CURRICULUM VITAE

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APPOINTMENTS

Dec 2018 -	Assistant Professor Department of Health Management and Informatics University of Central Florida, Orlando
2017 - 2018	Health System Impact Fellow for Canadian Institutes of Health Research BC Observatory for Population and Public Health BC Centre for Disease Control University of British Columbia
2014 – 2017	Postdoctoral Research Scientist Integrative Analysis of Longitudinal Studies of Aging research network. Institute of Aging & Lifelong Health, University of Victoria Advisors: Andrea Piccinin, Ph.D. and Scott Hofer, Ph.D.
2015 – 2017	Postdoctoral Research Fellow Applied Clinical Research Unit, Vancouver Island Health Authority Advisor: Kenneth Moselle, Ph.D., R.Psych.

EDUCATION

2012 - 2014	Doctor of Philosophy, Quantitative Methods Peabody College of Education and Human Development, Vanderbilt University Dissertation: "*A Graphical System for Longitudinal Modeling using Dynamic Documents*: *Application to NLSY97 Religiosity Data*" Advisor*:* Joseph Lee Rodgers, Ph.D. Members of the defense committee: James H. Steiger, Kristopher J. Preacher, Gary T. Henry

2008 – 2012   Residency at University of Oklahoma under J. L. Rodgers. Transferred to Vanderbilt
                     University following advisor's hire

2006 – 2008   Masters of Arts, Quantitative Psychology
                     Thesis: "*Comparative analysis of modern differential item functioning (DIF) methods
                     through Monte Carlo simulation*"
                     Advisor: Jwa Kim, Ph.D.

2001 – 2005   Bachelor of Science, Journalism
                     Summa Cum Laude, with Distinction from Honors College
                     College of Mass Communication, Middle Tennessee State University
                     Thesis: "*Influence of Brand Advertising on the Nature of Interpersonal Communication
                     in Ukrainian Society*"
                     Minors: Psychology, Marketing.
                     Advisor: Ed Kimbrel, Ph.D.

COLLABORATIVE WORKSHOPS and HACKATHONS

Linked Data Innovation Challenge. Hackathon at the 2018 International Population Data Linkage Conference. 2018 Sep 12-14. Best Data Visualization award for dynamic visualization of logistic regression with the coloring book technique. (See https://github.com/andkov/ipdln-2018-hackathon)

Probabilistic Programming for Advanced Machine Learning summer school hosted by DARPA in Arlington, Virginia. July 24 - Aug 4. Summer school project demonstrated the application of BayesDB in simulating realistic EHR trained by transactional records from Vancouver Island Health Authority . (See https://github.com/IHACRU/ihacru-ehr-simulation)

Assessing the impact of different harmonization procedures on the analysis results from several real datasets. Maelstrom Harmonization Workshop. April, 2016. Groningen, Netherlands. Role: developer of a workflow for harmonizing 5 longitudinal studies. (See https://github.com/IALSA/ialsa-2016-groningen)

Multi-study and multivariate evaluation of healthy life expectancy (HLE): An IALSA workshop on multistate modeling using R. April, 2016. Amsterdam, Netherlands. Role: modeler and repository developer. (See https://github.com/IALSA/ialsa-2016-amsterdam).

Coordinated Analysis with replication using data from nine longitudinal studies. February, 2015. Portland, OR. Integrative Analysis of Longitudinal Studies of Aging network. Role: developing software tools for implementing parallel analysis and processing model results in Mplus, R, and Github (See https://github.com/IALSA/ialsa-2015-portland).

