

Curriculum Vitae

Mario A. Davidson

Personal Information

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Education

B.S.A. Mathematics
Tennessee State University, Nashville, TN May 1996

M.S.A. Mathematics
Tennessee State University, Nashville, TN May 1998

M.S. Statistics
The Ohio State University, Columbus, OH June 2002

M.A. Statistics/Mathematics Education
The Ohio State University, Columbus, OH June 2005

Ph.D. Statistics/Mathematics Education; Dissertation: Understanding the Burdens of Race at a Predominantly White University: The Experiences of Underrepresented Students in an Introductory Statistics Course Co-Advisors: Patricia Brosnan and Peter Demerath, The Ohio State University, Columbus, OH June 2007

Continuing Education – Short Courses Attended

Project Based Statistics; Middletown, CT, 2012

Regression Modeling Strategies; Nashville, TN, 2009

Regression Modeling Strategies; Nashville, TN, 2008

US Conference on Teaching Statistics; Columbus, OH, 2007

Preparing Future Faculty; Columbus OH, 2006

Multilevel Modeling; Columbus, OH, 2005

US Conference on Teaching Statistics; Columbus, OH, 2005

Design & Analysis of Group-Randomized Trials; Columbus, OH, 2004

Analysis of Correlated Data; Columbus, OH, 2003

Applied Survival Analysis; Columbus, OH, 2003

Mathematics, Science, and Technology Educators & Researchers of The Ohio State University. Proceedings of the Annual Spring Conference; Columbus, Ohio, 2002

Academic Appointments

Research Associate for Tennessee State University/NASA, 1995 – 1998

Research Associate for the Women's Health Initiative site at The Ohio State University, 2002 – 2003

Research Associate for the Populations Sciences at the James Hospital at The Ohio State University, 2003 – 2005

Research Specialist (Statistician) for the James Hospital at The Ohio State University, 2005 – 2007

Biostatistician III for Vanderbilt University, 2007 – 2009

Instructor of Biostatistics for Vanderbilt University, 2009 – Present

Non-Academic Appointments

Software Quality Engineer for Boeing, 1998 – 2000

Marketing Analysis Intern for Nationwide Insurance, 2002 – 2005

Intramural Professional Activities

Emphasis Project Planning Committee, 2007 – 2013

Recognition and Reward Committee Leader, 2007 – 2013

Preclinical Directors Committee, 2008 – 2012

Biostatistics Recruiting Committee, 2009 – 2012

Biostatistics Graduate Committee, 2009 – Present

Biostatistics, Epidemiology, Clinical Research Curriculum Coordinator, 2010 – 2011

Department Structure Leadership Facilitator for Biostatistics Staff Retreat, 2010

Committee on Suggested Guidelines for Non-Randomized Control Trials Research
Coordinator, 2010-2011

Scholarship Project Committee for Vanderbilt University School of Medicine, 2011

Masters of Health Professional Educators Planning Committee, 2011 – 2014

Liaison Committee on Medical Education Institutional Self-Study Sub Student
Committee Faculty Mentor, 2012 – 2013

Liaison Committee on Medical Education Institutional Self-Study Sub Committee,
2012 – 2013

Jazz Alliance Co-Director, 2012 – Present

Biostatistics Graduate Instruction Committee, 2012 – Present

Continuous Quality Improvement Committee Leader, 2012 – Present

Biostatistics Authorship Policy Committee, 2012 – 2013

Research 1 Advisory Committee for Vanderbilt Medical Students I, 2012 – Present

Research 2 Advisory Committee for Vanderbilt Medical Students II, 2012 – Present

Curriculum 2.0 Committee for Vanderbilt University School of Medicine, 2012 – 2014

Diversity Committee for the Department of Biostatistics, 2013 – 2014

Educator Development Program Scholars Committee, 2013 – Present

Admission's Committee for Vanderbilt Medical School Applicants, 2013 – Present

Curriculum Evaluation and Improvement Team, 2014 – Present

Standing Assessment Committee, 2014 – Present

Portfolio Planning Group, 2014 – Present

AMA Grant Committee, 2014 – Present

Educational Development Core, 2014 – Present

Academy for Excellence in Teaching at Vanderbilt University School of Medicine,
2015 - Present

Awards and Honors

Received an AT&T scholarship/award at Tennessee State University, 1992

Selected for a fellowship to The Ohio State University, 2000

Selected as one of the Spring quarter distinguished statistics teacher's associates at The
Ohio State University, 2002

