

Curriculum Vitae

VINCENT BERARDI, MS, PhD

355 Coronado Avenue, #9, Long Beach, CA, 90814 || berardi@chapman.edu || Phone: 908.591.2948

EDUCATION

- 2016 **PhD**, Computational Science, Claremont Graduate University/San Diego State University
Thesis: Analytic Framework for the Design, Implementation, and Analysis of Dynamic, Real-Time Health Interventions
Advisors: Dr. Melbourne Hovell and Dr. Ricardo Carretero
- 2013 **MS**, Applied Mathematics, San Diego State University
Concentration: Nonlinear Dynamical Systems
Thesis: Wave Propagation and Ratcheting in a One-Dimensional Lattice of Beads
Advisor: Dr. Ricardo Carretero
- 2003 **BS**, Mathematics, Saint Peter's University, Jersey City, NJ, 2003

PROFESSIONAL APPOINTMENTS

2017 - **Assistant Professor of Computational Health Psychology**, Department of Psychology,
Present Crean College of Health and Behavioral Sciences

Secondary Appointment: Schmid College of Science and Technology
Affiliate Appointment: Fowler School of Engineering

Chapman University - Orange, CA

RESEARCH INTERESTS

My research interests lie in using a blend of novel technology, applied behavioral analysis, and machine learning and other data-centric methodologies to transform health behavior interventions from static, discrete programs into real-time, adaptable systems. Auxiliary projects include the application of inferential statistics in more traditional studies and digital humanities/cultural analytics.

PEER REVIEWED PUBLICATIONS

1. **V. Berardi**, G. Bostean, L. Ong*, B. Wong*, B. Collins, & M. Hovell. The Role of Ethnicity and Nativity in the Correspondence between Subjective and Objective Measures of In-Home Smoking. *Journal of Immigrant and Minority Health*. (In Press).
2. M.A. Adams, M. Todd, S.S. Angadi, J.C. Hurley, C. Stetcher, **V. Berardi**, C.B. Phillips, M. McEntee, M. Hovell, & S. Hooker. Adaptive Goal Setting and Financial Reinforcement to Increase Moderate to Vigorous Physical Activity in Insufficiently Active Overweight Adults: A Randomized Clinical Trial. *American Journal of Preventive Medicine*. (In Press).
3. A. Pierce*, W. Eiteman-Pang, C. Rakovski, N.König Ignasiak, & **V. Berardi**. Mobile Phone Sensors Can Discern Medication-related Gait Quality changes in Parkinson's patients in a real-world setting. *Computer Methods and Programs in Biomedicine*. (In Press).
4. **V. Berardi**, D. Pincus, E. Walker*, & M.A. Adams. Burstiness and Stochasticity in the Malleability of Physical Activity. *Journal of Sport & Exercise Psychology*, 43.5, 387-398).
5. **V. Berardi**, J. Bellettiere, B. Nguyen, N.E. Klepeis, S. Hughes., M.A. Adams, & M. Hovell. Assessing Reinforcing Versus Aversive Consequences in a Real-Time Secondhand Smoke Intervention. *Translational Behavioral Medicine*. (In Press).

