

LUKE D. STANKE

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EDUCATION

Candidate for Ph.D. in Educational Psychology,
Concentration: Quantitative Methods in Education – Measurement

Dissertation Title: On the Utility of Crossed-Random Item Effects in Item Response Modeling

Advisor: Dr. Michael C. Rodriguez

University of Minnesota, Expected graduation: Winter 2013-14

Minneapolis, MN

Relevant coursework:

Mixed/multilevel modeling, Rasch modeling, Item response theory, Explanatory item response models, Survey design & analysis, Standard setting, Equating, Performance assessment, Psychological scaling

B.S. in Housing Studies, 2006

University of Minnesota

Minneapolis, Minnesota

PROFESSIONAL EXPERIENCE

October 2013 – Present

Evaluation & Testing Specialist

Minneapolis Public Schools

Minneapolis, Minnesota

- Increased the capacity of the Research, Evaluation, and Assessment department by systematizing school-level and district-level reports for student achievement, student growth, suspensions, and expulsions.
- Led the development of data tools for more than eight hundred school leaders, teachers, and other internal district stakeholders using Tableau, D3, and Microsoft Excel.
- Constructed data warehouse using R and SQL leading to novel data systems for student attendance, enrollment, and disciplinary referrals.
- Constructed and validated measures of academic persistence using rigorous psychometric standards set by the field.
- Led mixed-method evaluation of out-of-school time programs highlighting the contribution of the programs on key academic indicators – this template is now the standard for high level programmatic evaluations in Minneapolis Public Schools.
- Led the quantitative evaluation of academic programs leading to the reallocation of over millions dollars in academic programming to better support students.

- Led the development of data collection, warehousing, and reporting standards for the Research, Evaluation, and Assessment Department.
- Led training for teachers and other district stakeholders on developing rigorous assessments, leading to an increase in the quality and use of the benchmark assessments across more than fifty schools.

October 2013 - Current

Research Assistant

University of Minnesota – Twin Cities

Minneapolis, Minnesota

- Conducted literature review on measurement issues associated with closing the achievement gap.
- Developed white paper discussing the measurement issues associated with closing the achievement gap.
- Led instruction of *EPSY5244: Survey Design, Sampling, & Implementation* course for more than thirty graduate students.

April 2012 - Current

Psychometric & Measurement Consultant

Fisdap/Headwaters Software Inc.

Saint Paul, Minnesota

- Conduct validity studies on four multiple-choice exams.
- Analyze non-cognitive scales to predict achievement and other behaviors.
- Present results and recommendations of analyses to testing committee.

July 2009 – October 2013

Assessment Coordinator

College of Pharmacy, University of Minnesota

Minneapolis, Minnesota

- Develop an annually administered a four-station performance assessment for 170 students.
- Deliver 10 annual electronic form surveys to 1,800 stakeholders with an average response rate of 68%.
- Manage team of 4 graduate and undergraduate assistants.
- Assist in the evaluation the Doctor of Pharmacy program for accreditation.
- Developed a computer program to detect differences in grades across campus and create reports for 30+ courses using R and knitr software.
- Developed and administered a low-stakes 130 item multiple-choice exam measuring the effectiveness of student learning in a curriculum and strongly predicting board certification scores of students.
- Selected for national academic pharmacy research award in 2012.
- Led a subcommittee to increase to increase a test question bank by 70% or 350 items.

June 2008 – June 2009

6th Grade Science Teacher

KIPP Charlotte

Charlotte, North Carolina

- Developed a diagnostic test which predicted the outcome of students on high-stakes exams and accounted for 82% of the variance in scores of students.
- Selected as one of four teachers from an applicant pool of over 100 teachers to lead the development of a new grade for a public charter school entering its 2nd year.
- Completed the construction of the 6th grade building when funds were short for the builders.

