

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 Επικοινωνιών

με τίτλο: «Εξειδίκευση στις Τ.Π.Ε. και Ειδική Αγωγή – Ψυχοπαιδαγωγική της ένταξης»

ΑΞΙΟΛΟΓΗΣΗ ΚΑΙ ΑΝΑΠΤΥΞΗ ΤΗΣ ΚΙΝΗΤΙΚΗΣ ΕΠΙΔΕΞΙΟΤΗΤΑΣ ΑΤΟΜΩΝ ΜΕ ΝΟΗΤΙΚΗ ΑΝΑΠΗΡΙΑ

EVALUATION AND DEVELOPMENT OF MOTOR SKILLS OF PEOPLE WITH MENTAL DISABILITIES

του

Καλαβίτη Δημήτριου Γεώργιου

Εγκεκριμένο από την τριμελή επιτροπή:

1ος Επιβλέπων: ΒΕΝΕΤΣΑΝΟΥ ΦΩΤΕΙΝΗ ΕΠΙΚΟΥΡΗ ΚΑΘΗΓΗΤΡΙΑ ΤΕΦΑΑ ΕΚΠΑ

2ος Επιβλέπων: ΔΟΣΗ ΙΦΙΓΕΝΕΙΑ ΜΕΤΑΔΙΔΑΚΤΟΡΙΚΗ ΕΡΕΥΝΗΤΡΙΑ Τ.Ε.Φ. Δ.Π.Θ

3ος Επιβλέπων: ΚΑΜΠΑΣ ΑΝΤΩΝΙΟΣ ΚΑΘΗΓΗΤΗΣ ΤΕΦΑΑ Δ.Π.Θ

Αθήνα 2020-2021

Περίληψη

Σύμφωνα με πολλές έρευνες, άτομα με νοητική αναπηρία υστερούν σε επίπεδο κινητικής επιδεξιότητας. Σκοπός της παρούσας εργασίας είναι η βιβλιογραφική ανασκόπηση σχετικά με την αξιολόγηση και την ανάπτυξη της κινητικής επιδεξιότητας των ατόμων με νοητική αναπηρία, μέσα από προγράμματα Φυσικής Αγωγής που λαμβάνουν χώρα στο σχολικό περιβάλλον. Για τον σκοπό αυτό αναζητήθηκαν σχετικές πηγές στις ηλεκτρονικές βάσεις δεδομένων PubMed, Science Direct, Research Gate, Google Scholar, χρησιμοποιώντας ως λέξεις κλειδιά όρους που αφορούσαν την νοητική αναπηρία και την κινητική επιδεξιότητα (mental disability, motor skills assessment, intervention programs for people with intellectual disabilities). Από τις έρευνες που εντοπίστηκαν στην ανασκόπηση, συμπεριλήφθηκαν στην έρευνα 24 που ήταν στην αγγλική γλώσσα και ήταν δημοσιευμένες σε αγγλικά περιοδικά με σύστημα κριτών, μεταξύ του 2000 έως το 2021. Στις έρευνες συμμετείχαν αγόρια και κορίτσια με νοητική αναπηρία έως 20 ετών. Η αξιολόγηση πραγματοποιήθηκε κυρίως μέσω του Test of Gross Motor Development και του Bruininks-Oseretsky Test of Motor Proficiency (BOTMP). Από τις έρευνες που εξετάστηκαν 11 αφορούσαν την αξιολόγηση των παιδιών με νοητική αναπηρία ως προς την κινητική επιδεξιότητα και 14 προγράμματα παρέμβασης Φυσικής Αγωγής που πραγματοποιήθηκαν στο σχολικό περιβάλλον. Από την ανασκόπηση των ερευνών διαπιστώθηκε ότι τα άτομα με νοητική αναπηρία παρουσιάζουν χαμηλότερο επίπεδο κινητικής επιδεξιότητας, σε σύγκριση με τα συνομήλικα άτομα τυπικής ανάπτυξης. Επίσης η έρευνα κατέδειξε ότι τα προγράμματα παρέμβασης στο μάθημα της Φυσικής Αγωγής στο σχολικό περιβάλλον, συμβάλλουν σημαντικά στην βελτίωση του επιπέδου της κινητικής επιδεξιότητας των ατόμων με νοητική αναπηρία. Συνίσταται να πραγματοποιηθούν ευρύτερες έρευνες στο ζήτημα της κινητικής επιδεξιότητας και να ενταχθούν συστηματικά παρεμβάσεις στο μάθημα της Φυσικής Αγωγής, λόγω των πολλαπλών ωφελειών που διαφάνηκε ότι έχουν στα άτομα με νοητική αναπηρία, ως προς την βελτίωση της κινητικής επιδεξιότητας τους.