Recognized as an outstanding Educator Development Program Workshop Facilitator,
2010

Academy for Excellence in Teaching at Vanderbilt University School of Medicine, 2015

Teaching

Instructor for the Mathematics Department at Tennessee State University. Taught, 1997

Instructor for the Mathematics Department at Columbus State Community College.
Statistics. Taught, 2006 – 2007

Course Director for Vanderbilt University School of Medicine. *Introduction to Research
with an Emphasis on Biostatistics*. Taught and Designed Curriculum, 2010 – 2012

Instructor for the Mathematics Department at South University. Taught Online, 2010

Course Director for Vanderbilt University Medical Health Professional Educators.
Qualitative and Quantitative Analytic Methods. Taught and Designed Curriculum
2012

Course Director for Vanderbilt University School of Medicine; Department of
Biostatistics. *Statistical Collaboration in Health Sciences I*. Taught and Designed
Curriculum, 2012

Course Director for Vanderbilt University School of Medicine; Department of Biostatistics. *Statistical Collaboration in Health Sciences II*. Taught and Designed Curriculum, 2013

Course Director for Vanderbilt University School of Medicine. *Project Based Biostatistics*. Taught and Designed Curriculum, 2013

Course Director for Meharry Medical College. *Project Based Biostatistics*. Taught and Designed Curriculum, 2013

Course Director for Vanderbilt University School of Medicine; Department of Biostatistics. *Statistical Collaboration in Health Sciences I*. Co-Taught and Designed Curriculum, 2013

Course Director for Vanderbilt University School of Medicine; Department of Biostatistics. *Statistical Collaboration in Health Sciences II*. Co-Taught and Designed Curriculum, 2014

Course Director for Meharry Medical College. *Project Based Biostatistics*. Taught and Designed Curriculum, 2014

Small Group Facilitator for Vanderbilt University School of Medicine. *Brain and Behavior*. Facilitated, 2014

Course Director for Vanderbilt University School of Medicine; Department of Biostatistics. *Statistical Collaboration in Health Sciences I*. Taught and Designed Curriculum, 2014

Small Group Facilitator for Vanderbilt University School of Medicine. *Research Curriculum II*. Facilitated and Designed Curriculum, 2014

Small Group Facilitator for Vanderbilt University School of Medicine. *Homeostasis*. Facilitated, 2015

Small Group Facilitator for Vanderbilt University School of Medicine. *Research Curriculum II*. Facilitated and Designed Curriculum, 2015

Small Group Facilitator for Vanderbilt University School of Medicine. *Endocrine, Gastrointestinal Nutrition and Reproduction*. Facilitated, 2015

Course Lectures

Lecturer for the Emphasis Program at Vanderbilt University. *Biostatistics and Research*, 2007 – 2012

Lecturer for the Patient, Profession, and Society II. *Biostatistics*, 2008

Lecturer for the Patient, Profession, and Society I. *Biostatistics and Research*, 2009

Instructor for the Mathematics Department at South University, 2010

Lecturer for the Peabody School of Education. *Hypothesis Testing: Understanding P-values at Vanderbilt University*, 2011

Lecturer for the Social and Behavioral Science for Public Health. *Guidelines for Data Collection and Data Dictionary at Vanderbilt University MPH*, 2014

Invited Presentations

Assessing Medical Student Mental Health at the Vanderbilt School of Medicine;
Vanderbilt University School of Medicine, 2010

A Comparison of Research Methodologies: Vanderbilt University School of Medicine:
CORE Collaborative in Qualitative Research, 2011

Creating an Effective, Visually Attractive Scientific Poster: Making People Stop!:
Vanderbilt University School of Medicine: Medical Student Research Training
Program in Nephrology, 2011, 2012, 2013, 2014, 2015

Where to Start When Designing a Research Project: Part I; Vanderbilt University School
of Medicine: GCRC, 2012, Department of Anesthesiology Summer Internship
Program, 2012

Where to Start When Designing a Research Project: Part II; Vanderbilt University School
of Medicine: GCRC, 2012, Department of Anesthesiology Summer Internship
Program, 2012

Introduction to Biostatistics Workshop Series; Vanderbilt University School of Medicine;
Cumberland University, 2012 and 2013:

Where to Start When Designing a Quantitative Project
Understanding Data
Confidence Intervals
Choosing the Right Statistical Tests and Pulling it All Together

Introduction to Biostatistics Workshop Series; Vanderbilt University School of Medicine;
Pediatric Fellows, 2012 and 2013:

