

**Diann E. Gaalema, Ph.D.**

Vermont Center of Behavior and Health  
Associate Professor of Psychiatry  
University of Vermont  
(802) 656-9874  
dgaalema@uvm.edu

**Employment**

2019 – current Associate Professor, University of Vermont  
2012 – 2019 Assistant Professor, University of Vermont  
2010 – 2012 NIDA postdoctoral fellow, University of Vermont  
2011 (summer) Visiting faculty, Sandia National Labs

**Affiliations**

2013 – current Vermont Center of Behavior and Health

**Education**

2004 – 2010 Georgia Institute of Technology  
Master of Science: Experimental Psychology (2007)  
Ph.D.: Experimental Psychology (Animal Behavior) (2010)  
Minor: Biology  
Master's Thesis: Food choice, reinforcer preference, and visual discrimination in monitor lizards.  
Dissertation: Sexual conditioning in the Dyeing Dart frog.  
1999 – 2003 Arizona State University.  
Bachelor of Arts. Major: Psychology.  
Minors: Biology, Anthropology.  
Honor's Thesis: Color change in Ornate Tree Lizards

**Peer Reviewed Publications**

**Clinical**

Davis, DR, Parker, M.A, Villanti, AC, Streck, JM, Priest, JS, Tidey, JW, Gaalema, DE, Sigmon, SC, Heil, SH, & Higgins, ST (2019). Examining Age as a Potential Moderator of Response to Reduced Nicotine Content Cigarettes in Vulnerable Populations. *Nicotine & Tobacco Research*.

Gaalema DE, Tidey, JW, Davis DR, Sigmon SC, Heil SH, Stitzer ML, DeSarno MJ, Diaz V, Hughes JR, Higgins ST (2019). Potential Moderating Effects of Psychiatric Diagnosis and Symptom Severity on Subjective and Behavioral Responses to Reduced Nicotine Content Cigarettes. *Nicotine & Tobacco Research*.

Tidey JW, Muscat J, Foulds J, Evins AE, Gaalema DE, Denlinger-Apte RL (2019). Reducing the nicotine content of cigarettes: Effects in smokers with mental health conditions and socioeconomic disadvantages. *Nicotine & Tobacco Research*, in press.

Pericot-Valverde, I., Elliott, RJ, Priest, JS, Barret, T, Yoon, JH, Miller, CC, Okoli, CT, Haliwa, I, Ades, PA, Gaalema, DE. (2019). Patterns of Tobacco Use Prior to Hospitalization for an Acute Cardiac Event: Use of Combusted and Non-Combusted Products. *Preventive Medicine*.

Streck, J.M., Davis, D.R., Pang, R., Sigmon, S.C., Bunn, J.Y., Bergeria, C.L., Heil, S.H., Tidey, J.W., Gaalema, D.E., Hughes, J.R., Stitzer, M.L., Reed, E., & Higgins, S.T. (2019). Potential

moderating effects of sex on the acute relative reinforcing and subjective effects of reduced nicotine content cigarettes in vulnerable populations. *Nicotine and Tobacco Research*.