CERTIFICATION

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

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

Summa Cum Laude, with Distinction from Honors College, MTSU, 2005

PROFESSIONAL DEVELOPMENT

Light-touch Project Management, Health System Impact Fellowship training, Toronto, November 2017

Probabilistic Programming for Advancing Machine Learning summer school, Arlington VA, July 2017

Scholarship of Teaching and Learning Program, Center for Teaching, Vanderbilt University. Fall, 2013

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

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

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

National Longitudinal Survey Summer workshops. Columbus, OH. May, 2009

SAS Global Forum, Orlando, FL. March, 2008

TEACHING

Dept. of Psychology, University of Victoria

Curriculum development grant from University of Victoria to develop flipped classroom materials for a graduate statistics course *Introduction to Statistical Modeling for Social Sciences.* Fall, 2015. Amount: $10,000. PI: Andrea M. Piccinin.

Introduction to Statistical Modeling for Social Sciences. Graduate. Fall, 2015. Course developer and Instructor.

Multivariate Statistics. Graduate. Spring, 2015. Co-instructor with Dr. Andrea Piccinin.

Longitudinal Modeling. Graduate. Spring, 2015. Co-instructor with Dr. Scott Hofer.

Dept. of Psychology and Human Development, Vanderbilt University

Undergraduate Statistics. Fall, 2012. Teaching assistant to Dr. Joseph Rodgers

Dept. of Psychology, University of Oklahoma

Undergraduate Statistics. Spring 2009, Summer 2009, Winter 2011. Full instructor

Graduate Statistics I. Fall 2009, Fall 2010. Teaching assistant

Undergraduate Statistics. Spring 2010, Fall 2011, Spring 2011. Teaching assistant

Dept. of Psychology, Middle Tennessee State University

*Graduate Statistics: ANOVA .*Fall 2007. Teaching assistant

Graduate Statistics: Regression. Spring 2008. Teaching assistant

Undergraduate Statistics. Spring 2006, Spring 2007. Teaching assistant

PUBLICATIONS

Peer-reviewed

Robitaille, A., van den Hout, A., Machado, R. J., Bennett, D. A., Čukić, I., Deary, I. J., ... & **Koval, A. V.** (2018). Transitions across cognitive states and death among older adults in relation to education: A multistate survival model using data from six longitudinal studies. *Alzheimer's & Dementia*, *14*(4), 462-472.

Muniz Terrera, G., Robitaille, A., Cukic, I., Hoogendijk, E. O., Skoog, J., **Koval, A. V...** Van den Hout, A. (2017). Active cognitive lifestyle as a protective factor for cognitive decline and dementia? *Innovation in Aging, 1*(1), 1276.

Kelly, Amanda; Calamia, Matthew; **Koval, Andriy V**.; Terrera, Graciela Muniz; Piccinin, Andrea M.; Clouston, Sean; Hassing, Linda B.; Bennett, David A.; Johansson, Boo; Hofer, Scott M. *Independent and interactive impacts of hypertension and diabetes mellitus on verbal memory: A coordinated analysis of longitudinal data from England, Sweden, and the United States*. Psychology and Aging, Vol 31(3), May 2016, 262-273.

Book Chapters

Rodgers, J. L. & **Koval, A.V.** (2012). EMOSA 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.

Published Abstracts

Robitaille, A., Van den Hout A., Machado, R.J.M., Čukić, I., Deary, I.J., Hofer, S.M., Hoogendijke, E.O., Johansson, B., **Koval, A.V**., Van der Noordt, M., Piccinin, A.M., Rijnhart, J.J.M., Singh-Manoux, A., Skoog, J., Skoog, I., Vermunt, L., Muniz-Terrera, G. (2017, July). *Transitions Across Cognitive States and Mortality Among Older Adults: A Multi-State Survival Model.* Paper presented at the Alzheimer's Association International Conference (AAIC), London, UK.

Emiel O. Hoogendijk , Annie Robitaille, Ardo van den Hout, Robson Mariano Machado, Iva Čukić, Scott M. Hofer, **Andriy V. Koval**, Maaike van der Noordt, Judith J.M. Rijnhart, Johan Skoog, Lisa Vermunt, & Graciela Muniz Terrera. *Transitions across cognitive states and mortality among older adults in relation to education. A multistate survival model using data from six longitudinal studies.* Paper presented at the 29th REVES meeting, Santiago de Chile (Chile), May 17-19, 2017.

