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DENVER II AND OTHER DEVELOPMENTAL SCREENING TESTS' SIGNIFICANCE IN ASSESSING CHILD DEVELOPMENT

Abstract

Developmental screening tests are critical tools for assessing children's cognitive, motor, language, and social-emotional development, allowing for the early detection of potential developmental delays. Early identification is essential as it enables timely intervention, which can prevent prolonged developmental issues, improve children's long-term outcomes, and enhance their quality of life. This article presents a comparative analysis of widely recognized developmental screening tests, including the Denver II, Ages and Stages Questionnaires (ASQ), Bayley Scales of Infant and Toddler Development (Bayley-III), Griffiths Mental Development Scales, and the Ankara Developmental Screening Inventory (AGTE).

Denver II evaluates personal-social, fine motor, language, and gross motor skills in children aged 0-6. It has been widely adapted across various cultural contexts, including Turkey, where it is frequently used by healthcare professionals to assess developmental milestones and identify delays. The ASQ is a practical, parent-completed tool, which has been culturally

adapted for diverse populations. However, because it relies on parental reporting, there is a risk of subjectivity, and it may lack comprehensiveness in assessing certain cognitive aspects, particularly in infants.

Bayley-III provides a thorough assessment of cognitive, motor, language, social-emotional, and adaptive skills, supported by widespread cultural adaptations, making it a reliable screening option. However, its lengthy administration process can limit accessibility, particularly in large-scale applications.

The AGTE is tailored specifically for Turkish children, assessing language-cognitive development, motor skills, social skills, and self-care, thus making it especially effective for use in Turkey's healthcare and educational settings.

Each test has unique strengths and limitations, highlighting the potential benefit of using multiple tests together to comprehensively assess children's development, enabling early and effective intervention where needed.

Keywords: developmental screening tests, early intervention, child development, cultural adaptation, denver II and other tests.

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БАЛА ДАМУЫН БАҒАЛАУДАҒЫ DENVER II ЖӘНЕ БАСҚА СКРИНИНГТІК ТЕСТТЕРДІҢ МАҢЫЗЫ

Аңдатпа

Дамуды бағалау тесттері балалардың когнитивті, моторлық, тілдік және әлеуметтік-эмоционалдық дамуын бағалауда маңызды құрал болып табылады, олар әлеуетті даму кешігулерін ерте анықтауға мүмкіндік береді. Ерте анықтау маңызды, себебі ол уақытылы араласуға мүмкіндік береді, бұл ұзақ мерзімді даму мәселелерін алдын алуға, балалардың ұзақ мерзімді нәтижелерін жақсартуға және олардың өмір сапасын арттыруға көмектеседі. Бұл мақала Denver II, Жас пен кезеңдер сауалнамалары (ЖКС), Байлидің Нәресте және Бала дамуы шкалалары (Bayley-III), Гриффите психикалық даму шкалалары және Анкараның даму скринингтік инвентаризациясы (АДСИ) сияқты кеңінен танылған даму скрининг тесттерінің салыстырмалы талдауын ұсынады.

Denver II 0-6 жас аралығындағы балалардың жеке-әлеуметтік, ұсақ моторика, тіл және ірі моторика дағдыларын бағалайды. Ол Түркия сияқты түрлі мәдени контекстерде кеңінен бейімделген, мұнда медициналық мамандар даму кезеңдерін бағалау және кешігулерді анықтау үшін жиі пайдаланады. ЖКС — ата-аналар толтыратын практикалық құрал, ол әртүрлі халықтар үшін мәдени түрде бейімделген. Дегенмен, ол ата-аналардың есептеріне негізделгендіктен, субъективтілік қаупі бар, және ол кейбір когнитивтік аспектілерді, әсіресе нәрестелерде, бағалауда жеткіліксіз болуы мүмкін.

Bayley-III когнитивтік, моторлық, тілдік, әлеуметтік-эмоционалдық және адаптивті дағдыларды жан-жақты бағалауды ұсынады, кең ауқымды мәдени бейімдеулермен қолдау табатын, бұл оны сенімді скрининг опциясы етеді. Дегенмен, оның ұзақ уақытты әкімшілендіру процесі қолжетімділікті шектеуі мүмкін, әсіресе ауқымды қолдану жағдайында.