- Streck JM, Bergeria, CL, Parker, MA, Davis, DR, DeSarno, M., Gaalema, DE, Hughes, JR, Heil, SH, Stitzer, ML, Sigmon, SC, Heil SH, Tidey, JW, Rothman, M., and Higgins ST. (2019). Response to reduced nicotine content cigarettes among smokers with chronic health conditions. *Preventive Medicine Reports*.
- Pericot-Valverde, I, Priest, JS, Wagener, TL, Gaalema, DE. (2019). Examination of a Mouthpiece-Based Topography Device for Assessing Relative Reinforcing Effects of E-Cigarettes: A Preliminary Study. *Experimental and Clinical Psychopharmacology*
- Gaalema, DE, Elliott, RJ, Savage, PD, Rengo, JL, Cutler, AY, Pericot-Valverde, I, Priest JS, Shepard DS, Higgins ST, & Ades, PA (2019). Financial incentives to increase cardiac rehabilitation participation among low-socioeconomic status patients: a randomized clinical trial. *JACC-HF*. doi: 10.1016/j.jchf.2018.12.008
- Gaalema DE, Savage PD, Leadholm K, Rengo J, Naud S, Priest JS, Ades PA. (2019). Clinical and Demographic Trends in Cardiac Rehabilitation: 1996-2015. *Journal of Cardiopulmonary Rehabilitation and Prevention*. doi: 10.1097/HCR.0000000000000390
- González-Roz, A., Gaalema, D.E., Pericot-Valverde, I., Elliott, R.J., Ades, P.A. A Systematic Review on the Diagnostic Accuracy of Depression Questionnaires for Cardiac Populations: Implications for Cardiac Rehabilitation. (2019). *Journal of Cardiopulmonary Rehabilitation and Prevention*. doi: 10.1097/HCR.0000000000000408
- Riley, H, Headley, S, Lindenauer, PK, Goff, S, Szalai, H, Gaalema, DE, Pack, QR. (2019). Patient Perception of How Smoking Status Influences Cardiac Rehabilitation Attendance after an Acute Cardiac Hospitalization. *Journal of Cardiopulmonary Rehabilitation*, 39(3):181-186.
- Davis, DR, Miller, ME, Streck, JM, Bergeria, CL, Sigmon, SC, Tidey, JW, Heil, SH, Gaalema, DE, Villanti, AC, Stitzer, ML, Priest, JS, Bunn, JY, Skelly, JM, Diaz, V, Arger, CA, Higgins, ST (2019). Response to reduced nicotine content in vulnerable populations: Effect of menthol status. *Tob Regul Sci*. 5(2):135-142. DOI: <https://doi.org/10.18001/TRS.5.2.5>
- Bergeria, C. L., Heil, S. H., Davis, D. R., Streck, J. M., Sigmon, S. C., Bunn, J. Y., Tidey, J. W., Arger, C. A., Reed, D. D., Gallagher, T., Hughes, J. R., Gaalema, D. E., Stitzer, M. L., & Higgins, S. T. (2019). Evaluating the utility of the modified cigarette evaluation questionnaire and Cigarette Purchase Task for predicting acute relative reinforcing efficacy of cigarettes varying in nicotine content. *Drug and Alcohol Dependence*. 197, 56-64.
- Nighbor TD, Doogan NJ, Roberts ME, Cepeda-Benito A, Kurti AN, Priest JS, Johnson, HK, Lopez AA, Stanton CA., Gaalema DE, Redner R, Parker MA, Keith DR, Quisenberry, AJ, Higgins, ST (2018). Smoking prevalence and trends among a U.S. national sample of women of reproductive age in rural versus urban settings. *PLoS ONE* 13(11): e0207818. <https://doi.org/10.1371/journal.pone.0207818>
- Parker, MA, Streck JM, Bergeria, CL, Bunn, JY, Gaalema DE, Davis, DR, Barrows, AJ, Sigmon, SC, Tidey, JW, Heil SH, and Higgins ST. (2018). Reduced Nicotine Content Cigarettes and Cannabis Use in Vulnerable Populations. *Tobacco Regulatory Science*, 4(5), 84-91.

- Gaalema DE, Leventhal, AM, Priest JS, Higgins ST. (2018). Understanding Individual Differences in Vulnerability to Cigarette Smoking is Enhanced by Attention to the Intersection of Common Risk Factors. *Preventive Medicine*, 117:38-42. doi: 10.1016/j.ypmed.2018.05.004
- Parker, MA, Villanti AC, Quisenberry AJ, Stanton CA, Doogan NJ, Redner R, Gaalema DE, Kurti AN, Nighbor T, Roberts ME, Cepeda-Benito A, and Higgins ST. (2018). Tobacco Product Harm Perceptions and New Use. *Pediatrics*. doi: 10.1542/peds.2018-1505
- Kurti, AN, Redner R, Bunn JY, Tang K, Nighbor T, Lopez AA, Keith DR, Villanti AC, Stanton CA, Gaalema DE, Doogan NJ, Cepeda-Benito A, Roberts ME, Phillips J, Parker MA, Quisenberry AJ, Higgins ST (2018). Examining the relationship between pregnancy and quitting use of tobacco products in a U.S. national sample of women of reproductive age. *Preventive Medicine*.
- Miller, M. E., Tidey, J. W., Bunn, J. Y., Gaalema, D. E., Scott-Sheldon, L. A., Pericot-Valverde, I., & Japuntich, S. J. (2018). Self-perceived Mental Health and Population-level Tobacco Use Disparities. *Tobacco Regulatory Science*, 4(4), 3-11.
- Kurti AN, Bunn JY, Villanti AC, Stanton CA, Redner R, Lopez AA, Gaalema DE, Doogan NJ, Cepeda-Benito A, Roberts ME, Phillips JK. (2018). Patterns of single and multiple tobacco product use among us women of reproductive age. *Nicotine and Tobacco Research*. 14;20:S71-80.
- Higgins, S. T., Bergeria, C. L., Davis, D. R., Streck, J. M., Villanti, A. C., Hughes, J. R., Sigmon, S. C., Tidey, J. W., Heil, S. H., Gaalema, D. E., Stitzer, M. L., Priest, J. S., Skelly, J. M., Reed, D. D., Bunn, J., Y., Tromblee, M. A., Arger, C. A., Miller, M. E. (2018). Response to reduced nicotine content cigarettes among smokers differing in tobacco dependence severity. *Preventive Medicine*, 117:15-23. <https://doi.org/10.1016/j.ypmed.2018.04.010>
- Tidey, JW, Davis, D, Miller ME, Pericot-Valverde, I, Denlinger-Apte, RL, Gaalema, DE (2018). Modeling nicotine regulation: A review of studies in smokers with mental health conditions. *Preventive Medicine* 117:30-37. <https://doi.org/10.1016/j.ypmed.2018.07.003>
- Villanti, A., Gaalema, D. E., Tidey, J. W., Kurti, A. N., Sigmon, S. C., Higgins, S. T. (2018). Co-occurring vulnerabilities and menthol use in U.S. young adult cigarette smokers: Findings from Wave 1 of the PATH Study, 2013-2014. *Preventive Medicine* 117:43-51. <https://doi.org/10.1016/j.ypmed.2018.06.001>
- Gaalema DE, Pericot-Valverde, I., Bunn JY, Villanti AC, Cepeda-Benito, A, Doogan, NJ, Keith DR, Kurti AN, Lopez AA, Nighbor T, Parker MA, Quisenberry AJ, Redner R, Robert ME, Stanton CA, Ades PA, Higgins ST. (2018). Tobacco Use in Cardiac Patients: Perceptions, Use, and Changes after a Recent Myocardial Infarction among US Adults in the PATH Study (2013-2015). *Preventive Medicine*, 117:76-82. doi: 10.1016/j.ypmed.2018.05.004
- Pericot-Valverde, I., Elliott, R. J., Miller, M., & Tidey, J., & Gaalema, D.E. (2018). Posttraumatic stress disorder and tobacco use: A systematic review and meta-analysis. *Addictive Behaviors*, 84, 238-247.
- Lopez, A.A., Redner, R., Kurti, A.N., Keith, D.R., Villanti, A.C., Stanton, C.A., Gaalema, D.E., Bunn, J.Y., Doogan, N.J., Cepeda-Benito, A. and Roberts, M.E., (2018). Tobacco and nicotine delivery product use in a US national sample of women of reproductive age. *Preventive Medicine* 117:61-68. <https://doi.org/10.1016/j.ypmed.2018.03.001>

