Dr. Hakan Demirtas was born in Istanbul, Turkey in 1971. During his middle-level education, he won the regional mathematics competitions that were organized by Turkish National Science Foundation twice. In the nationwide university entrance examination, he ranked among top 100 students among 1.5 million high-school seniors in 1987, and got admitted by the Electrical and Electronics Engineering Department at Bogazici University, which is regarded as one of the best colleges in Turkey. He obtained his B.S. degree in 1993. His bachelor's degree thesis was entitled "Experimental-based analog-to-digital converter based on a modified Hopfield neural network."

After working in Turkey, Ukraine, and Russia for a couple of years, he moved to the United States in 1995, and started to pursue an M.B.A. degree at University of South Alabama. He was awarded graduate research assistantship at the Department of Economics in his second year during which he got interested in studying statistics. He was enrolled in the Ph.D. program in Statistics at Pennsylvania State University where he was awarded the first year doctoral fellowship in 1997. He worked as a Graduate Teaching Assistant at the Department of Statistics for three years, and then as a Graduate Research Assistant at the Prevention Methodology Center until his graduation in 2003. He worked on missing data problems as a part of his research assistantship duties and his dissertation at Penn State. His thesis was entitled "Multiple imputation for nonignorable dropout using Bayesian pattern-mixture models," under the supervision of Dr. Joseph Schafer. Shortly after graduation, he accepted a faculty position at University of Illinois at Chicago (UIC), and started working as an Assistant Professor at the Division of Epidemiology and Biostatistics at the School of Public Health, where he was promoted to the Associate Professor rank with tenure in 2008. He spent his sabbatical leave in 2012 at the Industrial Engineering Department at TOBB University of Economics and Technology in Turkey.

Hakan's work spans several major areas of statistics and is driven by an interest in developing statistically sound solutions to real-world problems. His methodological research interests can be categorized into the two broad areas: analysis of incomplete multivariate data and stochastic simulation. His concentration has been on biostatistics in recent years, however, the fundamental principles of these research topics can be applied to a wide range of disciplines including finance, econometrics, mathematics, engineering, quantitative social and behavioral sciences, among many others. Having engineering and business administration degrees, followed by a doctoral level training in mathematical statistics, and currently working in a public-health oriented environment, give him the tools and perspectives for striking a delicate balance between technique and judgment to make statistical, computational, and methodological contributions to a wide range of substantive areas.

As far as missing data are concerned, Hakan focuses on multiple imputation (MI) inferences where missing observations are replaced by a set of plausible values that are drawn from a predictive distribution. Once multiple versions of the completed data sets are obtained, one can proceed with analyzing them with standard complete-data methods and incorporating the results into a single inferential summary, through which uncertainty due to missing data is formally taken into account in the modeling process. In many situations, incompleteness arises due to a myriad of reasons that are beyond the control of observers, and adequately addressing missing data issues in a statistically defensible manner is crucially important. From stochastic simulation point of view, he has been building a unified framework for concurrently generating data sets that include all four major kinds of variables (i.e., binary, ordinal, count, and continuous) when the marginal distributions and a feasible association structure are specified for simulation purposes, which could potentially become a central computational and data-analytic aspect in the big data era. As of this writing, he has authored or co-authored 137 publications including journal articles, book reviews, software documentation, and conference proceedings. His work on MI-based methodologies and random number generation has led to 76 peer-reviewed theoretical, methodological, and application papers in statistics, biostatistics and computation/simulation-oriented journals, and 29 papers in various substantive fields including mental health services, environmental health, and genetic epidemiology.

Hakan is committed to ensuring that his work is widely disseminated and accessible to a broad spectrum of both specialists and generalists. He has developed 17 publicly available software tools in the form of R packages that are currently employed by a diverse range of people from social, managerial, behavioral, medical, and physical sciences. His software products generated a large percentile impact, as can be seen at https://www.rdocumentation.org/collaborators/name/Hakan%20Demirtas As of 08/31/2021, the total number of downloads through different IP addresses for these packages was 35,170 with an impact percentile of 92.

He has been serving as the Associate Editor of Journal of Statistical Software since 2007, and he has been the member of the advisory board for Turkish Clinics Journal of Biostatistics since 2009. He also served as a referee for over 80 papers in about 40 journals. He was a book reviewer for Guilford Press, ad-hoc grant reviewer for National Institute of Health, US-Israeli Binational Science Foundation, and Medical Research Council of United Kingdom. He gave numerous invited talks and participated in workshops as a lecturer in national and international conferences and other meetings. He has been involved with many funded grant proposals that were awarded by National Institute of Health and other agencies (as required, a complete list is given at the end of this document). He served as a statistical consultant in several industry-led projects, mostly in health care sector. He is a member of American Statistical Association,

International Biometric Society, and Institute of Mathematical Statistics. He has developed two doctoral level (Computational Statistics and Bayesian Methods) and one graduate level (Programming and Simulation in R) courses at UIC. He has advised many masters' and doctoral students at UIC and mentored postdoctoral researchers. A more specific list of his accomplishments can be accessed at http://demirtas.people.uic.edu/DEMIRTAS-CV.pdf

His hobbies are thinking about number theory problems, writing song lyrics, playing chess (can play blindfolded), helping high school kids with their math assignments, and participating in boy scouts' activities. He is a number magician on an amateur level. He is married and the father of a fifteen-year-old son. He speaks English, Turkish, and Russian.

