

# BÖLÜM 20

## Gelişimsel Bozukluklar

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### GELİŞİMSEL BOZUKLUKLAR

Gelişimsel bozukluklar, bireyin bilişsel, duygusal ve sosyal gelişimini olumsuz yönde etkileyen; günlük yaşam işlevselliğinde belirgin sınırlılıklara neden olan ve çoğunlukla nörogelişimsel kökenli sorunları kapsayan genel bir terim olarak tanımlanmaktadır. Bu bozukluklar, yalnızca akademik performansı değil, aynı zamanda gündelik yaşam becerilerini de etkileyerek bireyde süregelen zorluklara yol açabilmektedir (Goldstein ve Reynolds, 2011). Genellikle erken yaşlarda belirti vermeye başlayan gelişimsel bozukluklar, yaş ilerledikçe daha belirgin hale gelmekte ve bireyin yaşamının birçok yönünü etkilemektedir. Nitekim 2019 yılı verilerine göre, dünya genelinde yaklaşık 317 milyon çocuk ve ergen gelişimsel yetersizliklere yol açabilecek sağlık durumlarıyla yaşamaktadır (Dünya Sağlık Örgütü ve UNICEF, 2023).

Bu bozukluklara ilişkin ilk tanımların 20. yüzyılın başlarında ortaya çıktığı görülmektedir. Ancak gelişimsel bozuklukların sistematik biçimde tanımlanması ve sınıflandırılması, Amerikan Psikiyatri Birliği (American Psychiatric Association [APB]) tarafından yayımlanan *Mental Bozuklukların Tanısal ve Sayımsal El Kitabı* (DSM) ve Dünya Sağlık Örgütü (DSÖ) tarafından geliştirilen *Uluslararası Hastalık Sınıflandırması* (ICD) gibi uluslararası tanı sistemleri aracılığıyla mümkün olmuştur. Nörogelişimsel bozukluklar, tanı sınıflamalarında ilk kez DSM-III'te "otistik bozukluk" başlığıyla yer almış; DSM-5 ile birlikte ise bu bozukluklar "nörogelişimsel bozukluklar" üst kategorisi altında yeniden yapılandırılmıştır (APB, 2013). Bu kategori, dikkat eksikliği ve hiperaktivite bozukluğu (DEHB), otizm spektrum bozukluğu (OSB), entelektüel gelişimsel bozukluk (zihinsel yetersizlik), iletişim bozuklukları, özgül öğrenme bozuklukları ve motor bozukluklar gibi çeşitli tanı-

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## SONUÇ

Gelişimsel bozukluklar, bireyin bilişsel, sosyal, duygusal ve akademik gelişimini çok yönlü etkileyen ve yaşam boyu sürebilen zorluklara yol açan yapılarıdır. Bu bozuklukların etkileri sadece çocuklukla sınırlı kalmamakta; ergenlik, yetişkinlik ve ileri yaş dönemlerinde de bireyin yaşamını şekillendirmeye devam etmektedir. Gelişimsel bir bakış açısıyla, bu bozuklukların anlaşılması ve desteklenmesinde yalnızca bireyin değil; aile, okul, sağlık ve sosyal çevrenin birlikte değerlendirilmesi önem taşımaktadır.

Erken tanı ve müdahale, gelişimsel riskleri azaltmak ve bireylerin potansiyellerini daha etkin biçimde gerçekleştirmelerine katkı sunmak açısından ön plana çıkmaktadır. Bu doğrultuda bireyselleştirilmiş destek planları, aile katılımı ve kapsayıcı hizmet modelleri temel alınması ve çocukluktan yetişkinliğe uzanan uzun vadeli destek programlarının geliştirilmesi önemli görülmektedir.

