ROLAND B. STARK

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ACCOMPLISHMENTS

- Advanced organizations' research efforts by systematizing data collection, analysis, and reporting.
- Introduced new statistical and behavioral-economics techniques to improve the accuracy of both predictive and causal analyses.
- Uncovered the drivers of decisions on college application, enrollment, retention, and donations.
- Created predictive models enabling hospitals to target interventions to patients most in need.

RESEARCH and ANALYSIS

Senior Research Analyst, DELTAQUEST FOUNDATION, Concord, MA (Jan. 2019-present)
- Conduct innovative survey research on quality of life for patients and their caregivers.
  - Investigate ways of coping with major conditions and events such as cancer, spinal surgery, hemophilia, and rare diseases.
  - Improve the validity and reliability of methods for assessing patient and caregiver experience.
  - Collaborate with physicians, pharmaceutical companies, and other researchers.
  - Develop code in Stata, SPSS, and R and conduct in-depth multivariate analyses.
  - Contribute to frequent publications in peer-reviewed journals.

Statistician, Research Consultant, and Principal, **INTEGRATIVE STATISTICS**, Waltham and Maynard, MA (2001-present)
- Assist health and higher ed. institutions, nonprofits, businesses, attorneys, and academics with:
  - Research design, from audience needs and budget constraints to power analysis, psychometrics, and techniques of behavioral economics.
  - Data collection and management, including effective use of survey and statistical software.
  - Resourceful data analysis, including multivariate methods such as multiple regression, binary and multinomial logistic modeling, factor and cluster analysis, and Monte Carlo simulation.
  - Insightful interpretation and sharp, persuasive presentations of findings.
- Conducted large-scale projects in health care (healthcare utilization, nurses' working conditions); education (financial aid modeling, teacher salaries and retention); and business (school bus accident reduction, market research on employee training).
- Clients include Princeton University, Kaiser Permanente, Ropes & Gray LLP, and UMass Lowell.

Chief Research Officer, **REINFORCED CARE, INC.**, Ashland & Raynham, MA (2012-2018)
- Analyzed and interpreted extensive patient data for hospital leadership.
  - Identified predictors and causes of post-discharge outcomes based on complex data feeds from hospitals and telephone outreach to patients.

- o Investigated hospital quality improvements that would also increase revenue.
- o Designed research with and presented findings to chief executives and directors of quality improvement and case management.
- ♦ Introduced and/or trained colleagues in statistical techniques: data mapping, path diagrams, random forests, Monte Carlo simulation, censored regression, CHAID, MICE, ARIMA, LASSO, and specialized *R* packages.
- ♦ Led marketing initiatives encompassing collateral, white papers, and website redesign. Represented the company through proposals, publications, and presentations.
- ♦ Promoted from Senior Research Analyst, 2016.

Senior Research Associate, MAGUIRE ASSOCIATES, INC., Concord, MA (2007-2012)
- ♦ Conducted market research and analysis of institutional data to support marketing, retention, and alumni outreach efforts in higher education.
  - o Collaborated with administrators to ensure fidelity of research to institutional needs.
  - o Designed surveys, focus groups, and evaluations.
  - o Managed project flow and supervised design, data collection, processing, analysis, and reporting.
  - o Created in-depth reports addressing school image, drivers of student decisions, and price sensitivity. Presented findings to presidents, deans, and faculty.
- ♦ Co-led development of a new multidimensional service line to increase student retention. Co-created and led a 90-minute retention webinar for publication and sale.
- ♦ Trained colleagues in statistics, data graphics, psychometrics, and behavioral economics.
- ♦ Produced and contributed to company proposals and publications.
- ♦ Clients included Fordham, Carnegie-Mellon, Bates, Georgia Tech, and U. of New Mexico.

Statistician/Researcher, HARVARD GRADUATE SCHOOL OF EDUCATION, Cambridge, MA (2003-2007)
- ♦ Designed and conducted research and evaluations for online courses aimed at improving classroom teaching and supporting school reforms internationally.
  - o Coordinated all aspects of large-scale internet surveys administered in three languages.
    - ✓ Designed surveys using primary and secondary research on cross-cultural and online methods.
    - ✓ Introduced multivariate statistics and used data graphics and thematic analysis to investigate key issues for reports, web pages, and promotional presentations.
  - o Supervised or advised colleagues in processing, coding, and sharing data and use of SPSS and Excel.
  - o Created innovative quality assurance approaches as part of a long-term team project.
    - ✓ Helped direct development, training, and pilot testing for assessment tools used by 45 employees.
    - ✓ Designed and conducted classroom observations and focus groups.
- ♦ Contributed to grant proposals, case studies, and reports for donors, accreditors, and journals.
- ♦ Promoted from Research Assistant IV, 2006.

