

**CURRICULUM VITA****Dimitar M. Dimitrov****February, 2016****E-mail:** ddimitro@gmu.edu

<b>Degrees</b> .....	2
Current Professional Status .....	2
Academic Experience .....	2
<b>Publications:</b>	
Book chapters/Manuals .....	3
Refereed Journal Articles.....	4
Selected Refereed Research Reports .....	7
Refereed Paper Presentations	
National/International Conferences .....	7
Invited Presentation at AERA Conferences .....	11
Regional Conferences .....	12
<b>Invitational Courses/Seminars International</b> .....	14
<b>Software for Psychometric Procedures</b> .....	15
<b>Teaching (Graduate Courses &amp; Workshops)</b> .....	16
<b>Service to the profession</b> .....	17
<b>Programming and Software Experience</b> .....	18

## DEGREES

**Ph. D. in Educational Psychology (Educational Measurement & Statistics)** from Southern Illinois University at Carbondale, 1995. (Dissertation topic: “*Cognitive Item Subordinations in Linear Logistic Test Modeling*”).

**Ph.D. in Mathematics (Mathematics Education)** from the Department of Mathematics at Sofia University "Kliment Ohridski", Bulgaria, 1984. (Dissertation topic: “*Acquisition of mathematics knowledge in the environment of foreign language education*”).

**Bachelor in Mathematics**, from the Department of Mathematics at Sofia University "Kliment Ohridski", Bulgaria.

## Current Professional Status:

- **Professor Emeritus** of Measurement and Quantitative Research Methods in Education in the Graduate School of Education, George Mason University, Fairfax, Virginia; (Teaching online coursed on modern measurement, validation of assessment scales, and structural equation modeling)
- **Senior Psychometrician** at the National Center for Assessment in Higher Education (NCA) in Riyadh, Saudi Arabia.

## Past Professional Appointments:

**Editor** of *Measurement and Evaluation in Counseling and Development* - the official journal of the American Association for Assessment in Counseling and Education (2005-2011)

**Past President** of the American Educational Research Association (MWER).)

## Academic Experience

**Professor Emeritus of Professor of Educational Measurement & Quantitative Research Methods** in the Graduate School of Education at George Mason University (2014 – Present).

**Senior Psychometrician** at the National Center for Assessment in Higher Education (NCA) in Riyadh, Saudi Arabia (2014-Present).

**Professor of Educational Measurement & Quantitative Research Methods** in the Graduate School of Education at George Mason University (2007 – 2014).

**Associate Professor of Educational Measurement & Quantitative Research Methods** in the Graduate School of Education at George Mason University (2003 – 2007).

**Associate Professor of Educational Measurement & Statistics** in the College and Graduate School of Education at Kent State University, Kent, Ohio (2001 - 2003).

**Assistant Professor of Educational Measurement & Statistics** (1995 - 2000) and Director of the Bureau of Research (1997 - 1999) in the College and Graduate School of Education at Kent State University, Kent, Ohio.

**Teaching Assistant** (1992-1995) **and Lecturer** (1995) **of Educational Statistics** at the Department of Educational Psychology, Southern Illinois University at Carbondale [SIUC].

**Instructor of Mathematics and Computer Programming** in J.A.Logan Community College at Carbondale, Illinois (1994-1995) [during the Ph.D. program at SIUC].

**Associate Professor of Mathematics and Statistics in Education**, Department of Education at the University of Sofia, “Kliment Ohridski”, Bulgaria (1984-1991).

**Mathematics Instructor** at the Department of Mathematics - College for International Students, Sofia, Bulgaria (1977-1983).

### **Books/Book Chapters:**

Dimitrov, D. M. (2012). *STATISTICAL METHODS FOR VALIDATION OF ASSESSMENT SCALE DATA IN COUNSELING AND RELATED FIELDS*. Alexandria, VA: American Counseling Association.

Dimitrov, D. M. (2008). *QUANTITATIVE RESEARCH IN EDUCATION: INTERMEDIATE & ADVANCED METHODS*. Oceanside, NY: Whittier Publications.

Dimitrov, D. M. (2012). **COMPARING GROUPS ON LATENT VARIABLES: A STRUCTURAL EQUATION MODELING APPROACH**. In W. Paul Vogt & R. Burke Johnson (Eds.) *Correlation and Regression Analysis, Vol. 3* (pp. 201-212). Sage Publications.

Dimitrov, D. M. (2007): **RELIABILITY**. In B. Erford (Ed.) *Assessment for Counselors* (pp. 99-122). Boston: Houghton-Mifflin/Lahaska Press.

Dimitrov, D.M. (2006). **VALIDATION OF COGNITIVE OPERATIONS AND PROCESSES ACROSS ABILITY LEVELS AND INDIVIDUAL TEST ITEMS**. In T. E. Scuggs & M. A. Mastropieri (Eds.) *Advances in Learning and Behavioral Disabilities, Vol. 19* (pp. 55-81). San Diego, CA: ELSEVIER, Ltd.

Dimitrov, D. M. (2007). **CORRELATION AND REGRESSION**. In B. Erford (Ed.) *Research and Evaluation in Counseling* (pp. 405-430). Boston: Houghton-Mifflin/Lahaska Press.

Dimitrov, D. M. (2007). **MULTIPLE REGRESSION**. In B. Erford (Ed.) *Research and Evaluation in Counseling* (pp. 467-491). Boston: Houghton-Mifflin/Lahaska Press.

