

**THE EXAMINATION OF DEVELOPMENTAL EVALUATION TOOLS USED  
IN THE THESES OF GRADUATE THESES IN TURKEY****TÜRKİYE'DE LİSANSÜSTÜ TEZLERDE KULLANILAN GELİŞİMSEL DEĞERLENDİRME  
ARAÇLARININ İNCELENMESİ**Neriman ARAL <sup>1</sup>, Nuray ÖZTÜRK <sup>2</sup>, Ayten DOĞAN KESKİN <sup>3</sup><sup>1</sup>Ankara University, Faculty of Health Sciences, Department of Child Development, Ankara, Turkey.<sup>2</sup>Ankara University, Graduate School of Health Sciences, Ankara, Turkey.<sup>3</sup>Sağlık Bilimleri University, Faculty of Health Sciences, Department of Child Development, Ankara, Turkey.**ABSTRACT**

Children are in constant growth and development. It is rather important to evaluate the development of those children in the process of growth and development. The child development studies help the improvement of realistic expectations about children, the immediate recognition of the children's behavior that deviates from normal during improvement period and the making of a proper direction. The specialists studying over children can evaluate the development of child by using formal and informal tools. Standardized and/or non-standardized measurement tools are used in the evaluation of developments in Turkey, and the studies using these tools are published in the literature. One of the important problems related to infancy and early childhood period in our country is stated as the fact that developmental evaluations of children in this period are conducted using methods with no scientific validity from time to time. Therefore, the studies for determining the developmental evaluation tools used in studies made to determine children is gaining importance. Depending on this, it is aimed to investigate the tools of developmental evaluation used in graduate theses in Turkey. This study was made with document analysis method, one of the qualitative research methods. Criterion sampling method was used for determining the sampling. The use of developmental evaluation tools in graduate theses archived by the Higher Education Council National Thesis Center and the publication of the thesis in the last fifteen years were accepted as criteria in the study and 298 graduate theses meeting this criterion were examined. According to the results of this study, it was concluded that standardized developmental assessment tools are widely used in Turkey in graduate theses, the most frequently used tools are "Denver II Developmental Assessment Tools" and "Ankara Developmental Screening Inventory", and developmental assessment tools are frequently used in hospitals. When examined in sampling groups, it was determined that they commonly focused on children in early childhood period. Conclusion, developmental assessment is too important to reduce to a single tool. It should be noted that developmental assessment is comprehensive and the result of the assessment affects the life of the child and the family.

**Keywords:** Child development, Development, Developmental Assessment, Development Test.

**ÖZET**

Çocuklar sürekli büyüme ve gelişme içerisindedir. Büyüme ve gelişme sürecinde olan çocuğun gelişiminin değerlendirilmesi oldukça önemlidir. Çocuk gelişimi çalışmaları; çocuklar hakkında gerçekçi beklentiler geliştirilmesine, gelişim süreci boyunca çocukların normal davranıştan sapmalarının hemen fark edilmesine ve uygun yönlendirmenin yapılmasına yardımcı olur. Çocukla çalışan uzmanlar, çocukların gelişimlerini formal ve informal araçlar kullanarak değerlendirebilmektedir. Ülkemizde standardizasyonu yapılmış ve/ya yapılmamış ölçme araçlarıyla gelişimsel değerlendirme yapılmakta ve bu araçlar kullanılarak yapılan çalışmalar alan yazında yer almaktadır. Ülkemizde bebeklik ve erken çocukluk dönemine yönelik önemli sorunlardan birinin bu dönemde yer alan çocukların gelişimsel değerlendirmelerinin zaman zaman bilimsel geçerliliği olmayan yöntemler kullanılarak yapılması olduğu belirtilmektedir. Bu sebeple çocukları değerlendirmeye yönelik yapılan çalışmalarda kullanılan gelişimsel değerlendirme araçlarının belirlenmesine yönelik yapılan araştırmalar önem kazanmaktadır. Bu doğrultuda yapılan araştırmada, Türkiye'de lisansüstü tezlerde kullanılan gelişimsel değerlendirme araçlarının incelenmesi amaçlanmıştır. Bu araştırma, nitel araştırma yöntemlerinden doküman analizi yöntemiyle yapılmış ve örneklemin belirlenmesinde ölçüt örnekleme yöntemi kullanılmıştır. Yüksek Öğretim Kurulu (YÖK) Ulusal Tez Merkezi tarafından arşivlenen lisansüstü tezlerde gelişimsel değerlendirme araçlarının kullanılmış olması ve tezin son on beş yılda yayınlanmış olması çalışmada ölçüt olarak kabul edilmiş ve bu ölçütü karşılayan 298 lisansüstü tez incelemeye alınmıştır. Bu araştırma bulgularına göre Türkiye'de yaygın olarak standardizasyonu yapılmış gelişimsel değerlendirme araçlarının kullanıldığı, en sık kullanılan gelişimsel değerlendirme aracının "Denver II Gelişimsel Tarama Testi" ve "Ankara Gelişim Tarama Envanteri" olduğu, gelişimsel değerlendirmenin sıklıkla hastane ortamında yapıldığı sonuçlarına ulaşılmıştır. Örneklem grubu açısından incelendiğinde, yaygın olarak erken çocukluk dönemindeki çocuklarla çalışıldığı belirlenmiştir. Sonuç olarak, gelişimsel değerlendirme, tek bir araca indirgenmeyecek kadar önemlidir. Gelişimsel değerlendirmenin kapsamlı olduğu ve değerlendirme sonucunun çocuk ve ailenin hayatını etkilediği dikkate alınmalıdır.