Λέξεις Κλειδιά : Αξιολόγηση, Ανάπτυξη, Κινητική Επιδεξιότητα, Νοητική Αναπηρία

Βιβλιογραφία

- Aaltonen, S. Latvala, A. Rose, R. J. Pulkkinen, L. Kujala, U. M. Kaprio, J. & Silventoinen, K. (2015). Motor development and physical activity: A longitudinal discordant twin-pair study. *Medicine and Science in Sports and Exercise*, 47(10), 2111.
- Alesi, M. Battaglia, G. Pepi, A. Bianco, A. Palma, A. (2018). Gross motor proficiency and intellectual functioning. *Observational Study*, 97 (41), e12737.
- Bala, G. (2003). Quantitative differences in motor abilities of preschool boys and girls. *Kinesiologia Slovenica*, 9(2), 5-16.
- Bart, O. Bar-Heim, Y. Weizman, E. Levin, M. Sadeh, A. & Mintz, M. (2009). Balance treatment ameliorates anxiety and increases self-esteem in children with comorbid anxiety and balance disorder. *Research in Developmental Disabilities*, 30, 486-495.

- Bayley, N. (1993). *Bayley Scales of Infant Development II*. San Antonio: TX. The Psychological Corporation.
- Bekiari, A. & Sakelariou, K. (2004). Physical education teacher's opinions toward inclusion of students with disabilities. *Italian Journal Sport Science*, 11, 10-15.
- Biddle, S. & Armstrong, N. (1992). Children's physical activity: an exploratory study of psychological correlates. *Social Science and Medicine*, 34, 325-331.
- Biddle, S. & Goudas, M. (1996). Analysis of children's physical activity and its association with adult encouragement and social cognitive variables. *Journal of School Health*, 66(2), 75-78.
- Bouchard, C., Shepard, R., Stephens, T., Sutton, J., & McPherson, B. (1988). *Exercise, fitness, and health: A consensus of current knowledge*. Champaign IL: Human Kinetics Publishers.
- Bunker, L. K. (1991). The role of play and motor skill development in building children's self-confidence and self-esteem. *The Elementary School Journal*, 467-471.
- Burton, A. & Miller, A. (1998). *Movement Skill Assessment*. New York: Human Kinetics.
- Cairney, J. Hay, J. Veldhuizen, S. Missiuna, C. Mahlberg, N. & Fought, B. E. (2010). Trajectories of relative weight and waist circumference among children with and without developmental coordination disorder. *Canadian Medical Association Journal*, 182(11), 1167-1172.
- Castetbon, K., & Andreyeva, T. (2012). Obesity and motor skills among 4 to 6-yearold children in the United States: Nationally representative surveys. *BioMed Central Pediatrics*, 12(1).
- Cecil, P. (2001). *Competency Testing for Adapted Physical Education*. Louisiana: Department of Education 4th Edition Louisiana.
- Chen, M. Tsai, H. Wang, C. Wuang, Y. (2015). The effectiveness of racket-sport intervention on visual perception and executive functions in children with mild intellectual disabilities and borderline intellectual functioning. *Neuropsychiatr Dis Treat*, 2;11, 2287-97.

- Chow, S. Hsu, Y. W. Henderson, S. Barnett, A. & Lo, S. K. (2006). The movement ABC: A cross-cultural comparison of preschool children from Hong Kong, Taiwan, and the USA. *Adapted Physical Activity Quarterly*, 23, 31-48.
- Chun, H. & Yun, J., (2002). Cross-validation of test of gross motor development for youth with mental retardation. *National Convection and Exposition*, 7, 27-36.
- Clark, J. E. (1994). Motor development. In: V. S. Ramachandran (Ed.), *Encyclopedia of human behavior* (pp. 245–55). New York: Academic Press.
- Cleland, F.E. & Gallahue, D.L. (1993). Young children's divergent movement ability. *Perceptual and Motor Skills*. 77(2):535-544
- Conaster, P. (2004). Promotion for adapted physical education. *Adapted Physical Education*, 6, 1-3.
- Cools, W., De Martelaer, K., Samaey, C. & Andries, C. (2009). Movement skill assessment of typically developing preschool children: A review of seven movement skill assessment tools. *Journal of Sports Science and Medicine*, 8, 154-168.
- Γρούϊος, Γ., Τζέτζης, Γ. και Χατζητάκη, Β. (2008). Κινητική συμπεριφορά. *Πανεπιστημιακές παραδόσεις για τους φοιτητές/τριες του Τμήματος Επιστήμης Φυσικής Αγωγής και Αθλητισμού του Αριστοτελείου Πανεπιστημίου Θεσσαλονίκης*. Θεσσαλονίκη.
- Damian, M., Gevat, C., Stanculencu, C. & Larion, A. (2010). Improvement of motor performance of students with mentally retardation. *Selçuk University Journal of Physical Education and Sport Science*, 12(1), 23-28.
- Dehghani, M. & Gunay, M. (2015). The Effect Of Balance Training On Static And Dynamic Balance In Children With Intellectual Disability. *J. Appl. Environ. Biol. Sci.*, 5(9),127-131.
- Δράκος, Γ. & Μπίνιας, Ν. (2005). *Ψυχοκινητική Αγωγή*. Αθήνα: Εκδόσεις Πατάκη.
- DiLorenzo, T. M. Stucky-Ropp, R. C. Vander Wal, J. S. & Gotham, H. J. (1998). Determinants of exercise among children: A longitudinal analysis. *Preventive Medicine*, 27, 470–477.
- Dishman, R. & Dunn, A. (1988). *Exercise adherence in children and youth: Implications for adulthood*. Champaign, IL: Human Kinetics Publishers.