АДСИ Түркия балаларын бағалауға арнайы бейімделген, тілдік-когнитивтік даму, моторлық дағдыларды, әлеуметтік дағдыларды және өз-өзіне қызмет көрсету дағдыларын бағалай отырып, Түркияның денсаулық сақтау және білім беру жүйелерінде тиімді пайдалануға мүмкіндік береді. Әр тесттің өзіндік күшті және әлсіз жақтары бар, бұл балалардың дамуын кешенді бағалау үшін бірнеше тестті бірге пайдаланудың әлеуетті пайдасын көрсетеді, бұл қажет болған жағдайда ерте және тиімді араласуға мүмкіндік береді.

Түйін сөздер: даму скрининг тесттері, ерте араласу, баланың дамуы, мәдени бейімдеу, denver II және басқа тесттер.

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ЗНАЧЕНИЕ DENVER II И ДРУГИХ СКРИННГОВЫХ ТЕСТОВ В ОЦЕНКИ РАЗВИТИЯ РЕБЕНКА

Аннотация

Тесты скрининга развития являются критически важными инструментами для оценки когнитивного, моторного, языкового и социально-эмоционального развития детей, позволяя своевременно выявлять потенциальные задержки в развитии. Раннее выявление имеет решающее значение, поскольку оно позволяет осуществлять своевременное вмешательство, что может предотвратить длительные проблемы в развитии, улучшить долгосрочные результаты детей и повысить их качество жизни. В данной статье представлен сравнительный анализ широко признанных тестов скрининга развития, включая Denver II, Анкеты «Возраст и этапы» (АВЭ), Развития младенцев и детей раннего возраста по шкале Бейли (Bayley-III), Шкалы интеллектуального развития по Гриффитс и Анкарский инвентаризационный список скрининга развития (АИССР).

Denver II оценивает личностно-социальные, мелкомоторные, языковые и крупномоторные навыки у детей в возрасте от 0 до 6 лет. Он широко адаптирован для различных культурных контекстов, включая Турцию, где его часто используют медицинские работники для оценки этапов развития и выявления задержек. АВЭ является практичным инструментом, который был культурно адаптирован для различных групп населения, и заполняется родителями. Однако, поскольку он основан на ответах родителей, существует риск субъективности, и он может не охватывать некоторые когнитивные аспекты, особенно у младенцев.

Bayley-III предоставляет подробную оценку когнитивных, моторных, языковых, социально-эмоциональных и адаптивных навыков, поддерживаемую широкими культурными адаптациями, что делает его надежным вариантом для скрининга. Однако его длительный процесс администрирования может ограничить доступность, особенно в крупных масштабах.

АИССР специально адаптирован для турецких детей, оценивая языковое и когнитивное развитие, моторные навыки, социальные навыки и навыки самообслуживания, что делает его особенно эффективным для использования в здравоохранении и образовательных учреждениях Турции. Каждый тест имеет свои уникальные сильные и слабые стороны, что подчеркивает потенциальную пользу использования нескольких тестов вместе для комплексной оценки развития детей, позволяя осуществлять ранние и эффективные вмешательства, когда это необходимо.

Ключевые слова: тесты скрининга развития, раннее вмешательство, детское развитие, культурная адаптация, Denver II и другие тесты.

Introduction. According to Frankenburg and Dodds [1], developmental screening tests are crucial evaluation instruments that track kids' growth across multiple domains and identify possible developmental delays at an early age. Early diagnosis enables the identification of possible issues with children's language, motor, social, and cognitive skills. This, in turn, allows for the start of early intervention, which promotes children's healthy development. It also prevents long-term developmental issues and enhances the child's quality of life [2].

Early developmental assessments have a major impact on children's quality of life, social interactions, and academic performance. Early therapeutic and educational interventions are made possible by the identification of developmental delays. For instance, a child with delayed language development can benefit from early language therapy to help address their deficiencies in this area [1]. Similarly, a child with delayed motor skills might benefit from physical therapy support. Research indicates that delays found on developmental screening exams can be significantly reduced with the right counseling and instructional strategies [3].

Developmental screening tests are important for more than just evaluating individual children; they are also essential for improving early childhood development programs' efficacy on a societal scale. In this regard, research on early childhood development in developing nations is scarce, despite a general consensus in developed nations regarding the significance of tracking children's development through routine screenings. Nonetheless, there is a growing demand for early intervention programs [4, 5].

