

CURRICULUM VITAE

Revised August, 2014

EDUCATION

- Ph.D.** in Quantitative Methods 2014
Peabody College, Vanderbilt University
Dissertation: “*A Graphical System for Longitudinal Modeling using Dynamic Documents: Application to NLSY97 Religiosity Data*”
Advisor: Joseph L. Rodgers
- Residency at University of Oklahoma, Ph.D. under J. L. Rodgers 2008-2012
Transferred to Vanderbilt University following advisor’s hire
- M.A.** in Quantitative Psychology 2008
Middle Tennessee State University
Thesis: “*Comparative analysis of modern differential item functioning (DIF) methods through Monte Carlo simulation*”
Advisor: Jwa Kim
- B.S.** In Mass Communication 2005
Summa Cum Laude, with Distinction from Honors College
Middle Tennessee State University
Thesis: “*Influence of Brand Advertising on the Nature of Interpersonal Communication in Ukrainian Society*”
Minors: Psychology, Marketing
Advisor: Ed Kimbrel

DISSERTATION

Abstract: Dissertation proposes a graphical analysis and presentation system for fitting, evaluating, and reporting longitudinal models in social sciences. The graphical innovations address practical issues that arise in evaluating sequences of statistical models. The proposed graphical methods provide the researcher with visualization tools to facilitate model evaluation, using data mapping and interactive document design.

Data: National Longitudinal Survey of Youth 1997. Accelerated longitudinal design, 5 cohorts (born in 1980-1984), 12 annual data points (2000-2011).

Relevance: Using latent curve modeling, I discuss the nature of change in religious involvement of the NLSY97 respondents. Religious attendance declines during yearly adulthood on average, but varies in distinct ways.

PUBLICATIONS

PUBLISHED

Koval A.V. & Beasley, W. H. (2014). Exploring Crawford-Ferguson Family of Rotations Through an Interactive Visual System. *Multivariate Behavioral Research*, 49(3), 288-289.

Rodgers, J. L. & **Koval, A.V.** (2012). EMOSA¹ models as developmental methodology: Extending social contagion models of adolescent problem behaviors to religious attendance. In Laursen, B., Little, T. & Card, N. (Eds.), *Handbook of Developmental Research Methodology*. (Pp. 701-724). New York: Guilford Press.

Koval, A., Beasley, W. (in press) Exploring Crawford-Ferguson Family of Rotations Through an Interactive Visual System. *Multivariate Behavioral Research*

IN PREPARATION

Koval A.V. (*in preparation*) Growth Trajectories and APC effects of Religiosity during Emerging Adulthood : Typology of Generation Y Churchgoers. *Journal of Research on Adolescence*.

PRESENTATIONS

PEER-REVIEWED

Rodgers J.L., **Koval A.V.** (2011) *Epidemic Modeling of the Onset of Social Activities (EMOSA Models): Applications to Adolescent Religious Involvement*. Talk at the annual meeting of the Society of Multivariate Experimental Psychology, Norman, OK.

Koval A.V., Kim, J.K. (2008) Comparative analysis of modern differential item functioning (DIF) methods through Monte Carlo simulation. Presented at the Annual Meeting of the Mid-South Educational Research Association, Knoxville, TN.

Bernstein S., **Koval A.V.** (2005) *Measuring reading automaticity in school setting*. Poster presented at the regional Southeastern Psychological Association, Nashville, TN.

¹Epidemic Models of the Onset of Social Activities

OTHER

- Koval A.V.** (2010) *Historiographical Landscapes: visuals tools for teaching history*. Poster at the University of Oklahoma Graduate Fair, Norman, OK
- Koval A.V.**, (2010) *Decrease of Fidelity: alternative conceptualization of the degrees of freedom concept*. Talk at Quantitative brown bag at University of Oklahoma, Norman