- Cepeda-Benito, A, Doogan, NJ, Redner R, Robert ME, Kurti AN, Villanti AC, Lopez AA, Quisenberry AJ, Stanton CA, Gaalema DE, Keith DR, Parker MA, Higgins ST. (2018). Trend differences in men and women in rural and urban U.S. settings. *Preventive Medicine* 117:69-75. <https://doi.org/10.1016/j.ypmed.2018.04.008>
- Ades PA and Gaalema DE. (2018). Geographic Variations in Cardiac Rehabilitation Use: Regional Variations in Medical Care or in Patient Behaviors? *Circulation*, 137, 1909-1911.
- Riley, H., Headley, S., Winter, C., Mazur, S., Gaalema, D. E., Goff, S., Lindenauer P.K., & Pack, Q. R. (2017). Effect of Smoking Status on Exercise Perception and Intentions for Cardiac Rehabilitation Enrollment Among Patients Hospitalized With an Acute Cardiac Condition. *Journal of Cardiopulmonary Rehabilitation and Prevention*, 38(5):286-290. DOI: 10.1097/HCR.0000000000000288
- Kurti, A. N., Redner, R., Lopez, A. A., Keith, D. R., Villanti, A. C., Stanton, C. A., ... & Roberts, M. E. (2017). Tobacco and nicotine delivery product use in a national sample of pregnant women. *Preventive Medicine*, 104, 50-56.
- Higgins, S. T., Heil, S. H., Sigmon, S. C., Tidey, J. W., Gaalema, D. E., Hughes, J. R., ... & Arger, C. A. (2017). Addiction Potential of Cigarettes With Reduced Nicotine Content in Populations With Psychiatric Disorders and Other Vulnerabilities to Tobacco Addiction. *JAMA Psychiatry*, 74(10), 1056-1064.
- Roberts, M.E., Doogan, N.J., Stanton, C.A., Quisenberry, A.J., Villanti, A., Gaalema, D.E., Keith, D.R., Kurti, A.N., Lopez, A.A., Redner, R., Cepeda-Benito, A. & Higgins, S.T. (2017). Rural vs. Urban Use of Traditional and Emerging Tobacco Products in the United States, 2013-2014. *American Journal of Public Health* 107, 1554-1559.
- Arger, C.A., Heil, S.H., Sigmon, S.C., Tidey, J.W., Stitzer, M.L., Gaalema, D.E., Durand, H.J., Bunn, J.Y., Ruggieri, E.K., & Higgins, S.T. (2017). Preliminary validity of the modified Cigarette Evaluation Questionnaire in predicting the reinforcing effects of cigarettes that vary in nicotine content. *Experimental and Clinical Psychopharmacology*, 25(6), 473-478.
- Pericot-Valverde, I., Gaalema, D. E., Priest, J. S., & Higgins, S. T. (2017). E-cigarette awareness, perceived harmfulness, and ever use among US adults. *Preventive Medicine*, 104, 92-99.
- Doogan NJ, Roberts ME, Wewers ME, Stanton CA, Keith DR, Gaalema DE, Kurti AN, Redner R, Cepeda-Benito A, Bunn JY, Lopez AA, Higgins ST. (2017). A growing geographic disparity: Rural and urban cigarette smoking trends in the United States. *Preventive Medicine*, 104, 79-85.
- Keith, D. R., Stanton, C. A., Gaalema, D. E., Bunn, J. Y., Doogan, N. J., Redner, R., ... & Roberts, M. E. (2017). Disparities in US Healthcare Provider Screening and Advice for Cessation Across Chronic Medical Conditions and Tobacco Products. *Journal of General Internal Medicine*, 32(9), 974-980.
- Higgins ST, Heil SH, Sigmon SC, Tidey JW, Gaalema DE, Stitzer ML, Durand H, Bunn JY, Priest JS, Arger CA, Miller ME, Bergeria CL, Davis DR, Streck JM, Zvorsky I, Redner R, Vandrey R, Pacek LR. (2017). Response to Varying the Nicotine Content of Cigarettes in Vulnerable Populations: An Initial Experimental Examination of Acute Effects. *Psychopharmacology*, 234, 89-98.

