing. Edanur AKKILIÇ and Gözde ŞAHİN were responsible for data collection.

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