

BÖLÜM 9

Orta ve Geç Çocukluk Döneminde Fiziksel ve Bilişsel Gelişim

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GİRİŞ

Orta ve geç çocukluk dönemi, bireyin gelişiminde önemli bir dönüm noktasıdır. Genellikle 6 yaş civarında başlayıp 12 yaşına kadar süren bu dönem hem fiziksel hem de bilişsel gelişim açısından kritik değişimlerin yaşandığı bir zaman dilimini kapsar (Berk, 2013; Santrock, 2018). Bu süreçte çocukların beden yapıları olgunlaşmaya başlar, motor becerileri gelişir ve zihinsel yeteneklerinde belirgin bir artış görülür.

Fiziksel gelişim, çocukların büyüme hızı, kas gelişimi ve genel sağlık durumu üzerinde etkili olan çeşitli faktörleri içerir. Çocuklar, fiziksel aktiviteler aracılığıyla motor becerilerini geliştirirken, sosyal etkileşimler de bu süreçte önemli bir rol oynar. Ayrıca, sağlıklı yaşam alışkanlıklarının benimsenmesi, fiziksel gelişim üzerinde kalıcı etkiler bırakabilmektedir (Berk, 2013).

Bilişsel gelişim ise çocukların düşünme, öğrenme ve problem çözme yeteneklerinin gelişimiyle doğrudan ilişkilidir. Bu dönemde çocuklar, somut düşünme becerilerini kazanmaya başlar ve daha karmaşık bilgi yapılarını anlama kapasitesine ulaşırlar (Case, 1991; Piaget, 1972). Okul hayatı bilişsel gelişimin en belirgin şekilde ortaya çıktığı alanlardan biridir. Eğitim süreci, çocukların dil becerilerini, mantık yürütme yetilerini ve eleştirel düşünme kapasitelerini geliştirmede önemli bir rol üstlenir (Case, 1991; Vygotsky, 1978). Bu gelişimler, bireysel farklılıklar ve çevresel etkilerle şekillenir (Erdoğan ve Demir, 2021).

Kitabın bu bölümü, orta ve geç çocukluk dönemindeki fiziksel ve bilişsel gelişim süreçlerini detaylı olarak incelemeyi amaçlamaktadır. Fiziksel gelişimin farklı boyutları ile bilişsel yeteneklerin kazandırılması arasındaki etkileşimlerin anlaşılması, ebeveynler,

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KAYNAKLAR

- Adolphus, K., Lawton, C. L. ve Dye, L. (2022). The effects of breakfast on behavior and academic performance in children and adolescents. *Frontiers in Human Neuroscience*, 7, 425. e84218.
- Alloway, T. P. (2010). *Improving working memory: Supporting students' learning*. Sage.
- Alloway, T. P. (2009). Working memory, but not IQ, predicts subsequent learning in children with learning difficulties. *European Journal of Psychological Assessment*, 25(2), 92-98.
- Alloway, T. P., Gathercole, S. E., Kirkwood, H. ve Elliott, J. (2009). The cognitive and behavioral characteristics of children with low working memory. *Child Development*, 80(2), 606-621.
- Alloway, T. P. ve Copello, E. (2013). Working memory: The what, the why, and the how. *The Educational and Developmental Psychologist*, 30(2), 105-118.
- Almeida, L., Dias, T., Corte-Real, N., Nenezes, I. ve Fonseca, A. (2025). Positive youth development through sport and physical education: a systematic review of empirical research conducted with grade 5 to 12 children and youth. *Physical Education and Sport Pedagogy*, 30(3), 282-308.
- Alrowili, A. N., Hindi Alanazi, K. H., Aldowihi, R. J., Alsharari, S. M., Mohammed Alrajraji, H. S., Ghazi Alkuwaykibi, S. H., ... ve Shajiri, M. M. (2024). Physiotherapy for Postural Disorders: A Comprehensive Review of Treatment Modalities. *Journal of International Crisis ve Risk Communication Research (JICRCR)*, 7.
- Alsubhi, M. I., Ali, J. M., Sarhan, M. J., Alkamel, S. H. A., Abdulasool, H. A., Alalawi, H. G., ... ve Yusuf, M. H. (2025). Digital Media Use and Sleep Disturbances in Children: Insights From a Cross-Sectional Study. *Cureus*, 17(5), 1-7.
- AlThani, N. J. ve Ahmad, Z. (2025). Teaching and learning with Research Cognitive Theory: Unlocking curiosity and creativity for problem-solving skills. *Springer Briefs in Education*. <https://doi.org/10.1007/978-3-031-87544-1>
- Ampofo, J., Bentum-Micah, G., Qinggong, L., Changfeng, W., Guoan, L., Sun, B. ve Xusheng, Q. (2015). Investigating the impact of sleep quality on cognitive functions among students in Tokyo, Japan, and London, UK. *Frontiers in Sleep*, 4, 1537997.
- Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child Neuropsychology*, 8(2), 71-82.
- Appelbaum, R. D., Farrell, M. S., Hoth, J. J., Jung, H. S., Pathak, A., Nassar, A. K., ... ve Agapian, J. V. (2025). Handoffs and transitions of care in the intensive care unit: an American Association for the Surgery of Trauma Critical Care Committee clinical consensus document. *Trauma Surgery ve Acute Care Open*, 10(1), e001677.
- Asuku, A. O., Arinde, E. S., Saliu, S. B., Oyerinde, T. O., Olajide, T. S., Afolabi, H. O. ve Kehinde, A. (2025). Neuroplasticity: Harnessing the brain ability to heal itself. İçinde: *Advancing Medical Research Through Neuroscience* (s. 95-118). IGI Global Scientific Publishing.
- Avanoğlu, A. E., Karakaya, F. ve Hazar, S. (2020). Fiziksel aktivite düzeyi ile dikkat seviyesi arasındaki ilişkinin incelenmesi. *Cumhuriyet Üniversitesi Spor Bilimleri Dergisi*, 1(1), 10-16.
- Bauer, C. C., Caballero, C., Scherer, E., West, M. R., Mrazek, M. D., Phillips, D. T., ... ve Gabrieli, J. D. (2019). Mindfulness training reduces stress and amygdala reactivity to fearful faces in middle-school children. *Behavioral Neuroscience*, 133(6), 569- 585.
- Bandettini, A. ve Panesi, S. (2025). *Fostering executive functions in primary school: Perceptions of students and teachers on the experience of a co-constructed analog and digital game-based lab*. İçinde *EDULEARN25 Proceedings: 17th International Conference on Education and New Learning Technologies* (s. 3991-3997). IATED.
- Begum, A. J. (2025). Self-Regulation. In *Cognitive Control Skills for Educational Success* (ss. 193-234). Springer.
- Bench, S. W. ve Lench, H. C. (2013). On the function of boredom. *Behavioral Sciences*, 3(3), 459-472. <https://doi.org/10.3390/bs3030459>
- Bergen, D. ve Fromberg, D. P. (2009). Play and social interaction in middle childhood. *Phi Delta*

