

DAFTAR PUSTAKA

- Aayush, D. dan Bobrin, B.D. (2023) *Cognitive Deficits*. StatPearls. Treasure Island (FL): StatPearls Publishing. PMID: 32644478.
- Agarwal, N.K. (2023) 'Evaluating the effectiveness of chess as a therapeutic tool in the comprehensive management of ADHD', *Journal of Mind and Medical Sciences*, 10(2), pp. 191-195.
- Amidzic, O., Riehle, H.J., Fehr, T., Wienbruch, C. dan Elbert, T. (2001) 'Pattern of focal gamma-bursts in chess players', *Nature*, 412, pp. 603.
- Arazi, H., Aliakbari, H., Asadi, A. dan Suzuki, K. (2019) 'Acute Effects of Mental Activity on Response of Serum BDNF and IGF-1 Levels in Elite and Novice Chess Players' *Medicina*, 55(189).
- Arvanitakis, Z., Shah, R.C. dan Bennett, D.A. (2019) 'Diagnosis and management of dementia: Review', *JAMA - Journal of the American Medical Association*, 322(16), pp. 1589–1599.
- Baig, M., Rostan, C. dan Saurina, C. (2025) 'Effect of a Chess Training Program on the Development of the Executive Functions in Primary School' *Psicologia Educativa*, 31(2), pp. 83-90.
- Bart, W.M. (2014) 'On the effect of chess training on scholastic achievement', *Frontiers in Psychology*, 5(AUG), pp. 1–3.
- Blanch, A. (2022) 'Chess instruction improves cognitive abilities and academic performance: Real effects or wishful thinking?', *Educational Psychology Review*, 34, pp. 1371–1398.
- Bocchi, A., Palmiero, M., Persichetti, F., Matteoli, M., Guariglia, C. dan Piccardi, L (2024) 'Giant chess game enhances spatial navigational skills in 6-years-old children: preliminary findings', *Applied Neuropsychology: Child*, 13(1), pp. 37-44.
- Burgoyne, A.P., Sala, G., Gobet, F., Macnamara, B.N., Campitelli, G. dan Hambrick, D.Z. (2016) 'The relationship between cognitive ability and chess skill: A comprehensive meta-analysis', *Intelligence*, 55, pp. 72-83.
- Gebremedhin, B.L. (2019) 'Children's own time use and its effect on skill formation', *The Journal of Development Studies*, 55, pp. 876–893.
- Bilalić, M., Langner, R., Erb, M. dan Grodd, W. (2010) 'Mechanisms and neural basis of object and pattern recognition: A study with chess experts', *Journal of Experimental Psychology: General*, 139, pp. 728–742.
- Bilalić, M., Kiesel, A., Pohl, C., Erb, M. dan Grodd, W. (2011) 'It takes two – Skilled recognition of objects engages lateral areas in both hemispheres', *PLoS ONE*, 6, e16202.

