

Christine E. DeMars

Office Address

Center for Assessment & Research Studies
MSC 6806
James Madison University
Harrisonburg, VA 22807
(540) 568-8047
email: demarsce@jmu.edu

Education

Michigan State University, Ph.D. in measurement and quantitative methods (1998).
Arizona State University, Master of Education in elementary education (1993).
Arizona State University, graduate work in social psychology (1990 - 1991).
Wichita State University, Bachelor of Arts in psychology (1990).

Employment

Associate assessment specialist/associate professor of graduate psychology. Center for Assessment and Research Studies, James Madison University (8/2005-present).
Assistant assessment specialist/assistant professor of psychology. Center for Assessment and Research Studies, James Madison University (7/1998-7/2005).

Graduate Courses Taught

Item Response Theory
Advanced Item Response Theory
Measurement Theory
Multivariate Statistics

Peer-Reviewed Publications

DeMars, C. E. (2007). "Guessing" parameter estimates for multidimensional IRT models. *Educational and Psychological Measurement*, 67, 433-446.
DeMars, C. E. (2007). Changes in rapid-guessing behavior over a series of assessments. *Educational Assessment*, 12, 23-45.
DeMars, C. E. (2006). Application of the bi-factor multidimensional item response theory model to testlet-based tests. *Journal of Educational Measurement*, 43, 145-168.
Wise, S. L. & DeMars, C. E. (2006). An application of item response time: The effort-moderated model. *Journal of Educational Measurement*, 43, 19-38.
DeMars, C. E. (2005). Type I error rates for PARSCALE's fit index. *Educational and Psychological Measurement*, 65, 42-50.
Wise, S. L. & DeMars, C. E. (2005). Low examinee effort in low-stakes assessment: Problems and potential solutions. *Educational Assessment* 10, 1-17.

- DeMars, C. E. (2004). Measuring higher education outcomes with a multidimensional Rasch model. *Journal of Applied Measurement, 5*, 350-361.
- DeMars, C. E. (2004). Detection of item parameter drift over multiple test administrations. *Applied Measurement in Education, 17*, 265-300.
- DeMars, C. E. (2004). Type I error rates for generalized graded unfolding model fit indices. *Applied Psychological Measurement, 28*, 48-71.
- DeMars, C. E., & Erwin, T. D. (2004). Scoring *Neutral or Unsure* on an identity development instrument for higher education. *Research in Higher Education, 45*, 83-95.
- DeMars, C. E. (2003). Detecting multidimensionality due to curricular differences. *Journal of Educational Measurement, 40*, 29-51.
- DeMars, C. E. (2003). Sample size and the recovery of nominal response model item parameters. *Applied Psychological Measurement, 27*, 275-288.
- DeMars, C. E., Cameron, S. L., & Erwin, T. D. (2003). Information literacy as foundational: Determining competence. *Journal of General Education, 52*, 253-265.
- DeMars, C. E., & Erwin, T. D. (2003). Revising the scale of intellectual development: Application of an unfolding model. *Journal of College Student Development, 44*, 168-184.
- DeMars, C. (2002). Incomplete data and item parameter estimates under JMLE and MML. *Applied Measurement in Education, 15*, 15-31.
- DeMars, C. E., Sundre, D. L., & Wise, S. L. (2002). Standard setting: A systematic approach to interpreting student learning. *Journal of General Education, 51*, 1-20.
- Lachnicht, D., Brevard, P. B., Wagner, T. L., & DeMars, C. E. (2002). Dietary oxygen radical absorbance capacity as a predictor of bone mineral density. *Nutrition Research, 22*, 1389-1399.
- DeMars, C. (2001). Group differences based on IRT scores: Does the model matter? *Educational and Psychological Measurement, 61*, 60-70.
- DeMars, C. (2000). Test stakes and item format interactions. *Applied Measurement in Education, 13*, 55-77.
- DeMars, C. (1998). Gender differences in mathematics and science on a high school proficiency exam. *Applied Measurement in Education, 11*, 279-299.