Dimitrov, D. M.(2007). **MULTIVARIATE ANALYSIS OF VARIANCE**. In B. Erford (Ed.) *Research and Evaluation in Counseling* (pp. 492-508). Boston: Houghton-Mifflin/Lahaska Press.

Dimitrov, D. M. (2007). **FACTOR ANALYSIS AND OTHER MULTIVARIATE METHODS**. In B. Erford (Ed.) *Research and Evaluation in Counseling* (pp. 509-523). Boston: Houghton-Mifflin/Lahaska Press.

Dimitrov, D. M. (2007). **PARTIAL AND SEMIPARTIAL CORRELATIONS**. In B. Erford (Ed.) *Research and Evaluation in Counseling* (pp. 524-527). Boston: Houghton-Mifflin/Lahaska Press.

Dimitrov, D.M. (1997). *Manual with Test Bank to Accompany Elmore/Woehlke Basic Statistics*. New York: Longman.

## Refereed Journal Articles

- Dimitrov, D. M. (in press). **An approach to scoring and equating tests with binary items: Piloting with large-scale assessments.** *Educational and Psychological Measurement.*
- Raykov, T., Gabler, S., & Dimitrov (in press). **Maximal Criterion Validity and Scale Criterion Validity: A Latent Variable Modeling Approach for Examining Their Difference.** *Structural Equation Modeling.*
- Berkeley, S., Regan, K., Dimitrov, D., Guckert, M., & Ray, S. (in press). **Teachers' basic knowledge of reading instruction: Insights from a teacher preparation program.** *The Teacher Educators' Journal.*
- Park, M. H., Dimitrov, D. M., Das, A., & Gichuru, M. (2016). **The Teacher Efficacy for Inclusive Practices (TEIP) Scale: Dimensionality and factor structure.** *Journal of Research in Special Educational Needs, 16,* 2-12.
- Park, M. H., Dimitrov, D. M., Patterson, L. G., & Park, D.Y. (2016). **Early childhood teachers' beliefs about readiness for teaching science, technology, engineering, and mathematics.** *Journal of Early Childhood Research,* DOI: 10.1177/1476718X15614040.
- Aiello, P., Sharma, U., Dimitrov, D. M., Di Gennaro, D. C., Pace, E. M., Zollo, I., & Sibilio, M. (2016). **Indagine sulle percezioni del livello di efficacia dei docenti e sui loro atteggiamenti nei confronti dell'inclusione** [Study on the levels of teacher efficacy and attitudes towards inclusive education (in Italian)]. *L'integrazione scolastica e sociale, 15,* 64-87.
- Raykov, T., Gabler, S., & Dimitrov, D. M. (2015). **Maximal reliability and composite reliability: Examining their difference for multi-component measuring instruments using latent variable modeling.** *Structural Equation Modeling.* DOI:10.1080/10705511.2014.966369.
- Dimitrov, D. M., & Al-Shamrani, A. (2015). **Psychometric features of the General Aptitude Test-Verbal Part (GAT-V): A large-scale assessment of high-school graduates in Saudi Arabia.** *Measurement and Evaluation in Counseling and Development, 48(2)* 79–94.
- Dimitrov, D. M., Al-Saud, F. M., & Alsadaawi, A. (2015). **Investigating heterogeneity of test data and differential effects of covariates: The case of a large-scale assessment for Teacher Licensure in Saudi Arabia.** *Journal of Psychoeducational Assessment, 33,* 674-686.
- Dimitrov, D. M., Raykov, T., & Al-Qataee, A. (2015). **Developing a measure of general academic ability: An application of maximal reliability and optimal linear combination to high school students' scores.** *Educational and Psychological Measurement. 75(3)* 475–490.
- Dimitrov, D. M., Frye, M., Jurich, S., Sayko, S., & Lammert, J. (2014). **A Study on immediate effects of the first-year intervention under the Illinois Striving Readers Project,** *Journal of Educational and Human Development, 3(2),* 121-154.