## KAYNAKLAR

- Accordino, R. E., Kidd, C., Polite, L. C., Henry, C. A., ve McDougale, C. J. (2016). Psychopharmacological interventions in autism spectrum disorder. *Expert Opinion on Pharmacotherapy*, 17(7), 937–952. <https://doi.org/10.1080/14656566.2016.1154536>
- Ali, A., Blickwedel, J., ve Hassiotis, A. (2014). Interventions for challenging behaviour in intellectual disability. *Advances in Psychiatric Treatment*, 20(3), 184–192. <https://doi.org/10.1192/apt.bp.113.011577>
- American Academy of Pediatrics. (2019). *Clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents*. *Pediatrics*, 144(4), e20192528. <https://doi.org/10.1542/peds.2019-2528>
- Amerikan Psikiyatri Birliği (2013). *DSM-5 Tanı Ölçütleri Başvuru Elkitabı* (5. baskı; E. Köroğlu, Çev. Ed.). Hekimler Yayın Birliği.
- Amerikan Psikiyatri Birliği (2024). *Diagnosing and managing autism spectrum disorder*. Erişim adresi: <https://www.apa.org/topics/autism-spectrum-disorder/diagnosing>
- Amerikan Psikiyatri Birliği (t.y.). *What is intellectual disability?* Erişim adresi: <https://www.psychiatry.org/patients-families/intellectual-disability/what-is-intellectual-disability>
- Bailey, A., Le Couteur, A., Gottesman, I., Bolton, P., Simonoff, E., Yuzda, E., ve Rutter, M. (1995). Autism as a strongly genetic disorder: Evidence from a British twin study. *Psychological Medicine*, 25(1), 63–77. <https://doi.org/10.1017/s0033291700028099>
- Balogh, L., Pulay, A. J., ve Réthelyi, J. M. (2022) Genetics in the ADHD clinic: How can genetic testing support the current clinical practice? *Frontiers in Psychology*, 13, 751041. <https://doi.org/10.3389/fpsyg.2022.751041>
- Barkley, R. A. (2015). Etiologies of ADHD. R. A. Barkley (Ed.), *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment* içinde (4. baskı, s. 356–390). The Guilford Press.
- Baxter, A. J., Brugha, T. S., Erskine, H. E., Scheurer, R. W., Vos, T., ve Scott, J. G. (2015). The epidemiology and global burden of autism spectrum disorders. *Psychological Medicine*, 45(3), 601–613. <https://doi.org/10.1017/S003329171400172X>
- Bishop, D. ve Rutter, M. (2008). Neurodevelopmental disorders: conceptual issues. A. Thapar, D. S. Pine, J. F. Leckman, S. Scott, M. J. Snowling, E. A. Taylor (Ed.), *Rutter's child and adolescent psychiatry* içinde (6. baskı, s. 32–41). Wiley-Blackwell.
- Bosia, M., Seghi, F., Bigai, G., Martini, F., Fregna, L., Fazio, V., ve Cavallaro, R. (2022). Adult con-

