



ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ
ΣΧΟΛΗ ΚΛΑΣΙΚΩΝ ΚΑΙ ΑΝΘΡΩΠΙΣΤΙΚΩΝ ΣΠΟΥΔΩΝ
ΤΜΗΜΑ ΕΛΛΗΝΙΚΗΣ ΦΙΛΟΛΟΓΙΑΣ
σε συνεργασία με το
ΕΘΝΙΚΟ ΚΕΝΤΡΟ ΕΡΕΥΝΑΣ ΦΥΣΙΚΩΝ ΕΠΙΣΤΗΜΩΝ
«ΔΗΜΟΚΡΙΤΟΣ»
ΙΝΣΤΙΤΟΥΤΟ ΠΛΗΡΟΦΟΡΙΚΗΣ ΚΑΙ ΤΗΛΕΠΙΚΟΙΝΩΝΙΩΝ

ΔΙΔΡΥΜΑΤΙΚΟ ΠΡΟΓΡΑΜΜΑ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΣΠΟΥΔΩΝ:
ΕΞΕΙΔΙΚΕΥΣΗ ΣΤΙΣ Τ.Π.Ε. ΚΑΙ ΕΙΔΙΚΗ ΑΓΩΓΗ – ΨΥΧΟΠΑΙΔΑΓΩΓΙΚΗ ΤΗΣ ΈΝΤΑΞΗΣ

ΜΕΤΑΠΤΥΧΙΑΚΗ ΔΙΑΤΡΙΒΗ

Lego: Παρέμβαση για την καλλιέργεια κοινωνικών δεξιοτήτων σε παιδιά / εφήβους με ΔΑΦ. Μία βιβλιογραφική ανασκόπηση.

Κηπουρού Μαρία, Α.Μ. 477

Μεταπτυχιακή διατριβή που υποβάλλεται στην τριμελή επιτροπή για την απόκτηση του μεταπτυχιακού τίτλου του Προγράμματος Μεταπτυχιακών Σπουδών Εξειδίκευσης του Τ.Ε.Φ. – Δ.Π.Θ. σε συνεργασία με το Ε.Κ.Ε.Φ.Ε. Δημόκριτος – Ινστιτούτο Πληροφορικής και Τηλεπικοινωνιών με τίτλο: «Εξειδίκευση στις Τ.Π.Ε. και Ειδική Αγωγή – Ψυχοπαιδαγωγική της Ένταξης».

Εγκεκριμένο από την τριμελή επιτροπή:

- Επιβλέπουσα Καθηγήτρια : Ζαχαρούλα Ταβουλάρη, Συνεργαζόμενη Ερευνήτρια - Ι.Π.Τ.-Ε.Κ.Ε.Φ.Ε.
2^ο Μέλος : Ζωή Καραμπατζάκη, Συνεργαζόμενη Ερευνήτρια - Ι.Π.Τ.-Ε.Κ.Ε.Φ.Ε.
3^ο Μέλος : Αγάθη Σταθοπούλου, Συνεργαζόμενη Ερευνήτρια - Ι.Π.Τ.-Ε.Κ.Ε.Φ.Ε.

Κομοτηνή/Αθήνα

2023

ΠΕΡΙΛΗΨΗ

Μέσω της παρούσας βιβλιογραφικής έρευνας εξετάστηκε η αποτελεσματικότητα της LEGO®-based therapy ως τεχνικής παρέμβασης κοινωνικών δεξιοτήτων για παιδιά/εφήβους με ΔΑΦ. Παράλληλα, διερευνήθηκαν τα επίπεδα αποδοχής της εν λόγω προσέγγισης από τους ίδιους τους θεραπευόμενους, καθώς και από τους γονείς των τελευταίων. Για τον σκοπό αυτό, πραγματοποιήθηκε αναζήτηση για σχετικές δημοσιεύσεις, εξαιρουμένων των αδημοσίευτων διδακτορικών/μεταπτυχιακών διατριβών, στις ηλεκτρονικές βιβλιογραφικές βάσεις δεδομένων PubMed, Elsevier, JSTOR, Google Scholar, Research Gate και Academia, μέχρι και τον Απρίλιο του 2023. Εντοπίστηκαν 17 έρευνες που πληρούσαν τα κριτήρια επιλογής, από την ανάλυσή των οποίων προέκυψε πως η LEGO®-based therapy είναι μία ελκυστική και καλώς αποδεκτή παρέμβαση τόσο από τους συμμετέχοντες, όσο και από τους γονείς αυτών, με πιθανώς θετικά αποτελέσματα, καθώς 15 από τις 17 μελέτες κατέγραψαν τουλάχιστον μία θετική αλλαγή σε κάποιον τομέα της κοινωνικότητας/επικοινωνίας ή σε κάποια από τις ειδικές συμπεριφορές που προκύπτουν από τη ΔΑΦ. Ωστόσο, αν και η εν λόγω πολλά υποσχόμενη προσέγγιση αναδύεται στους κύκλους της Ψυχολογίας και της Ειδικής Αγωγής, δε μπορούν να εξαχθούν ασφαλή συμπεράσματα σχετικά με την αποτελεσματικότητά της, λόγω της μεθοδολογικής ανομοιομορφίας μεταξύ των μελετών, η οποία οδηγεί σε ασυνέπεια μεταξύ των ευρημάτων. Απαιτείται οπωσδήποτε διεξαγωγή περαιτέρω έρευνας προς αυτή την κατεύθυνση με τυποποιημένη μεθοδολογία προκειμένου να αποσαφηνιστεί το θολό αυτό τοπίο.