- Kappan, 90(6), 426-430.
- Berger, R., Rugen, L. ve Woodfin, L. (2014). *Leaders of their own learning: Transforming schools through student-engaged assessment*. John Wiley ve Sons.
- Best, J. R. (2010). Effects of physical activity on children's executive function: contributions of experimental research on aerobic exercise. *Developmental Review*, 30(4), 331-351.
- Bhatoa, R. S., Nijjar, S., Bathelt, J. ve de Haan, M. (2025). The impact of gestational age on executive function in infancy and early-to-middle childhood following preterm birth: A systematic review. *Child Neuropsychology*, 1-41.
- Bidzan-Bluma, I. ve Lipowska, M. (2018). Physical activity and cognitive functioning of children: a systematic review. *International Journal of Environmental Research and Public Health*, 15(4), 800.
- Bigliassi, M., Cabral, D. F. ve Evans, A. C. (2025). Improving brain health via the central executive network. *The Journal of Physiology*, 6, 1-15.
- Bjorklund, D. F., Dukes, C. ve Brown, R. D. (2009). The development of memory in infancy and childhood. *Studies in Developmental Psychology*. Psychology Press, 145-175.
- Blair, C. (2016). Executive function and early childhood education. *Current Opinion in Behavioral Sciences*, 10, 102-107.
- Blanco, N. J. ve Sloutsky, V. M. (2020). Attentional mechanisms drive systematic exploration in young children. *Cognition*, 202, 104327. <https://doi.org/10.1016/j.cognition.2020.104327>.
- Bruaset, G. T., Johansen, J. D. ve Grimholt, T. K. (2025). The tip of an iceberg? Adult children's experiences with parental suicidal behaviour in childhood. *International Journal of Qualitative Studies on Health and Well-being*, 20(1), 2459299.
- Bruckner, R., Heekeren, H. R. ve Nassar, M. R. (2025). Understanding learning through uncertainty and bias. *Communications Psychology*, 3(1), 24.
- Bruning, R. H., Schraw, G. J., Norby, M. M. ve Ronning, R. (2012). *Psicología cognitiva y de la instrucción*. Pearson Educacion.
- Cabral, M., Pournara, I., Pontifex, M. B., Venetsanou, F., Pesce, C. ve Vazou, S. (2025). A meta-analysis of physical activity interventions targeting executive functions in children: focus on cognitive and/or metabolic demands?. *International Journal of Sport and Exercise Psychology*, May, 1-23. <https://doi.org/10.1080/1612197X.2025.2510251>
- Cadenas-Sanchez, C., Herrada-Robles, M., Labayen, I. ve Ruiz, J. R. (2025). Exploring the effects of exercise on overall adiposity, targeted fat depots, and cardiometabolic risk in children with obesity. *Exercise, Sport, and Movement*, 3(1S), e00030.
- Chen, X., Twomey, K. E., Hayes, M. ve Westermann, G. (2025). The limits of curiosity? New evidence for the roles of metacognitive abilities and curiosity in learning. *Metacognition and Learning*, 20(1), 1-15.
- Chen, W., Zheng, X., Wu, X., Li, W., Cao, X., Su, Y. ve Wang, Y. (2025). Exploring the development of spatial orientation and the cognitive levels of preschoolers during "Three-stage" constructive play. *International Journal of Early Childhood*, 1-30.
- Chu, P.S., Saucier, D.A. ve Hafner, E. (2010). Meta-analysis of the relationships between social support and well-being in children and adolescents. *Journal of Social and Clinical Psychology*, 29, 624-645.
- Claxton, A. F., Pannells, T. C. ve Rhoads, P. A. (2005). Developmental trends in the creativity of school-age children. *Creativity Research Journal*, 17(4), 327-335. https://doi.org/10.1207/s15326934crj1704_4
- Clegg, J., Hollis, C., Mawhood, L. ve Rutter, M. (2005). Developmental language disorders—a follow-up in later adult life. Cognitive, language and psychosocial outcomes. *Journal of child psychology and psychiatry*, 46(2), 128-149.
- Coccaro, E. F., Drossos, T. ve Phillipson, L. (2016). HbA1c levels as a function of emotional regulation and emotional intelligence in patients with type 2 diabetes. *Primary care diabetes*, 10(5),

334-341.