- sequences of neurodevelopmental disorders. R. Cavallaro ve C. Colombo (Ed.), *Fundamentals of psychiatry for health care professionals* içinde (1. baskı, s. 199-227). Springer International Publishing.
- Chacko, A., Merrill, B. M., Kofler, M. J., ve Fabiano, G. A. (2024). Improving the efficacy and effectiveness of evidence-based psychosocial interventions for attention-deficit/hyperactivity disorder (ADHD) in children and adolescents. *Translational Psychiatry*, 14(1), 244. <https://doi.org/10.1038/s41398-024-02890-3>
- Crnic, K. A., Neece, C. L., McIntyre, L. L., Blacher, J., ve Baker, B. L. (2017). Intellectual disability and developmental risk: Promoting intervention to improve child and family well-being. *Child Development*, 88(1), 436-445. <https://doi.org/10.1111/cdev.12740>
- Danielson, M. L., Claussen, A. H., Bitsko, R. H., Katz, S. M., Newsome, K., Blumberg, S. J., ... ve Ghandour, R. (2024). ADHD prevalence among US children and adolescents in 2022: diagnosis, severity, co-occurring disorders, and treatment. *Journal of Clinical Child & Adolescent Psychology*, 53(3), 343-360. <https://doi.org/10.1080/15374416.2024.2335625>
- DeFries, J. C., -ve Alarcón, M. (1996). Genetics of specific reading disability. *Mental Retardation and Developmental Disabilities Research Reviews*, 2(1), 39-47. [https://doi.org/10.1002/\(SICI\)1098-2779\(1996\)2:1<39::AID-MRDD7>3.0.CO;2-S](https://doi.org/10.1002/(SICI)1098-2779(1996)2:1<39::AID-MRDD7>3.0.CO;2-S)
- Díaz Mayoral, C., Setién Preciados, P., Arroyo Sánchez, E., ve Gimillo Bonaque, J. (2024). Family systemic therapy: Intervention in autism spectrum disorder. *European Psychiatry*, 67(S1), S710-S711. <https://doi.org/10.1192/j.eurpsy.2024.1479>
- DiMaio, S., Grizenko, N., ve Joobar, R. (2003). Dopamine genes and attention-deficit hyperactivity disorder: a review. *Journal of Psychiatry and Neuroscience*, 28(1), 27-38.
- Dünya Sağlık Örgütü (2023). *Autism*. Erişim adresi: <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>
- Dünya Sağlık Örgütü ve UNICEF (2023). *Global report on children with developmental disabilities: From the margins to the mainstream*. Erişim adresi: <https://www.unicef.org/media/145016/file/Global-report-on-children-with-developmental-disabilities-2023.pdf>