Λέξεις-κλειδιά: ΔΑΦ, αυτισμός, κοινωνικές δεξιότητες, παιγνιοθεραπεία, Λέγκο, Lego®, Lego®-based therapy.

ΒΙΒΛΙΟΓΡΑΦΙΚΕΣ ΑΝΑΦΟΡΕΣ

American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

András, M.K. (2012). The value of LEGO® therapy in promoting social interaction in primary-aged children with autism. *Good Autism Practice*, 13(2), 18-25.

Autism. (2023, March 29). In *World Health Organization*. Retrieved 2023, April 2 from <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>,

Barakova E., Bajracharya P., Willemsen M., Lourens T., & Huskens B. (2014). Long-term LEGO-based therapy with humanoid robot for children with ASD. *Expert Systems: The Journal of Knowledge Engineering*, 32, 698–709. <https://doi.org/10.1111/exsy.12098>

Baron-Cohen, S., Leslie, A. M., Frith, U. (1985). Does the autistic child have a “theory of mind” ?, *Cognition*, 21(1), 37-46. [https://doi.org/10.1016/0010-0277\(85\)90022-8](https://doi.org/10.1016/0010-0277(85)90022-8)

Baron-Cohen, S. (2015). Leo Kanner, Hans Asperger, and the discovery of autism. *The Lancet*. 386(10001), 1329-1330. [https://doi.org/10.1016/S0140-6736\(15\)00337-2](https://doi.org/10.1016/S0140-6736(15)00337-2)

Ben-Sasson, A., Hen, L., Fluss, R., Cermak, S. A., Engel-Yeger, B., & Gal, E. (2009). A meta-analysis of sensory modulation symptoms in individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39, 1–11.

Bratton S, Dee R, Tammy R & Jones L. (2005). The Efficacy of Play Therapy With Children: A Meta-Analytic Review of Treatment Outcomes. *Professional Psychology: Research and Practice*. <http://doi.org/10.1037/0735-7028.36.4.376>

Brosnan, M. J. (1998). Spatial Ability in Children's Play with Lego Blocks. *Perceptual and Motor Skills*, 87(1), 19–28. <https://doi.org/10.2466/pms.1998.87.1.19>

Chorievna, R. L. (2022). Lego Constructions in the Formation of Mathematical Concepts. *EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION*, 2(2), 392–396. Retrieved from <http://inovatus.es/index.php/ejine/article/view/388>

Cochran, N. H., Nordling, W. J., & Cochran, J. L. (2010). *Child-centered play therapy: A practical guide to developing therapeutic relationships with children*. John Wiley & Sons Inc.

Dewey, D., Lord, C., & Magill, J. (1988). Qualitative assessment of the effect of play materials in dyadic peer interactions of children with autism. *Canadian Journal of Psychology / Revue canadienne de psychologie*, 42(2), 242–260. <https://doi.org/10.1037/h0084183>

Elfira, E., & Girsang, B. M. (2021). Effect of compiling LEGO Play on sensory and motor skills in Toddlers. *International Journal of Education and Humanities*, 1(1), 1-6. <https://doi.org/10.58557/ijeh.v1i1.2>

Eussen, M. L., Van Gool, A. R., Verheij, F., De Nijs, P. F., Verhulst, F. C., & Greaves-Lord, K. (2013). The association of quality of social relations, symptom severity and intelligence with anxiety in children with autism spectrum disorders. *Autism*, 17(6), 723–735. <https://doi.org/10.1177/1362361312453882>