**Anahtar Kelimeler:** Çocuk Gelişimi, Gelişim, Gelişimsel Değerlendirme, Gelişim Testi.

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## INTRODUCTION

Children are in constant growth and development. It is rather important to evaluate the development of those children in the process of growth and development. The child development studies help the improvement of realistic expectations about children, the immediate recognition of the children's abnormal behaviors during improvement period and the making of a proper direction. The results of the studies conducted regarding child development direct the programs and policies to be developed by several decision makers about early childhood period (Bertan, et al., 2009). Specialists have fulfilled their protective and supportive role by knowing the regular development of the child, giving better support to the child and early noticing the delays in the development process. Tunceli and Zembat (2017) state that state institutions, private institutions and non-governmental organizations conduct multi-lateral studies about developmental evaluation regarding early childhood period. The primary purpose of these studies is emphasized to meet the deficiencies of disadvantaged children and to provide them with equal opportunities with their peers.

The development means making progress. With all kinds of measuring tools and methods, the "evaluation" is to test "what children know and/or can do". Also, the evaluation is defined as "the process of gathering information about children and editing and interpreting the information obtained by using different tools and methods" (Turkish Language Association, 2022). "Developmental screen" is defined as "short, formal and standardized evaluations to help early definition of risk factors of developmental or behavioral disorders (Child Development National Core Curriculum, 2016). In other words, developmental screen is a process to systematically identify the children with the suspicion of developmental delay and the children needing more detailed evaluation (Rydz, et al., 2005). The developmental screen and developmental evaluation are made for different purposes. Therefore, different approaches, tools and interventions are needed.

Although the developmental screen and developmental evaluation have importance in all periods of childhood, they have critical importance especially in the early childhood period in which the brain development is quite rapid. By conducting the developmental screen and developmental evaluation, the children can be provided with early intervention (Doğan Keskin and Karaaslan, 2022). It is important to determine the proper approach, method and tool, and additionally to use techniques such as games, observations in order to perform the child's developmental screen and evaluation correctly. In literature, it is emphasized to make use of more than one evaluations, tools and approaches in order to evaluate the developmental fields of children (Işıkoğlu Erdoğan and Canbeldek, 2017). It is stated that measuring tools and approaches used in developmental evaluation should be clearly defined, at the same time, systematical observations should be made and decisions should be made by getting information from more than one sources (family, teacher, etc.) (Kurnaz Adıbatmaz and Özyürek, 2019).

The first and basic step in ensuring that the child reaches the optimal level of development is to know and evaluate the child and its development, with correct approaches (Karaaslan, 2016). Studies into the reasons are quite important (İnce, et al., 2022). It is important to determine for which purpose the developmental screen and evaluation are made and to use tools proper for this purpose. The international literature suggests using standardized tools for both developmental screen and evaluation (Lipkin, et al., 2020). The developmental standardized tests give the opportunities for objective, valid and reliable assessments of the child, and to obtain standardized scores to able to classify the development level of child (Johnson and Marlow, 2006). Making the developmental tests through using screen tests increase the diagnostic ratios (Rydz, et al., 2005). Therefore, it is critical to use the proper and right tool in the assessment of child development.

The investment to the child is the investment to the future, thus the following and evaluating child development is quite important. The specialists studying over children can evaluate the development of child by using formal and informal tools. The standardized and/ or not-standardized measuring tools are used in evaluating development in Turkey, and the studies made by these tools are published in literature. One of the important problems related to infancy and early childhood period in our country is stated as the fact that developmental evaluations of children in this period are conducted using methods with no scientific validity from time to time (Öztürk Ertem, 2005). Therefore, the studies for determining the developmental evaluation tools used in studies made to determine children is gaining importance. Accordingly, this research aims to investigate the developmental assessment tools used in graduate theses in Turkey.