- Raykov, T., Dimitrov, D. M., Von Eye, A., & Marcoulides, G. A. (2013). **Interrater agreement evaluation: A latent variable modeling approach.** *Educational and Psychological Measurement, 73*(3), 512-531.
- Dimitrov, D. M., & Atanasov, D. V. (2012). **Conjunctive and disjunctive extensions of the least squares distance model (LSDM) of cognitive diagnosis.** *Educational and Psychological Measurement, 72*(1) 120–138.
- Dimitrov, D. M., & Atanasov, D. V. (2012). **Group comparisons on cognitive attributes using the least squares distance model of cognitive diagnosis.** *Pliska Studia Mathematica Bulgarica, 22*, 1-8.
- Dimitrov, D. M. (2010). **Testing for factorial invariance in the context of construct validation.** *Measurement and Evaluation in Counseling and Development 43*(2), 121-149.
- Raykov, T., Dimitrov, D.M., & Asparouhov, T. (2010). **Evaluation of scale reliability with binary measures using latent variable modeling.** *Structural Equation Modeling, 17*(2), 265-279.
- Dimitrov, D. M. (2010). **Contemporary treatment of reliability and validity in educational assessment.** *Mid-Western Educational Researcher, 23*(1), 1-6.
- Lin, H., Dimitrov, D.M., & Gorrell, J. (2010). **Perceptions of Head Start and kindergarten stakeholders on criteria for kindergarten readiness of Head Start children: Factor structure and group separation.** *Contemporary Issues in Education Research, 3*(1).
- Vazin, T., Dimitrov, D. M., & Lin, H. (2010). **Program intervention effects on factors of teens' sexual activities and risk taking behaviors: Latent trait based longitudinal analysis.** *Contemporary Issues in Education Research, 4*(1), 59-86.
- Dimitrov, D.M. (2009). **Intermediate trends in MSP-related changes in student math and science partnership-related changes in student achievement with management system data.** *The Journal of Educational Research & Policy Studies, 9*(2), 97-138.
- Dimitrov, D.M. (2008). **Initial trends in MSP-related changes in student achievement with MIS data.** *Peabody Journal of Education, 83*(4), 637-653.
- Lin, H., Dimitrov, D.M., & Vazin, T. (2008). **Factors related to teens' sexual behavior across gender and ethnicity.** *American Journal of Health Studies, 23*(4), 210-211.
- Dimitrov, D. M. (2007). **Least squares distance method of cognitive validation and analysis for binary items using their IRT parameters.** *Applied Psychological Measurement, 31*(5), 367-387.
- Thomas, C., & Dimitrov, D. M. (2007). **Effect of teen pregnancy prevention program on teen's attitudes toward sexuality: A latent trait modeling approach.** *Developmental Psychology, 43*(1), 173-185.
- Dimitrov, D. M. (2006). **Comparing groups on latent variables: A structural equation modeling approach.** *WORK: A Journal of Prevention, Assessment & Rehabilitation, 26*(4), 429-436.

- Dimitrov, D. M., & Smith, R. M. (2006). **Adjusted Rasch person-fit statistics.** *Journal of Applied Measurement*, 7(2), 170-183.
- Dimitrov, D.M., Henning, J. (2005). **A linear logistic test model of reading comprehension.** *Journal for the Advancement of Educational Research*, 1(1), 60-70.
- Dimitrov, D. M., & Rumrill, P. (2005). **Multivariate methods in rehabilitation research.** *WORK: A Journal of Prevention, Assessment & Rehabilitation*, 24(2), 205-212.
- Kamman, T., Muir, L., Koester, L.S., & Dimitrov, D.M. (2005). **Linking maternal perceptions to behavior: Nurturing attitudes and facial expressions of affect.** *Parenting: Science and Practice*, 5(3), 237-258.
- Dimitrov, D.M. (2003). **Marginal true-score measures and reliability of binary items as a function of their IRT parameters.** *Applied Psychological Measurement*, 27(6), 440-458.
- Dimitrov, D.M. (2003). **Reliability and true-score measures of binary items as a function of their Rasch difficulty parameter.** *Journal of Applied Measurement* 4(3), 222-233.
- Dimitrov, D.M., & Raykov, T. (2003). **Validation of cognitive structures: A structural equation modeling approach.** *Multivariate Behavioral Research*, 38(1), 1-23.
- Dimitrov, D.M., & Rumrill, P. (2003). **Pretest-posttest designs in rehabilitation research.** *WORK: A Journal of Prevention, Assessment, & Rehabilitation*, 20(2), 159-165.
- Dimitrov, D.M., & Shelestak, D. (2003). **Psychometric analysis of performance on categories of client needs and nursing process with the NLN diagnostic readiness test.** *Journal of Nursing Measurement*, Vol. 11(3), 207-223.
- Dimitrov, D.M. (2002). **Reliability: Arguments for multiple perspectives and potential problems with generalization across studies.** *Educational and Psychological Measurement*, 62(5), 783-801.
- Dimitrov, D.M., McGee, S., & Howard, B. (2002). **Changes in students' science ability produced by multimedia learning environments: Application of the linear logistic model for change.** *School Science and Mathematics*, 102(1), 5-24.
- Dimitrov, D.M., Rumrill, P., Fitzgerald, S., & Hennessey, M., (2001). **Reliability in rehabilitation research.** *WORK: A Journal of Prevention, Assessment, & Rehabilitation*, 16, 159-164.
- Mutua, K., & Dimitrov, D.M. (2001). **Prediction of school enrolment of children with intellectual disabilities in Kenya: The role of parents' expectations, beliefs, and education.** *International Journal of Disability, Development, and Education*, 48, 179-191.
- Dimitrov, D.M. (2001). **An extended index of agreement among multiple raters.** In R. Hashway (Ed.), *Annals of the Joint Meeting of the Association for the Advancement*

*of Educational Research and the National Academy for Educational Research 1998-1999* (pp.309-315). Lanham, Maryland: University Press of America, Inc.