Evans C., Sanders D., Knight R. (2014). LEGO-based therapy' Club for children with high functioning autism and Asperger's syndrome. *Clinical Psychology Forum*. 262, 18–21.
<http://dx.doi.org/10.53841/bpscpf.2014.1.262.18>

Ginsburg, K. R. on behalf of the American Academy of Pediatrics Committee on Communications, & American Academy of Pediatrics; Committee on Psychosocial Aspects of Child and Family Health. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*, 119(1), 182–191.
<https://doi.org/10.1542/peds.2006-2697>

Gough, D. (2007). Weight of evidence: a framework for the appraisal of the quality and relevance of evidence. In: J. Furlong, A. Oancea (Eds.) Applied and Practice-based Research. Special Edition of *Research Papers in Education*, 22, (2), 213-228

Gronseth, G. S. et al.; on behalf of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology. (2017). Clinical Practice Guideline Process Manual, 2017 ed. Minneapolis, MN: The American Academy of Neurology

Guldberg, K., Bradley, R., Wittemeyer, K., Briscoe, J., Phillips, C. and Jones, G. Good. (2012). Autism Practice: Full Report. London: Autism Education Trust.

Hillman, H. (2018). Child-centered play therapy as an intervention for children with autism: A literature review. *International Journal of Play Therapy*, 27(4), 198–204.
<https://doi.org/10.1037/pla0000083>

History of lego. (2023, March 24). In *Wikipedia*. https://en.wikipedia.org/wiki/History_of_Lego

Hu, X., Zheng, Q., & Lee, G. T. (2018). Using Peer-Mediated LEGO® Play Intervention to Improve Social Interactions for Chinese Children with Autism in an Inclusive Setting. *Journal of autism and developmental disorders*, 48(7), 2444–2457. <https://doi.org/10.1007/s10803-018-3502-4>

Huang, L., Wang, Y., Zhang, Y., Zhou, R., & Lei, Y. (2018). The efficacy of play therapy on improving symptoms of children with attention deficit/hyperactivity disorder: A meta-analysis. *Neuropsychiatric Disease and Treatment*, 14, 2705-2715. <http://doi.org/10.2147/NDT.S182333>

Huskens, B., Palmen, A., Van der Werff, M., Lourens, T., & Barakova, E. (2015). Improving Collaborative Play Between Children with Autism Spectrum Disorders and Their Siblings: The Effectiveness of a Robot-Mediated Intervention Based on Lego® Therapy. *Journal of autism and developmental disorders*, 45(11), 3746–3755. <https://doi.org/10.1007/s10803-014-2326-0>

Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child: Journal of Psychopathology, Psychotherapy, Mental Hygiene, and Guidance of the Child* 2: 217–50.

Kamps, D.M., Mason, R.A., & Heitzman-Powell, L. (2017). Peer Mediation Interventions to Improve Social and Communication Skills for Children and Youth with Autism Spectrum Disorders. In : Leaf, J.B. (Ed.) *Handbook of Social Skills and Autism Spectrum Disorder Assessment: Curricula, and Intervention*. 257-284

Kuhn, R. & Cahn, C.H. (2004). Eugen Bleuler’s Concepts of Psychopathology. *History of Psychiatry*, 15(3):361-366. <https://doi.org/10.1177/0957154X04044603>

Landreth, G. L., Ray, D. C., & Bratton, S. C. (2019). The efficacy of non-directive play therapy for depression: A meta-analysis. *International Journal of Play Therapy, 28*(1), 1-12. <http://doi.org/10.1037/pla0000084>

Lee, G. T., Jiang, Y., & Hu, X. (2023). Improving Social Interactions for Young Children on the Autism Spectrum Through Parent-Mediated LEGO Play Activities. *Remedial and Special Education. <https://doi.org/10.1177/07419325221147699>*

Lego. (2023, March 24). In *Wikipedia*. <https://en.wikipedia.org/wiki/Lego>

LEGO®-History, (n.d.). *Lego*. <https://www.lego.com/en-us/history>

LeGoff, D. B. (2004). Use of LEGO as a therapeutic medium for improving social competence. *Journal of autism and developmental disorders, 34*(5), 557–571. <https://doi.org/10.1007/s10803-004-2550-0>

LeGoff, D. B., & Sherman, M. (2006). Long-term outcome of social skills intervention based on interactive LEGO play. *Autism : the international journal of research and practice, 10*(4), 317–329. <https://doi.org/10.1177/1362361306064403>