OTHER RESEARCH PROJECTS

- Koval, A.V.** (*in progress*) *Teaching multivariate methods through board games and mind mapping software*. Project for the Scholarship of Teaching and Learning program in the Center for Teaching at Vanderbilt University.
- Koval, A.V.** (2013) *LGM primer for Mplus*. Visual interactive solutions to model specification in Mplus.
- Koval, A.V.** (2012) *Multilevel exploration of Age-Period-Cohort effects in religious attendance: NLSY97 study*. Visual interactive solutions to model specification and evaluation in R and SPSS.
- Koval, A.V.** (2012) *Earth Time Atlas: New solution to visualizing time in sciences*. Entry to the International Science & Engineering Visualization Challenge, funded by the National Science Foundation
- Koval, A.V.** (2009) *Effects of having children on the quality of marital experience of females*. Project in applying quasi-experimental designs to NLSY79 data structures.
- Koval, A.V.** (2009) *Perceptual Mapping in Communicating Complex Opinions about People*. Multidimensional scaling project.
- Koval, A.V.** (2008) *Comparative analysis of modern differential item functioning (DIF) methods through Monte Carlo simulation*. Master thesis under Jwa Kim, Middle Tennessee State University.
- Kim, H., Kim J., **Koval, A.V.** (2007) Validation of the I/E-R Scale in Two Cultures Though Polytomous Item Response Theory.
- Koval, A.V.** (2007) Institutional research on improving the quality of decision in graduate admissions with statistical models. Research Assistant to Pamela Knox, the Associate Dean of College of Graduate Studies, Middle Tennessee State University.
- Koval, A.V.** (2005) *Influence of Brand Advertising on the Nature of Interpersonal Communication in Ukrainian Society*. Undergraduate thesis. Cross-cultural study, data collected in Ukraine and United States.
- Koval, A.V.** (2002) *Identity and Brand Advertising*. Paper at the annual Tennessee Undergraduate Social Science Symposium, Middle Tennessee State University.

TEACHING EXPERIENCE

DEPT. OF PSYCHOLOGY AND HUMAN DEVELOPMENT, VANDERBILT UNIVERSITY

Teaching assistant *Undergraduate Statistics* Fa 2012

DEPT. OF PSYCHOLOGY, UNIVERSITY OF OKLAHOMA

Full instructor *Undergraduate Statistics* Sp 2009, Su 2009, Wi 2011

Teaching assistant *Graduate Statistics* Fa 2009, Fa 2010

Undergraduate Statistics Sp 2010, Fa 2011, Sp 2011

DEPT. OF PSYCHOLOGY, MIDDLE TENNESSEE STATE UNIVERSITY

Teaching assistant *Graduate Statistics* Fa 2007, Sp 2008

Undergraduate Statistics Fa 2006, Sp 2007

RELEVANT COURSEWORK

Latent Growth Curve modeling

Multivariate Analysis

Multilevel Modeling

Applied Latent Class and Mixture modeling

Applied Multivariate Statistical Analysis

Factor Analysis and SEM

Measurement and Scaling

Quant Methods in Evaluation Research

taught by

Sonya K. Sterba

James H. Steiger

Kristopher J. Preacher

Sonya K. Sterba

Jorge Mendoza

Robert Terry

Joseph L. Rodgers

Joseph L. Rodgers

REPRESENTATIVE SOFTWARE

STATISTICAL

R

SAS

SPSS

Mplus

BUGS/JAGGS

GRAPHICAL

D3

Rshiny

ggplot2, knitr

Mondrian

CS6

VARIETY

HTML/CSS

The Brain

Qiqqa

PROFESSIONAL DEVELOPMENT

Scholarship of Teaching and Learning, Center for Teaching, Vanderbilt University, 2013

Certificate in College Teaching, Center for Teaching, Vanderbilt University, 2013

Advanced R programming. RStudio and Hadley Wickham, D.C., 2012

R package development. RStudio and Hadley Wickham, D.C., 2012

Presenting data and information: One-day course. Edward Tufte, San Francisco, CA, 2012

Behavior Genetics Modeling. Three-day course by Joseph Rodgers

National Longitudinal Survey Summer workshops. Columbus, OH, 2009

SAS Global Forum, Orlando, FL, 2008

HONORS & AWARDS

Travel Award, Society of Multivariate Experimental Psychology, 2013
Outstanding Graduate Student in Quantitative Psychology, MTSU, 2008
Outstanding Graduate Student in Psychology, MTSU, 2008

PROFESSIONAL AFFILIATIONS

Psychometric Society
Association for Psychological Science
Society for the Scientific study of Religion
History of Science Society

REFERENCES

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