- Mutua, K., & Dimitrov, D.M. (2001). **Parents' expectations about future outcomes of children with mental retardation in Kenya: Differential effects of child's gender and severity of mental retardation.** *The Journal of Special Education*, 35(3), 172-180.
- Fitzgerald, S., Dimitrov, D.M., & Rumrill, P. (2001). **The basics of nonparametric research.** *WORK: A Journal of Prevention, Assessment, & Rehabilitation*, 16, 287-292.
- Dimitrov, D.M., Fitzgerald, S., & Rumrill, P. (2000). **Multiple regression in rehabilitation research.** *WORK: A Journal of Prevention, Assessment, & Rehabilitation*, 14, 1-7.
- Dimitrov, D.M., & Shelestak, D. (2000). **Learning outcomes related to success on NCLEXRN.** *Nurse Educator*, 26(3), 108.
- Newman, I., Dimitrov, D.M., & Waechter, D. (2000). **Factor structure of perceived individualization of instruction: Argument for multiple perspective.** *Educational Research Quarterly*, 24(1), 20-29.
- Dimitrov, D.M. (1999). **Gender differences in science achievement: Differential effect of ability, response format, and strands of learning outcomes.** *School Science & Mathematics*, 99(8), 445-450.
- Dimitrov, D.M. (1999). **Gender, ethnicity, ability, and type of item response in mathematics proficiency of fifth graders.** *Journal of Research in Education*, 9, 80-83.
- Dimitrov, D.M. (1999). **Multimethod analysis of mathematics achievement tests.** *Mid-Western Educational Researcher*, 12, 15-19.

### **Selected Referred Research Reports:**

- Dimitrov, D.M. (2013). *Teacher Tests-Educational Skills: Equating of test forms*, (RR014-2013). National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.
- Dimitrov, D. M. (2013). *General Aptitude Test-Verbal: Testing for dimensionality and validation of factorial structure* ( RR 13.1.2013). National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.
- Dimitrov, D. M. (2013). *General Aptitude Test-Quantitative: Testing for dimensionality and validation of factorial structure* (RR 13.2.2013). National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.
- Dimitrov, D. M. (2013). *General Aptitude Test-Verbal: IRT and true-score analysis* (RR 13.3.2013). National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.
- Dimitrov, D. M. (2013). *General Aptitude Test-Quantitative: IRT and true-score analysis* (RR 13.4.2013). National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.
- Dimitrov, D. M. (2013). *Latent Class Analysis of GAT-Quantitative Data* (RR 13.5.2013). National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.

- Dimitrov, D. M. (2013). *Longitudinal Trends in Math and Science Partnership-Related Changes in Student Achievement With Management Information System Data Across Five Years (2003/04-2007/08)*. Washington, DC: National Science Foundation [Math and Science Partnership Programs-Technical Report].
- Dimitrov, D. M. (2006). *Trends in MSP-Related Changes With Three-Year MIS Data: 2002/03, 2003/04, and 2004/05*. Washington, DC: National Science Foundation [Math and Science Partnership Programs].

## Refereed Paper Presentations

### International and National Conferences

- Dimitrov, D. M., Alsadaawi, A., & Alshamrani, A. (December, 2015). **Analyzing teacher professional standards as latent factors of assessment data: The case of the Teacher Test-English in Saudi Arabia**. The Second International Conferences on Assessment & Evaluation, Riyadh, Saudi Arabia.
- Dimitrov, D. M., Al-Saud, F. A., & Alsadaawi, A. (April, 2015). **Diagnostics of performance on promoting learning in a large scale assessment for teacher certification in Saudi Arabia: A Factor mixture modeling approach**. Paper presented at the meeting of the American Educational Research Association, Chicago, IL.
- Alshamrani, A., & Dimitrov, D. M., (March, 2015). **Cognitive diagnosis modeling of English proficiency test: Focus on reading comprehension**. Paper presented at the 21st TESOL Arabia International Conference, Dubai, UAE.
- Atanasov, D. V., & Dimitrov, D. M. (June, 2014). **Equating of test scores based on their IRT calibration**. Paper presented at the XVI International Summer Conference on Probability and Statistics (ISCPS-2014), Pomorie, Bulgaria.
- Dimitrov, D. M., & Harbi, K. (May, 2014). **Assessing the academic performance at pre-college, college, and post-college levels for universities in Saudi Arabia**. Paper presented at the 2014 Conference of the International Association for Educational Assessment (IAEA), Singapore.
- Dimitrov, D. M., & Atanasov, D. V. (April, 2014). **Testing for Differential Functioning and Group Differences on Cognitive Attributes: An Approach Based on the Least Squares Distance Method of Cognitive Diagnosis**. Paper presented at the meeting of the American Educational Research Association. Philadelphia, PA.
- Dimitrov, D. M. (December, 2012). **True-score information for binary items based on their IRT calibration**. The First International Conference on Assessment & Evaluation. Riyadh, Saudi Arabia.
- Dimitrov, D. M. (2012, October). **Cognitive diagnosis modeling via the least squares distance model**. The First Meeting on Assessment and Effective Teaching of Calculus. October 10-14, Helsinki, Finland.
- Dimitrov, D. M., & Atanasov, D. V. (June, 2012). **Group comparisons on cognitive attributes using the least squares distance model of cognitive diagnosis**. Paper



presented at the XV International Summer Conference on Probability and Statistics (ISCPS-2012), Pomorie, Bulgaria.