No matter how developed a nation is, developmental screening tests should be used in these procedures to ensure that children receive the care, support, and supervision they need to realize their

full potential [6]. In order to track children's development, screening tests are also frequently used in schools, hospitals, and psychological counseling. When these tests are used and interpreted correctly, long-term developmental problems are reduced and crucial developmental phases are not missed. In addition, it facilitates parents' comprehension of their kids' developmental stage [7]. Many developmental screening tests, each with its own advantages and disadvantages, are used today for a range of age groups.

In recent years, the integration of developmental screening tests with technology has increased, and assessing children's developmental status through digital platforms has become more accessible. These digital tools enable the acceleration of screening processes and the screening of a larger population. At the same time, digital applications that enable parents to be more actively involved in their children's developmental processes have also become a part of the developmental screening process. Developmental tracking systems provided through digital platforms optimize intervention processes by offering faster and more comprehensive data to healthcare professionals and educators.

The purpose of this study is to comparatively examine commonly used developmental screening tests that assess children's developmental levels and to identify the strengths and weaknesses of these tests. Especially, the differences between the Denver II test and ASQ, Bayley-III, Griffiths Mental Development Scales, and the Ankara Developmental Screening Inventory (ADSI) will be evaluated. The study aims to reveal which tests are more suitable under which conditions by analyzing the effects of these tests on child development and their cultural adaptability.

Additionally, this study will address the applicability of screening tests in different cultural contexts and the impact of these tests on various societies. The integration of digital tools into developmental screening processes and the contribution of these tools to parents and educators in monitoring children's developmental status will also be investigated. In this context, the study will evaluate how technology-based developmental screening tests will evolve in the future and which tests are more suitable for specific communities and age groups.

Basic provisions. Developmental screening tests are essential tools for evaluating children's cognitive, motor, language, and social-emotional development, enabling early detection of potential developmental delays. Early identification is crucial as it facilitates timely intervention, which can significantly improve children's long-term outcomes and overall quality of life. This study provides a comparative analysis of widely recognized developmental screening tools, including Denver II, Ages and Stages Questionnaires (ASQ), Bayley Scales of Infant and Toddler Development (Bayley-III), Griffiths Mental Development Scales, and the Ankara Developmental Screening Inventory (AGTE). Each of these tests has unique advantages and limitations, making it necessary to select the most appropriate tool based on specific developmental domains and cultural contexts.

Among these tests, Denver II is widely used for children aged 0-6, assessing personal-social, fine motor, language, and gross motor skills. Its practical application and cultural adaptability make it a valuable screening tool. However, it has limitations in assessing cognitive and social-emotional development comprehensively, making it less sensitive in these areas compared to parent-reported tools like ASQ or more detailed assessments such as Bayley-III. While ASQ is beneficial due to its ease of administration and parent involvement, its reliance on parental reporting may introduce subjectivity. Bayley-III, on the other hand, offers a more in-depth evaluation of cognitive, motor, and social-emotional skills but requires a lengthy administration process, which can be a drawback in large-scale applications. Similarly, Griffiths Mental Development Scales provide a detailed developmental profile but may be impractical for quick screenings due to their time-intensive nature. AGTE, specifically designed for Turkish children, offers a culturally relevant assessment, making it highly effective for use in Turkey's healthcare and educational settings.

In recent years, the integration of technology in developmental screening has improved accessibility and efficiency. Digital versions of ASQ and Bayley-III, along with online screening platforms, have facilitated large-scale screenings and real-time data analysis, allowing for faster and more effective intervention strategies. Digital tools not only streamline the screening process but also enhance parental

involvement and provide professionals with comprehensive data to monitor child development. Furthermore, cultural adaptability remains a key consideration in ensuring the reliability and validity of screening tests. While AGTE is inherently suited for the Turkish population, tests like Denver II and Bayley-III require cultural modifications when applied in different regions. Digital platforms have proven instrumental in accelerating these adaptations, making developmental assessments more inclusive and globally applicable.

Considering the strengths and limitations of these developmental screening tests, a multi-test approach is recommended to ensure a more comprehensive evaluation of child development. The selection of screening tools should prioritize cultural relevance, ease of administration, and the range of developmental areas covered. Additionally, expanding the use of digital screening tools can enhance the accuracy and efficiency of assessments. Policymakers and practitioners should focus on integrating culturally appropriate developmental screening tests into healthcare and educational systems to support early detection and intervention. This study highlights the critical role of developmental screening in promoting children's healthy growth, preventing long-term developmental issues, and optimizing intervention strategies through culturally adapted and technology-integrated tools.