- Gaalema, DE, Elliott, R, Morford ZH, Ades, PA, Higgins, ST. Effect of Socioeconomic Status on Propensity to Change Risk Behaviors Following Myocardial Infarction: Implications for Healthy Lifestyle Medicine. (2017). *Progress in Cardiovascular Disease*. 10.1016/j.pcad.2017.01.001
- Gaalema, DE, Savage, P, Rengo, J, Cutler, A, Elliott, R, Priest, J, Ades, PA, Higgins, ST. Patient Characteristics Predictive of Cardiac Rehabilitation Adherence. (2017). *Journal of Cardiopulmonary Rehabilitation*. 37(2): 103–110.
- Roberts, M.E., Doogan, N.J., Stanton, C.A., Gaalema, D.E., Kurti, A.N., Redner, R., White, T.J., Higgins, S.T. (2016). Rural Tobacco Use across the United States: How rural and urban areas differ, broken down by census regions and divisions. *Health and Place*, 39, 153-159.
- Stanton, C.A., Keith, D.R., Gaalema, D.E., Bunn, J.B., Doogan, N.J., Redner, R., Kurti, A.N., Roberts, M.E., Higgins S.T. (2016). Trends in tobacco use among US adults with chronic health conditions: National Survey on Drug Use and Health 2005-2013. *Preventive Medicine*, 92, 160-168.
- James, TA, Kreiger, L, Zia, A, Gaalema, D, Jones, CA (2016). A Practical Framework for Incentive-Based Cancer Prevention. *Population Health Management*, 19, 377-379.
- Higgins S.T., Kurti, A.N., Redner, R., White, TJ, Keith, D.R., Gaalema, D.E., Stanton, C.A., Roberts, M.E., Doogan, NJ, Priest, JF. (2016) Co-Occurring Risk Factors for Current Cigarette Smoking in a U.S. Nationally Representative Sample. *Preventive Medicine*, 92, 110-117.
- Gaalema, DE, Savage, P, Rengo, J, Cutler, AY, Ades, PA, Higgins, ST. (2016). Financial Incentives to Promote Cardiac Rehabilitation Participation and Adherence among Medicaid Patients. *Preventive Medicine*, 92, 47-50.
- Higgins, ST, Kurti, AN, Redner, R, White, TJ, Gaalema, DE, Roberts, ME, Doogan, NJ, Tidey, JW, Miller, ME, Stanton, CA, Henningfield, JE. (2015). A Literature Review on Prevalence of Gender Differences and Intersections with Other Vulnerabilities to Tobacco Use in the United States, 2004-2014. *Preventive Medicine*, 80, 89-100.
- Gaalema, D. E., Cutler, A. Y., Higgins, S. T., & Ades, P. A. (2015). Smoking and cardiac rehabilitation participation: Associations with referral, attendance and adherence. *Preventive Medicine*, 80, 67-74.
- Gaalema, D. E., Miller, M. E., & Tidey, J. W. (2015). Predicted Impact of Nicotine Reduction on Smokers with Affective Disorders. *Tobacco Regulatory Science*, 1(2), 154-165.
- Krupa, JS, Rizzo, DM, Eppstein, MJ, Lanute, DB, Gaalema, DE, Lakkaraju, K, Warrender, CE. (2014). Plug-in hybrid electric vehicles (PHEVs); Analysis of a consumer survey on plug-in hybrid electric vehicles. *Transportation Research Part A: Policy and Practice*, 64, 14–31.
- Gaalema, DE, Higgins, ST, Shepard, DS, Suaya, JA, Savage, PD, Ades, PA. (2014). State by State Variations in Cardiac Rehabilitation Participation are Associated with Educational Attainment, Income, and Program Availability. *Journal of Cardiopulmonary Rehabilitation and Prevention*. 34(4), 248-54. PMID: 24820451
- Gaalema, DE, Heil, SH, Badger, GS, Metayer, JS, Johnston, AM. (2013). Time to Initiation of Treatment for Neonatal Abstinence Syndrome in Neonates exposed in utero to Buprenorphine or Methadone. *Drug and Alcohol Dependence*, 133(1), 266-269. PMID: 23845658