- Atanasov, D. V., & Dimitrov, D. M. (June, 2012). **Analysis of cognitive attributes under the graded response model in the framework of item response theory.** Paper presented at the XV International Summer Conference on Probability and Statistics (ISCPS-2012), Pomorie, Bulgaria.
- Dimitrov, D. M., & Atanasov, D. V. (April, 2012). **Evaluation of person fit under the least squares distance model of cognitive diagnosis.** Paper presented at the meeting of the American Educational Research Association. Vancouver, Canada.
- Berkley, S., Reagan, K., Dimitrov, D. M., & Guckert, M. (April, 2012). **Validation of the CAST-R (Common Assessment for Special Education Teachers).** Paper presented at the meeting of the American Educational Research Association. Vancouver, Canada.
- Dimitrov, D. M. (June, 2010). **Estimation of some familiar and new indexes of precision of measurement: A latent variable modeling approach.** XIV International Summer Conference on Probability and Statistics (ISCPS-2010), Sozopol, Bulgaria.
- Dimitrov, D. M., & Atanasov, D. V. (June, 2010). **Extensions of the latent squares distance method of cognitive diagnosis.** . XIV International Summer Conference on Probability and Statistics (ISCPS-2010), Sozopol, Bulgaria.
- Dimitrov, D.M., & Atanasov, D. (April, 2009). **Conjunctive and Disjunctive Extensions of the Least Squares Distance Method (LSDM) for Cognitive Diagnosis.** Paper presented at the meeting of the American Educational Research Association. San Diego, CA.
- Romero, S., Ponsoda, V., Dimitrov, D.M., & Camacho, X. O.(April, 2009). **Performance of the Least Squares Distance Method (LSDM) on Arithmetic Task Data With Observed Scores on Individual Attributes.** Paper presented at the meeting of the American Educational Research Association. San Diego, CA.
- Romero, S., Ponsoda, V., & Dimitrov, D.M. (July, 2008). **Analysis of the cognitive structure of arithmetic tasks using the least squares distance method (LSDM).** III European Congress of Methodology. Oviedo, Spain.
- Dimitrov, D.M., Gerganov, E. N., Greenberg, M., & Atanasov, D. (March, 2008). **Analysis of Cognitive Attributes for Mathematics Items in the Framework of Rasch Measurement.** Paper presented at the meeting of the American Educational Research Association. New York, NY.
- Dimitrov, D.M., Romero, S., & Ponsoda, V. (March, 2008). **Sensitivity of the least-squares distance method of cognitive analysis to misspecification in the incidence Q-matrix: A simulation study.** Paper presented at the meeting of the American Educational Research Association. New York, NY.
- Dimitrov, D. M. (June, 2007). **Rasch modeling for measurement of change.** Keynote Address at The IX International Conference on Theory and Practice in Measurement of Latent Variables in Education and Social Fields. Slaviansk-at-Kuban, Russia.

- Dimitrov, D.M., Romero, S. J., Ximenez, C., & Ponsoda, V. (April, 2007). **An IRT-based analysis of arithmetic test items**. Paper presented at the meeting of the American Educational Research Association. Chicago, Illinois.
- Dimitrov, D.M. (April, 2007). **Early evaluation of NSF's MSP Program: Early changes in K-12 student achievement**. Paper presented at the meeting of the American Educational Research Association. Chicago, Illinois.
- Romero, S., Ponsoda, G., Dimitrov, D., & Ximenez, C. (February, 2007). **A simulation study on the robustness of a least squares distance method of cognitive validation**. Paper presented at the 10th Congress on Research Methodology in Social Sciences. College of Psychology. University of Barcelona, Spain.
- Dimitrov, D.M. (2005, April). **Conditional validation of cognitive structures with Rasch measurement**. Paper presented at the meeting of the American Educational Research Association. Montreal, Canada.
- Dimitrov, D. M. (2004, April). **Re-estimation of ability in the Rasch model**. Paper presented at the meeting of the American Educational Research Association. San Diego, CA.
- Dimitrov, D. M., & Smith, R. M. (2004, April). **Adjusted Rasch person-fit statistics**. Paper presented at the meeting of the American Educational Research Association. San Diego, CA.
- Dimitrov, D.M. (2003, April). **Reliability of true cutting scores for Rasch calibrated items**. Paper presented at the meeting of the American Educational Research Association. Chicago, IL.
- Dimitrov, D.M. (2003, April). **Expected values and reliability of number-right scores for IRT calibrated items**. Paper presented at the meeting of the American Educational Research Association. Chicago, IL.
- McGee, S., Dimitrov, D.M., Kirby, J., & Croft, S. (2003, April). **Three-year study of Astronomy Village Implementation**. Paper presented at the meeting of the American Educational Research Association. Chicago, IL.
- Dimitrov, D.M. (2002, April). **Error variance of Rasch measurement with logistic ability distributions**. Paper presented at the meeting of the American Educational Research Association. New Orleans, Louisiana.
- McGee, S. & Dimitrov, D.M. (2002, April). **Using design experiments to investigate long-term program success**. Paper presented at the meeting of the American Educational Research Association. New Orleans, Louisiana.
- Dimitrov, D.M. (2001, October). **Reliability of Rasch measurement with skewed ability distributions**. Paper presented at the International Conference on Objective Measurement. Chicago, IL.
- Dimitrov, D.M.(2001, December). **Pseudo-lognormal distributions of ability underlying test performance**. Paper presented at the meeting of the Association

for the Advancement in Educational Research. Ponte Vedra, FL.