- Dubbett, M.P. (2002). Physical activity and exercise: Recent advances and current challenges. *Journal of Consulting and Clinical Psychology*, 70(3):526-536.
- Fisher, A., Reilly, J. J., Kelly, L. A., Montgomery, C., Williamson, A., Paton, J. Y., & Grant, S. (2005). Fundamental movement skills and habitual physical activity in young children. *Medicine and Science in Sports and Exercise*, 37, 684–688.
- Fjørtoft, I. (2000). Motor fitness in pre-primary school children: The EUROFIT Motor Fitness Test explored on 5-7-year-old children. *Pediatric Exercise Science*, 12, 424-436.
- Follio, R. & Fewell, R. (2002). *Peabody Developmental Motor Scales*. Second Edition (PDMS–2). Austin, Texas: Pro-ed.
- Fox, R. (1997). The physical self and processes in self-esteem development. In R. Fox(ed). *The physical self. From motivation to well-being*. (pp.111-139). Champaign, Illinois :Human Kinetics.
- Harris, J. (1995). Genetic aspects of neuropsychiatry. In J. Harris (ed). *Developmental Neuropsychiatry*. (pp. 94-110). New York: Oxford University Press.
- Hartman, E. Houwen, S. Scherder, E. Visscher, C. (2010). On the relationship between motor performance and executive functioning in children with intellectual disabilities. *J Intellect Disabil Res* 54(5), 468-77.
- Hayakawa, K. & Kobayashi, K. (2011). Physical and motor skill training for children with intellectual disabilities. *Perceptual and Motor skill*, 112(2), 573-580
- Henderson, S., Sudgen, D. & Barnett L. (2007). *Movement Assessment Battery for Children. Therapy Skill Builders*. London: Harcourt assessment
- Gallahue, D. L. (1987). *Developmental Physical Education for Today's Elementary School Children: Instructor's Resource Manual with Transparency Masters*. Macmillan.
- Gallahue D. & Ozman J. (2002) Understanding motor development: infants, children, adolescents, adults. McGraw Hill: New York.
- Gallahue, D.L. (2002). *Αναπτυξιακή Φυσική Αγωγή για τα σημερινά παιδιά*. Αθήνα : Εκδόσεις Salto, Θεσσαλονίκη