- Ercan, E. S., Bilaç, Ö., Uysal Özasan, T., ve Rohde, L. A. (2015). Is the prevalence of ADHD in Turkish elementary school children really high?. *Social Psychiatry and Psychiatric Epidemiology*, 50(7), 1145-1152. <https://doi.org/10.1007/s00127-015-1071-9>
- Fabiano, G. A., Pelham Jr, W. E., Coles, E. K., Gnagy, E. M., Chronis-Tuscano, A., ve O'Connor, B. C. (2009). A meta-analysis of behavioral treatments for attention-deficit/hyperactivity disorder. *Clinical Psychology Review*, 29(2), 129-140. <https://doi.org/10.1016/j.cpr.2008.11.001>
- Faraone, S. V. ve Larsson, H. (2019). Genetics of attention deficit hyperactivity disorder. *Molecular Psychiatry*, 24(4), 562-575. <https://doi.org/10.1007/s00127-015-1071-9>
- Faraone, S. V., Biederman, J., ve Mick, E. (2006). The age-dependent decline of attention deficit hyperactivity disorder: a meta-analysis of follow-up studies. *Psychological Medicine*, 36(2), 159-165. <https://doi.org/10.1017/S003329170500471X>
- Fletcher, J. M. ve Miciak, J. (2024). Assessment of specific learning disabilities and intellectual disabilities. *Assessment*, 31(1), 53-74. <https://doi.org/10.1177/10731911231194992>
- Fletcher, J. M., Foorman, B. R., Boudousquie, A., Barnes, M. A., Schatschneider, C., ve Francis, D. J. (2002). Assessment of reading and learning disabilities a research-based intervention-oriented approach. *Journal of School Psychology*, 40(1), 27-63. [https://doi.org/10.1016/S0022-4405\(01\)00093-0](https://doi.org/10.1016/S0022-4405(01)00093-0)
- Fletcher, J. M., Lyon, G. R., Fuchs, L. S., ve Barnes, M. A. (2019). *Learning disabilities from identification to intervention*. The Guilford Press.
- Frick, P. J., Kamphaus, R. W., Lahey, B. B., Loeber, R., Christ, M. A. G., Hart, E. L., ve Tannenbaum, L. E. (1991). Academic underachievement and the disruptive behavior disorders. *Journal of Consulting and Clinical Psychology*, 59(2), 289-294. <https://doi.org/10.1037/0022-006X.59.2.289>
- Gaugler, T., Klei, L., Sanders, S. J., Bodea, C. A., Goldberg, A. P., Lee, A. B., ... ve Buxbaum, J. D.