- Gaalema, DE, Higgins, ST, Pepin, C, Heil, SH, Bernstein, IM. (2013). Illicit drug use among pregnant women enrolled in treatment for cigarette smoking. *Nicotine & Tobacco Research*, 15(5), 987-991. PMID: PMC3621582
- Heil, S.H., Gaalema, D.E., Johnston, A.M., Sigmon, S.C., Badger, G.J., & Higgins, S.T. (2012). Infant pupillary response to methadone administration during treatment for neonatal abstinence syndrome: A feasibility study. *Drug and Alcohol Dependence*, 126, 268-271. PMID: PMC3467317
- Ades, PA and Gaalema, DE (2012). Coronary heart disease as a case study in prevention: Potential role of incentives. *Preventive Medicine*, 55, S75-79. PMID: 22285317
- Gaalema, DE, Scott, TL, Heil, SH, Coyle, MG, Kaltenbach, K, Badger, GJ, Arria, A, Stine, SM, Martin, PR, Jones, HE. (2012). Differences in the profile of neonatal abstinence syndrome signs in methadone- vs. buprenorphine-exposed infants. *Addiction*, 107, S53-62. PMID: PMC4165073
- Higgins, ST, Washio, Y, Heil, SH, Solomon, LJ, Gaalema, DE, Higgins, TM, Bernstein, IM. (2012). Financial incentives for smoking cessation among pregnant and newly postpartum women. *Preventive Medicine*, 55, S33-40. PMID: PMC3399924
- Heil, SH, Gaalema, DE, Herrmann, E. (2012). Incentives to promote family planning. *Preventive Medicine*, 55, S106-112. PMID: PMC3578697
- Gaalema, DE, Higgins, ST, Bradstreet, M, Heil, SH, Bernstein, I. (2011) Using NicAlert strips to validate smoking status among pregnant cigarette smokers. *Drug and Alcohol Dependence*, 119, 130-133. PMID: PMC3205243

### **Preclinical**

- Kelling, NJ, Gaalema, DE, Kelling, AS. (2014). A Modified Operational Sequence Methodology for Zoo Exhibit Design and Renovation: Conceptualizing Animals, Staff and Visitors as Interdependent Coworkers. *Zoo Biology*. 33(4), 336-348. PMID: 24838689
- Gaalema, DE. (2013). Sexual conditioning in the dyeing dart frog. *International Journal of Comparative Psychology*, 26, 5-18.
- Kelling, N.J., Gaalema, D.E., & Kelling, A.S. (2012). Elephant in the Break Room: The use of modified operational sequence diagrams for the determination of zoo exhibit inefficiencies. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 56, 1519-1523.
- Perdue, BM, Clay, AW, Stoinski, TS, Gaalema, DE, and Maple, TL. (2012). Technology at the zoo: the influence of a touchscreen computer on orangutans and zoo visitors. *Zoo Biology*, 31, 27-39. PMID: 21319214
- Kelling, AS and Gaalema, DE (2011) Post-occupancy evaluations in zoological settings. *Zoo Biology*, 30, 597-610. PMID: 21608023
- Clay, AW, Perdue, BM, Gaalema, DE, Dolins, FL, and Bloomsmith, MA. (2011). The use of technology to enhance zoological parks. *Zoo Biology*, 30, 487-497. PMID: 20954253
- Gaalema, DE. (2011). Visual discrimination and reversal learning in monitor lizards (*Varanus spp.*). *Journal of Comparative Psychology*, 125(2), 246-249. PMID: 21604857

