

Emilio Ferrer
Curriculum Vitae

Department of Psychology
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Education

Ph.D. Quantitative Psychology. University of Virginia, 2003.
M.S. Social Psychology of Sports and Physical Activity. University of Oregon, 1997.
Universidad de Alicante, Spain. Sociology, 1994.
Licenciatura. Physical Education. Universidad Politécnica de Madrid, Spain, 1989.

PROFESSIONAL HISTORY

Employment

2008– Associate Professor Department of Psychology, University of California, Davis
2003–2008 Assistant Professor Department of Psychology, University of California, Davis
2002– 2003 Postdoctoral Fellow Institute for Developmental & Health Research Methodology
University of Virginia

Teaching – UC Davis Courses

Applied Multivariate Analysis (Graduate)
Applied Longitudinal Data Analysis (Graduate)
Longitudinal Methodology in Developmental Research (Graduate)
Statistical Analysis in Psychology (Graduate)
Structural Equation Modeling (Graduate)
Statistical Analysis of Psychological Data (Undergraduate)

Teaching – Workshops

July 2003 Instructor American Psychological Association Advanced Training Institute on
Longitudinal Methods, University of Virginia

April 2005 Instructor Applied Longitudinal Data Analysis
Bay Area Affective Science Training Program (Stanford University, UC
Berkeley, UC Davis, UC San Francisco)

June 2005 Instructor Advanced Training Institute on Longitudinal Methods, University of
Southern California

August 2005 Instructor Workshop on Longitudinal Data Analysis, Curry School of Education,
University of Virginia

July 2009-10 Instructor American Psychological Association Advanced Training Institute on Longitudinal Methods, University of Virginia

University Service – Department of Psychology UC Davis

2006 - 2011 Head, Quantitative Psychology Area
 2008 - 2011 Member, Executive Committee
 2006 - 2009 Chair, Graduate Admissions Committee
 2007 - 2009 Member, Undergraduate Advising Committee
 2004 - 2007 Chair, Undergraduate Curriculum Committee
 2006 - 2008 Member, Developmental Faculty Search Committee
 2005 - 2006 Member, Quantitative Faculty Search Committee

Outside Service

2007 - 2010 Member, Research Review Board, National Collegiate Athletic Association

Honors and Awards

2000-02 Institute on Longitudinal Methods Scholarship, The Pennsylvania State University
 2002 The Society of Multivariate Experimental Psychology Dissertation Award
 2005 APA Division 5 Dissertation Award, American Psychological Association
 2005 Elected member, Society of Multivariate Experimental Psychology
 2006 Education Abroad Program, University of California
 Visiting Scholar - Universidad de Granada, Spain (May-June 2006)

Professional Memberships

American Psychological Association, Society of Multivariate Experimental Psychology, Society for Research in Child Development

Ad hoc reviewer

Journals

Archives of General Psychiatry, Cognitive Therapy and Research, Developmental Psychology, Experimental Aging Research, Intelligence, Journal of Applied Developmental Psychology, Journal of Cognition and Development, Journal of Experimental Child Psychology, Journal of Sport and Exercise Psychology, Learning and Individual Differences, Motivation and Emotion, Multivariate Behavioral Research, Psychological Assessment, Psychological Bulletin, Psychological Methods, Psychology and Aging, Psychological Science, Psychometrika, Research on Human Development, Research Quarterly for Exercise and Sport, Revista Mexicana de Psicología, The Journal of Gerontology: Psychological Sciences

Grants

National Science Foundation

Books

Oxford University Press, American Psychological Association

Professional Societies

American Psychological Association, Division 5 (Evaluation, Measurement, and Statistics)