- Brilio.net (2018) Catur adalah pemain strategi yang butuh kemampuan berpikir prima. Available at: <https://www.brilio.net/kepribadian/9-filosofi-catur-ini-bikin-kamu-merenungi-setiap-langkah-hidupmu180815n.html>.
- Bull, F.C. et al. (2020) ‘World Health Organization 2020 guidelines on physical activity and sedentary behaviour’, *British Journal of Sports Medicine*, 54, pp. 1451–1462.
- Bushnell, P.J. (1998) ‘Behavioral approaches to the assessment of attention in animals’, *Psychopharmacology*, 138(3–4), pp. 231–259.
- Cameron, S.V. dan Heckman, J.J. (1998) ‘Life cycle schooling and dynamic selection bias: Models and evidence for five cohorts of American males’, *Journal of Political Economy*, 106, pp. 262–333.
- Celone, J. (2001) ‘The effects of a chess program on abstract reasoning and problem-solving in elementary school children’, *Ann Arbor*.
- Centers for Disease Control and Prevention (CDC) (2019) Subjective Cognitive Decline – A Public Health Issue. Available at: <https://www.cdc.gov/aging/agingdata/docs/subjective-cognitive-decline-508.pdf> (Accessed: 20 May 2022).
- Cibeira, N. et al. (2021) ‘Effectiveness of a chess-training program for improving cognition, mood, and quality of life in older adults: A pilot study’, *Geriatric Nursing*, 42, pp. 894–900.
- Ciesielska, N. et al. (2016) ‘Is the Montreal Cognitive Assessment (MoCA) test better suited than the Mini-Mental State Examination (MMSE) in mild cognitive impairment (MCI) detection among people aged over 60? Meta-analysis’, *Psychiatria Polska*, 50(5), pp. 1039–1052.
- Costica, C. et al. (2023) The role of chess in the development of children – Parents’ perspectives. Romania.
- Colcombe, S. dan Kramer, A.F. (2003) ‘Fitness effects on the cognitive function of older adults: A meta-analytic study’, *Psychological Science*, 14(2), pp. 125–130.
- Cotman, C.W. dan Berchtold, N.C. (2002) ‘Exercise: A behavioral intervention to enhance brain health and plasticity’, *Trends in Neurosciences*, 25(6), pp. 295–301.
- Craft, S. et al. (2003) ‘Cognitive changes associated with supplementation of testosterone or dihydrotestosterone in mildly hypogonadal men: A preliminary report’, *Journal of Andrology*, 24(4), pp. 568–576.
- Craft, S. et al. (2003) ‘Aging and cognition: What is normal?’, in Hazzard, M.R., Blass, J.P. and Halter, J.B. (eds.) *Principles of Geriatric Medicine and Gerontology*. 5th ed. New York: McGraw-Hill, pp. 1355–1372.
- Dahlan, S. (2016) *Besar Sampel dan Cara Pengambilan Sampel dalam Penelitian Kedokteran dan Kesehatan*. Jakarta: Salemba Medika.

- Draganski, B. et al. (2004) 'Neuroplasticity: Changes in grey matter induced by training', *Nature*, 427(6972), pp. 311–312.
- Duan, X. et al. (2012) 'Reduced caudate volume and enhanced striatal-DMN integration in chess experts', *NeuroImage*, 60, pp. 1280–1286.
- Eccles, J.S. dan Roeser, R.W. (2011) 'Schools as developmental contexts during adolescence', *Journal of Research on Adolescence*, 21(1), pp. 225–241.
- Erickson, K., Gildengers, A.G. dan Butters, M.A. (2012) 'Physical activity and brain plasticity in late adulthood: A conceptual and comprehensive review', *Ageing Research Reviews*, 11(1), pp. 34–45.
- Fattahi, F., Geshani, A., Jafari, Z., Jalaie, S dan Mahini, M.S. (2015) 'Auditory memory function in expert chess players' *Medical Journal of the Islamic Republic of Iran*, 29(275).
- Fuentes-Garcia, J.P., Villafaina, S., Collado-Mateo, D., Cano-Plasencia, R. dan Gusi, N. (2019) 'Chess Players Increase the Theta Power Spectrum When the Difficulty of the Opponent Increases: An EEG Study' *Internasional Journal of Environmental Research and Public Health*, 17(46).
- Giofre, D., Toffalini, E., Esposito, L. dan Cornoldi, C. (2024) 'Sex/gender differences in general cognitive abilities: an investigation using the Leiter-3', *Cognitive Processing*, 25.
- Gliga, F. (2014) *Cognitive Benefits of Chess Training in Novice Children*. University of Bucharest, Romania.
- Gelder, B.M. et al. (2004) 'Physical activity in relation to cognitive decline in elderly men', *Neurology*, 63(12), pp. 2316–2321.
- Gellman, M.D. (ed.) (2020) *Encyclopedia of Behavioral Medicine*. Cham: Springer International Publishing.
- Gonzalez-Burgoz, L., Lozano-Rodriguez, C., Molina, Y., Garcia-Cabello, E., Aciego, R., Barroso, J dan Ferreira, D. (2024) 'The effect of chess on cognition: a graph theory study on cognitive data', *Frontiers in Psychology*, 15
- Grau-Pérez, G. dan Moreira, K. (2017) 'A study of the influence of chess on the executive functions in school-aged children', *Studia Psychologica*, 38, pp. 473–494.
- Greenfield, E.A. dan Moorman, S.M. (2019) 'Childhood Socioeconomic Status and Later Life Cognition: Evidence From the Wisconsin Longitudinal Study', *Journal of Aging and Health*, 31(9), pp.1589-1615.
- Guthold, R. et al. (2020) 'Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants', *The Lancet Child & Adolescent Health*, 4, pp. 23–35.

