

XIN MA, Ph.D. (Updated May 2015)

Department of Educational, School, and Counseling Psychology
Department of Science, Technology, Engineering, and Mathematics (STEM) Education
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PROFESSIONAL PREPARATION

Ph.D. in Curriculum and Instruction,	University of British Columbia,	1997.
M.A. in Mathematics Education,	University of British Columbia,	1993.
B.Sc. in Mathematics,	Beijing Normal University,	1985.

APPOINTMENTS

Professor,	University of Kentucky,	2005 – present.
Associate Professor,	University of Kentucky,	2003 – 2005.
Associate Professor,	University of Alberta,	2001 – 2003.
Assistant Professor,	University of Alberta,	1998 – 2001.
Assistant Professor,	Saint Francis Xavier University,	1997 – 1998.

ACADEMIC HONORS

Canada Research Chair, Government of Canada, 2003.

Early Career Contribution Award, Committee for Scholars of Color in Education, American Educational Research Association, 2003.

Coutts-Clarke Research Fellowship, University of Alberta, 2002.

National Academy of Education/Spencer Postdoctoral Fellow, National Academy of Education, 2001.

American Educational Research Association Dissertation Grant, American Educational Research Association, 1995.

Mary Elizabeth Simpson Scholarship, University of British Columbia, 1995.

Izaak Walton Killam Memorial Pre-Doctoral Fellowship, University of British Columbia, 1995.

SYNERGISTIC ACTIVITIES

Methodological advancement: Ma engages in advanced quantitative analysis for policy evaluation and development. For example, Ma has performed numerous advanced data analyses to address critical policy issues in education, immigration, public health, and labor market. Furthermore, Ma strives to promote sound quantitative research by providing methodological (statistical) support to graduate students, faculty members, professional organizations, and government agencies through courses, workshops, and consultations. For example, Ma has evaluated policy initiatives at various levels of governments.

Educational outreach: Ma serves in various roles in outreach to professional communities. For example, Ma has served as a math team coach to prepare middle school students for MathCounts and as a official to perform multiple functions for (Kentucky) Governor's Cup (academic competition).

Internationalization: Ma promotes international dialogs on quantitative research methodology. For example, Ma has given talks and workshops in Canada, China, Cyprus, and Singapore.

Service to scientific community:

Editorial Board Member, *International Journal of STEM Education*, 2012 – present.

Editorial Board Member. *African Journal of Research in Mathematics, Science and Technology Education*, 2011 – present.

Consulting Editor, *Alberta Journal of Educational Research*, 2001 – present.

Research Coordinator, Appalachian Mathematics and Science Partnership, University of Kentucky, 2003 – 2007.

Board Member, Research Data Centre Management Board, University of Alberta, 2002 – 2003.

Member, Advisory Panel of Experts on Youth and Learning, Human Resources and Social Development Canada, 2001 – 2003.

Director, Canadian Centre for Advanced Studies of National Databases, University of Alberta, 2000 – 2003.

Member, Imperial Oil National Centre for Mathematics, Science, and Technology Education, University of Alberta, 2000 – 2003.

Scientific and professional societies:

American Educational Research Association, American Statistical Association, Canadian Society for the Study of Education, European Educational Research Association, National Council on Measurement in Evaluation.

COURSES TAUGHT IN LAST THREE YEARS

1. Multilevel Data Analysis (Graduate Course), University of Kentucky
2. Multivariate Statistics (Graduate Course), University of Kentucky
3. Educational Research Methodology (Graduate Course), University of Kentucky
4. History of Mathematics Education (Graduate Course), University of Kentucky
5. Theoretical Foundations of Mathematics Education (Graduate Course), University of Kentucky

SELECTED RECENT RESEARCH GRANTS

Evaluating the Efficacy of Enhanced Anchored Instruction for Middle School Students with Learning Disabilities in Math. \$2,330,164. U.S. Department of Education. 2009. (Co-Principal Investigator)

Algebra Cubed. \$1,829,662. National Science Foundation. 2006. (Co-Principal Investigator).

The Effects of Technology on Mathematics Education. \$14,000. Campbell Collaboration. 2005. (Co-Principal Investigator).

Integrating the Assessment Principle into Mathematics Content Courses for Preservice Elementary Teachers. \$110,921. Kentucky Department of Education. 2005. (Co-Principal Investigator).

Understand the Relationship Between Mathematics and Science Coursework with NAEP Data. \$96,878. U.S. Department of Education. 2004. (Principal Investigator)

SELECTED BOOKS AND BOOK CHAPTERS (TOTAL BOOKS: 5, TOTAL CHAPTERS: 14)

Ma, X., Jong, C., & Yuan, J. (2013). Exploring reasons for the East Asian success in PISA. In H. Meyer & A. Benavot (Eds.), *PISA, power, and policy: The emergence of global educational governance* (pp. 225-246). Oxford, United Kingdom: Symposium Books.

Shen, J., & Ma, X. (2013). *Quality rating improvement system for early care and education: Development, implementation, evaluation and learning*. New York: Peter Lang.

