

# Thomas Coyle, Ph.D.

## Professor

Department of Psychology

**Research area:** Cognition and Development

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## Degrees

- Ph.D. in Psychology, University of Florida
- M.A., Psychology, Florida Atlantic University
- B.A., Psychology, Florida Atlantic University

## Recent Courses

- 2503 *Developmental Psychology*
- 4143 *Memory*

## Research in Progress

My research program consists of two interrelated areas. The first and primary area explores the nature and development of cognitive ability, with current emphasis on (a) the predictive validity of cognitive tests after removing general intelligence (g), and (b) the contribution of processing speed in the development of g. The second area focuses on brain aging from a cognitive neuroscience perspective, with current emphasis on cerebral health and g-loaded cognitive processes (e.g., processing speed and executive function).

## Recent Publications

### Representative Publications (\* = Student Author)

- Coyle, T., Pillow, D., \*Snyder, A., & Kochunov, P. (in press). Processing speed mediates the development of general intelligence (g) in adolescence. *Psychological Science*.
- Coyle, T., \*Snyder, A., Pillow, D., & Kochunov, P. (2011). SAT predicts GPA better for high ability subjects: Implications for Spearman's Law of Diminishing Returns. *Personality and Individual Differences*, 50, 470-474.

- Kochunov, P., Coyle, T., Lancaster, J., Robin, D. A., Hardies, J., Kochunov, V., Bartzokis, G., Stanely, J., Royall, D., Schlosser, A. E., \*Null, M., & Fox, P. T. (2010). Processing speed is correlated with cerebral health markers in the frontal lobes as quantified by neuroimaging. *Neuroimage*, 49, 1190-1199.
- Kochunov, P., Robin, D. A., Royall, D. R., Coyle, T., Lancaster, J., Kochunov, V., Schlosser, A. E., & Fox, P. T. (2009). Can structural MRI indices of cerebral integrity track cognitive trends in executive control function during normal maturation and adulthood? *Human Brain Mapping*, 30, 2581-2594.
- Coyle, T. R., & Pillow, D. R. (2008). SAT and ACT predict college GPA after removing g. *Intelligence*, 36, 719-729.
- Kochunov, P., Thompson, P. M., Coyle, T. R., Lancaster, J. L., Kochunov, V., Royall, D., Mangin, J. F., Rivière, D., & Fox, P. T. (2008). Relationship among neuroimaging indices of cerebral health during normal aging. *Human Brain Mapping*, 29, 36-45.
- Coyle, T. R., Kochunov, P., Patel, R., Nery, F. G., Lancaster, J., Mangin, J. F., Rivière, D., Pillow, D. R., \*Davis, G. J., Nicoletti, M. A., Monkul, E. S., Fox, P. T., & Soares, J. C. (2006). Cortical sulci and bipolar disorder. *Neuroreport*, 17, 1739-1742.
- Coyle, T. R. (2006). Test-retest changes on scholastic aptitude tests are not related to g. *Intelligence*, 34, 15-27.
- Kochunov, P., Mangin, J. F., Coyle, T. R., Lancaster, J. L., Thompson, P., Rivière, D., Cointepas, Y., Regis, J., Schlosser, A., Royall, R. D., Zilles, K., Mazziotta, J., Toga, A., & Fox, P. T. (2005). Age-related morphology trends of cortical sulci. *Human Brain Mapping*, 26, 210-220.
- Coyle, T. R. (2003a). A review of the worst performance rule: Evidence, theory, and alternative hypotheses. *Intelligence*, 31, 567-587.
- Coyle, T. R. (2003b). IQ, the worst performance rule, and Spearman's law: A reanalysis and extension. *Intelligence*, 31, 473-489.
- Coyle, T. R. (2001a). Factor analysis of variability measures in eight independent samples of children and adults. *Journal of Experimental Child Psychology*, 78, 330-358.
- Coyle, T. R. (2001b). IQ is related to the worst performance rule in a memory task involving children. *Intelligence*, 29, 117-129.