- Geuze, R.H. (2005). Motor impairment in DCD and activities of daily living. In: Sugden D, Chambers M, editors. *Children with Developmental Coordination Disorder*. Whurr Publishers; London: pp. 19–46.
- Giagazoglou, P. Kokaridaw, D. Sidiropoulou, , Patsiaouraw, A. Karra, C. Neofotistou, K. (2013). Effects of a trampoline exercise intervention on motor performance and balance ability of children with intellectual disabilities. *Research in Development Disabilities*, 34, 2701-2707.
- Goodway, J.D., & Smith, D.W. (2005). Keeping all children healthy: Challenges to leading an active lifestyle for preschool children qualifying for at-risk programs. *Family & Community Health*, 28, 142–155.
- Goodway, J. D., & Branta, C. F. (2003). Influence of a motor skill intervention on fundamental motor skill development of disadvantaged preschool children. *Research Quarterly for Exercise and Sport*, 74, 36-46.
- Golubovic S, Maksimovic J, Golubovic B, Glumbic N (2012). Effects of exercise on physical fitness in children with intellectual disability. *Research in Developmental Disabilities*, 33, 608–614.
- Green, D., Chambers, M., & Sugden, D. (2008). Does subtype of developmental coordination disorder count: Is there a differential effect on outcome following intervention? *Human Movement Science*, 27, 363-382.
- Haapala, E.A. (2013). Cardiorespiratory Fitness and Motor Skills in Relation to Cognition and Academic Performance in Children – A Review. *Hum Kinet.* 36, 55–68.
- Haibach- Beach, P.S. Reid, G.D. & Colier, D.H. (2018). *Κινητική Μάθηση και Ανάπτυξη*, Χ., Ζάραγκας (Επιστ. επιμ.). Αθήνα: Πεδίο.
- Haley, D., Wendy, J., Coster, D., Larry, H., Ludlow, D., Haltiwanger, J. & Andrellos, P. (1992). *Pediatric Evaluation of Disability Inventory*. Boston: PEDI publishers
- Halle, J. & Chunk, B. (1999). Effects of a Peer-Mediated Aerobic Conditioning Program on Fitness Levels of Youth With Mental Retardation: Two Systematic Replications. *Mental Retardation*, 37(16), 435-448.
- Hamilton, N. & Luttgens, K. (2003). *Κινησιολογία*. Αθήνα: Εκδόσεις Παρισιάνου.

- Haywood, K. M., & Getchell, N. (2005). *Lifespan motor development*. Champaign, IL: Human Kinetics.
- Hattie, S. & Edwards, M. (1987). Construct validity of the Bruininks-Oseretsky Test of Motor Proficiency and the Peabody Developmental Motor Scales. *Australian Occupational Therapy Journal*, 42(1), 3-13.
- Hillier, S. (2007). Intervention for children with developmental coordination disorder: A systematic Review. *The Internet Journal of Allied Health Sciences and Practice*, 5(3), 22-27.
- Houwen, S., Hartman, E. & Visscher, C. (2009). Physical activity and motor skills in children with and without visual impairments. *Medicine and Science in Sport and Exercise*, 41: 103-109.
- Hutzler, Y. (2007). A systematic ecological model for adapting physical activities: Theoretical foundations and practical examples. *Adapted Physical Activity Quarterly*, 24: 287-304.
- Hayakawa, K., & Kobayashi, K. (2011). Physical and Motor Skill Training for Children with Intellectual Disabilities. *Perceptual and Motor Skills*, 112(2), 573–580.
- Jeoung, J. (2018) Motor proficiency differences among students with intellectual disabilities, autism, and developmental disability *J Exerc Rehabil.*, 14(2), 275–281.
- Isik, M. & Zorba, E. (2018). The effects of hemsball on the motor proficiency of students with intellectual disabilities. *International Journal of Developmental Disabilities*, 1-9.
- Kalgotra, R. Warwal, J.S. (2018). Effect of an Aerobic Fitness Programme Intervention on the Motor Proficiency of Children with Mild and Moderate Intellectual Disabilities in India. *Disability, CBR & Inclusive Development*, 29 (3), 48–66.
- Kambas, A., Venetsanou, F., Giannakidou, D., Fatouros, I. G., Avloniti, A., Chatzinikolaou, A., & Zimmer, R. (2012b). The Motor-Proficiency-Test for children between 4 and 6 years of age (MOT 4–6): An investigation of its suitability in Greece. *Research in Developmental Disabilities*, 33(5), 1626- 1632.
- Kandel, D.B. Johnson, J.G. Bird, H.R. Weissman, M.M. Goodman, S.H. Lahey, B.B. Regier, D.A. & Schwab-Stone, M.E (1999). Psychiatric comorbidity among adolescents with substance use disorders: findings from the MECA Study. *J Am Acad Child Adolesc Psychiatry*, 38(6):693-9.