## MATERIALS AND METHODS

This study was made with document analysis method, one of the qualitative research methods. The document review contains phenomenon aimed to be investigated and analysis of written materials including information about phenomena. The document review can be used as a stand-alone valid research method in the event that there is no opportunity to interview and observe. Criterion sampling method was used for determining the theses to be included in the study because it enables a deep review study to be carried out according to the results of a quantitative study. In the criterion sampling method, the units confronting the criterion determined for the sampling are included in the sampling (Büyükoztürk et al., 2016). The criteria can be formed by the researcher or a previously arranged criteria list can be used (Koç Başaran, 2017). In this study, depending on the aim of the thesis, that developmental tools have been used in the theses archived by National Thesis Center of the Council of Higher Education and that the theses have been published in the last fifteen years have been dealt with as criteria in terms of being included in the study. All theses meeting these criteria were involved in this study.

The searching of graduate theses in website of National Thesis Center of the Council of Higher Education was done by using those keywords which are development inventory, development form, development evaluation, developmental screen, development screen, developmental test, developmental evaluation, development test, development evaluation and scanning in all thesis types, titles, subjects, directories, and abstracts. Among all theses archived by National Thesis Center of the Council of Higher Education, 298 graduate theses in which developmental evaluation tools were used and which have been published in the last 15 years, were taken under study.

In order to examine the theses included in the study, "Thesis Examination Form" has been prepared by the researchers. The form composed depending on the information obtained in the consequence of the literature searching has been presented to the specialist for their opinions and the final sketch of the form has been given. In this form, there are questions for determining the information such as the type of the theses, the institutes that the theses are based on, the cities in which the theses were conducted, the research patters used in the theses, the group of sampling, the number of use of developmental evaluation tools in theses.

Within the frame of the study, the theses whose abstracts and whole texts were reached according to the criteria of the study on the web site of National Thesis Center of the Higher Education Council have been analyzed, and those whose entire texts could not be reached and from whose abstracts the desired information could not be obtained have been excluded from the study scope. The percentage and frequency has been utilized in the analysis of the data obtained from the study and they are given in tables and graphics.

## RESULTS

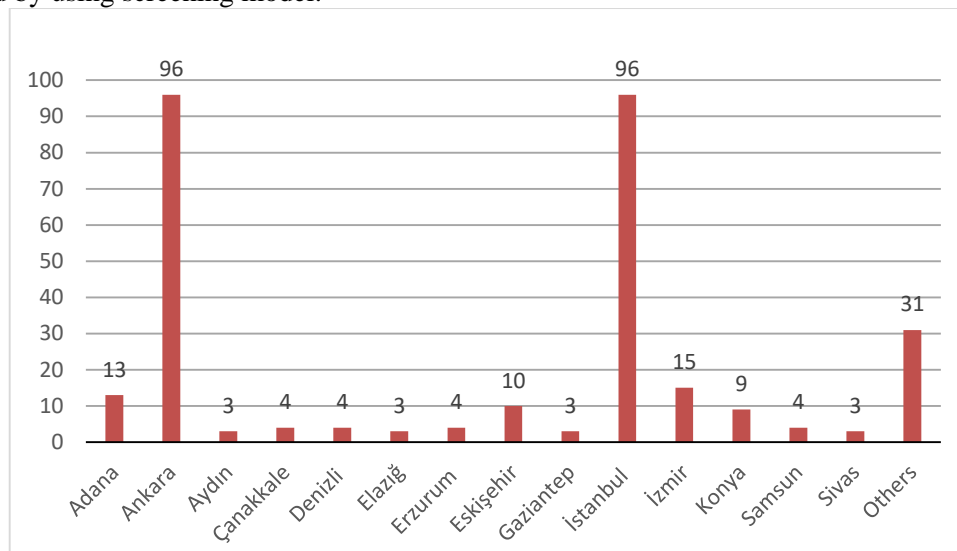
In this study carried out for the examination of developmental evaluation tools used in graduate theses in Turkey, the findings regarding the graduate theses into developmental evaluation tools are given in tables and graphs.