- (2014). Most genetic risk for autism resides with common variation. *Nature Genetics*, 46(8), 881–885. <https://doi.org/10.1038/ng.3039>
- Goldstein, H. (2002). Communication intervention for children with autism: A review of treatment efficacy. *Journal of Autism and Developmental Disorders*, 32(5), 373–396. <https://doi.org/10.1023/A:1020589821992>
- Goldstein, S. ve Reynolds, C. R. (Ed.). (2011). *Handbook of neurodevelopmental and genetic disorders in children* (2. baskı). The Guilford Press.
- Govind, N. (2018). Family therapy for autism spectrum disorders. *Issues in Mental Health Nursing*, 39(10), 829–832. <https://doi.org/10.1080/01612840.2018.1508375>
- Groce, N., Challenger, E., Berman-Bieler, R., Farkas, A., Yilmaz, N., Schultink, W., ... ve Kerac, M. (2014). Malnutrition and disability: unexplored opportunities for collaboration. *Paediatrics and International Child Health*, 34(4), 308–314. <https://doi.org/10.1179/2046905514Y.00000000156>
- Hale, J., Alfonso, V., Berninger, V., Bracken, B., Christo, C., Clark, E., ... ve Yalof, J. (2010). Critical issues in response-to-intervention, comprehensive evaluation, and specific learning disabilities identification and intervention: An expert white paper consensus. *Learning Disability Quarterly*, 33(3), 223–236. <https://doi.org/10.1177/073194871003300310>
- Hallmayer, J., Cleveland, S., Torres, A., Phillips, J., Cohen, B., Torigoe, T., ... ve Lotspeich, L. (2011). Genetic heritability and shared environmental factors among twin pairs with autism. *Archives of General Psychiatry*, 68(11), 1095–1102. <https://doi.org/10.1001/archgenpsychiatry.2011.76>
- Harlaar, N., Spinath, F. M., Dale, P. S., ve Plomin, R. (2005). Genetic influences on early word recognition abilities and disabilities: A study of 7-year-old twins. *Journal of Child Psychology and Psychiatry*, 46(4), 373–384. <https://doi.org/10.1111/j.1469-7610.2004.00358.x>
- Howlin, P. (2010). Evaluating psychological treatments for children with autism-spectrum disorders. *Advances in Psychiatric Treatment*, 16(2), 133–140. <https://doi.org/10.1192/apt.bp.109.006684>
- Jansen, S., Vissers, L. E. L. M., ve de Vries, B. B. A. (2023). The genetics of intellectual disability. *Brain Sciences*, 13(2), 231. <https://doi.org/10.3390/brainsci13020231>
- Kármán, P., Molnár, E., ve Kullmann, L. (2021). Promoting acceptance of people with intellectual disabilities: The role of contact and long-term interventions. *Disability & Society*, 36(8), 1291–1312.
- Katz, G., ve Lazcano-Ponce, E. (2008). Intellectual disability: Definition, etiological factors, classification, diagnosis, treatment and prognosis. *Salud Pública de México*, 50(Suppl 2), 132–141. <https://doi.org/10.1590/s0036-36342008000800005>
- King, B. H., Toth, K. E., Hodapp, R. M., ve Dykens, E. M. (2009). Intellectual disability. B. J. Sadock, V. A. Sadock ve P. Ruiz (Ed.), *Comprehensive textbook of psychiatry* içinde (9. baskı, s. 3444–3474). Lippincott Williams & Wilkins.
- Knopik, V. S., Heath, A. C., Bucholz, K. K., Madden, P. A., ve Waldron, M. (2009). Genetic and environmental influences on externalizing behavior and alcohol problems in adolescence: a female twin study. *Pharmacology Biochemistry and Behavior*, 93(3), 313–321. <https://doi.org/10.1016/j.pbb.2009.03.011>
- Krakowiak, P., Walker, C. K., Bremer, A. A., Baker, A. S., Ozonoff, S., Hansen, R. L., ve Hertz-Picciotto, I. (2012). Maternal metabolic conditions and risk for autism and other neurodevelopmental disorders. *Pediatrics*, 129(5), 1121–1128. <https://doi.org/10.1542/peds.2011-2583>
- Lagae, L. (2008). Learning disabilities: definitions, epidemiology, diagnosis, and intervention strategies. *Pediatric Clinics of North America*, 55(6), 1259–1268. <https://doi.org/10.1016/j.pcl.2008.08.001>
- Landerl, K. ve Moll, K. (2010). Comorbidity of learning disorders: prevalence and familial transmission. *Journal of Child Psychology and Psychiatry*, 51(3), 287–294.
- Lange, K. W., Reichl, S., Lange, K. M., Tucha, L., ve Tucha, O. (2010). The history of attention deficit hyperactivity disorder. *ADHD Attention Deficit and Hyperactivity Disorders*, 2, 241–255. <https://doi.org/10.1007/s12402-010-0045-8>