- Cong-Lem, N. (2025). The relation between environment and psychological development: Unpacking Vygotsky's influential concept of perezhivanie. *Human Arenas*, 8(1), 225-243.
- Conti-Ramsden, G., Durkin, K., Simkin, Z. ve Knox, E. (2009). Specific language impairment and school outcomes. I: Identifying and explaining variability at the end of compulsory education. *International Journal of Language & Communication Disorders*, 44(1), 15-35.
- Courage, M. L. ve Cowan, N. (2022). *The development of memory in infancy and childhood*. Psychology Press.
- Crowley, S. J., Wolfson, A. R., Tarokh, L. ve Carskadon, M. A. (2018). An update on adolescent sleep: New evidence informing the perfect storm model. *Journal of Adolescence*, 67, 55-65.
- Clemente-Suárez, V. J., Beltrán-Velasco, A. I., Herrero-Roldán, S., Rodríguez-Besteiro, S., Martínez-Guardado, I., Martín-Rodríguez, A. ve Tornero-Aguilera, J. F. (2024). Digital device usage and childhood cognitive development: Exploring effects on Cognitive abilities. *Children*, 11(11), 1299.
- Daly, J. (2022). Exploring the relationship between young children's digital technology use and their executive functioning [Yayınlanmamış doktora tezi]. Canterbury Üniversitesi.
- Davis, C. L., Tomporowski, P. D., McDowell, J. E., Austin, B. P., Miller, P. H., Yanasak, N. E., Allison, J. D. ve Naglieri, J. A. (2017). *Exercise improves executive function and achievement and alters brain activation in overweight children: A randomized, controlled trial*. *Health Psychology*, 36(12), 1112-1121.
- Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64(1), 135-168.
- Drăguşin, M. C. ve Tudor, V. (2024). The impact of coordinative capacities development on cognitive processes in primary school children [Konferans Kitapçığı]. *Proceedings of the International Congress on Education, Health and Human Movement (ICEHHM 2024)*, 64-69. <https://iceh-hm2024.org/ICEHHM2024BP09.pdf>
- Drexler, C. ve Zelazo, P. D. (2025). Metacognitive Prompts Influence 7-to 9-Year-Olds' Executive Function at the Levels of Task Performance and Neural Processing. *Behavioral Sciences*, 15(5), 644.
- Dohnt, H. K. ve Tiggemann, M. (2006). Body image concerns in young girls: The role of peers and media prior to adolescence. *Journal of Youth and Adolescence*, 35, 135-145.
- Domingues-Montanari, S. (2017). Clinical and psychological effects of excessive screen time on children. *Journal of Paediatrics and Child Health*, 53(4), 333-338.
- Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., Lambourne, K. ve Szabo-Reed, A. N. (2016). Physical activity, fitness, cognitive function, and academic achievement in children: A systematic review. *Medicine and Science in Sports and Exercise*, 48(6), 1197-1222. <https://doi.org/10.1249/MSS.0000000000000901>
- Doyle, A. E., Willcutt, E. G., Seidman, L. J., Biederman, J., Chouinard, V. A., Silva, J. ve Faraone, S. V. (2005). Attention-deficit/hyperactivity disorder endophenotypes. *Biological Psychiatry*, 57(11), 1324-1335.
- Dresp-Langley, B. (2020). Children's health in the digital age. *International Journal of Environmental Research and Public Health*, 17(9), 3240.
- Dünya Sağlık Örgütü (2019). *WHO guidelines on physical activity and sedentary behaviour*. <https://www.who.int/publications/i/item/9789240015128>
- Easland, M. (2025). *The digital glow: Effects of blue light on children and the development of a children's book to raise awareness on eye health* [Yayınlanmamış yüksek lisans tezi]. Nebraska Üniversitesi.
- Eccles, J. S. ve Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence*, 21(1), 225-241.
- Egan, B., Gage, H., Williams, P., Brands, B., Györei, E., López-Robles, J. C., ... ve Raats, M. (2019). The effect of diet on the physical and mental development of children: Views of parents and