**Table 1.** Frequency and Percentage Distributions on Types, dependent Institutes, and research patterns of theses in which developmental evaluation tools in graduate theses are examined (n=298)

	f	%
<b>Thesis Types</b>		
Doctorate / PhD	58	19
Specialty in Medicine	74	25
Master	166	56
<b>Thesis Affiliated by Institutes</b>		
Graduate school of social sciences	44	15
Graduate school of educational sciences	58	19
Medical School/ Training and Research Hospital	74	25
Graduate school of health sciences	109	37
Institute of graduate programs	9	3
Graduate school of natural and applied sciences	4	1
<b>Research Pattern</b>		
Experimental	71	24
Screening	156	52

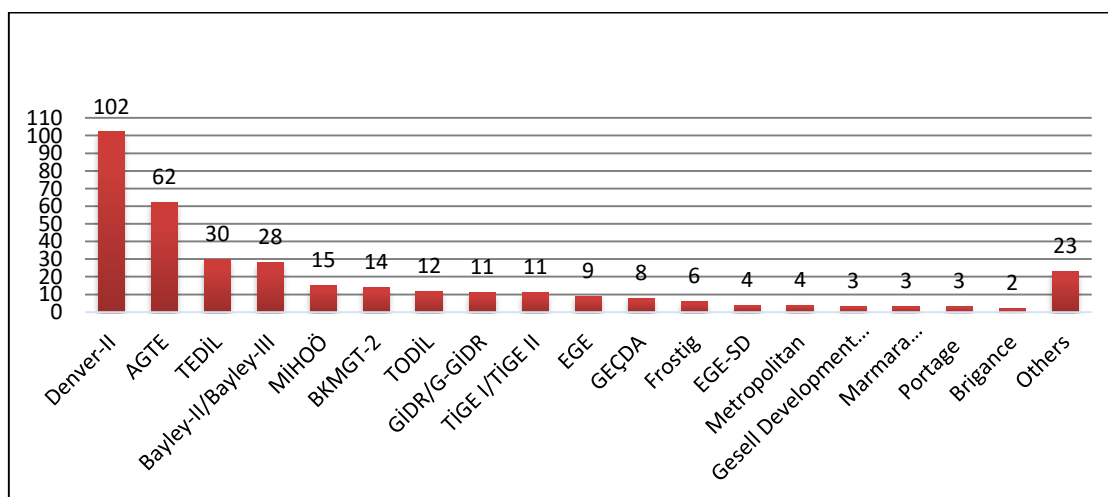
Mixed Methods	10	3
Non-Defined	61	21
<b>Total</b>	<b>298</b>	<b>100</b>

As shown in Table-1, there are a total of 298 post graduate level theses related to the developmental evaluation tools used in graduate theses. The 56% of these theses are master's thesis. 37% of the theses were made under the Graduate School of Health Sciences. The 52 % of them were performed by using screening model.



**Graphic 1.** The cities in which the theses using developmental evaluation tools are made

When Graphic 1 is examined, 96 of these theses were made in Ankara and 96 of them were made in different cities, especially in İstanbul and such as, in İzmir, Adana, Eskişehir, Konya, Çanakkale, Denizli, Erzurum, Samsun, Aydın, Elazığ, Gaziantep, Sivas, Bolu, Çorum, Edirne, Kayseri, Kırıkkale, Kocaeli, Kütahya, Malatya, Mersin, Adıyaman, Afyonkarahisar, Antalya, Aydın, Burdur, Diyarbakır, Karabük, Kastamonu, Nevşehir, Niğde, Rize, Şanlıurfa, Tokat and Trabzon. The sampling groups of these theses consisted of normally and abnormally developed babies and children and, their parents and, their educators. When examined in sampling groups, it was determined that they commonly focused on children in early childhood period.



**Graphic 2.** The number of usage of developmental evaluation tools in theses

When Graphic 2 is examined, developmental evaluation tools used in theses are; “Denver II Developmental Assessment Tools”, “Ankara Developmental Screening Inventory (AGTE)”, “Test of Early Language Development Third Edition: Turkish -TELD-3-(TEDİL)”, “Bayley Scales of Infant and Toddler Development-Second/Third Edition”, “Marmara Scale for Primary School Readiness