Materials and Methods. This study was conducted using a literature review and examination method to perform a comparative analysis of widely used developmental screening tests that assess child development. The research is based on the evaluation of commonly used developmental screening tests such as Denver II, Ages and Stages Questionnaires (ASQ), Bayley Scales of Infant and Toddler Development (Bayley-III), Griffiths Mental Development Scales, and the Ankara Developmental Screening Inventory (AGTE). The tests have been compared in terms of their purposes, the developmental areas they assess, applicability, technological integration, and cultural adaptability.

The data collection process of the research was conducted through various scientific articles, books, journals, and reports. Especially the effects of developmental screening tests on child development, how these tests are integrated with current technological advancements, and how they adapt to cultural contexts have been examined in the literature. Additionally, studies on digital screening tests and their applicability through mobile applications, online platforms, and electronic devices have also been included

Technological Integration and Digital Applications:

Additionally, in the methods section, information has been gathered regarding the transfer of developmental screening tests to digital platforms. Especially the digital versions of tests like ASQ and Bayley-III, mobile application formats, online platforms developed for parents and teachers, and the impact of these digital tools on the accuracy and effectiveness of the tests have been examined. In this context, a literature review has been conducted on how technological integration has transformed developmental screening processes and the contribution of digital platforms to the cultural adaptation of tests.

Cultural Adaptability:

Within the scope of the research, the applicability of developmental screening tests in different cultural contexts has also been examined in detail. Especially, the adaptation of tests like the Ankara Developmental Screening Inventory (AGTE) to the local culture and the cultural adaptations of Western-origin tests in different societies have been analyzed, along with the impact of these adaptations on the validity of the tests. The applicability and reliability levels of the tests have been compared with studies conducted in different cultural groups. In this section, it has also been discussed how cultural differences are reflected in digitalization processes and how technological integration facilitates cultural adaptations.

Comparison and Evaluation:

The comparison of the tests has been conducted based on fundamental criteria such as age ranges, application durations, developmental areas assessed, technological adaptations, and cultural adaptations. The advantages and disadvantages of each test, their suitability for the use of digital tools, and their cultural validity have been evaluated. Additionally, studies on the impact of technological developments

on the applicability of these tests and the opportunities and challenges brought by digitalization have also been examined.

Overview of Developmental Screening Tests:

Developmental screening tests are of great importance in monitoring children's developmental processes and in the early detection of potential developmental delays. These tests are tools that assess children's cognitive, motor, language, and social-emotional development. These tests, which can be applied in both clinical and home settings, evaluate children's developmental levels using objective criteria, ensuring that necessary interventions are implemented. In addition to tests conducted using traditional methods, these processes have been made faster and more effective today with the support of digital tools and technological advancements. Additionally, the use of tests developed and adapted by taking cultural differences into account has also become widespread.

Technological Developments and Digital Applications:

In recent years, with the transition of developmental screening tests to digital platforms, the implementation of these tests has become more accessible for parents, teachers, and healthcare professionals. Mobile applications, web-based platforms, and digital analysis tools have increased the effectiveness of developmental screening tests and enabled them to reach a wider audience. For example, tests like the Ages and Stages Questionnaires (ASQ) have been made available for parents to fill out digitally, thereby reducing the time required for administering the tests. This digitalization enables tests to reach a wider audience and ensures timely interventions [5].

Digital platforms not only facilitate the administration of tests but also allow for the quick and detailed analysis of results. When these analyses are conducted on large datasets, they help achieve more comprehensive and reliable results. Digitalization also offers parents and experts the opportunity to closely monitor children's developmental processes and to receive remote consulting services when necessary [8].

These technological advancements have increased the effectiveness of child development screening services, especially in rural areas or regions with limited access to healthcare services. Digital platforms have been used to provide access to developmental screening tests in such regions, while also increasing the accuracy and reliability of the tests. It has been observed that digital tools increase the rate at which parents notice their children's developmental delays, allowing for timely referrals for early intervention [4].

Cultural Adaptability and Universal Use of Tests:

The applicability of developmental screening tests is directly related to their adaptation to the cultural context in which the children are situated. For a test to yield valid and reliable results in a country, it must take into account the cultural and linguistic differences of that country. For example, the Ankara Developmental Screening Inventory (AGTE), developed specifically for Turkey, is structured in accordance with Turkish culture and language, and therefore can more accurately identify the developmental needs of children in Turkey [9]. The widespread use of AGTE by healthcare professionals and educators in Turkey is an indication of the cultural appropriateness of this test.