- teachers in four European countries. *British Journal of Nutrition*, 122(s1), S31-S39.
- Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities. İçinde J. B. Baron ve R. J. Sternberg (Eds.), *Teaching thinking skills: Theory and practice* (ss. 9-26). W H Freeman/ Times Books/ Henry Holt ve Co.
- Erdoğan, Ş. ve Demir, M. (2021). *Çocuk gelişiminde bireysel farklılıklar ve çevresel faktörlerin etkisi*. Pegem Akademi.
- Flavell, J. H. (1970). Developmental studies of mediated memory. *Advances in Child Development and Behavior*, 5, 181-211.
- Gaoua, N. (2010). Cognitive function in hot environments: A question of methodology. *Scandinavian Journal of Medicine & Science in Sports*, 20, 60-70.
- Gathercole, S. E., Pickering, S. J., Knight, C., ve Stegmann, Z. (2004). Working memory skills and educational attainment: Evidence from national curriculum assessments at 7 and 14 years of age. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 18(1), 1-16.
- Gawrych, M. (2022). Climate change and mental health: a review of current literature. *Psychiatria Polska*, 56(4), 903-915.
- Goodway, J. D., Ozmun, J. C. ve Gallahue, D. L. (2013). Motor development in young children. İçinde *Handbook of research on the education of young children* (ss. 103-115). Routledge.
- Graham, S. ve Harris, K. R. (2006). Michael Pressley (1951-2006). *Contemporary Educational Psychology*, 31(4), 377-386.
- Gilad, R. ve Shapiro, C. (2020). Sleep and development. *Health*, 12(6), 653-670.
- Goswami, S., Karstens, J., Murali, H. ve Naik, S. (2025). 1089 Evaluation of Age-Appropriate Sleep Metrics in Pediatric Patients Undergoing Overnight Polysomnography at Geisinger. *Sleep*, 48(Supplement_1), A470-A470.
- Hao, Y., Kong, L., Wang, X. ve Yu, X. (2025). The impact of structured motor learning intervention on preschool children's executive functions. *Scientific Reports*, 15(1), 1-8.
- Halpern, D. F. (2014). *Critical thinking across the curriculum: A brief edition of thought & knowledge*. Routledge.
- Herbers, J.E., Reynolds, A.J. ve Chen, C.C. (2013). School mobility and developmental outcomes in young adulthood. *Development and Psychopathology*, 25, 501-515.
- Hendry, D., Rohl, A. L., Rasmussen, C. L., Zabatiero, J., Cliff, D. P., Smith, S. S., ... ve Campbell, A. (2023). Objective measurement of posture and movement in young children using wearable sensors and customised mathematical approaches: a systematic review. *Sensors*, 23(24), 9661.
- Hillman, C. H., Erickson, K. I. ve Kramer, A. F. (2008). Be smart, exercise your heart: exercise effects on brain and cognition. *Nature Reviews Neuroscience*, 9(1), 58-65. <https://doi.org/10.1038/nrn2298>
- Hoar, N. (1978). *Some aspects of language development in middle childhood*. Eric.
- Hogan, M.J., Dwyer, C.P., Harney, O.M., Noone, C. ve Conway, R.J. (2015). Metacognitive skill development and applied systems Science: A framework of metacognitive skills, self-regulatory functions and real-world applications. İçinde Peña-Ayala, A. (Eds) *Metacognition: Fundamentals, Applications, and Trends*. Intelligent Systems Reference Library, Vol 76. Springer. https://doi.org/10.1007/978-3-319-11062-2_4
- Hoge, E., Bickham, D. ve Cantor, J. (2017). Digital media, anxiety, and depression in children. *Pediatrics*, 140(Supplement_2), S76-S80.
- Hong, K. S., Van Minh, P., Nguyen, H. T., Phan, M. H., Nguyen, H. N., Pham, T. P., ... ve Pham, P. T. (2025). Re-evaluation of Incorrect Posture as a Diagnostic Criterion for Scoliosis in School Screenings: A Cross-Sectional Study in Vietnam. *Cureus*, 17(3).
- Houser, T. M. (2025). Explore-exploit behavior in humans as a sequential sampling process. *Current Psychology*, 1-13.
- Howe, N. ve Bruno, A. (2010). Sibling pretend play in early and middle childhood: The role of

- creativity and maternal context. *Early Education and Development*, 21(6), 940-962. <https://doi.org/10.1080/10409280903440638>
- Hsu, C. F., Chen, V. C. H., Ni, H. C., Chueh, N. ve Eastwood, J. D. (2025). Boredom proneness and inattention in children with and without ADHD: The mediating role of delay aversion. *Frontiers in Psychiatry*, 16, 1526089.
- Ishaq, N. (2024). The Association between Video Gaming and Cognitive Abilities: Attention, Memory and Problem Solving in Youth. *Annals of Human and Social Sciences*, 5(3), 234-244.
- Irish, L. A., Kline, C. E., Gunn, H. E., Buysse, D. J. ve Hall, M. H. (2015). The role of sleep hygiene in promoting public health: A review of empirical evidence. *Sleep Medicine Reviews*, 22, 23–36. <https://doi.org/10.1016/j.smrv.2014.10.001>
- Jirout, J., LoCasale-Crouch, J., Turnbull, K., Gu, Y., Cubides, M., Garziona, S., ... ve Kranz, S. (2019). How lifestyle factors affect cognitive and executive function and the ability to learn in children. *Nutrients*, 11(8), 1953.
- Kail, R. (1991). Developmental change in speed of processing during childhood and adolescence. *Psychological Bulletin*, 109, 3, 490–501.
- Karbach, J., Strobach, T. ve Schubert, T. (2015). Adaptive working-memory training benefits reading, but not mathematics in middle childhood. *Child Neuropsychology*, 21(3), 285-301.
- Karp, A. (2025). An attempt at historical analysis: How attitudes towards curiosity have changed in mathematics teaching. İçinde Y. Leikin ve D. Pitta-Pantazi (Eds.) *Proceedings of the 48th Conference of the International Group for the Psychology of Mathematics Education (PME 48)* (ss. 1-4). PME.Kesavelu, D., Sheela, K., ve Abraham, P. (2021). Stages of psychological development of child-an overview. *International Journal of Current Research and Review*, 13(13), 74-78.
- Komaludin, D., Mahendra, A., Kusmaedi, N. ve Ma'mun, A. (2025). Traditional games in the family and development of children's motor skills: Literature review and case studies. *Early Childhood Education ve Parenting*, 2(1), 40-48.
- Kuhn, D. ve Dean Jr, D. (2005). Is developing scientific thinking all about learning to control variables?. *Psychological Science*, 16(11), 866-870.
- Kurth, S., Ringli, M., LeBourgeois, M. K., Geiger, A., Buchmann, A., Jenni, O. G. ve Huber, R. (2012). Mapping the electrophysiological marker of sleep depth reveals skill maturation in children and adolescents. *Neuroimage*, 63(2), 959-965.
- Larkin, S. (2009). *Metacognition in young children*. Routledge.
- Law, J., Rush, R., King, T., Westrupp, E. ve Reilly, S. (2018). Early home activities and oral language skills in middle childhood: A quantile analysis. *Child Development*, 89(1), 295-309. <https://doi.org/10.1111/cdev.12727>.
- Lecce, S. ve Bianco, F. (2018). Working memory predicts changes in children's theory of mind during middle childhood: A training study. *Cognitive Development*, 47, 71-81.
- Lee, Y., Kim, Y. M., Pyo, S. ve Yun, M. H. (2022). Development of a sitting posture monitoring system for children using pressure sensors: An application of convolutional neural network. *Work*, 72(1), 351-366.
- Leikin, R., ve Pitta-Pantazi, D. (2025). Theoretical and historical perspectives on curiosity in mathematics education. İçinde R. Leikin ve D. Pitta-Pantazi (Eds.), *Proceedings of the 48th Conference of the International Group for the Psychology of Mathematics Education (PME 48)* (ss. 1–3). PME.
- Lewis, R., Gómez Álvarez, C. B., Rayman, M., Lanham-New, S., Woolf, A. ve Mobasheri, A. (2019). Strategies for optimising musculoskeletal health in the 21 st century. *BMC Musculoskeletal Disorders*, 20, 1-15.
- Li, S., Feng, N., Chen, R. ve Cui, L. (2025). Belief in a just world mediates the relation between early life environmental unpredictability and poor cyber defending behavior in adolescence: Evidence from a longitudinal study. *Children and Youth Services Review*, 169, 108102.
- Liao, Y., Ji, Y. ve Lin, X. (2025). Effects of preschool physical environment and inhibitory control on