- Gaalema, DE, Perdue, BM, and Kelling, AS. (2011). Food preference, keeper ratings, and reinforcer effectiveness in exotic animals: the value of systematic testing. *Journal of Applied Animal Welfare Science*, 14, 33-41. PMID: 21191846
- Perdue, BM, Gaalema, DE, Martin, AL, Dampier, SM and Maple, TL. (2010). Factors affecting aggression in a captive flock of Chilean flamingos (*Phoenicopterus chilensis*). *Zoo Biology*, 29, 1-6. PMID: 20186725
- Hamilton, PS, Gaalema, DE and Sullivan, BK. (2008). Short-term changes in dorsal reflectance for background matching in Ornate Tree Lizards (*Urosaurus ornatus*) *Amphibia-Reptilia*, 29, 473-477
- Gaalema, DE and Benboe, D. (2008). Positive reinforcement training of Aldabra tortoises (*Geochelone gigantea*) to facilitate husbandry procedures at Zoo Atlanta. *Herpetological Review*, 39 (3), 331-334.
- Rutowski, RL, Macedonia, JM, Merry, JW, Morehouse, N, Yturralde, K, Taylor-Taft, L, Gaalema, DE, Kemp, DJ, and Papke, RS. (2007). Iridescent ultraviolet signal in the Orange Sulphur butterfly (*Colias eurytheme*): Spatial, temporal, and spectral properties. *Biological Journal of the Linnean Society*, 90, 349–364.
- Hamilton, PS, Gaalema, DE, Laage, SL and Sullivan, BK. (2005). A photographic method for quantifying color characteristics and color patch dimensions in lizards. *Herpetological Review*, 36(4), 402-406.

### **Book Chapters**

- Gaalema, DE, Lopez, AA, Higgins, ST. (2013). Incentive-based interventions: Historical context and new directions. In: *Social Neuroscience and Public Health: Foundations for the Science of Chronic Disease Prevention* (PA Hall, Ed.). Springer.
- Lopez, AA, Gaalema, DE, Higgins, ST. (2013). Maternal smoking and inadequate breastfeeding. In *Dietary and Nutritional Aspects of Human Breastmilk*.

### **Manuscripts in Review/Revision/Preparation**

- Coleman et al. Current Cigarette Smoking Among U.S. College Graduates. Submitted to *Preventive Medicine*.
- Gaalema et al. Cardiac Secondary Prevention Program Adherence and Response to an Incentive-based Intervention: Role of Executive Function. Submitted to *Preventive Medicine*.
- Mehra, VM, Gaalema, DE, Pakosh, M, Grace, SL. Systematic Review of Cardiac Rehabilitation Guidelines: Quality and Scope. Submitted to *EJPC*.
- Higgins, ST, Kurti, AN, Redner, R, White, TJ, Gaalema, DE, Roberts, ME, Doogan, NJ, Tidey, JW, Miller, ME, Stanton, CA, Henningfield, JE. A Review of the Literature on Prevalence of Gender Differences and Intersections with Other Vulnerabilities to Tobacco Use in the United States, 2004-2014. Submitted to *Preventive Medicine*.
- Streck, J.M., Sigmon, S.C., Priest, J., Bergeria, C.L., Davis, D.R., Hughes, J.R., Villanti, A.C., Tidey, J.W., Heil, S.H., Gaalema, D.E., Stitzer, M.L., & Higgins, S.T. (submitted). Investigating

tobacco withdrawal in response to reduced nicotine cigarettes among smokers with opioid dependence and other vulnerabilities. *Psychopharmacology*.

Streck et al., Reduced Nicotine Content Cigarettes and Cannabis Use in Vulnerable Populations. Submitted to *Tobacco Regulatory Science*.

Danielle Davis Michael J DeSarno, PhD; Cecilia L Bergeria, PhD; Joanna M Streck, BA; Jennifer W Tidey, PhD; Stacey C Sigmon, PhD; Sarah H Heil, PhD; Diann E Gaalema, PhD; Maxine L Stitzer, PhD; Stephen T Higgins, PhD. Examining the Malleability of Cigarette Product Preference. Submitted to *Preventive Medicine*.

### **Conference Presentations**

Gaalema, DE, Savage, P, Rengo, J, Ades, PA. Results of Implementing Objective Measurement of Smoking Status at Cardiac Rehabilitation. Talk presented at the 81st annual College on Problems of Drug Dependence conference (June 2019).

Gaalema, DE, Robison, N, Ades, PA, Higgins, ST. Increasing Cardiac Rehabilitation Participation among Medicaid Enrollees: Effects on Hospital Utilization. Talk presented at the 45th annual Association of Behavior Analysis International (May 2019).

Gaalema, DE, Pericot-Valverde, I, Higgins, ST. Modeling the Effects of Stress on Vaping Lapse Behavior. Poster presented at ABAI's Substance Use and Addiction Conference (November 2018).

Gaalema, DE, Elliott, RJ, Pericot-Valverde, I, Ades, PA. Current Smokers Eligible for Cardiac Rehabilitation: Tobacco Use Characteristics and CR Attendance. Poster presented at ABAI's Substance Use and Addiction Conference (September 2018).

Gaalema, DE, Savage, P, Ades, PA. Patient Characteristics and Cardiac Rehabilitation Participation. Talk presented at the 33rd annual meeting of the American Association of Cardiovascular and Pulmonary Rehabilitation (August 2018).