On the other hand, adapting Western-origin tests to different cultural contexts enhances the universal validity of these tests. Tests like Denver II have been subjected to cultural adaptations in many different countries. However, it should be noted that the original versions of these tests are based on Western culture and may not yield fully valid results in different cultural contexts [1]. Cultural adaptations can enhance the validity of the test; however, if local conditions are not taken into account, there is also a possibility that the test results may be misleading. Therefore, the development and implementation of local tests that take cultural differences into account allow for a more accurate assessment of children's developmental processes [10].

The Contribution of Digital Platforms to Cultural Adaptations:

The process of digitalization allows cultural adaptations to become more flexible and accessible. Digital platforms facilitate the linguistic and cultural adaptation of tests, enabling these tests to be used more quickly in different cultures. For example, the digital versions of the Bayley-III test have been

made open to various cultural adaptations, allowing them to be reliably applied in different countries [11]. These digital adaptations not only help quickly tailor tests to local languages and cultures but also enhance the accuracy of the results.

Cultural validity is an important factor in the adaptation processes of digital tests. In tests conducted in digital environments, elements such as user-friendly interfaces, explanations in the local language, and visual supports enhance the effectiveness of the test and help participants understand it more easily. This provides a significant advantage, especially for tests filled out by parents. Ages and Stages Questionnaires (ASQ), with digitalization, have been adapted to many different languages and cultures, and thus have started to be widely used worldwide [5].

The Importance of Developmental Screening Tests:

One of the most significant contributions of developmental screening tests is that they enable the timely identification of developmental delays in children at an early stage, allowing for necessary therapeutic and educational interventions to be implemented promptly. Children diagnosed early are supported with programs aimed at compensating for delays, which enhances their quality of life and long-term success. It seems like you didn't provide any text to translate. Could you please provide the text you'd like me to translate? [1].

In conclusion, developmental screening tests are critically important for monitoring and guiding child development at both the individual and societal levels. Digital platforms increase the applicability of these tests, allowing more children to be assessed and ensuring valid results in different societies through cultural adaptations. The correct and effective implementation of developmental screening tests contributes to children's healthy development processes and positively impacts societal development.

If we briefly look at the evaluation of the use of these developmental tests;

Ages and Stages Questionnaires (ASQ)

Ages and Stages Questionnaires (ASQ) is a developmental screening tool developed to assess children's developmental progress and completed by parents. ASQ is used to assess the motor, language, social-emotional, and problem-solving skills of children from infancy through early childhood. Especially in the home environment, this test allows parents to monitor their children's development and is widely used worldwide [5].

ASQ contains questions aimed at determining children's developmental levels through surveys filled out by parents. There is a separate evaluation form for each age group, and it is observed whether the children possess age-appropriate skills. The test results are evaluated by healthcare professionals or educators, and early intervention programs can be initiated for children showing signs of developmental delays.

An important advantage of ASQ is that it covers a wide age range and especially enables parents to be informed about their children. The test includes questions in various areas such as motor skills, communication, personal-social development, and problem-solving. Each question is answered based on whether the child demonstrates the skill, thereby identifying any potential delays.

ASQ has adapted versions in various cultural and linguistic groups around the world. This has also increased the cultural validity of the test and ensured its widespread use in many countries. (Squires & Bricker, 2009). The use of ASQ plays an important role in the early diagnosis of developmental delays and the timely initiation of therapeutic interventions for children.

Bayley Scales of Infant and Toddler Development (Bayley-III)

The Bayley Scales of Infant and Toddler Development, the third version known as Bayley-III, is a comprehensive developmental screening test used to assess the developmental levels of infants and young children. Bayley-III assesses the cognitive, motor, language, social-emotional, and adaptive skills of children from 1 month to 42 months. This test is administered by professionals in a clinical setting and is considered a reliable tool for detecting developmental delays and planning interventions [12].

Bayley-III is considered the gold standard in the field of developmental screening and assessment. The test comprehensively evaluates children's cognitive abilities, fine and gross motor skills, language development, and social-emotional status. Each skill area is structured to indicate whether it is

appropriate for the child's age. Bayley-III is widely used by healthcare professionals, developmental specialists, and educators to detect developmental delays in children at an early stage and to guide interventions [12].

An important feature of the Bayley-III is that it covers a wider range compared to other tests used in developmental screening. Evaluating not only cognitive and motor development areas but also language development and social-emotional status, Bayley-III is considered an important assessment tool, especially for infants and young children at developmental risk. For children at risk of developmental delay, appropriate intervention programs can be planned based on these test results [12. 13].