6. **V. Berardi**, B. Rosenberg, S. Srivastava*, N. Estrada-Rand*, & J. Frederick*. Stair Versus Elevator use in College Dorms. *Journal of American College Health* (In Press).
7. D.A. Frederick, B.J. Gillespie, J. Lever, **V. Berardi**, & J. Garcia. Lesbian Bed Intimacy and Sexual Satisfaction: A Comparison of Heterosexual and Lesbian Women Using Coarsened Exact Matching in a U.S. National Sample. *Archives of Sexual Behavior* (In Press).
8. L. Ong*, J. Bellettiere, C. Alvarado, P. Chavez, & **V. Berardi**. No Difference in Physical Activity Associated with Cannabis Use Status in a Nationally Representative Sample of U.S. Adults'. *Harm Reduction Journal*, 18.1 (2021).
9. C. Watkins, **V. Berardi**, & C. Rakovski. Pitcher Effectiveness: A step forward for in game analytics and pitcher evaluation. *Mathematics and Sports*, 2.2 (2021).
10. D.A. Frederick, B.J. Gillespie, J. Lever, **V. Berardi**, & J. Garcia. Sexual Practices and Satisfaction Among Gay and Heterosexual Men in Romantic Relationships: A Comparison Using Coarsened Exact Matching in a U.S. National Sample. *Journal of Sex Research*, 58.5 (2021).
11. M. McEntee, A. Cantley, E. Foreman, **V. Berardi**, C. Phillips, J. Hurley, M. Hovell, S. Hooker, & M.A. Adams. Adaptive Goals and Immediate Reinforcement Increase Domain-Specific Walking among Inactive Adults in a Randomized 2x2 Factorial Trial. *Journal of Medical Internet Research Formative Research*, 4.12 (2020).
12. A. Jofre, **V. Berardi**, K. Brennan, A. Cornejo*, C. Bennett, & J. Harlan. Crowdsourcing Image Extraction and Annotation: Software Development and Case Study. *Digital Humanities Quarterly*, 14.2 (2020).
13. **V. Berardi**, M. Hovell, J. Hurley, C. Phillips, J. Bellettiere, M. Todd, & M. Adams. Exploring Schedules of Financial Reinforcement for Promoting Adults' Free-Living Physical Activity. *Perspectives on Behavior Science* 43.3 (2020).
14. A. Jofre, **V. Berardi**, J. Cole, C. Bennett, & M. Reale. Dataset: Faces extracted from Time Magazine 1923-2014. *Journal of Cultural Analytics* (2020).
15. A. Jofre, J. Cole, **V. Berardi**, & M. Reale. What's in a Face? Gender representation of faces in Time, 1940s-1990s. *Journal of Cultural Analytics* (2020).
16. M. Hovell, J. Bellettiere, S. Liles, B. Nguyen, **V. Berardi**, C. Johnson, G. Matt, J. Malone, M. Boman-Davis, P. Quintana, S. Obayashi, D. Chatfield, R. Robinson, E. Blumberg, W. Ongkeko, N.E. Klepeis, & S. Hughes. A Randomized Controlled Trial of Real-time Feedback and Brief Coaching to Reduce Indoor Cigarette Smoke. *Tobacco Control*, 29 (2020), 183-190.
17. C.B. Phillips, J.C. Hurley, S.S. Angadi, M. Todd, **V. Berardi**, M.F. Hovell, & M.A. Adams. Delay Discount Rate Moderates a Physical Activity Intervention Testing Immediate Rewards. *Behavioral Medicine*, 46.2 (2020).
18. M. Adams, J. Hurley, C. Phillips, M. Todd, **V. Berardi**, M. Hovell, & S. Hooker. Rationale, Design, and Baseline Characteristics of WalkIT Arizona: A Factorial Randomized Trial Testing Adaptive Goals and Financial Reinforcement to Increase Walking Across Higher and Lower Walkable Neighborhoods. *Contemporary Clinical Trials*, 81 (2019), 87-101.
19. J. Bellettiere, Y. Zhang, **V. Berardi**, K. Full, M. Hovell, J. Kerr, M.J. LaMonte, K. Evenson, A. LaCroix, & C. Di. Parameterizing and Validating Existing Automated Algorithms for Identifying Out-of-Bed Time Using Hip-worn Accelerometer Data from Older Adults. *Physiological Measurement*, 40.7 (2019), 075008.
20. A. Posis., J. Bellettiere, S. Liles, J. Alcaraz, **V. Berardi**, N.E. Klepeis, S. Hughes, T. Wu, & M. Hovell. Indoor Cannabis Smoke and Children's Health. *Preventive Medicine Reports*, 14 (2019), 100853.
21. A. Ahmadi, A. Jahangiri, **V. Berardi**, & S. Ghanipoor Machiani. Crash Severity Classification for Rear-end Crashes in California using Machine-learning Techniques. *Journal of Transportation Safety and Security*, 12.4 (2020), 522-546.
22. D. Pincus, O. Cadsky, **V. Berardi**, C. Asuncion, & K. Wann. Fractal Self-Structure and Psychological Resilience. *Nonlinear Dynamics, Psychology, and Life Sciences* 23.1 (2019), 57-78.