- Hanifah, I., Oviyanti, F. dan Muhtarom. (2022) 'Child cognitive development based on the maternal education', *Atfaluna*, 5(1), pp.15-24.
- Hugo, J. et al. (2014) 'Dementia and cognitive impairment: Epidemiology, diagnosis, and treatment', *Journal of Adolescent Health*, 54(3), pp. 250–257.
- Hunt, E. dan McKay, E.A. (2015) 'What can be learned from adolescent time diary research', *Journal of Adolescent Health*, 56, pp. 259–266.
- Hunter, J.E. (1986) 'Cognitive ability, cognitive aptitudes, job knowledge, and job performance', *Journal of Vocational Behavior*, 29, pp. 340–362.
- Karakus, G. (2023) 'Chess and Education', *Educational Considerations*, 49(2).
- Kazemi, F., Yektayar, M. dan Abad, A.M.B. (2012) 'Investigation of the impact of chess play on developing meta-cognitive ability and math problem-solving power of students at different levels of education', *Procedia - Social and Behavioral Sciences*, 32, pp. 372–379.
- Kemendes RI (2018) Hasil Riset Kesehatan Dasar Tahun 2018. Jakarta: Kementerian Kesehatan RI.
- Kemendes RI (2020) Profil Kesehatan Republik Indonesia. Jakarta: Kementerian Kesehatan RI.
- Kolegium Neurologi Indonesia PERDOSSI (2018) 'Pemeriksaan Neurobehavior', in *Pemeriksaan Klinis Neurologi Praktis Khusus*. Jakarta: Penerbit Kedokteran Indonesia, pp. 199–210.
- Kunasegaran, K., Ismail, A.M.H., Ramasamy, S., Gnanou, J.V., Caszo, B.A. dan Chen, P.L. (2023) 'Understanding mental fatigue and its detection: a comparative analysis of assessments and tools', *PeerJ*, 11:e15744.
- Kwok, T.C.Y., Lam, K.C., Wong, P.S. et al. (2011) 'Effectiveness of coordination exercise in improving cognitive function in older adults: Prospective study', *Clinical Interventions in Aging*, 6, pp. 261–267.
- Laurence, B. (2005) *Cognitive and Affective Development in Adolescence*. Philadelphia, PA: [Publisher Unknown].
- Leto, L. dan Feola, M. (2014) 'Cognitive impairment in heart failure patients', *Journal of Geriatric Cardiology*, 11(4), pp. 316–328.
- Liu, X., Gao, X. dan Ping, S. (2019) 'Post-1990s college students' academic sustainability: The role of negative emotions, achievement goals, and self-efficacy on academic performance', *Sustainability*, 11, p. 775.
- Liu, Y. et al. (2021) 'Associations between feelings/behaviors during COVID-19 pandemic lockdown and depression/anxiety after lockdown in a sample of Chinese children and adolescents', *Journal of Affective Disorders*, 284, pp. 98–103.