May 2006 – June 2008

High School Science Teacher

West Charlotte High School, Charlotte-Mecklenburg Schools & Teach For America

Charlotte, North Carolina

- Instructed students to 30-point improvement in End-of-Course Biology Test scores, among the largest gains in the school district.
- Crafted biology district mid-term for Charlotte-Mecklenburg School District's four high school Challenge Schools.

RESEARCH GROUPS & COLLABORATIVES

2011 – Current

Minnesota Youth Development Research Group

University of Minnesota

- Co-constructed 9 developmental scales based on a positive youth development framework.
- Investigated and presented findings on the validity of the developmental scales.
- Investigated the relationship between classroom achievement and non-cognitive developmental scales.

PEER-REVIEWED PUBLICATIONS

- [3] Rodriguez, M. C., Bulut, O., Palma, J., & **Stanke, L.** (Accepted). Evaluating measurement invariance in the measurement of developmental assets in Latino English language groups across developmental stages. *Sage Open*.
- [2] Schullo-Feulner, A., Janke, K.K., Chapman, S.A., **Stanke, L.**, Undeberg, M., Taylor, C., Brown, R.W., & Straka, R.J. (2014). Student-generated, faculty-vetted multiple-choice questions: Value, participant satisfaction, and workload. *Currents in Pharmacy Teaching and Learning*, 6(1), 15-21.

- [1] Kelley, K., **Stanke, L.**, Rabi, S., Kuba, S., & Janke, K. (2011). A multi-institutional pilot for cross-validation of a tool to measure professionalism behaviors. *American Journal of Pharmaceutical Education*. 33(5). doi: 10.5688/ajpe7591.

WORKS-IN-PROGRESS

- [5] **Stanke, L.**, Bulut, O., Rodriguez, M.C., & Palma Zamora, J.R. *Investigating Invariance assumption using item parameter drift across grade level and ELL groups..*
- [4] Rodriguez, M.C., Palma Zamora, J.R., **Stanke, L.**, & Minnesota Assessment Group. *Communicating and measuring the achievement gap in Minnesota*. White paper.
- [3] **Stanke, L.** & Davison, M. (2014). Developing validity evidence with random item models. In Progress for Applied Psychological Measurement.
- [2] **Stanke, L.**, & Bulut, O. (Under Review). Explanatory item response models with polytomous data. In Progress for Applied Psychological Measurement.
- [1] Boekel, M. V., Bulut, O., Zamora, J. P., & **Stanke, L.** *Effects of participation in school sports on academic social outcome variables.*

PEER-REVIEWED PRESENTATIONS

- [29] Moore, C., **Stanke, L.**, Medhanie, A., VandenBerk, E., & VanBoekel, M. (April, 2015) *Not Just Free Lunch: A neighborhood-based SES Variable for Districts*. National Council of Measurement in Education Annual Conference. Chicago, IL.
- [28] **Stanke, L.**, & Bulut, O. (April, 2015) *A cross-classified explanatory partial credit model*. American Educational Research Association Annual Conference: Rasch SIG. Chicago, IL.
- [27] Bulut, O., Van Boekel, M., **Stanke, L.**, Palma Zamora, J.R., Nickoderm, K., Vue, K., Chang, Y-F., Latterell, N., & Rodriguez, M.C., (April, 2015) *Effects of participation in school sports on academic and social variables*. American Educational Research Association Annual Conference: Rasch SIG. Chicago, IL.
- [26] Vue, K., Chang, Y-F., Rodriguez, M.C., Palma Zamora, J.R., **Stanke, L.**, Latterell, N., & Nickoderm, K. (April, 2015) *Measuring ethnic diversity in schools*. American Educational Research Association Annual Conference: Rasch SIG. Chicago, IL.