Ma, X. (1997). *A national assessment of mathematics participation in the United States: A survival analysis model for describing students' academic careers*. Lewiston, NY: Edwin Mellen.

Liu, X., Ma, X., Wang, J., & Zhao, X. (1996). *Mathematics and science curriculum change in the People's Republic of China*. Lewiston, NY: Edwin Mellen.

SELECTED PUBLICATIONS SINCE 2001 (TOTAL REFEREED JOURNAL ARTICLES: 87)

Bottge, B., Ma, X., Gassaway, L., Toland, M. D., Butler, M., Cho, S.-J. (2014). Effects of blended instructional models on math performance. *Exceptional Children, 80*, 423-437.

Ma, X., Shen, J., Lu, X., Brandi, K., Goodman, J., Watson, G. (2013). Can quality improvement system improve children's school readiness? *Journal of Educational Research, 106*, 146-156.

Bottge, B., Ma, X., Gassaway, L., Butler, M., Toland, M. D. (2013). Detecting and correcting fractions computation error patterns. *Exceptional Children, 80*, 237-255.

Frempong, G., Ma, X., & Mensah, J. (2012). Access to postsecondary education: Can schools compensate for socioeconomic disadvantage? *Higher Education, 63*, 19-32.

Shen, J., Cooley, V., Ma, X., Reeves, P., Burt, W., Rainey, J. M., & Yuan, W. (2012). Data-informed decision-making on high-impact strategies: Developing and validating an instrument for principals. *Journal of Experimental Education, 80*, 1-25.

Shen, J., Leslie, J. M., Spybrook, J. K., & Ma, X. (2012). Are principal background and school processes related to teacher job satisfaction? A multi-level study using Schools and Staffing Survey 2003-04. *American Educational Research Journal, 49*, 200-230.

Ma, X., Shen, J., Kavanaugh, A., Lu, X., Brandi, K., Goodman, J., Till, L., & Watson, G. (2011). Effects of Quality Improvement System on child care centers. *Journal of Research in Childhood Education, 25*, 399-414.

- Shen, J., Ma, X., Tackett, W., Lu, X., Brandi, K., Goodman, J., Till, L., & Watson, G. (2011). Effects of Quality Improvement System on early childhood education practitioners. *Advances in Early Education and Day Care, 15*, 129-154.
- Crowe, C. E., & Ma, X. (2010). Profiling student use of calculators in the learning of high school mathematics. *Evaluation and Research in Education, 23*, 171-190.
- Li, Q., & Ma, X. (2010). A meta-analysis of the effects of computer technology on school students' mathematics learning. *Educational Psychology Review, 22*, 215-244.
- Ma, X. (2010). Effects of early acceleration of students in mathematics on taking advanced mathematics coursework in high school. *Investigations in Mathematics Learning, 3*, 43-63.
- Ma, X. (2009). Understanding the relationship between mathematics and science coursework patterns. *Teachers College Record, 111*, 2101-2126.
- Ma, X., & Dundas, T. L. (2009). Socially disadvantaged students in socially disadvantaged schools: Double jeopardy in mathematics achievement. *International Journal of Research in Education, 1*, 63-86.
- Ma, X., & Ma, L. (2009). The challenge of separating effects of simultaneous education projects on student achievement. *Studies in Educational Evaluation, 35*, 45-52.
- Ma, X., & Millman, R. (2009). STEM graduate students as role models: Can they impact middle and high school students in mathematics? *Trends in Science and Mathematics Education, 1*, 123-138.
- Murray, S., Ma, X., & Mazur, J. (2009). Effects of peer coaching on teachers' collaborative interactions and students' mathematics achievement. *Journal of Educational Research, 102*, 203-212.
- Ma, X. (2008). Within-school gender gaps in reading, mathematics, and science literacy. *Comparative Education Review, 52*, 437-460.
- Ma, X. (2007). Assessing school effects on dental hygiene and nutrition behaviors of Canadian adolescents. *Educational Review, 59*, 37-54.
- Ma, X. (2007). School experiences influence personal health and interpersonal relationship of adolescents: The Canadian case. *School Effectiveness and School Improvement, 18*, 209-240.
- Ma, X., & Crocker, R. (2007). Provincial effects on reading achievement. *Alberta Journal of Educational Research, 53*, 87-109.
- Ma, X., & Wilkins, J. L. M. (2007). Mathematics coursework regulates growth in mathematics achievement. *Journal for Research in Mathematics Education, 38*, 230-257.
- Ma, X. (2006). Cognitive and affective changes as determinants for taking advanced mathematics courses in high school. *American Journal of Education, 113*, 123-149.
- Ma, X., & Papanastasiou, C. (2006). How to begin a new topic in mathematics: Does it matter to students' performance in mathematics? *Evaluation Review, 30*, 451-480.
- Ma, L., & Ma, X. (2005). Estimating correlates of growth between mathematics and science achievement via a multivariate multilevel design with latent variables. *Studies in Educational Evaluation, 31*, 79-98.
- Ma, X. (2005). A longitudinal assessment of early acceleration of students in mathematics on growth in mathematics achievement. *Developmental Review, 25*, 104-131.
- Ma, X. (2005). Early acceleration of students in mathematics: Does it promote growth and stability of growth in achievement across mathematical areas? *Contemporary Educational Psychology, 30*, 439-460.
- Ma, X. (2005). Growth in mathematics achievement during middle and high school: Analysis with classification and regression trees. *Journal of Educational Research, 99*, 78-86.
- Ma, X., & McIntyre, L. J. (2005). Exploring differential effects of mathematics courses on mathematics achievement. *Canadian Journal of Education, 28*, 827-852.
- Ma, X. (2004). A multilevel analysis of school experiences on injury and leisure activities among Canadian children. *McGill Journal of Education, 39*, 261-282.
- Ma, X., & Ma, L. (2004). Modeling stability of growth between mathematics and science achievement during middle and high school. *Evaluation Review, 28*, 104-122.

