

BIOGRAPHICAL SKETCH

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NAME Michael W. O'Boyle	POSITION TITLE Hutcheson Professor of Human Development, Texas Tech University, Adjunct Professor, Pharmacology and Neuroscience, Texas Tech Health Sciences Center
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EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Loyola University of Chicago	B.S.	1975	Psychology
University of Nevada, Las Vegas	M.A.	1977	Pre-Clinical Psychology
University of Southern California	M.A.	1981	Experimental Psychology
University of Southern California	Ph.D.	1982	Cognitive Neuroscience

A. Positions and Honors:

1982 - 1988	Assistant Professor, Department of Psychology, Iowa State University
1989 - 1998	Associate Professor, Department of Psychology, Iowa State University
1999 - 2000	Professor, Department of Psychology, Iowa State University
2000 - 2004	Morgan Chair of Psychology and Director of the Morgan Centre for the Study of the Development of High Intellectual Potential, School of Behavioral Science, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Australia.
2004 – present	Professor of Human Development and Family Studies, Texas Tech University.
2008 - present	Adjunct Professor of Pharmacology and Neuroscience, Texas Tech Health Sciences Center.

Professional Memberships:

International Neuropsychological Society
Midwestern Psychological Association
Psychonomic Society

Editorial Board: Australasian Journal of Gifted Education; Guest Editor, Developmental Neuropsychology (special issue entitled “*Intelligence, Learning Disability and Related Brain Characteristics*”).

Ad Hoc Reviewer:**Journals**

American Journal of Psychology, Brain and Cognition, Brain and Language, Cognitive Brain Research, Cortex, Developmental Neuropsychology, Journal of Educational Psychology, Journal of the International Neuropsychological Society, Laterality, Learning and Individual Differences, Neuropsychologia, Neuropsychology, Perceptual and Motor Skills, Psychonomic Bulletin and Review, Psychological Reports, Psychophysiology, Psycology, Psychoneuroendocrinology, and others.

Grants

Economic and Social Research Council of Great Britain, Iowa Academy of Science, Israel Science Foundation, James S. McDonnell Foundation, MRC Trust, National Science Foundation (USA), National Health and Medical Research Council (Australia), Austrian Science Fund, Singapore Institute of Education.

Awards/Honors:

Participant in the inaugural James S. McDonnell Foundation Summer Institute in Cognitive Neuroscience, Harvard University, 1988; “Outstanding Educator Award”, Mortar Board, Iowa State University, 1989; Section Chair, Psychology, Iowa Academy of Science, 1989-1990; 1993-94; President's Outstanding Faculty Research Award, 2006 and 2009, Texas Tech University.

B. Selected peer-reviewed publications (out of a pool of more than 50 in chronological order):

1. O'Boyle, M. W., & Hellige, J. B. (1982). Hemispheric asymmetry, early visual processes and serial memory comparison. Brain and Cognition, 1, 224-243.
2. O'Boyle, M. W. (1985). Hemispheric asymmetry in memory search for four-letter names and human faces. Brain and Cognition, 4, 104-132.
3. Mitchell, D., Osborne, G., & O'Boyle, M. W. (1985). Habituation under stress: Shocked mice show nonassociative learning in a T-maze. Behavioral and Neural Biology, 43, 212-217.
4. O'Boyle, M. W., Van Wyhe-Lawler, F., & Miller, D. A. (1987). Recognition of letters traced in the right and left palms: Evidence for a process-oriented of tactile asymmetry. Brain and Cognition, 6, 474-494.
5. O'Boyle, M. W., & Hoff, E. J. (1987). Gender and handedness differences in mirror-tracing random forms. Neuropsychologia, 25, 977-982.
6. O'Boyle, M. W., & Murray, J. (1988). Hemispheric asymmetry for the identification of four-letter names traced in the right and left palms. Brain and Language, 34, 294-301.
7. O'Boyle, M. W., & Sanford, M. (1988). Hemispheric asymmetry in the matching of melodies to rhythm sequences tapped in the right and left palms. Cortex, 24, 211-221.
8. O'Boyle, M. W., & Hellige, J. B. (1989). Cerebral hemisphere asymmetry and individual differences in cognition. Learning and Individual Differences, 1, 7-35.
9. O'Boyle, M., & Benbow, C. P. (1990). Enhanced right hemisphere involvement during cognitive processing may relate to intellectual precocity. Neuropsychologia, 28, 211-216.
10. O'Boyle, M. W., Bormann, L., & Harts, K. (1990). How knowledge of the song influences the ability to recognize rhythm sequences tapped in the right and left palms. Cortex, 26, 639-642.
11. O'Boyle, M. W., Alexander, J. E., & Benbow, C. P. (1991). Enhanced right hemisphere activation in the mathematically precocious: A preliminary EEG investigation. Brain and Cognition, 17, 138-153.
12. Avant, L. L., O'Boyle, M. W., Thieman, A. A., Tepin, M. B., & Smith, F. R. (1993). Perceptual processing of pattern goodness by left and right hemispheres. Brain and Cognition, 22, 63-84.
13. O'Boyle, M. W., Gill, H., Benbow, C.P., & Alexander, J. E. (1994). Concurrent finger tapping in gifted and average ability male adolescents: Evidence for enhanced right hemisphere involvement during linguistic processing. Cortex, 30, 519-526.
14. O'Boyle, M.W., Hoff, E.J., & Gill, H.S. (1995). The influence of mirror reversals on male and female performance in spatial tasks: A componential look. Personality and Individual Differences, 18, 693-699.
15. O'Boyle, M.W., Benbow, C.P., Alexander, J.E. (1995). Sex differences, hemispheric laterality and associated brain activity in the intellectually gifted. Developmental Neuropsychology, 11, 415-443.
16. Alexander, J.E., O'Boyle, M.W. & Benbow, C.P. (1996). Developmentally advanced EEG alpha power in gifted male and female adolescents. International Journal of Psychophysiology, 23, 25-31.
17. Gill, H.S., & O'Boyle, M.W. (1997). Sex differences in matching circles and arcs: A preliminary EEG investigation. Laterality, 2, 33-48.
18. Gill, H.S., O'Boyle, M.W. & Hathaway, J. (1998). Cortical distribution of neural activity for component processes in mental rotation. Cortex, 34, 707-718.
19. O'Boyle, M.W. & Gill, H.S. (1998). On the relevance of research findings in cognitive neuroscience to educational practice. Educational Psychology Review, 10, 397-409.
20. Gill, H.S. & O'Boyle, M.W. (2003). Generating an image from an ambiguous visual input: An electroencephalographic (EEG) investigation. Brain and Cognition, 51, 287-293.
21. Singh, H. & O'Boyle, M.W. (2004). Differences in interhemispheric interaction during global/local processing in mathematically gifted adolescents, average ability youth and college students. Neuropsychology, 18, 371-377.
22. Silk, T., Vance, A., Rinehart, N., Egan, G., O'Boyle, M.W., Cunnington, R. (2005). Fronto-parietal activation in attention deficit hyperactivity disorder, combined type: Functional magnetic imaging study. British Journal of Psychiatry, 187, 282-283.
23. O'Boyle, M.W., Cunnington, R., Silk, T., Vaughan, D., Jackson, G., Syngeniotis, A., & Egan, G. (2005). Mathematically gifted male adolescents activate a unique brain network during mental rotation. Cognitive Brain Research, 25, 583-587.
24. Silk, T., Rinehart, N., Bradshaw, J.L., Tonge, B., Egan, G., O'Boyle, M.W., & Cunnington, R. (2006). Visuospatial processing and the function of prefrontal-parietal networks in Autism Spectrum Disorder: a functional MRI study. American Journal of Psychiatry, 163, 1440-1443.