Gaalema, DE, Tidey, JW, Sigmon, SC, Heil, SH, Stitzer, ML, DeSarno, M, Diaz, V, Hughes, JR, Higgins, ST. Anxiety and Depressive Symptomology and Nicotine Dose: Effects on Smoking Topography within Vulnerable Populations. Talk presented at the NIH Tobacco Regulatory Science Meeting (June 2018).

Gaalema, DE, Pericot-Valverde, I, Elliott, RJ, Rachlin, H. Use of a Remotely Delivered Soft-Commitment Approach to Reduce Smoking. Talk presented at the 44th annual Association of Behavior Analysis International (May 2018).

Pericot-Valverde, I., Elliott, R. J., Rachlin, H., DuPee, C. A. & Gaalema, D. E. Cigarette Demand and Delay Discounting among Smokers Motivated to Quit. Poster presented at the 24<sup>TH</sup> Annual Meeting of the Society for Research on Nicotine and Tobacco (February 2017).

Pericot-Valverde, I., & Gaalema, D. E. Effects of an acute psychological stress on craving, stress, and reinforcing value of e-cigarettes. Paper presented at the Graduate Student and Postdoctoral Trainee Research Showcase at the Learner College of Medicine (November 2017).



- Gaalema, DE, Pericot-Valverde, I, Bunn, J, Ades, PA, Higgins, ST. Cardiac Patients and Tobacco Use: Perceptions, Use, and Change in Use after a Cardiac Event. Poster presented at the NIH Tobacco Centers of Regulatory Science 2017 Annual Meeting (October 2017).
- González-Roz., A, Pericot-Valverde, I, Weidberg, S, García-Pérez, A., Secades-Villa, R., & Gaalema, DE. Persistence and Amplitude of tobacco demand among cigarette smokers with clinical depression: an experimental comparison with non-depressed smokers. Poster presented at the 5th annual Vermont Center on Behavior and Health conference (October 2017).
- Gaalema, D. E., Pericot-Valverde, I., Elliott, R. J., Ades, P. A., & Higgins, S.T. E-cigarette and Conventional Cigarette Use in a Cardiac Population. Poster presented at 2017 North East Regional IDeA Conference (NERIC), (August 2017).
- Gaalema, DE, Pericot-Valverde, I, Elliott, RJ, Ades, PA, Higgins, ST. Use of and Attitudes towards E-cigarettes and Conventional Cigarettes in a Tobacco-Using Cardiac Population. Poster presented at the 79th annual College on Problems of Drug Dependence conference (June 2017)
- Pericot-Valverde, I., Gaalema, DE., Elliot, R. J., Morford, Z. H., Barrett, T., Philip A. Ades, P. A., & Higgins, S.T. (2016, November). Awareness and Use of E-Cigarettes among Cardiac Patients. Poster presented at the NIH Tobacco Centers of Regulatory Science 2016 Annual Meeting (November 2016).
- Gaalema, DE, Pericot-Valverde, I, Elliott, RJ, and Ades, PA. Depression screeners in cardiac rehabilitation: Diversity, validity, and comparative utility. Poster presented at the 4th annual Vermont Center on Behavior and Health conference (October 2016).
- Elliott, R.J., Gaalema, D.E., Dube, S.L., Potter, A.S., Higgins, S.T., & Ades, P.A. Comparing depression and anxiety scores within a population of surgical vs nonsurgical lower socioeconomic cardiac patients. Poster presented at the 4th annual Vermont Center on Behavior and Health conference (October 2016).
- Pericot-Valverde, I, Gaalema, DE, Elliott, R, Morford, Z, Barrett, T, Ades, PA, Higgins, ST. Changes in Nicotine and Tobacco Use among Adult Smokers after an Acute Cardiac Event. Poster presented at the 4th annual Vermont Center on Behavior and Health conference (October 2016).
- Gaalema, DE, Savage, P, Ades, PA. Depression Screeners in Cardiac Rehab: What Do They Tell Us? Talk presented at the 31st annual meeting of the American Association of Cardiovascular and Pulmonary Rehabilitation (September 2016).
- Gaalema DE, Tidey JW, Tyndale RF, Tromblee, M, Bowen, J., Higgins ST. Nicotine Metabolite Ratio and Smoking Behaviors in Those with Current Affective Disorders. Poster presented at the 124th annual meeting of the American Psychological Association (August 2016).
- Gaalema, DE, Ades, PA, Higgins, ST. Increasing Cardiac Rehabilitation Participation among Lower-Socioeconomic Status Patients. Poster presented at the 6<sup>th</sup> biennial IDeA symposium of biomedical research excellence (June 2016).
- Gaalema DE, Tidey JW, Tyndale RF, Higgins ST. Nicotine metabolite ratio and associations with smoking topography in a population with affective disorders. Poster presented at the 78th annual College on Problems of Drug Dependence conference (June 2016).