PUBLICATIONS

Articles and Book Chapters

1. **Ferrer-Caja, E.**, & Weiss, M.R. (2000). Predictors of intrinsic motivation among adolescent students in physical education. *Research Quarterly for Exercise and Sport*, *71*, 267-279.
2. **Ferrer-Caja, E.**, Crawford, J.R., & Bryan, J. (2002). A structural modeling examination of the executive decline hypothesis of cognitive aging through reanalysis of Crawford et al.'s (2000) data. *Aging, Neuropsychology, and Cognition*, *9*, 231-249.
3. **Ferrer-Caja, E.**, & Weiss, M.R. (2002). Cross-validation of a model of intrinsic motivation in physical education with students enrolled in elective courses. *Journal of Experimental Education*, *71*, 41-65.
4. McArdle, J.J., **Ferrer-Caja, E.**, Hamagami, F., & Woodcock, R.W. (2002). Comparative longitudinal structural analyses of the growth and decline of multiple intellectual abilities over the life-span. *Developmental Psychology*, *38*, 115-142.
5. Weiss, M.R., & **Ferrer-Caja, E.** (2002). Motivational orientations in sport. In T.S. Horn (Ed.), *Advances in sport psychology* (2nd ed., pp. 101-183). Champaign, IL: Human Kinetics.
6. **Ferrer, E.** & McArdle, J.J. (2003). Alternative structural models for multivariate longitudinal data analysis. *Structural Equation Modeling*, *10*, 493-524.
7. **Ferrer, E.** & Nesselroade, J.R. (2003). Modeling affective processes in dyadic relations via dynamic factor analysis. *Emotion*, *3*, 344-360.
8. Salthouse, T.A., & **Ferrer-Caja, E.** (2003). What needs to be explained to account for age-related effects on multiple cognitive variables? *Psychology and Aging*, *18*, 91-110.
9. **Ferrer, E.**, Hamagami, F., & McArdle, J.J. (2004). Modeling latent growth curves with incomplete data using different types of structural equation modeling and multilevel software. *Structural Equation Modeling*, *11*, 452-483.
10. **Ferrer, E.**, Salthouse, T.A., Stewart, W.F. & Schwartz, B.S. (2004). Modeling age and retest processes in longitudinal studies of cognitive abilities. *Psychology and Aging*, *19*, 243-259.
11. Salthouse, T.A., Schroeder, D.H. & **Ferrer, E.** (2004). Estimating retest effects in longitudinal assessment of cognitive functioning in adults between 18 and 60 years of age. *Developmental Psychology*, *40*, 813-822.
12. **Ferrer, E.** & McArdle, J.J. (2004). An experimental analysis of dynamic hypotheses about cognitive abilities and achievement from childhood to early adulthood. *Developmental Psychology*, *40*, 935-952.