Where to Start When Designing a Quantitative Project
Understanding Data
Confidence Intervals
Choosing the Right Statistical Tests and Pulling it All Together

Presentations

Creating a Poster;

Vanderbilt University School of Medicine: GCRC, 2008

Vanderbilt University School of Medicine: 2009

What is Hypothesis Testing?;

Vanderbilt University School of Medicine: GCRC, 2008

Vanderbilt University School of Medicine: Neonatology, 2008

Journey to Becoming a Statistician;

Tennessee State University: Mathematics Department, 2008

Understanding the Burdens of Race in an Introductory Probability and Statistics Course;

Middle Tennessee State University: US Sino Workshop, 2008

Introductory Biostatistical Topics;

Vanderbilt University School of Medicine: Global Health, 2008

The Basics of Research in Medical Education;

Generalist Conference, 2008

Designing a Project;

Vanderbilt University School of Medicine: GIVME Grant Meeting, 2008

Vanderbilt University School of Medicine: 2009, 2010

Choosing the Correct Statistical Test;

Vanderbilt University School of Medicine: CORE Conversations, 2008

Conducting a Literature Review;

Vanderbilt University School of Medicine: GCRC, 2009, 2010

Vanderbilt University School of Medicine: 2010

Designing a Project I; Vanderbilt University School of Medicine, 2009

Challenges of Consulting: Experiences of Real Biostatisticians;

Vanderbilt University School of Medicine: Department of Biostatistics

Continuing Education, 2009

Introduction to Research in Medical Education;

Vanderbilt University: Educational Development Program, 2009, 2010, 2011

How a Biostatistician Can Help Medical Education Researchers;

Vanderbilt University School of Medicine: CORE Conversations, 2009

Designing a Questionnaire;

Vanderbilt University School of Medicine: Global Health, 2009

Vanderbilt University: Kennedy Center, 2014

Creating an Effective, Visually Attractive Scientific Poster: Making People Stop!:

Vanderbilt University School of Medicine: 2009, 2010, 2011, 2012, 2013, 2014

Vanderbilt University School of Medicine: Medical Student Research Training

Vanderbilt University School of Medicine: GCRC, 2010, 2011, 2012, 2013, 2014

What is Hypothesis Testing and Why Should I Care What the *P*-value is?;

Vanderbilt University School of Medicine: GCRC 2010, 2011, 2012, 2013

Vanderbilt University Peabody School of Education: Invited Guest Lecturer, 2011

Advice from a Biostatistician;

Vanderbilt University School of Medicine: Global Health, 2010

Designing a Questionnaire II;

Vanderbilt University School of Medicine, 2010

Challenges of Consulting: Experiences of Real Biostatisticians;

Vanderbilt University School of Medicine: Department of Biostatistics Seminar,

2010

Survey Methods (Small Group Facilitator; Presenters: Leora Horn and Amy Fleming):

Vanderbilt University: Educational Development Program, 2011

Where to Start When Designing a Research Project: Part I; Vanderbilt University School of Medicine: GCRC 2011

Where to Start When Designing a Research Project: Part II; Vanderbilt University School of Medicine: GCRC, 2011

Basics and Beyond: Displaying Your Data; Vanderbilt University School of Medicine:

GCRC, 2011

Moral Distress and Changes in Burnout:

Vanderbilt University School of Medicine: CORE Conversations, 2011

Southern Group on Educational Affairs: Houston, 2011

Medical Student Mental Illness – Understanding the Problem and Finding Solutions:

AAMC Southern/Northeast Regional Meeting: Opryland, Nashville, TN, 2011

Introduction to Modeling; Vanderbilt University School of Medicine: Pulmonary

Fellows, 2013

Introduction to R Commander Vanderbilt University School of Medicine: GCRC, 2014

Teaching Associate and Tutor

(Unofficial) Teaching Associate for Mathematics' advisor at Tennessee State University, 1996

Teaching Associate for the Department of Statistics at The Ohio State University.
Statistics, 2001 - 2002

Tutor at Tennessee State University, Temple Baptist Church, The Ohio State University, Mount Olive, City of Refuge First Church of God, and Independently, 1991 - 2004

Mentoring

Marissa Blanco (medical student) at Vanderbilt University School of Medicine – Using a keypress task to study restricted interests in children with autism, 2010

Olufemi Kassim (medical student) at Vanderbilt University School of Medicine – Risk factors of substance abuse in medical students, 2011

Jason Axt (Surgical resident) at Vanderbilt University School of Medicine – No project associated, 2011