23. J. Bellettiere, B. Nguyen, S. Liles, **V. Berardi**, M. Adams, P. Dempsey, Y. Benporat, J. Kerr, & M. Hovell. Prompts to Increase Physical Activity at Points-of-Choice between Stairs and Escalators: What About Escalator Climbers? *Translational Behavioral Medicine*, 9.4 (2019), 656-662.
24. **V. Berardi**, R. Carretero-González, J. Bellettiere, M.A. Adams, S. Hughes, & M. Hovell. A Markov Approach for Increasing Precision in the Assessment of Data-Intensive Behavioral Interventions. *Journal of Biomedical Informatics*, 85 (2018), 93-105.
25. **V. Berardi**, R. Carretero-González, N.E. Klepeis, S. Ghanipour Machiani, A. Jahangiri, J. Bellettiere, & M. Hovell. Computational Model for Behavior Shaping as an Adaptive Health Intervention Strategy. *Translational Behavioral Medicine*, 8.2 (2018), 183-194.
26. S. Hughes, J. Bellettiere, B. Nguyen, S. Liles, N.E. Klepeis, P. Quintana, **V. Berardi**, S. Obayashi, S. Bradley, C. Hofstetter, & M. Hovell. Randomized Trial to Reduce Air Particle Levels in Homes of Smokers and Children. *American Journal of Preventive Medicine*, 54.3 (2018), 359-367.
27. A. Jahangiri, **V. Berardi**, & S. Ghanipour Machiani. Application of Real Field Connected Vehicle Data for Aggressive Driving Identification on Horizontal Curves. *IEEE Transactions on Intelligent Transportation Systems*, 19.7 (2018), 2316-2324.
28. N.E. Klepeis, J. Bellettiere, S. Hughes, B. Nguyen, **V. Berardi**, S. Liles, S. Obayashi, C. Hofstetter, E. Blumberg, & M. Hovell. Fine Particles in Homes of Predominantly Low-Income Families with Children and Smokers: Key Physical and Behavioral Determinants to Inform Indoor-Air-Quality Interventions. *PLOS ONE*, 12.5 (2017), e0177718.
29. O. Baron-Epel, **V. Berardi**, J. Bellettiere, & W. Shalata. The Relation between Discrimination, Sense of Coherence and Health Varies According to Ethnicity; a Study among Three Distinct Population Groups Living in Israel. *Journal of Immigrant and Minority Health*, 19.6 (2017), 1386-1396.
30. **V. Berardi**, J. Bellettiere, O. Nativ, S. Ladislav, M. Hovell, & O. Baron-Epel. Fatalism, Diabetes Management Outcomes, and the Role of Religiosity. *Journal of Religion and Health*, 55.2 (2016), 602-617.
31. **V. Berardi**, R. Carretero-González, N. Klepeis, A. Palacios, J. Bellettiere, S. Hughes, S. Obayashi, & M. Hovell. Proper Orthogonal Decomposition Methods for Air Particle Time-Series in Residences: Exploring Peak Clustering by Occupant Behavior Patterns. *Journal of Computational Science*, 11 (2015), 102-111.
32. J. Bellettiere, J. Carlson, D. Rosenberg, A. Singhanian, Loki Natarajan, **V. Berardi**, A. LaCroix, A. Sears, D. Moran, K. Crist, & J. Kerr. Gender and Age Differences in Hourly and Daily Patterns of Sedentary Time in Older Adults living in Retirement Communities. *PLOS ONE* 10.8 (2015), e0136161.
33. J. Bellettiere, S. Hughes, S. Liles, M. Boman-Davis, N. Klepeis, J. Mills, S. Obayashi, E. Blumberg, **V. Berardi**, & M. Hovell. Developing and Selecting Auditory Alerts for a Real-Time Behavioral Intervention. *American Journal of Public Health Research*, 2.6 (2014), 232-238.
34. **V. Berardi**, J. Lydon, P.G. Kevrekidis, C. Daraio, & R. Carretero-González. Directed Ratchet Transport in Granular Crystals. *Physical Review E*, 88.5 (2013), 052202.

MANUSCRIPTS CURRENTLY UNDER REVIEW

Revision Requested

1. D. Liang, D. Frederick, E. Lledlo, N. Rosenfield, **V. Berardi**, E. Linstead, & U. Maoz. Examining the utility of machine learning versus Linear Regression for Predicting Body Image Outcomes. *Body Image*
2. N. Rosenfield, E. Lledlo, D. Frederick, D. Liang, **V. Berardi**, U. Maoz & E. Linstead. Clusters of Body Image Concerns Identified through Hierarchical Clustering Algorithms: Results from the U.S. National Body Project I. *Body Image*
3. F. Guo, G. Bostean, **V. Berardi**, A. Velasquez, & J. Robinette. Obesogenic Environments and Cardiovascular Disease: A Path Analysis using US Nationally Representative Data. *BMC Public Health*.