- Kao M. S. and Wang C. H. 2016. Impact of frisbee game course on the upper limb motor function of students with intellectual disabilities. *International Journal of Developmental Disabilities*, 64(2), 96–104.
- Καρασσα, Φ., (2006). Αρχές και Μεθοδολογία της Συστηματικής Ανασκόπησης της Βιβλιογραφίας. *Ελληνική Πνευματολογία*, 17(4), 289-297.
- Kimiecik, J., Horn, T., & Shurin, C. (1996). Relationship among children's beliefs, perceptions of their parent's beliefs, and their moderate to vigorous physical activity. *Research Quarterly for Exercise and Sport*, 67(3), 324-336.
- Κονταξή, Β. (2014). *Η επίδραση ενός παρεμβατικού προγράμματος φυσικής αγωγής στην κινητική επάρκεια παιδιών δημοτικού σχολείου με ήπια νοητική αναπηρία*. (Μεταπτυχιακή εργασία). Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα.
- Κουτουμάνος, Α. (2016) Νοητική Αναπηρία . Ανακτήθηκε 22 Μαΐου 2021 από <https://www.noesi.gr/book/syndrome/mentalretardation>
- Κουτσομπίνα, Β. (2010). *Εκτίμηση λεπτών αντιληπτικοκινητικών δεξιοτήτων παιδιών με ελαφρά νοητική καθαναπηρία*. (Διδακτορική Διατριβή), Πανεπιστήμιο Ιωαννίνων, Ιωάννινα.
- Κουτσούκη, Δ. (1997). *Ειδική φυσική αγωγή. Θεωρία και πρακτική*. Αθήνα: Εκδ. Συμμετρία.
- Kubilay, N. Yildirim, Y. Kara, B. Harutoglu, A. (2011). Effect of balance training and posture exercises on functional level in mental retardation. *Fizyoter Rehabil.*, 22 (2), 55-64.
- LeGear, M. Greyling, L. Sloan, E. Bell, R. I. Williams, B. L. Naylor, P. J. & Temple, V. A. (2012). A window of opportunity? Motor skills and perceptions of competence of children in kindergarten. *International Journal of Behavioral Nutrition and Physical Activity*, 9(1), 29.
- Lieberman, L.J. & McHugh, B.E. (2001). Health-related fitness of children with visual impairments and blindness. *Journal of Visual Impairment and Blindness*, 95(5): 272-286
- Livesey, D., Coleman, R., & Piek, J. (2007). *Performance on the Movement Assessment Battery for Children by Australian 3-to 5-year-old children*. *Child: Care, Health and Development*, 33, 713-719.

- Logan, W. S. & Getchell, N. (2010). The relationship between motor skill proficiency and body mass index in children with and without dyslexia: A pilot study. *Research Quarterly for Exercise and Sport*, 81(4), 518-523.
- Logan, S. W. Robinson, L. E. Wilson, A. E. & Lucas, W. A. (2012). Getting the fundamentals of movement: A meta-analysis of the effectiveness of motor skill interventions in children. *Child: Care, Health and Development*, 38(3), 305- 315.
- Lopes, V. P., Rodrigues, L. P., Maia, J. A., & Malina, R. M. (2011). Motor coordination as predictor of physical activity in childhood. *Scandinavian Journal of Medicine and Science in Sports*, 21, 663-669.
- Losse, A., Henderson, S.E., Elliman, D., Hall, D., Knight, E. & Jongmans, M. (1991). Clumsiness in children - do they grow out of it? A 10-year follow-up study. *Developmental Medicine and Child Neurology*, 33: 55-68.
- Lotan, M., Isakov, J. & Merrick M. (2004). Improving functional skills and physical fitness in children with Rett syndrome. *Journal of Intellectual Disability Research*, 48(8), 730-735.
- Lubans, D. R., & Morgan, P. J. (2009). Social, psychological and behavioural correlates of pedometer step counts in a sample of Australian adolescents. *Journal of Science and Medicine in Sport*, 12(1), 141-147.
- Malekpour, M. Isfahani, A.S. Amiri, A. Faramarzi, S. Heidari, T. Shahidi, M.A. (2012). The effect of adapted play training on motor development of students with intellectual disabilities. *journal of developmental disabilities*, 58 (2)2, 120–12.
- Malina R. M. (1984). Physical growth and maturation. In: J. Thomas (Ed.), *Motor development during childhood and adolescence*. Minneapolis, M.N: Burgess.
- Malina, R. M., Bouchard, C., & Bar-Or, O. (2004). *Growth, maturation, and physical activity*. London : Human Kinetics.
- Miller, J. & Roid, G. (1994). *The T.I.M.E. Toddler and Infant Motor Evaluation A Standardized Assessment*. San Antonio, Texas: The psychological corporation.
- Mehralitabar, H. Mirjalali, F. Minoei, A. Fadaee, E. (2015). The impact of Handball Techniques on improving gross motor skills in educable mentally retarded children, *International Journal of Sport Studies*, 5 (12), 1243-1248.