There are many cultural adaptations of the Bayley-III used worldwide. This has also increased the international validity of the test and ensured its acceptance as a reliable developmental assessment tool in various societies. It is noted that the Bayley-III test is frequently used as a tool for the early diagnosis of developmental issues, especially in premature infants [11].

Griffiths Mental Development Scales

Griffiths Mental Development Scales (GMDS) is a comprehensive test used to assess the developmental levels of infants and young children. Originally developed by Ruth Griffiths in the 1950s, this scale is primarily used to assess the mental, motor, social-emotional, and language development of infants [14]. GMDS is a widely used tool for examining children's developmental processes in detail and identifying potential delays.

The Griffiths scale is divided into subscales such as locomotor, personal-social, auditory and linguistic skills, eye-hand coordination, and performance. Each subscale is used to determine the child's developmental level and to assess whether they exhibit age-appropriate skills. In this respect, the Griffiths Mental Development Scales provide a comprehensive developmental assessment to identify children's strengths and weaknesses [14].

Another important feature of the Griffiths scales is that they provide an overview of children's general developmental profiles. Each subscale evaluates children's competencies in a specific developmental area, thereby providing detailed information about their skills in different developmental domains. The test can be used for both children with normal development and those with developmental delays or risk factors [15].

The cultural validity and adaptability of the Griffiths Mental Development Scales are also significant advantages. The test has adapted versions for various cultural and linguistic groups. Widely used in clinical settings around the world, GMDS is an important tool for identifying developmental issues in children at an early stage and planning interventions for these issues [15].

Ankara Developmental Screening Inventory (AGTE)

The Ankara Developmental Screening Inventory (AGTE) is a test developed to assess the developmental levels of children aged 0-6 in Turkey. AGTE, being developed in accordance with Turkish culture and language, is considered a reliable tool for identifying the developmental needs of children in Turkey. The purpose of the test is to identify developmental delays and risk factors in children at an early stage, ensuring they are directed to early intervention programs [9, 16].

AGTE evaluates four main areas of development: language-cognitive development, motor development, social skills, and self-care skills. These developmental areas are evaluated according to standards determined by the child's age and gender. Children's performances are evaluated based on whether they demonstrate age-appropriate developmental skills. When developmental delay is detected, further assessment and intervention plans can be made for children [10].

AGTE is administered in the form of a questionnaire filled out by parents. The results of the survey are analyzed by healthcare professionals to determine the child's developmental level and identify any possible delays. This test is widely used in health centers, kindergartens, and hospitals in Turkey. The early detection of developmental issues by AGTE plays a critical role in directing children to educational and therapy plans [9].

The reliability and validity studies of the Ankara Developmental Screening Inventory have been confirmed by extensive research conducted throughout Turkey. This test is considered a culturally

appropriate developmental assessment tool, especially for children in Turkey. The reliability and validity of the test have been widely accepted by health and education professionals in Turkey [9, 10].

Denver II Developmental Screening Test

The Denver II Developmental Screening Test is a widely used screening tool for assessing children's developmental levels. Initially developed in 1967 under the name Denver Developmental Screening Test, it was updated in 1992 and renamed Denver II [1]. The test evaluates four main developmental areas of children from birth to 6 years old: personal-social, fine motor-adaptive, language, and gross motor. This test is used to determine the extent to which children exhibit developmentally appropriate skills for their age.

Structure of the Test:

The Denver II test is divided into four main categories to assess children's ability to perform different developmental tasks according to their age:

1. Personal-Social: The child's ability to interact with others and meet personal needs.
2. Fine Motor: The use of small muscle groups, manipulating objects, and problem-solving skills.
3. Language: Auditory perception, comprehension, expressive language, and vocabulary skills.
4. Gross Motor: Use of large muscle groups, balance, and mobility.