- [25] **Stanke, L.**, Van Boekel, M., & Moore, E. (April, 2015) *Persistence in school: Exploring the relationship between academic persistence and academic growth*. American Educational Research Association Annual Conference: Rasch SIG. Chicago, IL.
- [24] Moore, E., **Stanke, L.**, & Van Boekel, M., (April, 2015) *Randomized theory of intelligence and affirmation interventions on social emotional learning measures in schools*. American Educational Research Association Annual Conference: Rasch SIG. Chicago, IL.
- [23] Page, D., Bowen, L.M., & **Stanke, L.** (September, 2014). *Increased neuroticism is associated with poor professional behavior during paramedic students patient contacts*. National Association of EMS Educators Symposium. Lake Tahoe, NV.
- [22] Page, D., Bowen, L.M., & **Stanke, L.** (September, 2014). *Agreeableness is linked to improved communication during paramedic student internships*. National Association of EMS Educators Symposium. Lake Tahoe, NV.
- [21] LaBounty, T., & **Stanke, L.** (2014). Promoting Fair Assessments: Communicating the Achievement Gap. Presented at the Minnesota Assessment Conference. Roseville, MN.
- [20] **Stanke, L.** & Ayodele, A. (2014). Promoting Fair Assessments: Methods for Detecting Item Bias Under Various Item Features and Testing Conditions, Presented at the Minnesota Assessment Conference. Roseville, MN.
- [19] Chang, Y., Zhang, Q., Su, S., & **Stanke, L.** (2014, April) *A restricted bi-factor model of subdomain relative strengths and weaknesses*. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- [18] **Stanke, L.** & Davison, M. (2014, April) *Exploring differential facet functioning models*. National Council on Measurement in Education. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- [17] Bulut, O., Van Boekel, M., Palma Zamora, J.C., **Stanke, L.** & Rodriguez, M.C. (2014, April). *Investigating the Effects of School Sports on Academic and Social Outcomes: An Ethnic Breakdown*. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- [16] Cabrera, J.C., Rodriguez, M.C., Palma Zamora, J.R. & **Stanke, L.** (2014, April). *The Influence of Individual, Family-Related, and Structural Factors on Latino Students' Academic Performance: An Ethnic Breakdown*. Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- [15] Palma Zamora, J.R., Van Boekel, M., **Stanke, L.**, Vue, K., Cabrera, J.C., Chang, Y., Latterell, N., Karl, S.R., Rodriguez, M.C. & Bulut, O. (2014, April). *Examining after-school activities: Do breadth and intensity matter?* Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

- [14] Wewerka, S., Burnett, A., Brazelton, T., Carhart, E., Tritt, P., Phillips, G., **Stanke, L.**, Danielson, L., Anderson, C., & Studnek, J. (2013, August). *Babies breath and teen angst: Distribution of paramedic primary impression by age*. Paper presented at the annual meeting of the National association of EMS Educators Annual Conference. Washington, D.C.
- [13] Brazelton, T., Wewerka, S., Burnett, A., Carhart, E., Danielson, L., Tritt, P., Kokx, G., Phillips, G., Hanson, K., **Stanke, L.**, & Studnek, J. (2013, August). *Hide or go seek: Do more pediatrics encounters make better paramedics?* Paper presented at the annual meeting of the National association of EMS Educators Annual Conference. Washington, D.C.
- [12] Page, D.I., James, B.J., **Stanke, L.**, & Bowen, M. (2013, August). *Personality traits of paramedic students and their effect on cognitive ability*. Paper presented at the annual meeting of the National Association of EMS Educators Annual Conference. Washington, D.C.
- [11] Page, D.I., Bowen, M., & **Stanke, L.** (2013, August). *Entrance exam prediction on paramedic student performance*. Paper presented at the annual meeting of the National Association of EMS Educators Annual Conference. Washington, D.C.
- [10] **Stanke, L.**, & Scott, D. (2013, July). *Detecting bias in an objective structured clinical examination using differential facet functioning*. Paper presented at the annual meeting of the American Association of Colleges of Pharmacy Annual Conference. Chicago, IL.
- [9] Ayodele, A., **Stanke, L.**, & Scott, D. (2013, July). *Development of an instrument to measure classroom incivility and identification of group differences*. Paper presented at the annual meeting of the American Association of Colleges of Pharmacy Annual Conference. Chicago, IL.
- [8] Bulut, O., **Stanke, L.**, Rodriguez, M.C., Palma Zamora, J.R., Vue, F.Y., & Cabera, J.C. (2013, April). *Examining item parameter drift as a source of construct drift*. Paper presented at the annual meeting of the American Educational Research Association Annual Conference. San Francisco, CA.
- [7] **Stanke, L.**, Palma Zamora, J.R., Bulut, O., & Rodriguez, M.C. (2013, April). *Investigating measurement invariance assumption using item parameter drift across grade levels and ELL Groups*. Paper presented at the annual meeting of the National Council of Measurement in Education. San Francisco, CA.
- [6] **Stanke, L.**, Ayodele, A., & Scott, D. (2013, April). *Development of an instrument for measuring expectations for classroom incivility*. Rasch Measurement SIG, Paper presented at the annual meeting of the American Educational Research Association Annual Conference. San Francisco, CA.
- [5] Yi, F.V., **Stanke, L.**, Palma Zamora, J.P., Cabrera, J.C., Bulut, O., Latterell, N., & Rodriguez, M.C. (2013, April). *Using school climate to positively develop youth*. Paper presented at the annual meeting of the American Educational Research Association Annual Conference. San Francisco, CA.