Meridith Blevins (Biostatistician III) at Vanderbilt University School of Medicine – Career guidance, 2011– 2014

Manuscripts

Lew, J. S., & **Davidson, M.** Effects of uncertainty of identified parameters on structural damage detection. Paper presented at the Third National Student Conference, The NASA University Research Centers, Huntington, AL, 1998

Davidson, M. Factors involved in the failure of underrepresented students in statistics. Paper presented at the First United States Conference on Teaching Statistics, Columbus, OH, 2005

Davidson, M. The burden of race for underrepresented students in an introductory statistics course at a predominantly White university. Paper presented at the US Sino Workshop, Murfreesboro, TN, 2008

- Paskett, E.P, Alfano, C.M., **Davidson, MA**, Andersen, BL, Naughton, MJ, Sherman, A, McDonald, P, Hays, J. Breast cancer survivors' quality of life: Racial comparisons. *Cancer*, 113, 3222 – 3230, 2008
- Demerath, P, Lynch, J, **Davidson, M**. Dimensions of psychological capital in a U.S. suburb and high school: Identities for neoliberal times. *Anthropology and Education Quarterly*, 39, 270 – 292, 2008
- Riesel, J, Ochieng, F, Wright, P, Vermund, S, **Davidson, M**. High prevalence of soil-transmitted helminthes in Western Kenya: Failure to implement deworming guidelines in rural Nyanza Province. *Journal of Tropical Pediatrics*, 56, 60 – 62, 2009
- Demerath, P, Lynch, J, Milner, R, Peters, A, **Davidson, M**. Decoding success: A middle-class logic of individual advancement in a U.S. suburb and high school. *Teachers College Record*, 2010, 2935 – 2987
- Moore, RD, Schuman, TA, Scott, TA, Mann, SE, **Davidson, MA**, Labadie RF. Exostoses of the external auditory canal in white-water kayakers. *Laryngoscope*, 120, 582 – 590, 2010
- Sastre, EA, Burke, EE, Silverstein, E, Kupperman, A, Rymer, JA, **Davidson MA**, Rodgers SM, Fleming AE. Improvements in medical school wellness and career counseling: A comparison of one-on-one advising to an Advisory College Program. *Med Teach*. 32, 429 – 435, 2010
- Parikh, R, Amole, I, Tarpley, M, Gbadero, D, **Davidson, M**, Vermund, SH. Cost comparison of microscopy vs. empiric treatment for malaria in southwestern Nigeria: A prospective study. *Malaria Journal*, 9, 372 – 375, 2010
- Kappa, SF, Gorden, DL, **Davidson, MA**, Wright, JK, Guillaumondegui, OD. Intraoperative blood loss predicts hemorrhage-related reoperation after orthotropic liver transplantation. *American Surgeon* 76, 969 – 973, 2010
- Ghodasara, SL, **Davidson, MA**, Reich MS, Savoie, CV, Rodgers, SM. Assessing student mental health at the Vanderbilt University School of Medicine. *Academic Medicine* 86, 116 – 121, 2011
- Cooke, RE, Ciampa, PJ, Sidat, M, Blevins, M, Burlison, J, **Davidson, MA**, Arroz, JA, Vergara, AE, Vermund, SH, Moon, TD. Predictors of successful early infant diagnosis of HIV in a rural district hospital in Zambezia, Mozambique. *Journal of Acquired Immune Deficiency Syndrome* 56, 104 –109, 2011