Koval, A. V., Beasley, W. H. (2014). *Abstract: Exploring Crawford-Ferguson Family of Rotations through an Interactive Visual System.* (3rd ed., vol. 49, pp. 288-9). Multivariate behavioral research. PMID: 26735197. DOI: 10.1080/00273171.2014.912918 (https://github.com/andkov/ShinyEFA)

Under review

Duggan, E.C., Piccinin, A.M., Clouston, S., **Koval, A.V.**, Robitalle, A., Zammit, A.R., Wu, C., Brown, C.L., Lee, L.O., Finkel, D., Beasley, W.H., Kaye, J., Muniz-Terrera, G., Katz, M., B Lipton, R.B., Deeg, D. Bennett, D.A., Björk, M.P., Johansson, B., Spiro, A., Weuve, J., Hofer, S.M. A Multi-Study Coordinated Meta-Analysis of Pulmonary Function and Cognition in Aging. *International Journal of Epidemiology*

In preparation

Koval, A.V., Beasley, W. H., Piccinin, A., Muniz-Terrera, G., Hofer, S., *Data science of big analysis: tools, methods, and recipes for coordinated analysis with replication.*

Piccinin, A., Robitaille, A., Brown, C. **Koval, A.**, Muniz Terrera, G., Clouston, S., Zammitt, A., Handschuh, P., Wu, C., Jarry, V., Finkel, D., Beasley, W.H., Deeg, D.J.H., Johansson, B., Martin, M., Hofer, S. *Associations among age-related changes in physical capabilities: A coordinated analysis*

Muniz-Terrera, G., Robitaille, A., **Koval, A.V.**, Piccinin, A.M., Hofer S.M. *Sensitivity of results to design features: an illustration.*

Robitaille, A., Cadar, D., **Koval, A.V.**, Stephan, B.C., Jagger, C., Johanson, B., Hofer, S.M, Piccinin, A.M., Muniz-Terrera, G. *Is terminal decline inexorable?*

SOFTWARE

Beasley, W. H., **Koval, A.V.** (2015). *Software: IalsaSynthesis*. DOI: 10.5281/zenodo.30264

PRESENTATIONS

Posters

Koval, A., Moselle, K. (2018, September) *Clinical Context Coding Scheme: Describing Utilisation of Services of Island Health between 2007-2017*. Poster presented at the biannual conference of International Population Data Linkage Network. Banff, AB.

Koval, A., Smolina, K., Moselle, K.(2018, May) *Severity and Burden of Mental Health: Techniques for stratifying chronic conditions based on linked clinical history.* Poster presented at the annual conference of Canadian Association for Health Services and Policy Research, Montreal, QC.

Koval, A., Hofer, S., Moselle, K., Smolina, K.(March, 2018) *Blueprints for Learning: How does Healthcare System advance the science of its data?* Poster presented at the 29th conference of the Centre for Health Services and Policy Research, Vancouver, BC.

Vendittelli, R., **Koval, A.,** & Piccinin, A. M. (2016, June). *Longitudinal analyses of the moderating effects of physical activity on cognitive decline in aging.* Poster presentation at the Canadian Psychology Association 77th Annual Convention, Victoria, BC.

Vendittelli, R., **Koval, A.,** Piccinin, A. M. (2016, July). *The mediating effects of stress on dynamic change in physical activity and cognitive decline in aging.* Poster presentation at the Alzheimer's Association International Conference, Toronto, ON.

Piccinin, A. M., Brown, C. L., Robitaille, A., **Koval, A.,** Zammit, A. R., Wu, C… Hofer, S. M. (2015, November). Multivariate change in physical and cognitive functioning: Associations in eight IALSA-Affiliated longitudinal studies. Poster presented at the 68th Annual Scientific Meeting of the Gerontological Society of America, Orlando, FL.