- Li, S., Wang, S., Li, X., Li, Q., ve Li, X. (2015). Abnormal surface morphology of the central sulcus in children with attention-deficit/hyperactivity disorder. *Frontiers in Neuroanatomy*, 9(114). <https://doi.org/10.3389/fnana.2015.00114>
- Lorah, E. R., Parnell, A., Whitby, P. S., ve Hantula, D. A. (2015). A systematic review of tablet computers and portable media players as speech generating devices for individuals with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 45(12), 3792–3804. <https://doi.org/10.1007/s10803-014-2334-4>
- Lubs, H. A., Stevenson, R. E., ve Schwartz, C. E. (2012). Fragile X and X-linked intellectual disability: Four decades of discovery. *American Journal of Human Genetics*, 90(4), 579–590. <https://doi.org/10.1016/j.ajhg.2012.02.019>
- Lyall, K., Croen, L., Daniels, J., Fallin, M. D., Ladd-Acosta, C., Lee, B. K., Park, B. Y., Snyder, N. W., Schendel, D., Volk, H., Windham, G. C., ve Newschaffer, C. (2017). The changing epidemiology of autism spectrum disorders. *Annual Review of Public Health*, 38, 81–102. <https://doi.org/10.1146/annurev-publhealth-031816-044318>
- Macaruso, P. ve Walker, A. (2008). The efficacy of computer-assisted instruction for advancing literacy skills in kindergarten children. *Reading Psychology*, 29(3), 266–287.
- Maia, N., Sá, M. J. N., Melo-Pires, M., de Brouwer, A. P. M., ve Jorge, P. (2021). Intellectual disability genomics: Current state, pitfalls and future challenges. *BMC Genomics*, 22, 909–926. <https://doi.org/10.1186/s12864-021-08227-4>
- Mash, E. J. ve Wolfe, D. A. (2014). *Abnormal child psychology* (6. baskı). Cengage Learning.
- Masini, E., Loi, E., Vega-Benedetti, A. F., Carta, M., Doneddu, G., Fadda, R., ve Zavattari, P. (2021). An overview of the main genetic, epigenetic and environmental factors involved in autism spectrum disorder focusing on synaptic activity. *International Journal of Molecular Sciences*, 22(19), 10352. <https://doi.org/10.3390/ijms221910352>
- Maulik, P. K., Mascarenhas, M. N., Mathers, C. D., Dua, T., ve Saxena, S. (2011). Prevalence of intellectual disability: A meta-analysis of population-based studies. *Research in Developmental Disabilities*, 32(2), 419–436. <https://doi.org/10.1016/j.ridd.2010.12.018>
- McDonough, E. M., Flanagan, D. P., Sy, M., ve Alfonso, V.C. (2017). Specific Learning Disorder. Goldstein, S. ve DeVries, M. (Ed.), *Handbook of DSM-5 disorders in children and adolescents* içinde (s. 77–104). Springer, [https://doi.org/10.1007/978-3-319-57196-6\\_4](https://doi.org/10.1007/978-3-319-57196-6_4)
- McGough, J. J. (2014). *ADHD*. Oxford University Press.
- Melekoğlu, M. A. (2017). Özel öğrenme güçlüğüne giriş. M. A. Melekoğlu ve O. Çakıroğlu (Ed.), *Özel öğrenme güçlüğü olan çocuklar*, (3. baskı, s. 15–47). Vize Yayıncılık.
- Millichap, J. G. (2010). *Attention deficit hyperactivity disorder handbook: A physician's guide to ADHD* (2. baskı). Springer.
- Modabbernia, A., Velthorst, E., ve Reichenberg, A. (2017). Environmental risk factors for autism: An evidence-based review of systematic reviews and meta-analyses. *Molecular Autism*, 8(13). <https://doi.org/10.1186/s13229-017-0121-4>
- Moll, K., Göbel, S. M., Gooch, D., Landerl, K., ve Snowling, M. J. (2016). Cognitive risk factors for specific learning disorder: Processing speed, temporal processing, and working memory. *Journal of learning disabilities*, 49(3), 272–281. <https://doi.org/10.1177/0022219414547221>
- Morris-Rosendahl, D. J. ve Crocq, M. A. (2020). Neurodevelopmental disorders—the history and future of a diagnostic concept. *Dialogues in Clinical Neuroscience*, 22(1), 65–72. <https://doi.org/10.31887/DCNS.2020.22.1/macrocq>
- Nelson, K. B., ve Blair, E. (2015). Prenatal factors in singletons with cerebral palsy born at or near term. *New England Journal of Medicine*, 373(10), 946–953. <https://doi.org/10.1056/NEJMr1500626>
- Ofiesh, N. (2006). Response to intervention and the identification of specific learning disabilities: Why we need comprehensive evaluations as part of the process. *Psychology in the Schools*, 43(8), 883–888. <https://doi.org/10.1002/pits.20195>