- Luo, S., Chen, W., Hu, W., Wang, H.H.X., Li, J., Guo, V.Y. dan Rehkopf, D.H. (2025) 'Parental Education, Own Education, and Cognitive Function in Middle-Aged and Older Adults', *JAMA Network Open*, 8(5):e2513036.
- Magheti, B. (2009) *Pedoman Bermain Catur*. Bandung: Pionir Jaya.
- Mayza, A. dan Lastri, D.N. (2017) 'Neurobehavior dasar dan pemeriksaannya', in *Buku Ajar Neurologi*. Tangerang: Penerbit Kedokteran Indonesia, pp. 149–174.
- Mashuri, H. (2015) 'Pengaruh latihan permainan catur terhadap prestasi akademik siswa SD se-Kabupaten Trenggalek', *Jurnal Sportif*, 1(1), pp. 1–8.
- May, A. (2011) 'Experience-dependent structural plasticity in the adult human brain', *Trends in Cognitive Sciences*, 15(10), pp. 475–482.
- McGill, R.K. et al. (2012) 'Academic adjustment across middle school: The role of public regard and parenting', *Developmental Psychology*, 48(4), pp. 1003–1008.
- McLeod, J.D. dan Kaiser, K. (2004) 'Childhood emotional and behavioral problems and educational attainment', *American Sociological Review*, 69, pp. 636–658.
- Mavrodaris, A., Powell, J. dan Thorogood, M. (2013) 'Prevalences of dementia and cognitive impairment among older people in Sub-Saharan Africa: A systematic review', *Bulletin of the World Health Organization*, 91, pp. 773–783.
- Molteni, R., Ying, Z. dan Gomez, P.F. (2002) 'Differential effects of acute and chronic exercise on plasticity-related genes in the rat hippocampus revealed by microarray', *European Journal of Neuroscience*, 16, pp. 1107–1116.
- Moreno, S. et al. (2009) 'Musical training influences linguistic abilities in 8-year-old children: More evidence for brain plasticity', *Cerebral Cortex*, 19(3), pp. 712–723.
- Nugroho, W. (2008) *Keperawatan Gerontik*. 3rd ed. Jakarta: EGC.
- Oberoi, A. (2021) 'Using Chess as an Intervention to Improve Executive Functioning Among Youth' *Walden Dissertations and Doctoral Studies*.
- Onyeaka, H.K. et al. (2022) 'Excessive screen time behaviors and cognitive difficulties among adolescents in the United States: Results from the 2017 and 2019 National Youth Risk Behavior Survey', *Psychiatry Research*, 316, 114740.
- Papalia, D.E., Olds, S.W. dan Feldman, R.D. (2014) *Menyelami Perkembangan Manusia*. Jakarta: McGraw-Hill.
- Parker, A.K. (2013) 'Understanding and supporting young adolescents during the transition into middle school', in Andrews, P.G. (ed.) *Research to Guide Practice in Middle Grades Education*. Westerville, OH: Association for Middle Level Education, pp. 495–510.