- young children's physical fitness: A Hierarchical Linear Model. *Early Education and Development*, April, 1-15.
- Lin, L., Li, N. ve Zhao, S. (2025). The effect of intelligent monitoring of physical exercise on executive function in children with ADHD. *Alexandria Engineering Journal*, 122, 355-363.
- Lissak, G. (2018). Adverse physiological and psychological effects of screen time on children and adolescents: literature review. *Environmental Research*, 164, 149-157.
- Livingstone, S. M. ve Blum-Ross, A. (2020). *Parenting for a digital future: How hopes and fears about technology shape children's lives*. Oxford University Press.
- Localio, A. M., Knox, M. A., Basu, A., Lindman, T., Walkinshaw, L. P. ve Jones-Smith, J. C. (2024). Universal free school meals policy and childhood obesity. *Pediatrics*, 153(4), e2023063749.
- Lyn, R., Evers, S., Davis, J., Maalouf, J. ve Griffin, M. (2014). Barriers and supports to implementing a nutrition and physical activity intervention in child care: directors' perspectives. *Journal of Nutrition Education and Behavior*, 46(3), 171-180.
- Lyons, K. E. ve Zelazo, P. D. (2011). Monitoring, metacognition, and executive function: Elucidating the role of self-reflection in the development of self-regulation. *Advances in Child Development and Behavior*, 40, 379-412.
- Lyytinen, P., Eklund, K. ve Lyytinen, H. (2005). Language development and literacy skills in late-talking toddlers with and without familial risk for dyslexia. *Annals of Dyslexia*, 55, 166-192.
- Maeneja, R., Rato, J. ve Ferreira, I. S. (2025). How Is the digital age shaping young minds? A rapid systematic review of executive functions in children and adolescents with Exposure to ICT. *Children*, 12(5), 555.
- Maia, C., Braz, D., Fernandes, H. M., Sarmiento, H. ve Machado-Rodrigues, A. M. (2025). The impact of parental behaviors on children's lifestyle, dietary habits, screen time, sleep patterns, mental health, and BMI: A scoping review. *Children*, 12(2), 203.
- Malina, R. M., Freitas, D., Skrzypczak, M. ve Konarski, J. M. (2024a). Body size and three estimates of skeletal age: Relationships with strength and motor performance among male soccer players 9-12 and 13-16 years. *American Journal of Human Biology*, 36(6), e24044.
- Malina, R. M., Bouchard, C. ve Bar-Or, O. (2004b). Growth, Maturation, and Physical Activity. *Human Kinetics*.
- Markus, H. R. ve Nurius, P. S. (1984). Self-understanding and self-regulation in middle childhood. İçinde C. E. Izard, J. Kagan ve R. B. Zajonc (Eds.), *Development during middle childhood: The years from six to twelve* (ss. 147-183). Cambridge University Press.
- Martín-Rodríguez, A., Herrero-Roldán, S. ve Clemente-Suárez, V. J. (2025). The role of physical activity in ADHD management: Diagnostic, digital and non-digital interventions, and lifespan considerations. *Children*, 12(3), 338.
- Maynard, B. R., Solis, M. R., Miller, V. L. ve Brendel, K. E. (2017). Mindfulness-based interventions for improving cognition, academic achievement, behavior, and socioemotional functioning of primary and secondary school students. *Campbell Systematic Reviews*, 13(1), 1-144.
- McCormick, R. (2017). Does access to green space impact the mental well-being of children: A systematic review. *Journal of Pediatric Nursing*, 37, 3-7. <https://doi.org/10.1016/j.pedn.2017.08.027>
- Menyuk, P. ve Brisk, M. E. (2005). Language education in middle childhood. İçinde Menyuk ve M. E. Brisk (Eds.), *Language development and education: Children with varying language experiences* (ss. 142-156). Palgrave Macmillan.
- Mezzofrango, L., Agostini, L., Boutarbouche, A., Melato, S., Zalunardo, F., Franco, A. ve Gracco, A. (2025). Sleep habits and disorders in school-aged children: A cross-sectional study based on parental questionnaires. *Children*, 12(4), 489.
- Miller, P. H. (1994). Individual differences in children's strategic behaviors: Utilization deficiencies. *Learning and Individual Differences*, 6(3), 285-307.
- Miller, P. H. ve Seier, W. L. (1994). Strategy utilization deficiencies in children: When, where, and why. *Advances in Child Development and Behavior*, 25, 107-156.