(MİHOÖ)”, “Test of Gross Motor Development-2/TGMD-2-(BKMGT-2)”, “Test of Language Development-Primary: Fourth Edition-TOLD-P:4-(TODİL)”, “The Guide for Monitoring and Promoting Development -GMPD-(GİDR)”, “Expanded Guide for Monitoring Child Development, E-GMCD-(G-GİDR)”, “ Turkish Communicative Development Inventory-TCDI-(TİGE I/TİGE II)”, “ Ages and Stages Questionnaires –ASQ-(EGE)”, “ Gazi Early Childhood Assessment Tool –GECAT-(GEÇDA)”, “Frostig Visual Perception Test”, “Ages & Stages Questionnaires -Social Emotional -ASQ-SE-(EGE-SD)”, “Metropolitan School Readiness Test”, “Gesell Development Test”, “Marmara Development Scale”, “Portage Developmental Scale”, “Brigance Inventory of Early Development-II”, “The Self-Concept Questionnaire (SCQ)”, “Adolescent Health and Development Inventory (AHDİ)”, “Cognitive Development Scale”, “Developmental Test of Visual Perception-2”, “ Multiple Intelligences Development Assessment Scales”, “Beery Visual Motor Integration Test”, “DAYC Developmental Assessment of Young Children”, “Language Use Inventory for Young Children: An Assessment of Pragmatic Language Development”, “Brief Infant–Toddler Social Emotional Assessment-BITSEA”, “LAP-3 Development Assessment Scale”, “ Psychosocial development test”, “Selçuk Developmental Assessment Inventory”, “Hacettepe University Child Development Department 0-36 months Children Development Evaluation Inventory”, “Social-Emotional Assessment/Evaluation Measure-Preschool-SEAM”.

## DISCUSSION AND CONCLUSION

In the study performed with aim of examining developmental evaluation tools used in graduate theses in Turkey, it was determined that most of the theses are graduate theses. Most of the theses, in which developmental evaluation tools were used, were made affiliated by Educational Institutes. According to the statistics of higher education in 2021-2022 educational year, the total number of master students are 358.271, and that of the PhD students are 109.540 (URL-1). That master’s theses are likely to be higher because of the number of master's students is greater than that of doctoral students.

The sampling group in which developmental evaluation tools in graduate theses were used covers early childhood period. The period in which growing and developing are the fastest, the most complex and the most intense are early childhood period (Smith, 2014). For this reason, developmental screening, evaluation and following-up are quite important in this period.

Salık and Aral (2022) found out that the mostly used developmental evaluation tool used in studies in the field of medicine is Denver II Developmental Search Test, in the study they conducted for the purpose of examining the standard tests used in knowing and evaluating the child in Turkey. According to the results of this study as well, in the studies in which standardized developmental evaluation tools are commonly used in Turkey, it was concluded that the most frequently used tools are “Denver II Developmental Evaluation Tools” and “Ankara Development Screening Inventory”, and developmental evaluation is often made in hospitals.

The first step in intervention is developmental screening. The early intervention prevents children from other complications in addition to their current situation, assisting their development. Therefore, the intervention can contribute to the prevention of secondary problems in babies and children and to the change in special need situation (Bayhan, 2016). The developmental evaluation is a more detailed and comprehensive evaluation of babies and children detected to be at risk in the consequence of developmental screening. American Academy of Pediatrics offers that the developmental screening and also developmental evaluations, if needed, should routinely be made (Lipkin et al., 2020). It is very important to make a developmental evaluation at the end of the developmental screening. However, it has been determined that developmental screening tools were used for the purpose of developmental evaluation in some theses. The tools to be used in studies should be in compliance with the intended purpose as much as the developmental screening and evaluation. Apart from a single tool or a method, the approaches such as using different tools together and getting opinions from different experts are also used during the evaluation. However, it has been determined in the studies (Carman et al., 2017; Morelli et al., 2014) that the rates of carrying out developmental screening through the use of developmental screening tools are very low and that developmental screening is mostly done without using tools. While the rate of detecting developmental delay in developmental screening and evaluation without using tools is 30%, the rate of detecting developmental delay by using tools increases to 80% (Demirci and Kartal, 2012). For this reason, it is very important to use developmental evaluation tools when evaluating children's development. In line with this

importance, it is necessary for the future of children that professionals working with children receive the training of these tools and use them during evaluation.

The tools to be used in searching and evaluating the developments of children are important to be valid and reliable. The person to apply the tool is required to be authorized and equipped in the involved field as much as the tool being reliable. Developmental evaluation is too comprehensive to reduce to a single tool. It is important for the health of the developmental evaluation that the expert to carry out the developmental evaluation of the child should have a good command of developmental evaluation from every aspect, should know the tools, methods, approaches and child development very well. For this reason, having received the training to use a tool is not an enough criterion to make an evaluation. It should be taken into consideration that developmental evaluation is comprehensive and the result of the evaluation affects the life of the child and the family.

### Conflict of Interest

No conflict of interest.

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### Author contributions

NA: Project idea, conceiving and designing research, critical reading and final check of the manuscript; NÖ: Project idea, literature search, data collection, data analysis, study monitoring, writing manuscript, interpreting the results. ADK: Project idea, conceiving and designing research, literature search, data collection, data analysis, writing manuscript.

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