Application and Evaluation:

During the test, healthcare professionals assign age-appropriate tasks to the child and observe their ability to perform these tasks. During the test, the child's attention span and interest in tasks are also evaluated. As a result of the observations, the child's performance is compared to developmental expectations for a specific age range. One of the most important features of Denver II is that the tasks for each age group are clearly and understandably defined [9]. The child is evaluated for each skill with categories such as «successful», «unsuccessful», «not observed» or «rejected». These categories are determined according to developmental norms related to the child's age. For example, while a child is expected to point to an object at one year old, it is expected that this skill will be more developed by the age of two [8]. The determination of such developmental goals is important for identifying whether the child is developing normally or if there is a developmental delay [4]. The evaluation process of the Denver II test is divided into three main categories: normal, suspicious, and abnormal. When a child successfully completes a large portion of age-appropriate skills, their developmental level is considered normal. If a child is behind the expected developmental level in one or more areas, this situation is considered «suspicious» or «abnormal» [1]. Suspicious results may require further observation or advanced evaluation. Abnormal results, on the other hand, indicate that the child should be referred for a more detailed developmental assessment [12]. If a child's test results indicate a delay in one or more areas of development, this may lead to the child being referred to a specialized center for further evaluations. Additionally, the implementation of early intervention programs for children with detected delays can prevent developmental issues from reaching serious levels in later stages [11]. Denver II is widely used, especially for identifying these early intervention needs.

Reliability and Validity of Denver II:

The Denver II test has been validated as both a reliable and valid screening tool in many studies. Studies on the cultural validity of the test indicate that it can be adapted to the developmental profiles of children in different countries. In studies conducted in Turkey, the adapted version of the test is also widely used [1, 9]. The test has been supported by many studies as being effective in identifying developmental risks, especially in early childhood. Suspicious or abnormal results enable further evaluations to be conducted and necessary interventions to be initiated [8].

Comparison of Denver II and Other Developmental Screening Tests:

In this section, the Denver II test will be compared with other common developmental screening tests such as the Ages and Stages Questionnaires (ASQ), Bayley Scales of Infant and Toddler Development (Bayley-III), Griffiths Mental Development Scales, and the Ankara Developmental Screening Inventory (AGTE). The scope, applicability, assessment areas, and cultural adaptability of each test have been examined, addressing their advantages and limitations [1, 5, 12, 15].

Denver II is a test that can be used across a wide age range to detect early developmental delays. However, it is noted that it is limited in cognitive development assessments. ASQ is a practical screening tool because it can be filled out by parents, but it is limited in infants [5]. Bayley-III provides in-depth information on cognitive development, while the Griffiths Mental Development Scales cover a wide age range [12, 15]. AGTE, on the other hand, stands out as a development screening test specific to Turkey and sensitive to cultural differences [9, 10].

Table 1: Comparison of developmental assessment tests

Test Name	Age Range	Evaluated Areas	Cultural Adaptability	Application Duration	Strong Points
Denver II	0-6 years	Personal-social, Fine motor, Language, Gross motor	Middle, many cultural adaptations are available	20-30 minutes	Easy to apply, wide age range
ASQ	0-5 years	Motor, Language, Social-emotional, Problem solving	High, there are many cultural adaptations available.	10-15 minutes	Can be filled out by a parent, practical
Bayley-III	1-42 months	Cognitive, Motor, Language, Social-emotional, Adaptive	Medium, there are some cultural adaptations available.	30-90 minutes	Detailed in cognitive development
Griffiths	0-8 years	Locomotor, Personal-social, Auditory, Language, Eye-hand coordination	High, large-scale adaptations	30-60 minutes	Comprehensive evaluation
AGTE	0-6 years	Language-cognitive development, Motor, Social skills, Self-care	High, unique to Turkey	15-20 minutes	Unique to Turkey, suitable for local needs

Considering Table 1, the strengths and weaknesses of the Denver II Test compared to other developmental screening tests can be expressed as follows:

Strengths:

The Denver II test is a widely used screening tool for detecting developmental delays at an early stage. Some of the strengths of the test are as follows:

1. Wide Application Area: Denver II can be applied to a wide age range covering children aged 0-6 years. This offers flexibility for conducting developmental assessments of children of different ages. [1].
2. Easy Applicability: The test's short application time of approximately 20-30 minutes allows it to be quickly administered by healthcare professionals. This accelerates the screening process and allows for the evaluation of a larger population [1].
3. Coverage of Different Developmental Areas: The test evaluates four main developmental areas: personal-social, fine motor, language, and gross motor. This provides a comprehensive assessment of the child's developmental profile [9].
4. Cultural Adaptability: The test has adapted versions for different cultures and has been used in many countries, including Turkey. This also increases the validity of the test in different cultural contexts [9].