- Nikolova, O., & Dimitrov, D.M.(2001, December). **Item response model for difficulty of French grammar tests**. Paper presented at the meeting of the Association for the Advancement in Educational Research. Ponte Vedra, FL.
- Dimitrov, D.M. (2000, November). **Correspondence analysis of interrater agreement**. Paper presented at the meeting of the Association for the Advancement in Educational Research. Ponte Vedra, FL.
- Dimitrov,D.M., & Henning, J. (2000, November). **A Linear Logistic Test Model of Reading Comprehension Difficulty**. Paper presented the meeting of the Association for the Advancement in Educational Research. Ponte Vedra, FL.
- Dimitrov, D.M. (1999, May). **Extension and generalizability of agreement coefficients**. Paper presented at the International Conference of The Institute for Operational Research and the Management Sciences (INFORMS). Cincinnati, OH.
- Dimitrov, D.M. (1999, April). **Mathematics and science achievement profiles by gender, race, ability, and type of item response**. Paper presented at the meeting of the American Educaional Research Association. Montreal, Canada.
- Muir. L., & Dimitrov, D.M. (1999, April). **Changes in maternal attitudes from pregnancy through the second year**. Presented at the meeting of the American Educational Research Association. April 19-23, Montreal, Canada.
- Dimitrov, D.M. (1998, December). **An extended index of agreement among multiple raters**. Paper presented at the meeting of the Association for the Advancement in Educational Research. Ponte Vedra, FL.
- Dimitrov, D.M. (1998, December). **Race and type of item response in the Ohio Off-Grade Proficiency Test-Mathematics**. Paper presented at the meeting of the Association for the Advancement in Educational Research. Ponte Vedra, FL.
- Guidubaldi, J., Perry, J., Redmond, C., & Dimitrov, D. (August, 1999). **Reviving fatherhood: Empirical foundations and policy initiatives**. Symposium presentation at the American Association Annual Convention, Division 51: Society for the Psychological Study of Men and Masculinity; Boston, Massachusetts.
- Dimitrov, D.M. (1996, April). **Monte Carlo approach for reliability estimations in generalizability studies**. Paper presented at the meeting of the American Educational Research Association. New York, NY. (ERIC Document Reproduction Services, ED).

#### **INVITATED PRESENTATIONS AT ANNUAL CONFERENCES OF THE AMERICAN EDUCATIONAL RESEARCH ASSOCIATION (AERA):**

- Dimitrov, D.M. (March, 2008): **Getting Published: A Panel of Journal Editors and Emerging Scholars**. Presentation at the meeting of the American Educational

Research Association. New York, NY.

- Dimitrov, D.M. (April, 2007): **Getting Published: A Panel of Journal Editors and Emerging Scholars.** Presentation at the meeting of the American Educational Research Association. Chicago, Illinois.
- Dimitrov, D.M. (April, 2005): **Editors' Mentoring Roundtable Closed Session.** Presentation at the meeting of the American Educational Research Association. Montreal, Canada.
- Dimitrov, D.M. (April, 2005): **Presidential Invited Session: Complementary Research Methods: Meet the Authors and Reviewers.** Presentation at the meeting of the American Educational Research Association. Montreal, Canada.
- Dimitrov, D.M. (April, 2005): **Getting Published: A Panel of Journal Editors and Emerging Scholars.** Presentation at the meeting of the American Educational Research Association. Montreal, Canada.
- Dimitrov, D.M. (April, 2006): **Editors' Mentoring Roundtable Closed Session.** Presentation at the meeting of the American Educational Research Association. San Francisco, CA.
- Dimitrov, D.M. (April, 2006): **Getting Published: A Panel of Journal Editors and Emerging Scholars.** Presentation at the meeting of the American Educational Research Association. San Francisco, CA.
- Refereed Papers Presented at Annual Meetings of Regional Associations of Educational Research:**
- Dimitrov, D. M. (October, 2009). **Contemporary treatment of reliability and validity in educational assessment.** Presidential Address at the Annual Meeting of the Mid-Western Educational Research Association. St. Louis, MO.
- Dimitrov, D.M., Ximenez, C., Ponsoda, V., & Romero, S. (October, 2006). **Bridging item response theory to classical true-score measures of student performance on basic arithmetic operations.** Paper presented the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D.M., Romero, S., Ximenes, C., & Ponsoda, V. (October, 2006). **Psychometric analysis of cognitive operations underlying student performance on basic arithmetic operations: An application of the least squares distance method.** Paper presented the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D. M. (October, 2005). **An IRT approach to validation of cognitive operations for test items.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D. M., & Thomas, C. L. (October, 2005). **Latent trait modeling of longitudinal changes in treatment effects on constructs of teens' sexual abstinence.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.

- Thomas, C. L., & Dimitrov, D. M. (October, 2005). **Validation of a retrospective classroom learning procedure.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D. M. (October, 2004). **Methods of “virtual items” and “virtual persons” in the analysis of pretest to posttest changes in true domain scores.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Thomas, C.L., & Dimitrov, D. M. (October, 2004). **The effect of interventions in a teen pregnancy program on constructs of teens’ attitudes and behaviors toward sexuality.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D. M. (October, 2004). **Some misconceptions still “at large” in educational research.** Invited paper presentation at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D.M. (October, 2003). **Adjusted Rasch person-fit statistics.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D.M. (October, 2003). **Re-estimation of ability in the Rasch model.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D.M. (October, 2002). **Classical error variance and true scores as a function of item parameters estimated with the two-parameter logistic model.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D.M., & Shelestak, D. (October, 2002). **Analysis of Performance on Categories of the NLN Diagnostic Readiness Test: An item response theory approach.** Paper presented at the meeting of the Mid-Western Educational Research Association. Columbus, Ohio.
- Dimitrov, D.M. (2001, October). **Reliability and standard error of measurement related to parameters of items and ability distributions.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL.
- Dimitrov, D.M. (2000, October). **Item response analysis of cognitive structure of a test.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL.
- Newman, I., Waechter, D., & Dimitrov, D.M. (2000, February). **Effect training on the underlying factor structure on perceived individualization of instruction.** Paper presented at the meeting of the Eastern Educational Research Association. Hilton Head, SC.
- Dimitrov, D.M., & Mutua, K. (1999). **Logistic regression model for the prediction of**

**school enrollment of children with disabilities in Kenya.** Paper presented at the meeting of the Mid-Western Educational Research Association. October 13-16, 99, Chicago, IL.