4. G. de Felice, A. Giuliani, D. Pincus, A. Scozzari, **V. Berardi**, L. Kratzer, W. Aichhorn, H. Schöller, & G. Schiepek. Cycles of Increase and Decrease in the Correlation Robustness of Process Variables Predict Poor and Good Outcome of Psychotherapy. *Clinical Psychological Science*.

Under Review

1. **V. Berardi**, T. Lan, A. Guirguis*, & U. Maoz. Towards Automatically Shaping Behavior in mHealth Trials: An Empirical Investigation of Potential Procedures. *Behavior Research Methods*.
2. C. Watkins* & **V. Berardi**. Applying the Matching Law to Major League Baseball (MLB). *Journal of Applied Sport Psychology*.

* indicates student collaborator

RESEARCH FUNDING

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| 2021-2022 | Smart Homes for Smart Health: A Digital Coaching System for Reducing In-Home Secondhand Smoke. (Chapman University Faculty Opportunity Fund). \$14,984.
<i>Role: Principal Investigator</i> |
| 2020-2022 | Identifying the Formation and Functionality of Healthy Behavioral Habits Using Longitudinal mHealth Data. (Kay Family Foundation Data Analytics Award). \$100,000.
<i>Role: Principal Investigator</i> |
| 2019-2020 | Characterization of In-Home Cannabis Secondhand Smoke Exposure. (Chapman Grant Writing Boot Camp Seed Funding). \$5,000.
<i>Role: Principal Investigator</i> |
| 2019-2020 | An integrated approach to assess gait and cue walking performance in real-world environments of Parkinson's patients. (Chapman University Faculty Opportunity Fund, co-PI: Ignasiak). \$14,909.
<i>Role: Co-Principal Investigator</i> |
| 2020-2023 | Eliminating In-Home Smoking to Protect Children and Other Non-Smokers. (TRDRP T31 KT1501, PI: Bellettiere). \$816,000.
<i>Role: Co-Investigator (Subcontract)</i> |
| 2020 | Identifying Risk and Promoting Resilience in the Midst of the COVID-19 Pandemic. (Kay Family Foundation COVID-19 Rapid Research, PI: Frederick). \$15,000.
<i>Role: Co-Investigator</i> |
| 2019-2021 | Applying Big Data Analytic Techniques to Understand Predictors and Prevalence of Body Image Disturbances and Disordered Eating Patterns in National Samples. (Kay Family Foundation Data Analytics Award, PI: Frederick). \$100,000.
<i>Role: Co-Investigator</i> |
| 2018-2019 | WalkIT: Crowdsourcing microscale audits of pedestrian streetscapes (NIH R01 CA198915 [Administrative Supplement], PI: Adams). \$98,000.
<i>Role: Co-Investigator</i> |
| 2011-2017 | Innovation for Smoke-Free Homes: Real-Time Feedback (Monitor) (NIH R01 HL 103684-05, PI: Hovell)
<i>Role: Post-Doctoral Fellow</i> |
| 2014-2016 | ARCS Foundation Scholar |

2013-2014 San Diego State University/University of California, San Diego Cancer Center Comprehensive Partnership, Internal Advisory Committee Stipend

FELLOWSHIPS

1. Health Data Exploration Summer Workshop Research Fellow (UCSD), July 2017.
2. NSF Institute for Pure and Applied Mathematics (UCLA) Fellowship for Culture Analytics Long Program, Spring 2016

AWARDS

1. Chapman University Crean College of Health and Behavioral Science Unit Excellence Award, March 26, 2021.
2. Chapman University Faculty Career Champion, March 2, 2021
3. Chapman University Co-Teaching Award for New Course Development: *Neural Computation*, January 16, 2021.
4. Los Alamos National Laboratory Award at Computational Science Curriculum Development Forum and ACSESS for Industry, April 17, 2015
5. ESET Award at Computational Science Curriculum Development Forum and ACSESS for Industry, March 28, 2014
6. San Diego State University Academic Achievement in Applied Mathematics, May 2013
7. St. Peters College Kruse Award for Excellence in Mathematics, May 2003
8. Full Academic Scholarship – Saint Peter’s College, 1999-2003

ACADEMIC EXPERIENCE

2016-2017 **Post-Doctoral Fellow**, San Diego State University Center for Behavioral Epidemiology and Community Health

2012-2016 **Graduate Research Assistant**, San Diego State University Computational Sciences Department.