- Ma, X., & Xu, J. (2004). Determining the causal ordering between attitude toward mathematics and achievement in mathematics. *American Journal of Education, 110*, 256-280.
- Ma, X., & Xu, J. (2004). The causal ordering of mathematics anxiety and mathematics achievement: A longitudinal panel analysis. *Journal of Adolescence, 27*, 165-179.
- Ma, X., & Willms, J. D. (2004). School disciplinary climate: Characteristics and effects on eighth grade achievement. *Alberta Journal of Educational Research, 50*, 169-189.
- Ma, X. (2003). Effects of early acceleration of students in mathematics on attitudes toward mathematics and mathematics anxiety. *Teachers College Record, 105*, 438-464.
- Ma, X. (2003). Measuring up: Academic performance of Canadian immigrant children in reading, mathematics, and science. *Journal of International Migration and Integration, 4*, 541-576.
- Ma, X. (2003). Sense of belonging to school: Can schools make a difference? *Journal of Educational Research, 96*, 340-350.
- Ma, X., & Cartwright, F. (2003). A longitudinal analysis of gender differences in affective outcomes in mathematics during middle and high school. *School Effectiveness and School Improvement, 14*, 413-440.
- Ma, X., & Tomkowicz, J. T. (2003). Profiling coursework patterns in mathematics: Grades 8 to 12. *Focus on Learning Problems in Mathematics, 25*(3), 1-17.
- Ma, X., Zhang, Y., Johnston, M. (2003). Effects of school experiences on substance use among Canadian children: The power of the circle of friends. *Educational Research for Policy and Practice, 2*, 143-164.
- Ma, X. (2002). Bullying in middle school: Individual and school characteristics of victims and offenders. *School Effectiveness and School Improvement, 13*, 63-90.
- Ma, X. (2002). Early acceleration of mathematics students and its effect on growth in self-esteem: A longitudinal study. *International Review of Education, 48*, 443-468.
- Ma, X. (2002). Improving social policy with national data: A comparison of social support for students among Canadian provinces. *Canadian Journal of Program Evaluation, 17*(2), 1-26.
- Ma, X. (2002). The first ten years in Canada: A multilevel assessment of behavioral and emotional problems of immigrant children. *Canadian Public Policy, 28*, 395-418.
- Ma, X., & Wilkins, J. L. M. (2002). The development of science achievement in middle and high school: Individual differences and school effects. *Evaluation Review, 26*, 395-417.
- Ma, X. (2001). Bullying and being bullied: To what extent are bullies also victims? *American Educational Research Journal, 38*, 351-370.
- Ma, X. (2001). Participation in advanced mathematics: Do expectations and Influence of students, peers, teachers and parents matter? *Contemporary Educational Psychology, 26*, 132-146.
- Ma, X. (2001). Stability of school academic performance across subject areas. *Journal of Educational Measurement, 38*, 1-18.

SELECTED COLLABORATORS

Brian Bottge, University of Kentucky; Lianghuo Fan, University of Southampton (United Kingdom); Russell French, University of Tenseness; George Frempong, Human Sciences Research Council (South Africa); Qing Li, University of Calgary (Canada); Xingkai Lou, Guongxi Normal University (China); Don Klinger, Queen's University (Canada); Jianping Shen, Western Michigan University; Michael Toland, University of Kentucky; Jay Wilkins, Virginia Polytechnic Institute and State University.

GRADUATE STUDENTS SUPERVISED AND SUPERVISING

M.S. (M.A.) students: Jesse Chen, Lingling Ma (female), Meng Feng.

Ph.D. students: Lisa Conn (female), Cheryl Crowe (female), Antoinette Davis (female), Tracy Dundas (female), Jennifer Eli (female), Karen Heavin (female), Shanshan Hu (female), Anushka Karkelanova (female), Lingling Ma (female), Natasha Murray (female), Sarah Murray (female), Darlene Nelson (female), Michael Osborn, April Pilcher (female), Lori Powell (female), Amber Sullivan (female), Jing Yuan (female).