- Pekrun, R. et al. (2002) 'Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research', *Educational Psychologist*, 37, pp. 91–105.
- Pekrun, R. (2006) 'The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice', *Educational Psychology Review*, 18, pp. 315–341.
- PERDOSSI (2015) *Panduan Praktik Klinik: Diagnosis dan Penatalaksanaan Demensia*. Jakarta: Eisai.
- Pereira, T., Castro, M.A., Villafaina, S., Santos, A.C. dan Fuentes-Garcia, J.P. (2020) 'Dynamics of the Prefrontal Cortex during Chess-Based Problem-Solving Tasks in Competition-Experienced Chess Players: An fNIR Study', *Sensors*, 20(3917).
- Pham, T.H. dan Dao, C.T. (2025) 'The Effects of an 8-Week Chess Intervention on Cognitive and Academic Outcomes', *Annals of Applied Sport Science*, 13(2).
- Podewils, L.J. et al. (2004) 'Physical activity, APOE genotype, and dementia risk: Findings from the Cardiovascular Health Cognition Study', *American Journal of Epidemiology*, 161, pp. 639–651.
- Rakesh, D., Lee, P.A., Gaikwad, A. dan McLaughlin, K.A. (2025) 'Annual Research Review: Associations of socioeconomic status with cognitive function, language ability, and academic achievement in youth: a systematic review of mechanisms and protective factors', *Journal of Child Psychology and Psychiatry*, 66(4), pp.417-439.
- Rieff, M.I. (1998) 'Adolescent school failure: Failure to thrive in adolescence', *Pediatrics in Review*, 19, pp. 365–368.
- Rimban, E. (2023) 'Chess Strategy and the Development of Constructivist Thinking: Cultivating Cognitive Skills and Transferable Competencies', SSRN, Available at: <https://ssrn.com/abstract=4490147>
- Rizkananda, M., Hariyana, B. dan Rahmadi, F.A. (2016) 'Pengaruh stimulasi berbasis media interaktif terhadap perkembangan kognitif anak usia 2–3 tahun', Diponegoro University.
- Sala, G. dan Gobet, F. (2016) 'Do the benefits of chess instruction transfer to academic and cognitive skills? A meta-analysis', *Educational Research Review*, 18, pp. 46-57.
- Scivo, V.P. et al. (2017) 'Perbedaan skor INA-MoCA pada pemain catur dan bukan pemain catur', Universitas Sam Ratulangi, Manado.
- Singh, A.S. et al. (2019) 'Effects of physical activity interventions on cognitive and academic performance in children and adolescents: A novel combination of a systematic review and recommendations from an expert panel', *British Journal of Sports Medicine*, 53, pp. 640–647.

Susanto, A. (2011) *Perkembangan Anak Usia Dini*. Jakarta: Kencana Prenada Media Group.

Tilarso, H. (1988) 'Latihan fisik dan usia tua', *Majalah Cermin Dunia Kedokteran*, 48.

Velea, T. dan Cojocar, V. (2019) 'The Effect Of Playing Chess On Focused Attention' dalam Grigore, V., Stanesco, M., Stoiescu, M. & Popescu, L. (eds.). *Education and Sports Science in the 21st Century*, vol 55. *European Proceedings of Social and Behavioural Sciences*, pp. 685-690.

Wardanis, A.R. dan Pratama, H.G. (2020) 'Keterampilan bermain tim putra bola basket SMP Negeri 2 Trenggalek pada event SMA Negeri 1 Durenan CUP 2019', *Kejaora*, 5(1), pp. 32–40.

Wellenius, G.A., Boyle, L.D., Coull, B.A., Milberg, W.P., Gryparis, A., Schwartz, J., Mittleman, M.A. dan Lipsitz, L.A. 'Residential Proximity to Major Roadway and Cognitive Function in Community-Dwelling Seniors: Results from the MOBILIZE Boston Study', *Journal of the American Geriatrics Society*, 60(11), oo. 2075-2080.

WHO dan UNICEF (2021) *Helping Adolescents Thrive Toolkit: Strategies to Promote and Protect Adolescent Mental Health and Reduce Self-Harm and Other Risk Behaviours*.

Wight, V.R., Price, J., Bianchi, S.M. dan Hunt, B.R. (2009) 'The time use of teenagers', *Social Science Research*, 38, pp. 792–809.

Xin, M. et al. (2020) 'Negative cognitive and psychological correlates of mandatory quarantine during the initial COVID-19 outbreak in China', *American Psychologist*, 75, p. 607.

Ye, Y. (2025) 'Research on the application of chess teaching in the intellectual development of young children: analysis of educational models and strategies', *Frontiers in Psychology*, 16:1592247.

Zaidi, Z.F. (2010) 'Gender Differences in Human Brain: A Review', *The Open Anatomy Journal*, 2, pp. 37-55.

Zhao, S., Ait-Belaid, K., Shen, Y. Dan Zhou, K. (2024) 'The neurological effects of acute physical exhaustion on inhibitory function', *Physiology & Behavior*, 284.

Zill, N. (1995) 'Adolescent time use, risky behavior, and outcomes: An analysis of national data', *Adolescents*, 11, p. 138.