Dimitrov, D. M. (1999, February). **System of item subordinations in the validation of item difficulty models.** Paper presented at the meeting of the Eastern Educational Research Association. Hilton Head, SC.

Dimitrov, D. M. (1999, February). **Reading and mathematics proficiency of fifth graders by gender, race, ability, and type of item response.** Paper presented at the meeting of the Eastern Educational Research Association. Hilton Head, SC.

Dimitrov, D. M. (1998, October). **Partial credit analysis of mathematics items from the Ohio Off-Grade Proficiency Tests.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL.

Dimitrov, D. M., & Obiekwe, J. (1998, February). **Validation of item difficulty components for algebra problems.** Paper presented at the meeting of the Eastern Educational Research Association. Tampa, FL.

Schwartz, M., & Dimitrov, D. M. (1998, February). **A study of college trustee consensus.** Paper presented at the meeting of the Eastern Educational Research Association. Tampa, FL.

Dimitrov, D. M. (1997, October). **Reliability of g-wise kappas for multiple-rater agreements.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL.

Dimitrov, D. M., & Gallagher, M. (1997, October). **Combining IRT, generalizability theory, and cognitive methods in the analysis of standardized mathematics achievement tests.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL.

Dimitrov, D. M. (1997, February). **Regression analysis of cognitively subordinated items.** Paper presented at the meeting of the Eastern Educational Research Association. Hilton Head, SC.

Dimitrov, D. M. (1997, February). **An educationally suitable derivation of the expected mean squares between groups for ANOVA.** Paper presented at the meeting of the Eastern Educational Research Association. Hilton Head, SC.

Dimitrov, D. M. (1996, October). **Validation of item difficulty models.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL.

Dimitrov, D. M. (1995, October). **On the cutting score determination in dichotomous classifications.** Paper presented at the meeting of the Mid-Western Educational Research Association. Chicago, IL. (ERIC, ED # TM025074).

Miller, S., & Dimitrov, D. M. (1995, November). **The utilization of peer networks to teach self-determination skills to youth with severe behavioral disabilities.**

Paper presented at the meeting of the Teacher Education for Children with Behavioral Disorders (TECBD). Tempe, Arizona.

#### INVITATIONAL COURSES/SEMINARS INTERNATIONAL:

- December 2012-January 2013 (National Center for Assessment in Higher Education, Riyadh, Saudi Arabia): **A series of seminars on psychometric methods for scale validation, testing for dimensionality, and equating of test scores** [an invitation by the Ministry of Higher Education in Saudi Arabia]
- July, 2007 (Anappa, Russia): **Summer School on Rasch Measurement.** [an invitation by the Russian Ministry of Education]
- September, 2008 (University Complutense, Madrid, Spain): **Using MANOVA and Latent Trait Modeling in Educational Research.** El Departamento de Métodos de Investigación y Diagnóstico en Educación de la Universidad Complutense de Madrid y el grupo de investigación Medida y Evaluación de Sistemas ducativos. [a part of sabbatical project on research and international collaboration, Fall 2008]
- November, 2008 (University Autonoma de Madrid, Spain): **Validation and Analysis of Cognitive Structures.** Departamento Psicología Social y Metodología. Universidad Autonoma de Madrid, Spain.

#### SOFTWARE FOR PSYCHOMETRIC PROCEDURES:

Dimitrov, D. M. & Atanasov, D. V. (2013). *TEQNCA: A computer program (in MATLAB) for test equating.* National Center for Assessment in Higher Education, Riyadh, Saudi Arabia.

Dimitrov, D.M. (2005). *LSDM: A Computer Program (in MATLAB) for Validation and Analysis of Cognitive Operations and Processes.* Graduate School of Education at George Mason University, Fairfax, Virginia, USA.\*

Dimitrov, D.M. (2005). *TRUESA: A Computer Program (in MATLAB) for True-Score Analysis of Binary Items Based on Their IRT Parameters.* Graduate School of Education at George Mason University, Fairfax, Virginia, USA \*\*

Dimitrov, D.M. (2004). *RASCH-FIT: A Computer Program (in C++) for Person and Item Fit of Data With the Binary Rasch Model.* Graduate School of Education at George Mason University, Fairfax, Virginia, USA\*\*\*.

---

\**Applied Psychological Measurement* (2007) Vol. 31(5) pp. 367-387).

\*\* *Applied Psychological Measurement* (2003), Vol. 27 (6), pp. 440-458.

\*\* *Journal of Applied Measurement* (2003), Vol. 4(3), pp. 222-233.