- Moher D., Liberati A., Tetzlaff J. & Altman D.G. (2009). The PRISMA Group 2009. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: *The PRISMA Statement*. *PLoS Med* 6(7): e1000097.
- Montarzino, A. Robertson, B. Aspinall, P. Ambrecht, A. Findlay, C. & Dhillon, J. (2007). The Impact of Mobility and Public Transport on the Independence of Visually Impaired People. *Visual Impairment Research*, 9, 67–82.
- Moore, N., (2006). *How to Do Research: Practical Guide to Designing and Managing Research Project*. Cornwell UK: Facet Pub.
- Μουσαφειροπούλου, Ο., Κουρτέσης, Θ., Αγγελούσης, Ν. & Καμπάς, Α. (2008). Αξιοπιστία της μπαταρίας αξιολόγησης Movement assessment battery for children-2. Ανακτήθηκε 12 Μαΐου 2012 από <http://www.invenio.lib.auth.gr>
- Niemeijer, A., Schoemaker, M. & Smits –Engelsman, B. (2006). Are teaching principles associated with improved motor performance in children with developmental coordination disorder?: A Pilot Study. *Physical Therapy*, 86(9), 1121-1130.
- Okely, A. D., Booth, M. L., & Patterson, J. W. (2001a). Relationship of cardiorespiratory endurance to fundamental movement skill proficiency among adolescents. *Pediatric Exercise Science*, 13, 380 - 391.
- Okely, A. D., Booth, M. L., & Patterson, J. W. (2001b). Relationship of physical activity to fundamental movement skills among adolescents. *Medicine and Science in Sports and Exercise*, 33(11), 1899–1904.
- Okely, A. D., Booth, M. L., & Chey, T. (2004). Relationships between body composition and fundamental movement skills among children and adolescents. *Research Quarterly for Exercise and Sport*, 75(3), 238-247
- Pate, R. R., O'Neill, J. R., & Mitchell, J. (2010). Measurement of physical activity in preschool children. *Medicine & Science in Sports & Exercise*, 42(3), 508–512.
- Payne, V. G., & Isaacs, L. D. (1995). *Human motor development: A lifespan approach*. Mountain View, CA: Mayfield.
- Payne, G. & Isaacs, L. (2002). *Human motor development: A lifespan approach*. Boston: McGraw-Hill.

- Peens, A. & Pienaar, A. (2007). The effect of gender and ethnic differences on the success of intervention programmes for the motor proficiency and self concept of 7-9 year old D.C.D. children. *South African Journal of Research in Sport, Physical Education and Recreation*, 29(1), 113-128.
- Pitteti, H. & Fernhall, B. (2004). Comparing run performance of adolescents with mental retardation, with and without down syndrome. *Adapted Physical Activity Quarterly*, 21(3), 219-228.
- Pitetti, H. & Campbell, D. (1990). Mentally retarded individuals - a population at risk? *Medicine and Science in Sports and Exercise*, 23, 586-593.
- Πουλιάρη, Β. (2011) *Φροντίδα ατόμων με νοητική αναπηρία. Νοητική αναπηρία: Επιστημολογικές προσεγγίσεις και ειδικοπαιδαγωγικές συνεπαγωγές*. Αθήνα: Εθνικό Καποδιστριακό Πανεπιστήμιο
- Poulsen, A.A., Ziviani, J.M., Johnson, H. & Cuskelly, M. (2008). Loneliness and life satisfaction of boys with developmental coordination disorder: The impact of leisure participation and perceived freedom in leisure. *Human Movement Science*, 27:325-343.
- Raudesepp, L. & Paasuke, M. (1995). Gender differences in fundamental movement patterns, movement performances and strength measurements of prepubertal children. *Pediatric Exercise Science*, 7: 294-304
- Reynolds, K., Killen, J., Bryson, S., Maron, D., Taylor, C., Maccoby, N., & Farquhar, J. (1990). Psychosocial predictors of physical activity in adolescents. *Preventive Medicine*, 19, 541-551.
- Riethmuller, A. Jones, R. & Okely, A. (2009). Efficacy of interventions to improve motor development in young children: a systematic review. *Pediatrics*, 124(4):e782-92.
- Rimmer, H., Braddock, D. & Fujiura, G. (1994). Congruence of three indices for obesity in a population of adults with mental retardation. *Adapted Physical Activity Quarterly*, 11, 396-403.
- Rink, J.E. (2002). *Teaching physical education for learning*. Boston, D.C.: McGraw Hill
- Rintala, P. (1998). The effects of a psychomotor training programme on motor skill development in children with DLD. *Human Movement Science*, 17, 721-737.