- Koehler, DM, Shipman, J, **Davidson, MA**, Guillamondegui, O. Is early venous thromboembolism prophylaxis safe in trauma patients with intracranial hemorrhage. *The Journal of Trauma* 70, 324 –329, 2011
- Shepard, ME, Sastre, EA, **Davidson, MA**, Fleming, AE. Use of individualized learning plans among fourth-year sub-interns in pediatrics and internal medicine. *Medical Teacher* 34, 46 – 51, 2012
- Snyder, RA, Tarpley, MJ, Tarpley, JL, **Davidson, M**, Brophy C, Dattilo JB. Teaching in the operation room: Results of a national survey. *Journal of Surgical Education*, 5, 643 – 649, 2012
- Buscariollo, DL, **Davidson, MA**, Black, M, Russell, WE, Rothman, RL, Moore, DJ. Factors that influence parental attitudes toward enrollment in type 1 diabetes trials. *PLoS One*, 7, 2012
- Estopinal CB, van Dijk, JH, Sitali, S, Stewart H, **Davidson, MA**, Spurrier, J, Vermund SH. *PLoS One*, 12, 2012
- Bills JL, **Davidson, MA**, Dermody, TS. Effectiveness of a clinical intervention for MD/PhD students re-entering medical school. *Teaching and Learning Medicine*, 25, 77 – 83, 2013
- Medvecz, AJ, Hill, JB, Brywczyński, J, Gunter, O, **Davidson, M**, Guillamondegui, OD. Does scene physiology predict helicopter transport trauma admission? *Journal of Surgical Residents*, 184, 467 – 471, 2013
- Damp, J, Anthony, R, **Davidson, MA**, Mendes, L. Effects of transesophageal echocardiography simulator training on learning and performance in cardiovascular medicine fellows. *Journal of American Society of Echocardiography*, 26, 1450 – 1456, 2013
- Khuri-Bulos, N, Lang, RD, Blevins, M, Kudyba, K, Lawrence, L, **Davidson, M**, Faouri, S, Halasa, NB. Vitamin D deficiency among newborns in Amman, Jordan. *Global Journal of Health Sciences*, 6, 162 – 171, 2013
- Gregg, JR, Horn, L, **Davidson, MA**, Gilbert, J. Patient enrollment onto clinical trials: The role of physician knowledge. *Journal of Cancer Education*, 29, 74 –79, 2014
- Tiggelaar, SM, Rafalski, M, **Davidson, MA**, Hu, Y, Burnett, L. HPV knowledge and vaccine acceptability in Appalachian Tennessee and Kentucky, USA. *Journal of Family Planning Reproductive Health Care*. 40, 75 – 76, 2014.
- Tarpley, MJ, **Davidson, MA**, Tarpley, JL. The role of the nonphysician educator in

general surgery residency training: from outcome project and duty-hours restrictions to the next accreditation system and milestones. *Journal of Surgical Education*, 1, 119 – 124, 2014

Mainthia, R, Tarpley, MJ, **Davidson, M**, Tarpley, JL. Achievement in surgical residency: are objective measures of performance associated with awards received in final years of training? *Journal of Surgical Education*, 2, 176 – 181, 2014

Watkins, SC, Williamson, K, **Davidson, M**, Donahue, BS. Long-term mortality associated with acute kidney injury in children following congenital cardiac surgery. *Paediatric Anaesthetics*, 9, 919 – 926, 2014

Andresen, JM, Girard, TD, Pandharipande, PP, **Davidson, MA**, Ely, WE, Watson, PL. Burst suppression on processed electroencephalography as a predictor of postcoma delirium in mechanically ventilated ICU patients. *Critical Care Medicine*, 10, 2244 – 2251, 2014

Select Published Conference Proceedings

Davidson, M (1997). *Some queuing models in discrete event dynamical systems*. Paper presented at the First National Student Conference, The NASA University Research Centers, SC

Davidson, M (1997). *Some queuing models in discrete event dynamical systems*. Paper presented at the First National Student Conference, The NASA University Research Centers, Sc

Lew, J. S., & **Davidson, M** (1998). *Effects of uncertainty of identified parameters on structural damage detection*. Paper presented at the Third National Student Conference, The NASA University Research Centers, Huntington, AL

Davidson, M (2005). *Factors involved in the failure of underrepresented students in statistics*. Paper presented at the First United States Conference on Teaching Statistics, Columbus, OH

Davidson, M (2008). *The burden of race for underrepresented students in an introductory statistics course at a predominantly White university*. Paper presented at the US Sino Workshop, Murfreesboro, TN

Public Health Reports

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2005). Stage at diagnosis for selected cancer sites & types in Ohio, 1998 – 2002

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2005). Stomach cancer in Ohio, 1998 – 2002

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2005). Leukemia, lymphoma & multiple myeloma in Ohio, 1998-2002

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2005). Oral cavity and pharynx cancer in Ohio, 1998 – 2002

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2006). Lung and bronchus cancer in Ohio, 1999 – 2003

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2006). Kidney and renal pelvis cancer in Ohio, 1999 – 2003

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2006). Testicular cancer in Ohio, 1999 – 2003

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2006). Uterine Cancer in Ohio, 1999 – 2003, Columbus, Ohio

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2006). Colon & Rectum Cancer in Ohio, 1999 – 2003, Columbus, Ohio

Ohio Cancer Incidence Surveillance System & Ohio Department of Health and The Ohio State University (2006). Thyroid Cancer in Ohio, 1999 – 2003, Columbus, Ohio