Finally, here is a story from the French literature that accurately reflects Hakan's state of mind. Balzac's servant found him crying and asked what was wrong. He said, "one of the characters in his novel has died." The bewildered servant replied "Boss, aren't you the one who created her?" Balzac stormed "So what? What difference does it make? She is dead." Understanding the way he thinks is the key for being a genuine quantitative artist who can feel the whole point of what science is all about. Hakan is a passionate believer of the Balzacian paradigm. He does what he likes and likes what he does. Computational statistics is a beautiful thing. If he hadn't woken up to it, he'd still be sleeping. Given his abiding passion, unwavering commitment, and relentless marching towards a better understanding of how science can be advanced in meaningful and broadly applicable ways, he will never retire.

RESEARCH SUPPORT:

Milk Availability and Lactation Status in Mothers of Preterm & Term Infants. Project Number 5 R01 NR04994-03 (PI: Pamela Hill) 05/01/03 to 04/30/04, Annual direct cost: $259,923. (Co-I). Funded by National Institute of Nursing Research.

Homeless Mentally Ill Strategies of Maintaining Residential Stability. Project number DedH1339040320 (PI: Christine Helfrich) 05/01/05 to 04/30/06, Annual direct cost: $150,000. (Co-I). Funded by National Institute of Mental Health.

A Multivariate Probit Model for Health Services Research. Project Number 1 R01 MH67198-01a2 (PI: Hua Yun Chen) 05/01/05 to 04/30/06, Annual direct cost: $150,000. (Co-I). Funded by National Institute of Mental Health.

Mental Health Services for Foster Children. Project Number MH070580-01A2 (PI: Sonya Leathers), 09/30/05 to 08/31/10, Annual direct cost: $ 117,099. (Co-I). Funded by National Institute of Mental Health.

Asthma and Demolition in Chicago Public Housing. Project Number 1 K08 ES11302 (PI: Samuel Dorevitch) 05/02/02 to 03/31/07, Annual direct cost: $119,133. (Co-I). Funded by National Institute of Environmental Health Sciences.

Genetic Epidemiology of Osteoporosis. Project Number R01 AR045651 (PI: Xiping Xu) 09/06/00 to 03/31/07, Annual direct cost: $386,360. (Co-I). Funded by National Institute of Arthritis and Musculoskeletal and Skin Diseases.

Epidemiology of Metabolic Syndrome in Children. Project Number R01 HD049059 (PI: Xiaobin Wang). 01/01/05 to 12/31/09, Annual direct cost: $80,000. (Co-I). Funded by National Institute of Child Health and Human Development/ Children's Memorial Hospital, Chicago.

Establishing the Precursors of Osteoporosis in Children. Project Number R01 AG032227 (PI: Xiping Xu). 10/01/07 to 08/31/11, Annual direct cost: $206,630. (Co-I). Funded by National Institute of Arthritis and Musculoskeletal and Skin Diseases.

Sleep and Adiposity: A Prospective Twin Study. Project Number R01 HL0864619 (PI: Xiaobin Wang). 09/15/06 to 08/31/10, Annual direct cost: $55,000. (Co-I). Funded by NICHD / Children's Memorial Hospital, Chicago.

ACISR in Late Life Depression. Project Number 1 P30 MH085943-01 (PI: Hakan Demirtas). 07/1/09 to 12/31/11, Annual direct cost: $86,568. Housed in Weill Cornell Medical College. Funded by National Institute of Health.

Dissemination of Effective Mental Health Services in Foster Care. Project Number RC1 MH088732-01 (PI: Sonya Leathers). 09/25/09 to 09/24/11, Annual direct cost: $156,397. (Co-I). Funded by National Institute of Mental Health.

Addressing Mental Illness and Physical Comorbidities in Migrants and Their Families. Project Number 1D43TW009316-01A1 (PI: Steve Weine). 06/01/14 to 05/31/19, Total direct cost: $221,216. (Co-I). Funded by National Institute of Health.

Statistical Analysis of Occupational Exposure Data. Project Number K01 OH010537 (PI: Rachael Jones) 04/01/14 to 03/31/17, Total direct cost: $324,000. (Mentor). Funded by National Institute of Occupational Safety and Health.

Novel Multiple Imputation Methods for Incomplete Intensive Longitudinal Data. (PI: Hakan Demirtas). 04/01/16 to 03/31/17, Total direct cost: $20,000. Funded by University of Illinois at Chicago, School of Public Health.

Advancing Stepped Care for Women's Common Mental Disorders in an LMIC. Project number 1R21MH108363-01A1 (PI: Stevan Weine). 09/11/16 to 08/31/18, Total direct cost: $128,351. (Co-I). Funded by National Institute of Mental Health.

Low Intensity Family Support for Refugees in an LMIC. Project number 1R21MH117759 - 01 (PI: Stevan Weine). 07/01/18 to 06/30/20, Total cost: $357,857. (Co-I). Funded by National Institute of Mental Health.

Scaling-Up stepped care for women's mental health in primary care in an LMIC. 1RO1MH120660 - 01 (PI: Stevan Weine). 09/01/19 to 08/30/24, Total cost: $3,303,858. (Co-I). Funded by National Institute of Mental Health.