- Rintla, P. & Loovis, M. (2013). Measuring motor skills in Finnish children with intellectual disabilities. *Perceptual & Motor Skills: Motor Skills & Ergonomics* 116, 1, 294-303.
- Robinson, L. E. (2011). The relationship between perceived physical competence and fundamental motor skills in preschool children. *Child: Care, Health and Development*, 37(4), 589-596.
- Robinson, L. E. Stodden, D. F. Barnett, L. M. Lopes, V. P. Logan, S. W. Rodrigues, L. P. & D'Hondt, E. (2015). Motor competence and its effect on positive developmental trajectories of health. *Sports Medicine*, 45(9), 1273-284.
- Russell, D. & Gowland, D. (2005). A study of gross motor development in children with Down syndrome. *Can Child*, 18, 234-236
- Russell, D., Rosenbaum, P., Avery, L. & Lane, M. (2002). *Gross motor function measure*. London: Cambridge University press.
- Ruzbarska, I. & Piatkowska, M. (2008). Condition and co-ordination abilities in motor performance on preschool children. *Physical Education and Sport*, 52, 65-68.
- Sallis, J. (1991). Self-report measures of children's physical activity. *Journal of School Health*, 61(5), 215-219.
- Sallis, J. F., Prochaska, J. J., & Taylor, W. C. (2000). A review of the correlates of physical activity of children and adolescents. *Medicine and Science in Sports and Exercise*, 32, 963-975
- Sandgrem, C., Garlick, D., Argyrous, G., Einfeld, S., Orr, F., Lambert S. & Tuner, S. (2004). *The Effect of Special Olympics on school aged children with moderate to severe intellectual disabilities*. South Wales: University of New South Wales-Special Olympics
- Samara, D., Sidharta, N., Mediana, D., & Noviyanti, N. (2012). Gender impacts on motor skill proficiency-physical activity relationship in children. *Universa Medicina*, 31(3), 192-199.
- Scanlan, K. & Simons, P. (1992) The construct of sport enjoyment. In: C. Roberts (ed). *Motivation in sport and exercise* (pp. 199-216). Champaign, IL: Human Kinetics.

- Schmidt, R.A. & Weisberg, C. (2009). *Κινητική Μάθηση και Απόδοση – μια Εφαρμοσμένη Προσέγγιση*, Μ., Μιχαλοπούλου (Επιμ.). Αθήνα: Αθλότυπο.
- Skinner, R.A. & Piek, J.P. (2001). Psychosocial implications of poor motor coordination in children and adolescents. *Human Movement Science*, 20: 73-94
- Σκούρτη, Κ. (2014). *Δείκτης μάζας σώματος, αθλητική δραστηριότητα και κινητική απόδοση σε παιδιά ηλικίας 5-6 ετών*. Α δημοσίευτη μεταπτυχιακή διατριβή. Σ.Ε.Φ.Α.Α, Δ.Π.Θ & Πανεπιστήμιο Θεσσαλίας.
- Sommerfelt, K. Sonnander, K. Skranes, J. Andersson, H.W. Ahlsten, M. Markestad, B.E.T. Jacobsen, G. Hoffman, H.J. & Bakketeig, L.S. (2002). Neuropsychologic and motor function in small-for-gestation preschoolers. *Pediatric Neurology*, 26(3): 186-191.
- Σπετσιώτης, Ι. & Σταθόπουλος, Στ. (2003). *Παιδαγωγική και Διδακτική των Παιδιών με Κινητικά Προβλήματα*, Αθήνα : εκδ. Ωρίων.
- Σταματιάδης, Π. (2004). *Διαταραχές Αδρής Κινητικότητας σε παιδιά με κινητική Αναπηρία. Πρόσβαση Αναβάθμιση του θεσμού εκπαίδευσης ατόμων με σοβαρά κινητικά προβλήματα στην Πρωτοβάθμια και Δευτεροβάθμια Εκπαίδευση*. Μέτρο 1.1., Ενέργεια 1.1.4 Πράξη.
- Tsai, L. (2009). The effectiveness of exercise intervention on inhibitory control in children with developmental coordination disorder: Using a visuospatial attention paradigm. *Research in Developmental Disabilities*, 5(1), 56-58.
- Stodden, D. F., & Goodway, J. D. (2007). The dynamic association between motor skill development and physical activity. *Journal of Physical Education, Recreation & Dance*, 78(8), 33-49.
- Stodden, D. F., Goodway, J. D., Langendorfer, S. J., Robertson, M. A, Rudisill, M. E., Garcia, C., & Garcia, L. E. (2008). A developmental perspective on the role of motor skill competence in physical activity: An emergent relationship. *Quest*, 60, 290-306.
- Sudgen, D. (2007). Current approaches to intervention in children with developmental coordination disorder. *Developmental Medicine & Child Neurology*, 49, 467- 471.
- Thomas J., & French, K. (1985). Gender differences across age in motor performance a meta-analysis. *Psychological Buletin*, 98, 260–282.