Other Publications

- Anderson, R. D., & DeMars, C. (2002, May/June). Differential item functioning (DIF): Investigating item bias. *Assessment Update, 14* (3), 12, 16.
- Erwin, T. D., & DeMars, C. (2002, March/April). Advancing assessment: Why not computer based assessment? *Assessment Update, 14* (2), 1-2, 15-16.
- DeMars, C. (2001). Computer program exchange: Read_FastTestPro_Log: Extraction of examinee data from FastTEST Pro examinee files. *Applied Psychological Measurement, 25*, 356.
- DeMars, C. (2000). Computer program exchange: DRAWICC: Modules to graph item response functions and item information functions with SAS GPLOT. *Applied Psychological Measurement, 24*, 224.

Presentations

- DeMars, C. E., & Wise, S. L. (2007, April). Can differential rapid-guessing behavior lead to differential item functioning?. In *International Perspectives on Test-Taking Behavior*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- DeMars, C. E. (2005, August). *Scoring Subscales using Multidimensional Item Response Theory Models*. Poster presented at the annual meeting of the American Psychological Association, Washington, DC.
- DeMars, C. E., & Erwin, T. D. (2005, August). *Neutral or Unsure: Is there a Difference?*. Poster presented at the annual meeting of the American Psychological Association, Washington, DC.
- DeMars, C. E. (2005, April). *"Guessing" Parameter Estimates for Multidimensional IRT Models*. Paper presented at the annual meeting of the American Educational Research Association, Montreal.
- Wise, S. L., & DeMars, C. E. (2005, April). *An Application of Item Response Time: The Effort-Moderated IRT Model*. Paper presented at the annual meeting of the American Educational Research Association, Montreal.
- DeMars, C. E. (2004, April). *Item Parameter Drift: The Impact of the Curricular Area*. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- DeMars, C. E. (2004, April). *A Comparison of the Recovery of Parameters Using the Nominal Response and Generalized Partial Credit Models*. Poster presented at the annual meeting of the American Educational Research Association, San Diego.
- DeMars, C. (2003, April). *Missing Data and IRT Item Parameter Estimation*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- DeMars, C. (2003, April). *Recovery of Graded Response and Partial Credit Parameters in MULTILOG and PARSCALE*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Haley, K. A., DeMars, C. E., & Pieper, S. L. (2003, April). *Automated Essay Scoring: A Real-Life Validation Study*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Wise, S. L., & DeMars, C. E. (2003, June). *Examinee motivation in low-stakes assessment: Problems and potential solutions*. Paper presented at the annual Assessment Conference of the American Association of Higher Education, Seattle.
- DeMars, C. (2002, June). *Equating multiple forms of a competency test: An Item Response Theory approach*. Paper presented at the annual meeting of the Association for Institutional Research, Toronto.
- DeMars, C. (2002, June). *Modeling student outcomes in a general education course with hierarchical linear models (HLM)*. Paper presented at the annual meeting of the Association for Institutional Research, Toronto.
- DeMars, C., & Erwin, T. D. (2001, June). *Applications of Item Response Theory in Higher Education*. Paper presented at the Assessment Conference of the American Association for Higher Education, Denver.
- Wise, S. L., & DeMars, C. (2001, June). *Feedback from the Front: Establishing Computer-Based Tests at James Madison University*. Paper presented at the annual Assessment Conference of the American Association for Higher Education, Denver.
- DeMars, C. (1999, April). *Group differences based on IRT scores: Does the model matter?* Paper presented at the annual meeting of the American Educational Research Association, Montreal.

- DeMars, C. (1999, April). *Does the relationship between motivation and performance differ with ability?* Paper presented at the annual meeting of the National Council for Measurement in Education, Montreal.
- Erwin, T. D., DeMars, C., Anderson, R. (1999, June). *Assessment of Critical Thinking: Empirical Studies About ETS's Tasks in Critical Thinking and the California Critical Thinking Skills Test.* Paper presented at the Assessment Conference of the American Association for Higher Education, Denver.
- DeMars, C. (1998, April). *Item estimates under low-stakes conditions: How should omits be treated?* Poster session presented at the annual meeting of the American Educational Research Association, San Diego.
- DeMars, C. (1997, March). *Physics or biology? Geometry or algebra? Gender and content interactions on a high school proficiency test.* Poster session presented at the annual meeting of the American Educational Research Association, Chicago.

Memberships

National Council for Measurement in Education

American Educational Research Association

AERA Division D Program Co-Chair for 2007 Annual Meeting

Member of NCME Award Committee for Technical or Scientific Contribution, 2006

Member of NCME Award Committee for Outstanding Dissemination, 2007