### **Representative Presentations (Since 2010; \* = Student Author)**

- Coyle, T., \*Snyder, A., \*Purcell, J., & \*Huston, R. (2011, May). Test-specific variances from the SAT predict college GPA beyond general variance. Poster presented at the annual meeting of the Association for Psychological Science, Washington, DC.
- Coyle, T., \*Purcell, J., \*Snyder, A., & \*Huston, R. (2011, April). Predictive validity of SAT non-g variance for males and females. Poster presented at the annual meeting of the Southwestern Psychological Association, San Antonio, TX.
- \*Snyder, A., & Coyle, T. (2011, March). Does the TAKS predict first-year college GPA after removing general intelligence (g)? Poster presented at the annual UTSA College of Liberal and Fine Arts Student Research Competition, San Antonio, TX. [Poster won 2nd place in competition.]
- Coyle, T. R. (2010, December). Predicting college GPA using test-specific variances (TSVs) from the SAT. In T. R. Coyle (Chair), *Predicting academic achievement using*

non-g variance. Symposium conducted at the annual meeting of the International Society for Intelligence Research, Alexandria, VA.

- \*Purcell, J. M., & Coyle, T. R. (2010, December). Predicting college GPA using non-g variances from the SAT and ASVAB. In T. R. Coyle (Chair), Predicting academic achievement using non-g variance. Symposium conducted at the annual meeting of the International Society for Intelligence Research, Alexandria, VA.
- \*Snyder, A., & Coyle, T. R. (2010, December). Predicting first-year college GPA using the exit-level TAKS examination. In T. R. Coyle (Chair), Predicting academic achievement using non-g variance. Symposium conducted at the annual meeting of the International Society for Intelligence Research, Alexandria, VA.
- Coyle, T. R. (2010, October). SAT predicts subject-specific GPAs after removing g: A latent variable approach. Invited talk at the College Board / ETS / LSAC Speaker Series, Princeton, NJ.
- Coyle, T. R., \*Snyder, A., \*Purcell, J, Pillow, D. R. (2010, May). SAT predicts GPA better for high ability subjects: Influence of non-g variance. Poster presented at the annual meeting of the Association for Psychological Science, Boston, MA.

## **Additional Information**

### **Honors and Awards**

- Invited Conference Organizer (with Tim Keith), International Society for Intelligence Research, San Antonio, TX, 2012
- Symposium Chair, Predicting Academic Achievement Using Non-g Variance (Discussant: David Lubinski), International Society for Intelligence Research Conference, Alexandria, VA, 2010
- Invited Address, SAT Predicts Subject-Specific GPAs After Removing g: A Latent Variable Approach, Speaker Series Hosted by the College Board, Educational Testing Service, and Law School Admission Council, Princeton, NJ, 2010
- UTSA Faculty Development Leave at the College Board, New York, NY, 2009
- Principal Investigator, A Probabilistic Reference System of the Human Brain: The Role of White and Gray Matter Atrophy in the Neuropsychological Decline of Patients with Mild Cognitive Impairment. General Clinical Research Center-Imaging Core, University of Texas Health Science Center at San Antonio, 2006-2008.
- Principal Investigator, Can Cognitive Tests Predict Brain Indicators of Mild Cognitive Impairment? San Antonio Area Foundation, 2005-2006.
- Faculty Research Award, University of Texas at San Antonio, 1997, 2000, 2006

### **Academic and Professional Activities**

- Memberships: International Society for Intelligence Research, Association for Psychological Science, Southwestern Psychological Association
- Review Editorial Board, Frontiers in Neurogenomics, 2011-Present
- Ad Hoc Reviewer: Child Development, Developmental Neuropsychology, Developmental Psychology, Infant and Child Development, Journal of Abnormal Child

Psychology, Journal of Attention Disorders, Journal of Experimental Child Psychology,  
Learning and Individual Differences, Memory and Cognition, Personality and Individual  
Differences