- Top, E.(2015). The Effect of Swimming Exercise on Motor Development Level in Adolescents with Intellectual Disabilities. *American Journal of Sports Science and Medicine*, 3 (5), , 85-89.
- Τρούλης, Κ. & Βάμβουκας, Μ. (2002). «Επιδράσεις της πλευρικής κυριαρχίας στη γραφοκινητική δραστηριότητα του νηπίου». Στο: *Ψυχοπαιδαγωγική της Προσχολικής Ηλικίας – Πρακτικά Επιστημονικού Συνεδρίου*, τόμος Β', σελ. 993-1005, Ρέθυμνο: Π.Τ.Π.Ε., Πανεπιστημίου Κρήτης.
- Τσαπακίδου, Α. (1994). Ανάπτυξη κινητικών δεξιοτήτων με προσέγγιση εννοιών χώρου σε παιδιά προσχολικής ηλικίας. Διδακτορική Διατριβή, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Παιδαγωγικό Τμήμα Νηπιαγωγών.
- Τσουμπακόπουλος, Ν. (2012). *Αξιολόγηση της κινητικής ικανότητας των μαθητών των ειδικών σχολείων Κρήτης*. (Μεταπτυχιακή Εργασία). Πανεπιστήμιο Θράκης, Κομοτηνή.
- Ulrich, D. A. (1985). *Test of gross motor development*. Austin, TX: Pro.Ed.
- Ulrich, D. (2000). *Test of Gross Motor Development -2*. Austin, Texas: PRO-ED Publishers.
- Van Waelvelde, H., De Weerd,t W., De Cock, M. & Englesman, S. (2003). Ball Catching. Can it Be Measured? *Physiotherapy Theory and Practice*, 19(4), 259- 267.
- Varda, I., Goudesidou, S., Papa, A.,Giagatzoglou, P. & Evagelinou, C. (2004). Fundamental motor skills in children with moderate mental retardation . Preolympic Congress Athens: Athens
- Venetsanou, F. Kambas, A. Aggeloussis, N. Fatouros, I. & Taxildaris, K. (2009). Motor assessment of preschool aged children: A preliminary investigation of the validity of the Bruininks-Oseretsky test of motor proficiency - short form. *Hum Mov Sci* 28(4):543-50.
- Venetsanou, F. & Kambas, A. (2011). The effects of age and gender on balance skills in preschool children. *Physical Education and Sport*, 9(1), 81-90.
- Venetsanou, F., & Kambas, A. (2016). Motor proficiency in young children: A closer look at potential gender differences. *SAGE Open*, 6(1), 2158244015626226.

- Venetsanou, F., & Kambas, A. (2017). Can motor proficiency in preschool age affect physical activity in adolescence?. *Pediatric Exercise Science*, 29(2), 254-259.
- Westendorp, M. Houwen, S. Hartman, E. Visscher, C. (2013). Are gross motor skills and sports participation related in children with intellectual disabilities? *Research in Developmental Disabilities*, 32, 1147-1153.
- Winnick, J. (1995). *Adapted Physical Education and Sport*. New York: Human Kinetics.
- Wrotniak, B.H., Epstein, L.H., Dorn, J.M., Jones, K.E. & Kondilis, V.A. (2006). The relationship between motor proficiency and physical activity in children. *Pediatrics*, 118:1758-1765
- Yun, J. & Shapiro, D. (2004). A quantitative approach to movement skill assessment of children with mental retardation. *Adapted Physical Activity Quarterly*, 21, 269-280
- Yusof, S. Aiman, S. Zawi, M.K. Hasan, H. & Radzi. A.A. (2013). Body Composition Index Predict Children's Motor Skills Proficiency. *World Academy of Science, Engineering and Technology*, 79:1110-1116.
- Zikl, P. Holoubková, N. Karásková, H.. Veselíková, T. (2013). Gross Motor Skills of Children with Mild Intellectual Disabilities. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* 7 (10), 2789-2795
- Ziviani, J. Poulsen, A. & Hansen, C. (2009). Movement skills proficiency and physical activity: A case for Engaging and Coaching for Health (EACH)–Child. *Australian Occupational Therapy Journal*, 56(4), 259-265.
- Wuang, Y.P. Wang, C.C. Huang, M.H., Su, C.Y. (2008). Profiles and cognitive predictors of motor functions among early school-age children with mild intellectual disabilities. *J Intellect Disabil Res*, 52(12), 1048-60.