- Milligan, M., Miller Doss, K. ve Crawford, S. H. (2025). Psychological development during childhood. *Essays in Developmental Psychology*, 166.
- Moon, J. ve Lee, D. (2025). The theory and practice of modifying soccer: Maximizing learning outcomes in elementary school physical education. *Journal of Physical Education and Sport*, 25(1), 79-91.
- Moore, R. C. (2017). *Childhood's domain: Play and place in child development*. Routledge.
- Moy, G. (2015). *Media, family, and peer influence on children's body image* [Yayınlanmamış doktora tezi]. Rutgers University-Camden Graduate School.
- Murray, A. M., Murray, P. F., Howells, K., Uthmani, N. ve McMillan, N. (2025). The embodiment of equitable ways to develop agentic wellbeing through movement maximising personal and general spaces: Re-tooling affordances as drivers of social justice. *Equity in Education ve Society*, 27526461251324217.
- Nansen, B. (2020). *Young children and mobile media*. Springer International Publishing.
- Norman, Å., Berlin, A., Sundblom, E., Elinder, L. S. ve Nyberg, G. (2015). Stuck in a vicious circle of stress. Parental concerns and barriers to changing children's dietary and physical activity habits. *Appetite*, 87, 137-142.
- Oldfield, J. S. (2024). *Building adolescent executive functioning through a play-based curriculum* [Yayınlanmamış doktora tezi]. Lethbridge Üniversitesi
- Öztoğlu-Durmuş, F. (2022). *Dikkat eğitim programının 60-72 aylık çocukların seçici ve sürdürülebilir dikkatlerine etkisi* [Yayınlanmamış doktora tezi]. Selçuk Üniversitesi.
- Paruthi, S., Brooks, L. J., D'Ambrosio, C., Hall, W. A., Kotagal, S., Lloyd, R. M., ... ve Wise, M. S. (2016). Consensus statement of the American Academy of Sleep Medicine on the recommended amount of sleep for healthy children: Methodology and discussion. *Journal of Clinical Sleep Medicine*, 12(11), 1549-1561. <https://doi.org/10.5664/jcsm.6288>
- Paul, R., ve Elder, L. (2014). Critical thinking: Intellectual standards essential to reasoning well within every domain of human thought, Part 4. *Journal of Developmental Education*, 37(3), 34.
- Peckett, K. (2024). *Effects of a single shift of occupational childcare on knee mechanics during gait* [Yayınlanmamış yüksek lisans tezi]. Waterloo Üniversitesi.
- Peikes, D. N., Moreno, L. ve Orzol, S. M. (2008). Propensity score matching: A note of caution for evaluators of social programs. *The American Statistician*, 62(3), 222-231.
- Pellegrini, A. D. ve Smith, P. K. (Eds.). (2005). *The nature of play: Great apes and humans*. Guilford Press.
- Pelz, B., Thomas, C. ve Cleary, T. (2025). Middle and late childhood. A. Balus ve J. White (Edt). *İçinde Lifespan development* (ss. 121-158). Pearson Education.
- Pesce, C., Vazou, S., Benzing, V., Álvarez-Bueno, C., Anzeneder, S., Mavilidi, M. F., Leone, L. ve Schmidt, M. (2023). Effects of chronic physical activity on cognition across the lifespan: A systematic meta-review of randomized controlled trials and realist synthesis of contextualized mechanisms. *International Review of Sport and Exercise Psychology*, 16(1), 722-760. <https://doi.org/10.1080/1750984X.2021.1929404>
- Piaget, J. (1972). *The Psychology of the Child*. Basic Books.
- Pressley, M., Johnson, C. J., Symons, S., McGoldrick, J. A. ve Kurita, J. A. (1989). Strategies that improve children's memory and comprehension of text. *The Elementary School Journal*, 90(1), 3-32.
- Putnick, D. L., Tyriss, J., McAdam, J., Ghassabian, A., Mendola, P., Sundaram, R. ve Yeung, E. (2025). Neighborhood opportunity and residential instability: associations with mental health in middle childhood. *Journal of Child Psychology and Psychiatry*. January, 1-15.
- Ranganathan, N. (2025). Understanding development and diversity. İçinde N. Ranganathan (Ed.), *Contemporary perspectives on childhood and adolescence: Development, diversity and inclusion* (ss. 1-15). Taylor & Francis.
- Rescorla, L. (2002). Language and reading outcomes to age 9 in late-talking toddlers. *Journal of*