13. **Ferrer, E.**, Salthouse, T.A., McArdle, J.J., Stewart, W.F. & Schwartz, B.S. (2005). Multivariate modeling of age and practice in longitudinal studies of cognitive abilities. *Psychology and Aging*, *20*, 412-422.
14. **Ferrer, E.** (2006). Application of dynamic factor analysis to affective processes in dyads. In A.D. Ong & M. van Dulmen (Eds.), *Handbook of methods in positive psychology* (pp. 41-58). New York: Oxford University Press.
15. Sbarra, D.A., & **Ferrer, E.** (2006). The Structure and process of emotional experience following non-marital relationship dissolution: Dynamic factor analyses of love, anger, and sadness. *Emotion*, *6*, 224-238.
16. Bales, K. L., Plotsky, P. M., Young, L. J, Lim, M. M., Grotte, N., **Ferrer, E.**, & Carter, C. S. (2007). Neonatal oxytocin manipulations have long-lasting, sexually dimorphic effects on vasopressin receptors. *Neuroscience*, *144*, 38-45.
17. Chow, S –M., **Ferrer, E.**, & Nesselroade, J.R. (2007). An unscented Kalman filter approach to the estimation of nonlinear dynamical systems models. *Multivariate Behavioral Research*, *42*, 283-321.
18. **Ferrer, E.**, McArdle, J.J., Shaywitz, B.A., Holahan, J.N., Marchione, K., & Shaywitz, S.E. (2007). Longitudinal models of developmental dynamics between reading and cognition from childhood to adolescence. *Developmental Psychology*, *43*, 1460-1473.
19. Kail, R.V., & **Ferrer, E.** (2007). Processing speed in childhood and adolescence: Longitudinal models for examining developmental change. *Child Development*, *78*, 1760-1770.
20. Shaywitz, B.A., **Ferrer, E.**, & Shaywitz, S.E. (2007). A case of less than meets the eye. *Annals of Neurology*, *10.1002*, 21156.
21. Corbett, B., Shickman, K., & **Ferrer, E.** (2008). The effects of Tomatis sound therapy on language in children with autism. *Journal of Autism and Developmental Disorders*, *38*, 562-566.
22. **Ferrer, E.**, & Widaman, K. F. (2008). Dynamic factor analysis of dyadic affective processes with inter-group differences. In N.A. Card, J.P. Selig., & T.D. Little (Eds.), *Modeling dyadic and interdependent data in the developmental and behavioral sciences* (pp. 107-137). Hillsdale, NJ: Psychology Press.
23. **Ferrer, E.**, Balluerka, N., & Widaman, K.F. (2008). Factorial Invariance and the specification of second-order latent growth models. *Methodology*, *4*, 22-36.
24. Wright, S.B., Matlen, B.J., Baym, C.L., **Ferrer, E.**, & Bunge, S.A. (2008). Neural correlates of fluid reasoning in children and adults. *Frontiers in Neuroscience*, *1*, 1-8.
25. **Ferrer, E.**, O’Hare, E., & Bunge, S.A. (2009). Fluid reasoning and the developing brain. *Frontiers in Neuroscience*, *3*(1), 46-51.

26. **Ferrer, E.**, & Zhang, G. (2009). Time series models for examining psychological processes: Applications and new developments. In R. E. Millsap, & A. Maydeu-Olivares (Eds.), *Handbook of quantitative methods in psychology* (637-657). London: Sage Publications.
27. Song, H., & **Ferrer, E.** (2009). State-space modeling of dynamic psychological processes via the Kalman smoother algorithm: Rationale, finite sample properties, and applications. *Structural Equation Modeling*, *16*, 338-363.
28. Song, H., Thompson, R.A., & **Ferrer, E.** (2009). Attachment and self-evaluation in Chinese adolescents: Developmental and gender differences. *Journal of Adolescence*, *32*, 1267-1286.
29. **Ferrer, E.**, Chen, S., Chow, S.M., & Hsieh, F. (2010). Exploring intra-individual, inter-individual and inter-variable dynamics in dyadic interactions. In S.M. Chow, E. Ferrer, & F. Hsieh (Eds.), *Statistical methods for modeling human dynamics: An interdisciplinary dialogue* (pp. 381-411). New York: Taylor and Francis.
30. **Ferrer, E.**, Shaywitz, B.A., Holahan, J.N., Marchione, K., & Shaywitz, S.E. (2010). Uncoupling of reading and IQ over time: Empirical evidence for a definition of dyslexia. *Psychological Science*, *21*, 93-101.