TEACHING EXPERIENCE

2017 **Adjunct Professor**, Grossmont Community College, San Diego, CA
Courses: Calculus for Business, Intermediate Algebra

2014 **Lecturer**, San Diego State University, San Diego, CA
Course: Calculus for the Life Science II

2012-2015 **Graduate Teaching Assistant**, San Diego State University, San Diego, CA
Courses: Calculus for Life Sciences I/II, Behavioral Medicine, Research Design & Methods, Graduate Statistics for Political Science

INVITED LECTURES

1. “Computational Model of Behavior Shaping in Health Interventions.” Applied Mathematics Seminar Series, Cal State Northridge, Northridge, CA, April 11, 2019.
2. “Accelerometry in Physical Activity Promotion: Walking Towards a More Precise Science.” Crean College Faculty Brown Bag Series, Chapman University, Orange, CA, March 28, 2019.
3. “Behavior Dynamics in Mobile Health Interventions.” Visiting Scholar Seminar Series, SUNY Polytechnic University, Utica, NY, March 23, 2018.

ACADEMIC SERVICE

1. Guest post on R-statistics-blog: J. Bellettiere, **V. Berardi**, S. Estrada. Using 2D Contour Plots within {ggplot2} to Visualize Relationships Between Three Variables. <https://www.r-statistics.com/2016/07/using-2d-contour-plots-within-ggplot2-to-visualize-relationships-between-three-variables/>
2. Manuscript Peer Review: Nicotine & Tobacco Research, Journal of Patient Experience, and Nonlinear Dynamics in Psychology and the Life Sciences

FIRST AUTHORED CONFERENCE PRESENTATIONS/SYMPOSIA

1. **V. Berardi**, M.A. Adams, M. McEntee, M. Hovell, & M. Todd. A Dynamical Systems Model of the Immediate Effects of Monetary Reinforcement on Physical Activity. Society for Behavioral Medicine 41st Annual Meeting, 2020*.
2. **V. Berardi**, M.A. Adams, D. Pincus, E. Walker, M. Todd, M. McEntee, & M. Hovell. Power Laws, Resiliency, and Resistance to Physical Activity Interventions. Society for Behavioral Medicine 41st Annual Meeting, 2020*.
3. **V. Berardi**, M. Hovell, & E. Yaghmaei. The effects of intermittent coaching within a secondhand smoke just-in-time adaptive intervention. Society for Behavioral Medicine 41st Annual Meeting, 2020*.
4. **V. Berardi**, D. Pincus & E. Walker. Resiliency and Resistance to Physical Activity Interventions. Society for Chaos Theory in Psychology and the Life Sciences Annual Meeting. Orange, CA. August 3, 2019.
5. **V. Berardi** & D. Pincus. Fractal Self-Structure and Psychological Resilience. Society for Chaos Theory in Psychology and the Life Sciences Annual Meeting. Orange, CA. August 3, 2019.
6. **V. Berardi**, J. Bellettiere, N. Klepeis, B. Nguyen, M. Hovell. Using real-time aversive feedback to improve indoor air quality: introducing reinforcement contingencies. Society for Behavioral Medicine 40th Annual Meeting. Washington, D.C. March 7, 2019.
7. **V. Berardi (Chair)**, J. Bellettiere, M.A. Adams, M.F. Hovell. Real-Time Sensing Devices: An Opportunity to Deploy Behavioral Theory in Health Interventions. Association for Behavior Analysis International 44th Annual Meeting. San Diego, CA. May 26, 2018.
8. **V. Berardi**, M. Hovell, R. Carretero, S. Hughes, J. Bellettiere, N. Klepeis, S. Obayashi, J. Jones, S. Liles, M. Boman-Davis, B. Nguyen. Big Data in Practice: A Health-Based Intervention. Big Data Science at SDSU Lightning Talks and Forums, San Diego State University, San Diego, CA. March 7, 2015.
9. **V. Berardi** and M. Hovell. Dynamical Systems and Behavior. In G. Green (Chair), Real-Time Data and Health- Behavior Interventions. Symposium conducted at the meeting of the California Association of Behavioral Analysts, San Diego, CA. February 19, 2015.

* Indicates that presentation was peer-reviewed and accepted, but not presented due to Covid-19 related cancellation of conference.

PROFESSIONAL ORGANIZATIONS

1. American Psychological Association
2. Society for Behavioral Medicine
3. Association for Behavior Analysis International
4. Society for Chaos Theory in Psychology and the Life Sciences

PAST CERTIFICATIONS

1. National Association of Securities Dealers General Securities Representative (Series 7) Licensee
2. New Jersey Department of Environmental Protection Subsurface Evaluator Licensee