Weaknesses:

The Denver II test also has some weaknesses. These aspects are as follows:

1. Limitations in Cognitive Development Assessment: Denver II remains limited in assessing cognitive development. Tests like the Bayley-III evaluate cognitive development in much more detail, while the Denver II provides a more general developmental screening [12].
2. Lack of Sensitivity in Language and Social-Emotional Delays: In detecting language and social-emotional development delays, parent-based tests like ASQ may yield more sensitive results [5].
3. Cultural and Regional Application Limitations: Denver II is a test based on Western culture, and although adapted versions exist in different countries, it may not always fully demonstrate cultural appropriateness. Local tests like AGTE may be more sensitive to cultural awareness [9].

Results and Discussions. This study has comparatively evaluated the strengths and weaknesses of developmental screening tests. The Denver II test stands out due to its wide age range covering 0-6 years and its ease of application. The test provides comprehensive information about children's overall development profiles by evaluating four main areas of development: personal-social, fine motor, language, and gross motor. However, it remains limited in thoroughly assessing cognitive development and cannot be as sensitive as parent-focused tests like ASQ in detecting language and social-emotional delays. Although it is suitable for use in different countries thanks to cultural adaptations, cultural and regional application limitations may affect the validity of the test in some cases [1, 9]. ASQ stands out as a practical screening tool due to being a test that parents can fill out and its short application time. Especially providing sensitive results in detecting delays in language and social-emotional development, ASQ is widely used worldwide due to its coverage of a broad age range and the availability of adapted versions in many cultures. However, being based on parental reports can sometimes lead to subjective evaluations and may be limited in assessing cognitive development in infants [5]. Bayley-III is a test that stands out for its ability to conduct an in-depth assessment of cognitive development. It is quite effective in identifying children at developmental risk and in the detailed assessment of cognitive development. However, the long duration of the application and some cultural limitations make it difficult to implement the test on a large scale [12, 13]. The Griffiths Mental Development Scales (GMDS) is a test that stands out with its wide age range and comprehensive assessment capabilities. However, due to the duration of implementation, it may be difficult to apply it quickly to a large population [14, 15]. The Ankara Developmental Screening Inventory (AGTE) provides a significant advantage as a highly culturally valid test specifically developed for Turkey and tailored to local needs. It seems like you didn't provide any text to translate. Please share the text you'd like me to translate, and I'll be happy to help! In developing countries like Turkey, the importance of culturally appropriate screening tests plays a critical role in identifying developmental risks in children.

Conclusion. 1. Use of Multiple Tests to Monitor Child Development: Considering the strengths and weaknesses of each developmental screening test, it is recommended to use multiple tests together to monitor child development. It seems you haven't provided any text to translate. Please share the text you'd like me to translate, and I'll be happy to help! Similarly, tests based on parent reports, such as the ASQ, can detect delays in language and social-emotional development more accurately [5].

2. The Importance of Culturally Sensitive Tests: The cultural adaptability of developmental screening tests is of great significance in terms of the validity and reliability of these tests. Therefore, developing and adapting tests that suit their local needs allows countries to more accurately identify children's developmental delays. Local tests like AGTE provide an important model in this context [9].

3. The Importance of Early Intervention: The common point of all developmental screening tests is to emphasize the importance of early detection and intervention. Early detection of developmental delays can prevent long-term developmental issues by ensuring that appropriate intervention programs for children are initiated in a timely manner [4].

Therefore, screening tests should be widely used in the fields of health, education, and social services. In conclusion, the use of developmental screening tests plays a critical role in monitoring children's developmental profiles and in the early detection of potential delays. Considering the advantages and limitations offered by tests such as Denver II, ASQ, Bayley-III, GMDS, and AGTE, the most appropriate screening strategies should be determined. Considering the need for early intervention programs, the regular use of developmental screening tests and the combined application of different tests will be an effective way to support children's healthy development.

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ФОРМИРОВАНИЕ МЕДИАГРАМОТНОСТИ МЛАДШИХ ШКОЛЬНИКОВ В УСЛОВИЯХ МЕДИОБРАЗОВАНИЯ

Аннотация

В статье рассматривается необходимость формирования у младших школьников медиаграмотности, позволяющей решать практические задачи в информационном обществе, пользоваться информацией в различных видах ее представления, владеть способами общения с помощью интерактивных методов в медиапространстве.

Целью статьи является разработка и экспериментальная проверка педагогических условий формирования медиаграмотности у младших школьников.

На основании анализа различных подходов в данном исследовании авторами выявлено, что рассматриваемый феномен практически не исследован, а в педагогике – только определяется как научная проблема. Авторами дано