In Press

31. Conger, R. D., Song, H., **Ferrer, E.**, & Stockdale, G. D. (in press). Resilience and vulnerability of Mexican origin youth and their families. In P. K. Kerig, M. S. Schulz, & S. T. Hauser (Eds.), *Adolescence and beyond: Family processes and development*. New York: Oxford University Press.
32. **Ferrer, E.**, & McArdle, J.J. (in press). Longitudinal modeling of developmental changes in psychological research. *Current Directions in Psychological Science*.
33. Gaffney, T., Cudeck, R., **Ferrer, E.**, & Widaman, K.F. (in press). On the factor structure of standardized educational achievement tests. *Advances in Rasch Modeling II*.
34. Hsieh, F., **Ferrer, E.**, Chen, S., & Chow, S.-M. (in press). Exploring nonstationary dynamics in dyadic interactions via hierarchical segmentation. *Psychometrika*.
35. Larzalere, R. E., **Ferrer, E.**, & Khun, B.R. (in press). Validity of causal inferences from passive longitudinal analyses of correction interventions: Accounting for selection and regression artifacts. *International Journal of Behavioral Development*.
36. MacLean, K.A., **Ferrer, E.**, Aichele, S.R., Bridwell, D.A., Zanesco, A.P., Jacobs, T.L., King, B.G., Rosenberg, E.L., Sahdra, B.K., Shaver, P.R., Wallace, B.A., Mangun, G.R., & Saron, C.D. (in press). Intensive meditation training leads to improvements in perceptual discrimination and sustained attention. *Psychological Science*.

37. McAssey, M., Hsieh, F., & **Ferrer, E.** (in press). Optimal and robust design for efficient system-wide synchronization in networks of randomly-wired neuron-nodes. *Statistics and Its Interface*.

38. Widaman, K.F., & **Ferrer, E.**, & Conger, R.D. (in press). Factorial invariance within longitudinal structural equation models: Measuring the same construct across time. *Child Development Perspectives*.

Books

Chow, S.M., **Ferrer, E.**, & Hsieh, F. (2010). *Statistical methods for modeling human dynamics: An interdisciplinary dialogue*. Notre Dame Series on Quantitative Methodology (Vol. 4). New York: Taylor and Francis.

GRANTS

Ongoing Research Support

Current Support:

BCS – 0527766 Emilio Ferrer (PI)	01/01/2006 – 06/30/2010
National Science Foundation	\$722,300
Dynamics of Human Behavior: Modeling the Dynamics of Dyadic Interactions	
Role: PI	

1R01NS057146-01 Silvia Bunge & Emilio Ferrer (Multiple PIs)	07/01/2007 – 06/30/2012
NIH-NINDS	\$1,866,754
Neural Changes Underlying the Development of Reasoning	
Role: PI	

BCS – 0827021 Sy Miin Chow (PI)	09/25/2008 – 08/31/2011
National Science Foundation	\$750,000
DHB Collaborative Research: Developing Non-Stationary and Network-based Methods for Modeling the Perception and Physiology of Emotion	
Role: PI (Sub-contract with UNC-Chapel Hill)	

Grant #2191 Clifford Saron (PI)	07/01/2006 – 06/30/2011
The Fetzer Institute	\$1,488,650
A Longitudinal, Randomized Waitlist Control Study of Cognitive, Emotional, and Neural Effects of Intensive Meditation Training	
Role: Co-PI	

1R01 HD056031-01 Susan Rivera (PI)	08/08/2007 – 05/31/2012
NIH-NICHD	\$1,274,417
Visual Processing and Later Cognitive Effects in Infants with Fragile X Syndrome	
Role: Co-Investigator	

Submitted/Pending Research Grants

Rand D. Conger (PI) 07/01/2010 – 06/30/2015
 NIH-NIDA – R01DA017902-06 \$7,799.238
 Mexican Family Culture & Substance Use Risk & Resilience
 Role: Co-PI

Completed

Emilio Ferrer (PI) 01/07/2004 – 30/09/2005
 University of California, Davis (Office of Academic Senate) \$33,000
 Modeling Dynamics of Dyadic Interactions
 Role: Principal Investigator

Emilio Ferrer (PI) 01/10/2005 – 30/06/2006
 UC Davis: Center on Quantitative Social Science Research
 Seminar & Workshop: Dynamical Factor Analysis
 Seminar and workshop to present practical techniques for the analysis of data using dynamic factor analysis. Invited presenter: Dr. Michael Browne (Ohio State University).
 Role: Seminar Organizer