25. Yingli, Li & O'Boyle, M.W. (2008). How sex, native language and college major relate to the cognitive strategies used during 3-D mental rotation. Psychological Record, 58, 289-302.
26. O'Boyle, M.W. (2008). Adolescent Psychopathology and the Developing Brain. Journal of Youth and Adolescence, 37, 481-483.
27. O'Boyle, M.W. (2008). Mathematically gifted children: Developmental brain characteristics and their prognosis for well-being. Roeper Review, 30, 181-186.
28. Baker, M., Akrofi, K., Schiffer, R., & O'Boyle, M.W. (2008). EEG patterns in mild cognitive impairment (MCI) patients. The Open Neuroimaging Journal, 2, 52-55.

C. Research Support:

Ongoing Research Projects:

Project Title: South Plains Mathematics Scholars Project. Co-PI, National Science Foundation, S-STEM Grant, Texas Tech University, 2007-2012, \$571,580.

Project Title: Neuropsychological and cognitive sequelae of binge drinking. Co-PI, Texas Tech University-Texas Tech Health Sciences Center, Joint Initiative Grant, 2008-2009, \$253,342.

Project Title: Modeling of the human brain through synergistic neuroimaging. Co-PI, Texas Tech University Research Development Grant, 2008-2010, \$480,928.

Completed Research Projects:

Project Title: Understanding the biological basis of mathematical giftedness and critical thinking skills. Telstra Community Development Grant. 07/01/04 to 06/31/05. The goal of this project was to use behavioral and neuroimaging techniques (fMRI) to reveal converging evidence about the underlying brain circuitry associated with mathematical giftedness and heightened critical thinking skills. Role: Co-PI (with Drs. G. Egan and T. Van Gelder).

Project Title: Brain characteristics of mathematically gifted boys and girls as revealed by fMRI. FRC Research Grant, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne. 07/01/2003 to 07/01/2004. The purpose of this study was to further develop fMRI protocols and analyses to reveal the underlying brain structures and circuitry associated with mathematical giftedness in adolescents. Role: Principle Investigator.

Project Title: Brain circuitry underlying mental operations in mathematically gifted boys and girls: A preliminary fMRI investigation. School of Behavioral Science Research Support Grant, University of Melbourne. 07/01/2002 to 06/30/2003. The purpose of this project was to use fMRI to detect underlying brain activity found in math gifted children doing calculation as compared to higher-order mathematical reasoning. Role: Principle Investigator.

Project Title: Mental rotation and reflection in mathematically gifted adolescents. Melbourne University Research Grant. 07/01/2001-06/30/2002. The goal of this project was to use fMRI techniques to identify and distinguish the brain circuitry associated with mental rotation from mirror reflection, and how it differs in mathematically gifted children. Role: Principle Investigator