- Pelham, W. E. (2002). Psychosocial interventions for ADHD. P. S. Jensen ve J. R. Cooper (Ed.), *Attention deficit hyperactivity disorder: State of the science-best practices* içinde (s. 12–16). Civic Research Institute.
- Pelham Jr, W. E., Fabiano, G. A., Waxmonsky, J. G., Greiner, A. R., Gnagy, E. M., Pelham III, W. E., ... ve Murphy, S. A. (2016). Treatment sequencing for childhood ADHD: A multiple-randomization study of adaptive medication and behavioral interventions. *Journal of Clinical Child & Adolescent Psychology*, 45(4), 396-415. doi: 10.1080/15374416.2015.1105138
- Polanczyk, G. ve Rohde, L. A. (2007). Epidemiology of attention-deficit/hyperactivity disorder across the lifespan. *Current Opinion in Psychiatry*, 20(4), 386-392. <https://doi.org/10.1097/YCO.0b013e3281568d7a>
- Prior, M., Smart, D., Sanson, A., ve Oberklaid, F. (1999). Relationships between learning difficulties and psychological problems in preadolescent children from a longitudinal sample. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38(4), 429-436. <https://doi.org/10.1097/00004583-199904000-00016>
- Reschly, D. J. (2005). Learning disabilities identification: Primary intervention, secondary intervention, and then what? *Journal of Learning Disabilities*, 38(6), 510–515. <https://doi.org/10.1177/0022194050380060501>
- Restori, A. F., Katz, G. S., ve Lee, H. B. (2009). A critique of the IQ/achievement discrepancy model for identifying specific learning disabilities. *Europe's Journal of Psychology*, 5(4), 128-145. <https://doi.org/10.5964/ejop.v5i4.244>
- Rohde, L. A., Verin, R. E., ve Polanczyk, G. V. (2012). Epidemiology of ADHD. *Cutting Edge Psychiatry in Practice*, 2, 6-9.
- Ropers, H. H. (2010). Genetics of early onset cognitive impairment. *Annual Review of Genomics and Human Genetics*, 11, 161–187. <https://doi.org/10.1146/annurev-genom-082509-141611>
- Rowland, A. S., Lesesne, C. A., ve Abramowitz, A. J. (2002). The epidemiology of attention-deficit/hyperactivity disorder (ADHD): A public health view. *Mental Retardation and Developmental Disabilities Research Reviews*, 8(3), 162-170. <https://doi.org/10.1002/mrdd.10036>
- Rupley, W. H., Blair, T. R., ve Nichols, W. D. (2009). Effective reading instruction for struggling readers: The role of direct/explicit teaching. *Reading & Writing Quarterly*, 25(2-3), 125-138. <https://doi.org/10.1080/10573560802683523>
- Sahoo, M. K., Biswas, H., ve Padhy, S. K. (2015). Psychological co-morbidity in children with specific learning disorders. *Journal of Family Medicine and Primary Care*, 4(1), 21-25. <https://doi.org/10.4103/2249-4863.152243>
- Salari, N., Ghasemi, H., Abdoli, N., Rahmani, A., Shiri, M. H., Hashemian, A. H., ... ve Mohammadi, M. (2023). The global prevalence of ADHD in children and adolescents: a systematic review and meta-analysis. *Italian Journal of Pediatrics*, 49(1), 48. <https://doi.org/10.1186/s13052-023-01456-1>
- Scattolin, M. A. D. A., Resegue, R. M., ve Rosário, M. C. D. (2022). The impact of the environment on neurodevelopmental disorders in early childhood. *Jornal de Pediatria*, 98(1), 66-72. <https://doi.org/10.1016/j.jped.2021.11.002>
- Scerri, T. S. ve Schulte-Körne, G. (2010). Genetics of developmental dyslexia. *European Child & Adolescent Psychiatry*, 19(3), 179–197. <https://doi.org/10.1007/s00787-009-0081-0>
- Schreibman, L. (2000). Intensive behavioral/psychoeducational treatments for autism: Research needs and future directions. *Journal of Autism and Developmental Disorders*, 30(5), 373–378.
- Schreibman, L., Dawson, G., Stahmer, A. C., Landa, R., Rogers, S. J., McGee, G. G., Kasari, C., Ingersoll, B., Kaiser, A. P., Bruinsma, Y., McNerney, E., Wetherby, A., ve Halladay, A. (2015). Naturalistic developmental behavioral interventions: Empirically validated treatments for autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 45(8), 2411–2428. <https://doi.org/10.1007/s10803-015-2407-8>
- Shaywitz, S. E. ve Shaywitz, B. A. (2004). Neurobiologic basis for reading and reading disability. P.