Research Associate, INTERCULTURAL CENTER FOR RESEARCH IN EDUCATION, Arlington, MA (2002)

♦ Developed tools for managing an accountability system encompassing 35 Boston agencies. Customized tools to streamline agencies' reporting and to build in automatic accuracy checks.

♦ Evaluated large-scale public school and early childhood programs in Boston and New Haven.

  o Constructed surveys, achievement tests, and classroom observation guidelines.

  o Combined quantitative analysis, thematic analysis, and technical secondary research to create reports; presented findings internally and to clients.

  o Supervised data entry and data management.

♦ Trained clients and colleagues in principles of statistical reporting and in SPSS and other applications.

Research Assistant, **BOSTON COLLEGE GRADUATE SCHOOL OF SOCIAL WORK** (2001-2003)

♦ Developed continuing education materials for social work professionals and students. Wrote study guides, technical instructions, and reviews of textbooks, websites, and software.

♦ Conducted literature reviews and drafted grant proposals.

Teaching Assistant, **BOSTON COLLEGE SCHOOL OF NURSING** (2001)

♦ Lectured on quantitative research methods for a graduate course on nursing research theory.

EDUCATION

BOSTON COLLEGE, LYNCH SCHOOL OF EDUCATION, M.Ed. in Research, Measurement, and Evaluation.

♦ GPA 4.0. Dean's Award for Academic Accomplishment. Passed comprehensive exam with distinction.

♦ Projects included polygraph reliability; statistical detection of cheating on exams; time series modeling; multidimensional scaling; nonlinear dynamics; and the placebo effect.

HARVARD UNIVERSITY, B.A., Medieval European History.

PUBLICATIONS AND PRESENTATIONS

Articles

Schwartz, C. E., Stark, R. B., Michael, W., and Rapkin, B. (2020, in press). Understanding haemophilia caregiver burden: Does appraisal buffer the impact of haemophilia on caregivers over time? *Psychology and Health*.

Schwartz, C. E., Stark, R. B., Selbe, S., Michael, W., Stopka, T, and Rapkin, B. (2020). Cognitive habits linked to resilience: Surprising commonalities across the United States. *Journal of Community Medicine and Public Health Reports 1*(1).

Bartley, B. L., Schwartz, C. E., Stark, R. B., Georgiopoulos, A. M., Friedman, D., Richards, C. J., Dorkin, H. L., Kinane, T. B., Neuringer, I. P., and Yonker, L. M. (2020). Lung transplant referral practice patterns: a survey of cystic fibrosis physicians and general pulmonologists. *BMC Pulmonary Medicine*.

Schwartz, C. E., Stark, R. B., Balasuberamaniam, P., Shrikumar, M., Wasim, A., and Finkelstein, J. (2020). Responsiveness of standard spine outcome tools: Do they measure up? *Journal of Neurosurgery: Spine*.

Papadopoulos, A. and Stark, R. B. (2020). Does home health care increase the probability of 30-day hospital readmission? Interpreting coefficient sign reversals, or their absence, in binary logistic regression analysis. *The American Statistician*.

Schwartz, C. E., Stark, R. B., Stucky, B., Michael, W., and Rapkin, B. (2020). Positive emotions despite substantial burden: The alchemy of haemophilia caregiving. *Haemophilia 26*:1, 86-96.

Stark, R. B., and Courtney, L. (2015). Analyzing not just for correlation but for causation. White paper prepared for ReInforced Care, Inc. http://www.reinforcedcare.com.

Stark, R. B., and Courtney, L. (2014). Joint replacement outweighs other factors in determining CMS readmission penalties. White paper prepared for ReInforced Care, Inc. http://www.reinforcedcare.com.

Stark, R. B., and Courtney, L. (2014). Clinicians benefit with the use of predictive tools. *Case In Point 12*:4, 1, 8-11.

Stark, R. B., and Lutz, E. (2013). Predicting your hospital's readmission penalty and gauging your ROI: A new approach. White paper prepared for ReInforced Care, Inc. http://www.reinforcedcare.com/financial-benefits.

Stark, R. B., and Scholder, T. (2011). What drives student choices? Applying behavioral economics to higher education. White paper prepared for Maguire Associates, Inc. http://www.maguireassoc.com/resources/paper-archives/. Revised 2018 as Applying behavioral economics to the business of higher education; https://yellowbrickstats.com/documents/BehavioralEconomicsHigherEducation.pdf.

Simons, S., Stark, R. B., and DeMarco, R. F. (2011). A new, four-item instrument to measure workplace bullying. *Research in Nursing and Health 34*, 132-140.