R03 HD44679-01A1 Robert E. Larzelere (PI) 03/10/2004 - 02/28/2006
 NIH-NICHD \$73,500
 Antisocial Growth and Parenting: Bidirectional Linkages
 Role: Consultant

Robert Kail (PI) 01/09/2004 – 31/08/2005
 NIH-NICHD
 Nature and Impact of Development in Processing Speed
 Role: Consultant

Alex Mason (PI) 01/09/2005 – 31/03/2007
 NIH-NIDA
 Role of Psychopathology in Adolescent Problem Drug Use
 Role: Consultant

CONFERENCE ORGANIZATIONS

Organizer (with Silvia Bunge). Annual Psychology Department Conference (May, 2004).
 Department of Psychology, University of California, Davis, CA.

Organizer (with Nekane Balluerka). Videoconference on Research Designs and Data Analysis for Modeling Change in Longitudinal Studies. (February 2007). Methodology for the Social and Health Sciences Annual Meeting. Barcelona, Spain.

ADVISING***Graduate Students***

2004 – 2009 Hairong Song, Doctoral student (Assistant Professor, University of Oklahoma)
 2007 – present Joel Steele, Doctoral student

2008 – present Laura Castro-Schilo, Doctoral student
 2008 – present Stephen Aichele, Doctoral student
 2008 – present Jonathan Helm, Doctoral student

Undergraduate Students

2005 – 2006 Brittany Gentile, Honors Thesis. Highest Honors.
 2006 – 2007 Bryan Matlen, Honors Thesis. Highest Honors.

Visiting Scholars

May-June 05 Isabel Cuadrado Guirado, Visiting scholar, Universidad Nacional de Educación a Distancia, Madrid, Spain.

April-May 06 Nekane Balluerka, Visiting scholar, Universidad del Pais Vasco, San Sebastian, Spain.

Aug-Dec. 07 Ana María López, Visiting scholar, Universidad de Sevilla, Sevilla, Spain.

Aug-Nov 08 Fernando Molero, Visiting scholar, Universidad Nacional de Educación a Distancia, Madrid, Spain.

Research Lab Students and Alumni

Elizabeth Abinante, Nahal Agahi, Sarah Andrews, Christie Barnett, Suk Brar, Philip Cello, Christina Crosetti, Michelle DeLong*, Roman Deveras, Lizbeth Duran*, Neil Eligado, Erica González*, Jessica Gould, Annie Hayes, Cindy Hing, Mary Ho, Poplar Haines, Jonathan Helm*, Cindy Hing, Yvonne Jefferson, Lauren Jenkins, Charlene Lal, Ignacia López, Jennifer Macway, Kimberly Malinowski, Bryan Matlen*, Dale Mendoza, Nicole Nelson, Anh Nguyen, Teresa Nguyen, Katherine O'Leary, Jenna Ornbaun, Sofia Reamer, Alexandra Schade, Alicia Semiatin, Jason Sharp, Catherine Shih, Ashika Singh*, Catherine Tran, Monique Truchetta, Arlene Visitacion, Hanna Walicki, Lydia Werner*, Alaina White, Heather Wilson, Lindsey Yarbrough*, Jenny Yen, Theresa Yim, Angie Yu

* *Currently Attending Graduate School*

PROFESSIONAL DEVELOPMENT

Workshops and Seminars Attended

2000 Institute on Longitudinal Methods, The Pennsylvania State University: Multilevel and Growth Curve Modeling
 2001 Institute on Longitudinal Methods, The Pennsylvania State University: Longitudinal Modeling with Mplus
 2002 Institute on Longitudinal Methods, The Pennsylvania State University: Missing Data in Longitudinal Research
 2003 Notre Dame Series on Quantitative Methodology, Notre Dame University: Data Analytic Techniques for Dynamical Systems
 2004 Factor Analysis at 100, University of North Carolina, Chapel Hill
 2004 5th International Conference on Independent Component Analysis, Granada, Spain.

Updated January 2010