- McCardle ve V. Chhabra (Ed.), *The voice of evidence in reading research* içinde (s. 417–442). Paul H. Brookes Publishing Co.
- Shrestha, M., Lautenschleger, J., ve Soares, N. (2020). Non-pharmacologic management of attention-deficit/hyperactivity disorder in children and adolescents: a review. *Translational Pediatrics*, 9(1), S114. <http://dx.doi.org/10.21037/tp>
- Simpson, N., Mizen, L., ve Cooper, S.-A. (2020). Intellectual disabilities. *Medicine*, 48(11), 732–738. <https://doi.org/10.1016/j.mpmed.2020.08.010>
- Spencer, M., Wagner, R. K., Schmitt, A., Quinn, J. M., Zhang, Y., ve Roberts, G. (2020). The role of executive functions in reading and reading disabilities. *Child Neuropsychology*, 26(7), 840–868. <https://doi.org/10.1080/09297049.2020.1772551>
- T.C. Aile ve Sosyal Hizmetler Bakanlığı. (2023). *Engelli istatistik bülteni: Kasım 2023*. Erişim adresi: [https://www.aile.gov.tr/media/151788/eyhgm\\_istatistik\\_bulteni\\_kasim\\_23.pdf](https://www.aile.gov.tr/media/151788/eyhgm_istatistik_bulteni_kasim_23.pdf)
- Teeter, P. A. (1998). *Interventions for ADHD: Treatment in developmental context*. The Guilford Press.
- Thapar, A., Cooper, M., ve Rutter, M. (2017). Neurodevelopmental disorders. *The Lancet Psychiatry*, 4(4), 339–346. [https://doi.org/10.1016/s2215-0366\(16\)30376-5](https://doi.org/10.1016/s2215-0366(16)30376-5)
- Thapar, A., Holmes, J., Poulton, K., ve Harrington, R. (1999). Genetic basis of attention deficit and hyperactivity. *The British Journal of Psychiatry*, 174(2), 105–111. <https://doi.org/10.1192/bjp.174.2.105>
- Tohum Otizm Vakfı. (2008). *Otizm tarama projesi sonuç raporu*. Erişim adresi: <https://www.tohumotizm.org.tr/wp-content/uploads/2018/06/Saglik-Bakanligi-Otizm-Platformu-Tarama-Projesi-Raporu.pdf>
- Türkiye Büyük Millet Meclisi [TBMM] (2019). *Otizm spektrum bozukluğu olan bireyler ve ailelerinin sorunlarının araştırılarak alınması gereken önlemlerin belirlenmesi amacıyla kurulan Meclis Araştırma Komisyonu raporu: Yönetici özeti*. Erişim adresi: [https://www.tbmm.gov.tr/docs/otizm\\_komisyon\\_raporu.pdf](https://www.tbmm.gov.tr/docs/otizm_komisyon_raporu.pdf)
- Vissers, L. E. L. M., Gilissen, C., ve Veltman, J. A. (2016). Genetic studies in intellectual disability and related disorders. *Nature Reviews Genetics*, 17(1), 9–18. <https://doi.org/10.1038/nrg3999>
- Waldie, K. ve Saunders, A. (2014). The neural basis of autism: A review. *International Journal of School and Cognitive Psychology*, 1(3), 113. <https://doi.org/10.4172/2469-9837.1000113>
- Wender, P. H. ve Tomb, D. A. (2017). *ADHD: A guide to understanding symptoms, causes, diagnosis, treatment, and changes over time in children, adolescents, and adults*. Oxford University Press.
- Willcutt, E. G., Pennington, B. F., Smith, S. D., Cardon, L. R., Gayán, J., Knopik, V. S., ... ve DeFries, J. C. (2002). Quantitative trait locus for reading disability on chromosome 6p is pleiotropic for attention-deficit/hyperactivity disorder. *American Journal of Medical Genetics*, 114(3), 260–268. <https://doi.org/10.1002/ajmg.10205>
- Willner, P. (2005). The effectiveness of psychotherapeutic interventions for people with learning disabilities: a critical overview. *Journal of Intellectual Disability Research*, 49(1), 73–85. <https://doi.org/10.1111/j.1365-2788.2005.00633.x>
- Wilmshurst, L. (2015). *Abnormal child and adolescent psychology* (2. baskı). Routledge.
- Yosunkaya, E. (2013). Otizm etiolojisinde genetik ve güncel perspektif. *İstanbul Tıp Fakültesi Dergisi*, 76(4), 84–88.
- Zablotsky, B., Black, L. I., ve Blumberg, S. J. (2023). *Data Brief No. 473: Prevalence and characteristics of intellectual disability among children aged 3–17 years: United States, 2019–2021*. National Center for Health Statistics. Erişim adresi: <https://www.cdc.gov/nchs/products/databriefs/db473.htm>