Koval, A.V., Beasley, W. H., Piccinin, A., Muniz-Terrera, G., Hofer, S., (2016, July) *Big Data, Big Analysis: A Collaborative Modeling Framework for Multi-study Replication*, Dynamic screen poster session presented at the Annual Convention of Canadian Psychological Association, Victoria, BC.

Koval A.V. (2010, March) *Historiographical Landscapes: visuals tools for teaching history.* Poster at the University of Oklahoma Graduate Fair, Norman, OK

Koval A.V., Kim, J.K. (2008, August) *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, May) *Measuring reading automaticity in school setting.* Poster presented at the regional Southeastern Psychological Association, Nashville, TN.

Talks

Koval, A.V. (2018, May). *Big data, big opportunities: exploring careers in population data science.* Invited panelist at the annual conference of Canadian Association for Health Services and Policy Research, Montreal, QC.

Koval, A.V., Beasley, W.H. (2017, January) *Scientific Collaboration with GitHub*. Hawaii Institute of Marine Biology. Gates Coral Lab. Kaneohe, HI.

Beasley, W. H., **Koval, A.V.** (2016, May) *Applying lessons from the Feb 2015 Portland workshop to a newer architecture*, IALSA Workshop, IALSA, Victoria, BC.

Koval, A.V., Brown, C., Beasley, W. H., Hofer, S. (2015, October). *Visual tools for big analyses: Cross-study replication of bivariate growth models*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Applications, Victoria, CA.

Koval, A.V., Piccinin, A., Hofer, S., Muniz, G., Beasley, W. H., (2015, July) *A Collaborative Modeling Framework for Multi-Study Coordinated Analyses*, Oral presentation at Wellcome Trust, Wellcome Trust Conference, Cambridge UK.

Koval, A.V., Beasley, W. H., (2015, July) *Tools for collaboration, tabling of results, and research synthesis*, Presentation at Sidney Sussex College, Cambridge UK.

Koval, A. V. (2015). *Imagining an interface for statistical modeling.* Presentation at Pecha Kucha, University of Victoria, Victoria, BC.

Koval, A.V. *Toolbox and Skillset of Reproducible Research*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Application, Victoria, BC.

Koval, A.V. (2014, October) *Skill of Reproducible Research: Data Manipulation*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Application, Victoria, BC

Koval, A.V. (2014, October) *Skill of Reproducible Research: Data Manipulation*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Application, Victoria, BC

Koval, A.V. (2014, November) *Skill of Reproducible Research: Graph Production*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Application, Victoria, BC

Koval, A.V. (2014, November) *Skill of Reproducible Research: Statistical Modeling*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Application, Victoria, BC

Koval, A.V. (2014, December) *Skill of Reproducible Research: Dynamic Reporting*, Presentation at the Centre on Aging Colloquium Series, Optimizing Aging & Health: Methods & Application, Victoria, BC

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., (2010, November) *Decrease of Fidelity: alternative conceptualization of the degrees of freedom*. Talk at Quantitative brown bag at University of Oklahoma, Norman

SOFTWARE SKILLS

I work mostly in RStudio and GitHub.

Representative utility packages: *tidyr, dplyr, plyr, reshape2, ggplot2, ggally, knitr, rmarkdown.*

Representative modeling packages*: glm, nlme, lme4, glmulti, psych.*

Other modeling software: Mplus, SAS, SPSS.

REPRESENTATIVE STATISTICAL COURSEWORK

course	taught by
Latent Growth Curve modeling	*Sonya K. Sterba*
Multivariate Analysis	*James H. Steiger*
Multilevel Modeling	*Kristopher J. Preacher*
Applied Latent Class and Mixture modeling	*Sonya K. Sterba*
Applied Multivariate Statistical Analysis	*Jorge Mendoza*
Factor Analysis and SEM	*Robert Terry*
Measurement and Scaling	*Joseph L. Rodgers*
Quant Methods in Evaluation Research	*Joseph L. Rodgers*