LeGoff, D. B., Krauss, G. W., & Allen, S. L. (2012). LEGO-Based Play therapy for Improving Social Competence in Children and Adolescents With Autism Spectrum Disorders. In: Gallo-Lopez, L., Rubin, L. C. (Eds), *Play-Based Interventions for Children and Adolescents with Autism Spectrum Disorders*. 115-136 <https://doi.org/10.4324/9780203829134>

LeGoff, D. B, Cuesta, G. G., Krauss, G. W., Baron-Cohen, S. (2014). LEGO® - Based Therapy – How to build social competence through LEGO® - based clubs for children with autism and related conditions. 1st ed. New Jersey/London: Jessica Kingsley.

Lemoine, L., & Schneider, B. (2021). Autism spectrum disorder in French children’s literature: An analysis of portrayals of children with autism in the light of the DSM-5. *Research in autism spectrum disorders*, 80, 101675. <https://doi.org/10.1016/j.rasd.2020.101675>

Levy, J., & Dunsmuir, S. (2020). LEGO-based therapy: Building social skills for adolescents with an autism spectrum disorder. *Educational & Child Psychology* 37, 58–83. <https://doi.org/10.53841/bpsecp.2020.37.1.58>

Lin, Y.-W., & Bratton, S. C. (2015). A meta-analytic review of child-centered play therapy. *Journal of Counseling & Development*, 93(1), 45-58. <http://doi.org/10.1002/jcad.12048>

Lindsay, S., Hounsell, K. G., & Cassiani, C. (2016). A scoping review of the role of LEGO® therapy for improving inclusion and social skills among children and youth with autism. *Disability and health journal*, 10(2), 173–182. <https://doi.org/10.1016/j.dhjo.2016.10.010>

Lowe, A., 2020. Lego: A great game. Norwood House Press.

MacCormack, J. W. H., Matheson, I. A., & Hutchinson, N. L. (2015). An exploration of a community-based LEGO® social-skills program for youth with autism spectrum disorder. *Exceptionality Education International*, 25(3), 13–32. <https://doi.org/10.5206/eei.v25i3.7729>

Maenner, M. J., Shaw, K. A., Baio, J., (EdS), Washington, A., Patrick, M., DiRienzo, M., Christensen, D. L., Wiggins, L. D., Pettygrove, S., Andrews, J. G., Lopez, M., Hudson, A., Baroud,

T., Schwenk, Y., White, T., Rosenberg, C. R., Lee, L. C., Harrington, R. A., Huston, M., ... Dietz, P. M. (2020). Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years - Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2016. *Morbidity and mortality weekly report. Surveillance summaries*, 69(4), 1–12. <https://doi.org/10.15585/mmwr.ss6904a1>

Mandy, W. & Lai, M.C. (2016). Annual Research Review: The role of the environment in the developmental psychopathology of autism spectrum condition". *Journal of Child Psychology and Psychiatry, and Allied Disciplines*. 57 (3): 271–292. <https://doi.org/10.1111/jcpp.12501>

Manouilenko, I. & Bejerot, S. (2015). Sukhareva—Prior to Asperger and Kanner, *Nordic Journal of Psychiatry*, 69:6, 1761-1764, <https://doi.org/10.3109/08039488.2015.1005022>

Meins, E., Fernyhough, C., de Rosnay, M., Arnott, B., Leekam, S. R., & Turner, M. (2017). Mind-mindedness and PTSD symptoms in parents of children exposed to trauma. *Journal of Family Psychology*, 31(7), 840-850. <http://doi.org/10.1037/fam0000321>

Myles, B. S. (2003). Behavioral forms of stress management for individuals with Asperger syndrome. *Child and Adolescent Psychiatric Clinics of North America*, 12(1), 123-141. [https://doi.org/10.1016/S1056-4993\(02\)00048-2](https://doi.org/10.1016/S1056-4993(02)00048-2)

Narzisi, A., Sesso, G., Berloffia, S., Fantozzi, P., Muccio, R., Valente, E., Viglione, V., Villafranca, A., Milone, A., & Masi, G. (2021). Could You Give Me the Blue Brick? LEGO®-Based Therapy as a Social Development Program for Children with Autism Spectrum Disorder: A Systematic Review. *Brain sciences*, 11(6), 702. <https://doi.org/10.3390/brainsci11060702>

National Research Council (2001) *Educating Children with Autism*. National Academy Press. Division of Behavioral and Social Sciences and Education. Washington DC.