Eddy Spicer, D., Stark, R. B., and Wiske, M. S. (2006). Assessment tango: The dance between nurturing and measuring learning in online professional development. *The Evaluation Exchange, 11*:4, 9.

Stark, R. B. (2002). Modeling student evaluations. In L. H. Ludlow and C. Rosca, Eds., *A longitudinal analysis of one professor's course evaluations*, Volume III (pp. 7-49). Boston: Boston College Press.

Stark, R. B. (2001). Statistical methods of detecting copying on multiple choice tests: A review and an application. http://yellowbrickstats.com/cheatingabstract.htm.

Presentations

Stark, R. B. (2020, February). What a "Batman graph" shows about US income: A cautionary tale of correlation, principal components, and nonlinear regression. Presentation at the 5th annual Analytics Without Borders Conference: Bentley, Tufts, and Bryant Universities, Boston, Massachusetts.

Stark, R. B. (2018, October). Pitfalls of public performance analysis. Presentation at the 11th annual Public Performance Conference, hosted by the National Center for Public Performance, Suffolk University, Boston, MA.

Stark, R. B. (2018, March). Applying behavioral economics to the business of higher education. Presentation at the 3rd annual Analytics Without Borders Conference: Bentley and Bryant Universities, Waltham, Massachusetts.

Stark, R. B. (2014, December). How to read a research article – for non-statisticians: Gun ownership and stranger and nonstranger firearm homicide rates. Presentation for the Massachusetts Association of Public Health Nurses, Metrowest/Central Chapter, Natick, Massachusetts.

Stark, R. B., and Courtney, L. (2014, May). Post-discharge puzzles: Readmission and home health services. Presentation at the 4th Annual New England Home Care Conference, Boston, Massachusetts.

Butler, L. M., and Stark, R. B. (2011, November). Do we have a retention problem or do we have a problem with retention? Presentation at the 7th Annual National Symposium on Student Retention, Charleston, South Carolina.

Parrott, S., and Stark, R. B. (2010, December). Drive retention performance through a comprehensive action plan (Webinar, CD). http://www.magnapubs.com/catalog/retention-performance/.

Stark, R. B., and Butler, L. (2010, November). Retention in 8-D. Presentation at the 6th Annual National Symposium on Student Retention, Mobile, Alabama.

Eddy Spicer, D., and Stark, R. B. (2006, April). Beyond self-report: Analyzing shifts in teaching practice following innovative professional development. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, California.

Eddy Spicer, D., Hetland, L., Stark, R. B., and Wiske, M. S. (2005, April). Quality assurance "middleware" for gauging learning effectiveness in online teacher professional development. Paper presented at the annual meeting of the American Educational Research Association, Montréal, Canada.

Reports

Dodenhoff, D., and Stark, R. B. (2019). Evaluation report: Telematics and collision-avoidance technologies. Prepared for the Arizona School Risk Retention Trust, Inc.

Stark, R. B. (2020). Credential status of employees in C766 approved private special education school programs, SY 2019. Prepared for the Massachusetts Association of 766 Approved Private Schools. *(One in a series of reports prepared annually, 2005 to present.)*

Stark, R. B. (2020). Employee retention in C766 approved private special education school programs, SY 2005 to SY 2019. Prepared for the Massachusetts Association of 766 Approved Private Schools. *(One in a series of reports prepared annually, 2006 to present.)*

Stark, R. B. (2009). Staff salaries and their links to credential and retention rates in Massachusetts private special education schools, 2004-07: Overview and technical report. Prepared for the Massachusetts Association of 766 Approved Private Schools.

Eddy Spicer, D., and Stark, R. B. (2007). An evaluation of the Binghamton Summer Academy sponsored by the Broome-Tioga Board of Cooperative Educational Services (BOCES). Prepared for the Binghamton, New York Public School District.

Stark, R. B. (2007). Student referral survey report 2006: Report on referrals trends in 169 private schools providing special education programs. Prepared for the Massachusetts Association of 766 Approved Private Schools.

PROFESSIONAL ASSOCIATIONS

AMERICAN STATISTICAL ASSOCIATION.

AMERICAN EDUCATIONAL RESEARCH ASSOCIATION. Judged research proposals submitted for national conference in the Measurement and Research Methodology Division.

JOURNAL OF COLLEGE STUDENT RETENTION. Peer reviewer.

NEW ENGLAND STATISTICAL SOCIETY. Mentor.

ONE CAN HELP, a Boston nonprofit serving at-risk youth. Advisory Board.

STRATEGIES FOR YOUTH: CONNECTING COPS AND KIDS. Volunteer Evaluator.