- Speech, Language, and Hearing Research*, 45(2), 360-371. [https://doi.org/10.1044/1092-4388\(2002/029\)](https://doi.org/10.1044/1092-4388(2002/029))
- Rescorla, L. (2005). Age 13 language and reading outcomes in late-talking toddlers. *Journal of Speech, Language, and Hearing Research*, 48(2), 459-472. [https://doi.org/10.1044/1092-4388\(2005/033\)](https://doi.org/10.1044/1092-4388(2005/033))
- Rittle-Johnson, B. ve Loehr, A. M. L. (2016). Instruction based on self-explanation. İçinde S. K. (Ed.), *Handbook of research on learning and instruction* (ss. 365-380). Routledge.
- Rittle-Johnson, B., Schneider, M. ve Star, J. R. (2015). Not a one-way street: Bidirectional relations between procedural and conceptual knowledge of mathematics. *Educational Psychology Review*, 27, 587-597.
- Roebbers, C. M. (2017). Executive function and metacognition: Towards a unifying framework of cognitive self-regulation. *Developmental Review*, 45, 31-51.
- Roebbers, C. M. ve Feurer, E. (2016). Linking executive functions and procedural metacognition. *Child Development Perspectives*, 10(1), 39-44.
- Roig, A., Thouwarecq, R. ve Rivière, J. (2025). *Economic risk proneness in middle childhood: Uncertainty-driven exploration or novelty-seeking?* *Journal of Experimental Child Psychology*. Advance online publication. <https://doi.org/10.1016/j.jecp.2024.XXX>
- Rubin D.B. ve Thomas, N. (2000). Combining propensity score matching with additional adjustments for prognostic covariates. *Journal of the American Statistical Association* 95,(450), 573-585 doi:10.1080/01621459.2000.10474233.
- Rungsattatharm, L., Tasingha, P., Trairatvorakul, P. ve Chonchaiya, W. (2025). Longitudinal associations between executive function and positive parenting during early childhood and resilience, self-regulation, and behavioral problems in school-age children. *Child and Adolescent Psychiatry and Mental Health*, 19(1), 19.
- Russ, S., Robins, D. ve Christiano, B. (1999). Pretend play: Longitudinal prediction of creativity and affect in fantasy in children. *Creativity Research Journal*, 12, 129-139.
- SanchezMartinez, J., TapiaTapia, D., VillagraOrtega, A., VillegasArriagada, J. ve MonteiroJunior, R. (2023). Effect of active video games on cognitive functions in healthy children and adolescents: systematic review of randomized controlled studies. *Journal of Movement ve Health*, 20(1), 1-16.
- Saggar, M., Xie, H., Beaty, R. E., Stankov, A. D., Schreier, M. ve Reiss, A. L. (2019). Creativity slumps and bumps: Examining the neurobehavioral basis of creativity development during middle childhood. *NeuroImage*, 196, 94-101.
- Saggar, M., Quintin, E.-M., Bott, N. T., Kienitz, E., Chien, Y.-H., Hong, D. W.-C., Liu, N., Royalty, A., Hawthorne, G. ve Reiss, A. L. (2017). Changes in brain activation associated with spontaneous improvisation and figural creativity after design-thinking-based training: A longitudinal fMRI study. *Cerebral Cortex*, 27(8), 3542-3552. <https://doi.org/10.1093/cercor/bhw171>
- Sak, U. ve Maker, C. J. (2006). Developmental variation in children's creative mathematical thinking as a function of schooling, age, and knowledge. *Creativity Research Journal*, 18(3), 279-291.
- Santos, V., Casanova, N., Marconcin, P., Willig, R., Vidal-Conti, J., Soares, D. ve Flôres, F. (2025). Physical fitness as a predictor of reaction time in soccer-playing children. *PloS one*, 20(3), e0320147.
- Scarborough, H. S. (1998). Predicting the future achievement of second graders with reading disabilities: Contributions of phonemic awareness, verbal memory, rapid naming, and IQ. *Annals of Dyslexia*, 48, 115-136.
- Schneider, W. (1993). Domain-specific knowledge and memory performance in children. *Educational Psychology Review*, 5, 257-273.
- Schneider, W. ve Pressley, M. (2013). *Memory development between two and twenty*. Psychology Press.
- Schukajlow, S., Gödeke, P. ve Krawitz, J. (2025). Curiosity from emotional and cognitive perspectives: Characteristics and conceptual overlaps. İçinde R. Leikin ve D. Pitta-Pantazi (Eds.), *Proceedings of the 48th Conference of the International Group for the Psychology of Mathematics*

Education (PME 48) (ss. 1–8). PME.