Owens, G., Granader, Y., Humphrey, A., & Baron-Cohen, S. (2008). LEGO therapy and the social use of language programme: an evaluation of two social skills interventions for children with high functioning autism and Asperger Syndrome. *Journal of autism and developmental disorders*, 38(10), 1944–1957. <https://doi.org/10.1007/s10803-008-0590-6>

Pang, Y. (2010). Lego Games Help Young Children with Autism Develop Social Skills. *International Journal of Education*, 2(2):e7. <https://doi.org/10.5296/ije.v2i2.538>

Peckett, H., MacCallum, F., & Knibbs, J. (2016). Maternal experience of Lego Therapy in families with children with autism spectrum conditions: What is the impact on family relationships?. *Autism : the international journal of research and practice*, 20(7), 879–887. <https://doi.org/10.1177/1362361315621054>

Pidgeon, K., Parson, J., Mora, L., Anderson, J., Stagnitti, K., & Mountain, V. (2015). Play therapy. In: *Psychotherapy and counselling: Reflections on practice, (chapter 12)*155-172. Oxford University Press.

Ralph, D., & Rochester, J. (2016). *Building language using Lego® bricks: A practical guide*. Jessica Kingsley Publishers.

Roos, J., & Victor, B. (2018). How it all began: the origins of LEGO® Serious Play®. *International Journal of Management and Applied Research*, 5(4), 326-343.

Sayis, B., Ramirez, R. & Pares, N. (2022). Mixed reality or LEGO game play? Fostering social interaction in children with Autism. *Virtual Reality* 26, 771–787
<https://doi.org/10.1007/s10055-021-00580-9>

Ssucharewa, G. E., & Wolff, S. (1996). The first account of the syndrome Asperger described? Translation of a paper entitled "Die schizoiden Psychopathien im Kindesalter" by Dr. G.E. Ssucharewa; scientific assistant, which appeared in 1926 in the *Monatsschrift für Psychiatrie und Neurologie* 60:235-261. *European child & adolescent psychiatry*, 5(3), 119–132.
<https://doi.org/10.1007/BF00571671>

The United Nations. (1991). Convention on the Rights of the Child. Retrieved 2023, March 26 from <http://www.austlii.edu.au/au/other/dfat/treaties/1991/4.html>

Tong Bei, Y., Jee Ching, P., & Salwana M. M. Khair, N. (2021). The Effectiveness of the Lego® Bricks Play in Improving the Social Interaction of Children with Autism. *Asia Pacific Journal of Business, Humanities & Education*. 6(2), 48-77

Tuononen, K., Kiiskinen, S. & Kärnä, E. (2014). Considering Individual Variation in Triadic Interaction among Children with Autistic Features during a Technology-enhanced LEGO® Building Activity. In: J. Viteli & M. Leikomaa (Eds.), *Proceedings of EdMedia 2014--World Conference on Educational Media and Technology* (pp. 1466-1475). Tampere, Finland: Association for the Advancement of Computing in Education (AACE).

Wang, M., Hossain, F., Sulaiman, R., & Ren, X. (2019). Exposure to inorganic arsenic and lead and autism spectrum disorder in children: a systematic review and meta-analysis. *Chemical research in toxicology*, 32(10), 1904-1919. <https://doi.org/10.1021/acs.chemrestox.9b00134>

Waters, E., & Sroufe, L. A. (1983). Social competence as a developmental construct. *Developmental review*, 3(1), 79-97. [https://doi.org/10.1016/0273-2297\(83\)90010-2](https://doi.org/10.1016/0273-2297(83)90010-2)

World Health Organization. (2019). *International statistical classification of diseases and related health problems* (11th ed.). <https://icd.who.int/>

Wright, B., Kingsley, E., Cooper, C., Biggs, K., Bursnall, M., Wang, H. I., Chater, T., Coates, E., Teare, M. D., McKendrick, K., Gomez de la Cuesta, G., Barr, A., Solaiman, K., Packham, A., Marshall, D., Varley, D., Nekooi, R., Parrott, S., Ali, S., Gilbody, S., ... Le Couteur, A. (2023). I-SOCIALISE: Results from a cluster randomised controlled trial investigating the social competence and isolation of children with autism taking part in LEGO® based therapy ('Play Brick Therapy') clubs in school environments. *Autism : the international journal of research and practice*, 13623613231159699. Advance online publication. <https://doi.org/10.1177/13623613231159699>