- [4] **Stanke, L.**, & Scott, D. (2012, July). Predicting NAPLEX scale scores using student demographics and performance data. Conference paper. *American Journal of Pharmaceutical Education*, 76(5).
- [3] **Stanke, L.**, & Scott, D. (2012, July). Determining the effect of preparation time on student performance for an objective structured clinical examination. *American Journal of Pharmacy Education*, 76(5).
- [2] Palma, J.R., Rodriguez, M.C., Cabrera, J.C., Albano, A.D., Vue, Y., Warshawsky, A.J., & **Stanke, L.*** (2012, April). *Effects of positive assets and socioeconomic status on academic performance*. Paper presented at the annual meeting of the American Educational Research Association Annual Conference. Vancouver, BC.
* Not listed in program
- [1] **Stanke, L.** (2012, March). Can Statistical Models Out-predict Human Judgment? *Comparing statistical models to the NCAA selection committee*. Conference proceedings. Sloan Sports Conference. Boston, MA.

EVALUATION REPORTS

- [1] Stanke, L., Ohrn, B., Mavis, A., Van Boekel, M., & Moore, E. (2014). *Urban Debate League: Findings from Out-of-School Time in Minneapolis Public Schools*. Minneapolis Public Schools. Retrieved From...

TECHNICAL MANUALS

- [1] Stanke, L. (2014)., *Paramedic Readiness Exam 4 Technical Manual*. St. Paul, MN: Fisdap. Inc.

HONORS AND AWARDS

Best Research

Prehospital Care Research Forum

Reno, NV

September 2014

Rufus A. Lyman Award

Best Paper – *American Journal of Pharmaceutical Education*

2012

University of Minnesota College of Pharmacy's Special Merit Award

Outstanding Scholarship

2012

PROFESSIONAL MEMBERSHIPS

National Council of Measurement in Education
American Educational Research Association
Rasch SIG
Multilevel Modeling SIG

PROFESSIONAL SERVICE

Reviewer American Educational Research Association, Division D, Rasch SIG
2014 – Present

Minnesota Assessment Group
Minnesota
2013 – Present

Professional & Administrative Representative for Faculty Consultative Committee
University of Minnesota College of Pharmacy
2011 – 2013

Professional & Administrative Representative for College Assembly
University of Minnesota College of Pharmacy
2011 – 2013

College of Pharmacy Representative for Academic Professionals & Administrators Senate
University of Minnesota
2010 – 2013

University of Minnesota Representative for Pharmacy Assessment Collaborative
Committee on Institutional Cooperation (Big Ten Universities)
2009 – 2013

Member of Assessment Committee
University of Minnesota College of Pharmacy
2009 – 2013