- Shah, M., Natarajan, S. B. ve Ahmad, N. (2025). Excessive screen time exposure leads to dry eyes and inflammatory conjunctivitis in children. *Irish Journal of Medical Science*, 194(2), 597-602.
- Sheppard, A. L. ve Wolffsohn, J. S. (2018). Digital eye strain: prevalence, measurement and amelioration. *BMJ open ophthalmology*, 3(1).
- Sherzai, D., Moness, R., Sherzai, S. ve Sherzai, A. (2023). A systematic review of omega-3 fatty acid consumption and cognitive outcomes in neurodevelopment. *American Journal of Lifestyle Medicine*, 17(5), 649-685.
- Sholehudun, I., Nopembri, S., Yudanto, F. F. ve Kurniawan, T. (2025). Enhancing motor educability in young learners: Challenging the 'schools without brains' stigma through teaching games for understanding. *European Journal of Physical Education and Sport Science*, 25(1), 186-192.
- Sibley, B. A. ve Etnier, J. L. (2003). The relationship between physical activity and cognition in children: a meta-analysis. *Pediatric Exercise Science*, 15(3), 243-256.
- Snowling, M. J. ve Hulme, C. (2025). Risk Factors for Dyslexia: Addressing Oral Language Deficits. *Mind, Brain, and Education*.
- Sobel, D. (2025). *Childhood and nature: Design principles for educators*. Cornell University Press.
- Stańczyk, P. (2025). On responsibility for boredom in education: Possibly emancipatory philosophical inquiry. *Colloquium*, 17, 5-18.
- Stice, E., Marti, C. N. ve Durant, S. (2011). Risk factors for onset of eating disorders: Evidence of multiple risk pathways from an 8-year prospective study. *Behaviour Research and Therapy*, 49(10), 622-627.
- Straker, L., Harris, C., Joosten, J. ve Howie, E. K. (2018). Mobile technology dominates school children's IT use in an advantaged school community and is associated with musculoskeletal and visual symptoms. *Ergonomics*, 61(5), 658-669.
- Sultanova, G. (2025). Introducing non-cognitive load to the educational discourse. *Frontiers in Psychology*, 15, 1411102.
- Thoma, A. I., ve Schulze, C. (2025). Do children match described probabilities? The sampling hypothesis applied to repeated risky choice. *Journal of Experimental Child Psychology*, 251, 106126.
- Tomopoulos, S., Dreyer, B. P., Tamis-LeMonda, C., Flynn, V., Rovira, I., Tineo, W. ve Mendelsohn, A. L. (2006). Books, toys, parent-child interaction, and development in young Latino children. *Ambulatory Pediatrics*, 6(2), 72-78.
- Torrance, E. P. (1968). A longitudinal examination of the fourth grade slump in creativity. *Gifted Child Quarterly*, 12(3), 195-199.
- Tremblay, M. S., LeBlanc, A. G., Janssen, I., Kho, M. E., Hicks, A., Murumets, K., Colley, R. C. ve Gorber, S. C. (2011). Canadian sedentary behaviour guidelines for children and youth. *Applied Physiology, Nutrition, and Metabolism*, 36(1), 59-64. <https://doi.org/10.1139/H11-012>
- Tremblay, M. E., Stevens, B., Sierra, A., Wake, H., Bessis, A. ve Nimmerjahn, A. (2011). The role of microglia in the healthy brain. *Journal of Neuroscience*, 31(45), 16064-16069.
- Türkiye Fiziksel Aktivite Bilimsel Komisyonu. (2022). *Toplumda fiziksel aktivitenin desteklenmesi: fiziksel aktivite teyit sistemleri ve teşvik* https://hsgm.saglik.gov.tr/depo/birimler/saglikli-beslenme-ve-hareketli-hayat-db/Dokumanlar/Kitaplar/Fiziksel_Aktivite_Bilim_Komisyonu_Raporu.pdf
- Vasilopoulos, F. ve Dumontheil, I. (2025). Effect of a creative dance-based physical education intervention on primary school children's creativity and self-regulation: A pilot study. *Psychology of Aesthetics, Creativity, and the Arts*. advance online publication. <https://doi.org/10.1037/aca0000543>
- Vasilopoulos, F., Jeffrey, H., Wu, Y. ve Dumontheil, I. (2023). Multi-level meta-analysis of physical activity interventions during childhood: Effects of physical activity on cognition and academic achievement. *Educational Psychology Review*, 35, Article 59.
- Veenman, M. V., Van Hout-Wolters, B. H. ve Afflerbach, P. (2006). Metacognition and learning:

- Conceptual and methodological considerations. *Metacognition and Learning*, 1, 3-14.
- Wang, C., Tozadore, D., Bruno, B. ve Dillenbourg, P. (2025). The child-robot relational norm intervention to promote correct handwriting posture for children. İçinde *Proceedings of the 20th ACM/IEEE International Conference on Human-Robot Interaction (HRI)* (ss. 351-360). IEEE.
- Wang, X. ve Li, H. (2025). Effects of different traditional chinese mind-body exercises on learning abilities, executive functions, and brain connectivity in children with Learning difficulties. *Behavioral Sciences*, 15(3), 303.
- Whitehouse, A. J., Robinson, M., Li, J. ve Oddy, W. H. (2011). Duration of breast feeding and language ability in middle childhood. *Paediatric and Perinatal Epidemiology*, 25(1), 44-52.
- Whitworth, E. (2012). *Social circles of children with language impairment* [Yayımlanmamış doktora tezi]. Brigham Young Üniversitesi.
- Yang, Q., Song, M., Chen, X., Li, M. ve Wang, X. (2025). The influence of linear and nonlinear pedagogy on motor skill performance: the moderating role of adaptability. *Frontiers in Psychology*, 16, 1540821.
- Yang, X., Chung, K. K. H. ve McBride, C. (2019). Longitudinal contributions of executive functioning and visual-spatial skills to mathematics learning in young Chinese children. *Educational Psychology*, 39(5), 678-704. <https://doi.org/10.1080/01443410.2018.1546831>
- Yazıcıoğlu Çalışan, H. ve Çalık, V. (2022). *Fiziksel aktivitenin korunmaya ihtiyacı olan çocuklarda bilişsel esnekliğe etkisi* [Yayımlanmamış yüksek lisans tezi]. Aksaray Üniversitesi.
- Zhao, Y., Zhang, Y., Yang, X., Qi, Y., Yu, A., Li, L., ... ve Yu, X. (2025). How do working memory, inhibitory control, and phonological processing skills contribute to analogical reasoning in kindergartners, school-age children, and adults. *Current Psychology*, 44(4), 2820-2836. <https://doi.org/10.1007/s12144-025-07325-w>
- Zurcher, J. D., King, J., Callister, M., Stockdale, L. ve Coyne, S. M. (2020). "I can multitask": The mediating role of media consumption on executive function's relationship to technoforence attitudes. *Computers in Human Behavior*, 113, 106498.