**TEACHING:**

Courses Taught at Kent State University (Fall 1995 – Summer 2003):

**EDPF- 88791 Classical Test Theory (3 hrs)\***  
**EDPF- 88791 Item Response Theory (3 hrs)\***  
**EDPF- 88791 Generalizability Theory (3 hrs)\***  
**EDUC-75510 Educational Statistics I (3 hrs)**  
**EDPF- 78716 Educational Statistics II (3 hrs)**  
**EDPF- 78728 Educational Statistics III (3 hrs)**  
**EDUC-85515 Quantitative Research in Education (3 hrs)**  
**EDUC-85517 Advanced Quantitative Research in Education (3 hrs)\***  
**EDPF- 88791 Factor Analysis (3 hrs)\***  
**EDPF- 88791 Multivariate Statistical Methods (3 hrs)\***  
**EDPF- 78728 Comparative Research (3 hrs)**  
**EDPF- 68807 Evaluation in Education (3 hrs)**

---

\* Primary instructor for the course

Courses Taught at George Mason University, Fall 2003 –present:

**EDRS 831** Structural Equation Modeling  
**EDRS 828** Modern Measurement in Education and Human Development  
**EDRS 827** Development and Validation of Assessment Scales  
**EDRS 821** Advanced Applications of Quantitative Methods  
**EDRS 811** Quantitative Methods in Education Research  
**EDRS 810** Problems and Methods in Educational Research  
**EDEP 651** Modern Measurement with Application in Education  
**EDRS 630** Educational Assessment  
**EDRS 620** Quantitative Inquiry in Education

**Workshops:**

- **Modern Research Methods in Education.** Miami University of Ohio, Department of Education (March 23-26, 2012).
- **Cognitive Diagnosis Modeling.** Michigan State University, Department of Counseling, Educational Psychology, & Special Education (November 4-5, 2011).
- **Rasch Measurement of Change.** An International Summer School on Rasch Measurement. Anappa, Russia (June 23-28, 2007).
- **Validation of cognitive structures.** META METRIX, Inc., Durham, NC (May, 2005).
- **Rash Measurement of Change.** CET at Wheeling Jesuit University, WV (May, 2001).
- **Reliability issues.** University of Montana at Missoula (April, 2001).
- **Program Evaluation.** Akron Board of Education, Akron, Ohio (March, 1999).
- **Assessment & Evaluation.** Kent State University, Kent, Ohio (January, 1997).



- **Statistical Software (SPSS and SAS).** Kent State University, Kent, Ohio (May, 1997).

### SERVICE TO THE PROFESSION

**Editor** of a professional journal:

*Measurement and Evaluation in Counseling and Development* (2005-2011)

**President of the Mid-Western Educational Research Association**  
(MWERA; 2007-2009).

**Member of the Editorial Board** for professional journals:

*Journal of Educational Measurement* (2012-present)

*Educational and Psychological Measurement* (2010-present)

*Journal of Applied Measurement* (2006 – present)

*Research in the Schools* (2005 – present)

*International Journal of Biostatistics*, Ankara, Turkey (2008-present)

*BORDON* – The official journal of the Educational Association in Spain (2012-present)

*Advances in Measurement Engineering* (Hong Kong; 2012-present)

*Educational Researcher* (2006 – 2009)

**Reviewer for professional journals:**

- *Psychometrika*
- *Applied Psychological Measurement*
- *Educational and Psychological Measurement*
- *Applied Measurement in Education*
- *Journal of Educational Measurement*
- *Educational Measurement: Issues & Practices*
- *Measurement and Evaluation in Counseling and Development*
- *American Educational Research Journal: Teaching, Learning, & Human Development*
- *Statistics in Medicine*
- *International Online Journal on Science and Mathematics Education*

**Reviewer (books/book chapters) for Publishing Companies:**

- Allyn & Bacon
- McGraw Hill
- Lawrence Erlbaum Associates

**Appointments with National and Regional Professional Associations**

- **President of the Mid-Western Educational Research Association (2007-2009)**
- **Vice-President/President-Elect** of the Mid-Western Educational Research Association (MWERA; 2005-2007). **Program Chair** for the 2007 MWERA Annual Meeting.
- **Program Chair for the SIG Rasch Measurement** at the 2009 Annual Meeting of the American Educational Research Association (AERA).

- **Director of Division D** (Measurement and Research Methodology) of the Mid-Western Educational Research Association (2002-2004).
- **Regional Officer** of the Association for the Advancement of Educational Research for the State of Ohio (1998 - 2002).

**SOFTWARE EXPERIENCE:**

Working experience with measurement and statistical software:

**SPSS, SAS, MINITAB, GB-STAT, Sigma-Plot,**  
**Mplus:** Statistical Analysis With Latent Variables  
**ConQuest** (v. 2.0) Generalized Item Response Modeling Software  
**FACETS** -Rasch Measurement Computer Program  
**RASCAL** - Rasch Analysis Program  
**LPCM-WIN 1.0** - Structural Rasch Modeling Program  
**XCALIBRE** - Marginal Maximum-Likelihood Estimation Program  
**jMetrik** – A computer program for classical and modern psychometric methods  
**PARSCALE** - (IRT Analysis of Rating Scale Data)  
**MULTILOG** -A Computer Program for IRT Analysis  
**EQUATE 2.0** -A Computer Program for IRT Equating  
**GENOVA** (Generalizability Theory Analysis),  
**MicroFACT** (Factor Analysis with Ordered Polytomous Data).