- Gaalema, DE, Higgins, ST, Ades, PA. Use of Contingency Management to Increase Cardiac Rehabilitation Participation among Medicaid Enrollees. Talk presented at the 42<sup>nd</sup> annual Association of Behavior Analysis International (May 2016).
- Gaalema, DE, Higgins, ST, Ades, PA. Medicaid Patients in Cardiac Rehabilitation: Characteristics and Participation. Talk presented at “Rehabilitation Research at NIH: moving the Field Forward” (May 2016). Invited.
- Gaalema, DE, Savage, P, Rengo, J, Ades, PA, Higgins, ST. Low-income Patients in Cardiac Rehabilitation: What we’ve learned from increasing attendance. Talk presented at the Vermont Vascular Medicine Conference (January 2016). Invited.
- Gaalema, DE, Tidey, JW, Tyndale, RF, Heil, SH, Sigmon, SC, Stitzer, ML, Desarno, MJ, Durand, HJ, Kretzer, EL, & Higgins, ST. Nicotine metabolite ratio and associations with demographics and smoking topography. Poster presented at the NIH Tobacco Centers of Regulatory Science 2015 Annual Meeting (October 2015).
- Morford, Z, Gaalema, DE, Elliott, R, Higgins, ST, Ades, PA. Preventative Care Behaviors Following a Myocardial Infarction: Differences by Socioeconomic Status. Poster presented at the 3rd annual Vermont Center on Behavior and Health conference (October 2015).
- Gaalema, DE, Savage, P, Rengo, J, Cutler, AY, Ades, PA, Higgins, ST. The Use of Financial Incentives to Increase Cardiac Rehabilitation Attendance and Adherence in Medicaid Patients. Talk presented at the 30th annual meeting of the American Association of Cardiovascular and Pulmonary Rehabilitation (September 2015).
- Gaalema, DE, Savage, P, Ades, PA. Cardiac Rehabilitation and Underserved Populations: Untapped Potential. Talk presented at the 30th annual meeting of the American Association of Cardiovascular and Pulmonary Rehabilitation (September 2015).
- Gaalema, DE, Savage, P, Rengo, J, Cutler, AY, Ades, PA, Higgins, ST. Smoking and cardiac rehabilitation program completion. Poster presented at the 77th annual College on Problems of Drug Dependence conference (June 2015).
- Apfelbaum, H, Gaalema, DE, Cutler, AY, Ades, PA, Savage, P, Rengo, J. Cardiac Rehabilitation: Relationships with Depression. Poster presented at the 9th annual UVM Student Research Day (April 2015).
- Gaalema, DE, Ades, PA, Higgins, ST. Cardiac Rehabilitation: Lessons from Behavioral Pharmacology. Talk presented at the Behavioral Pharmacology Grand Rounds, Johns Hopkins University (March, 2015). Invited.
- Gaalema DE, Hand, DJ. Characterizing Health Behavior Participation Through Delay Discounting. Talk presented at the 122nd annual meeting of the American Psychological Association (August 2014).
- Gaalema, DE, Ades, PA, Higgins, ST. Increasing Cardiac Rehabilitation Participation among Medicaid Enrollees. Talk presented at the 2nd annual Vermont Center on Behavior and Health conference (October 2014).
- Gaalema, DE, Ades, PA, Higgins, ST. “Smoking and Cardiac Rehabilitation Participation.” Poster presented at the 76th annual College on Problems of Drug Dependence conference (June 2014).

- Gaalema, DE, Ades, PA, Higgins, ST. "Increasing Cardiac Rehabilitation Participation among Medicaid Enrollees." Talk presented at the 76th annual College on Problems of Drug Dependence conference (June 2014).
- Cutler, AY, Gaalema, DE, Ades, PA, Higgins, ST. Cardiac Rehabilitation: Relationships Between Participation and Smoking Behavior. Poster presented at the 3<sup>rd</sup> Annual Psychiatry Research Day at the University of Vermont (April 2014).
- Gaalema, DE, Ades, PA, Higgins, ST. Incentives to Improve Cardiac Rehabilitation Participation in Low-income Patients. Poster presented at the 1<sup>st</sup> annual Vermont Center on Behavior and Health conference (September 2013).
- Gaalema, DE, Heil, SH, Badger, GS, Metayer, JS, Johnston, AM. "Time to Initiation of Treatment for Neonatal Abstinence Syndrome in Neonates exposed in utero to Buprenorphine or Methadone." Presented at the 75th annual College on Problems of Drug Dependence conference (June 2013).
- Gaalema DE, Lanute DB, Bradstreet MP, Higgins ST. "Characterizing smoking status through discounting: the contributions of temporal, social and probabilistic discounting on self-reported smoking status." Poster presented at the 19th annual meeting of the Society for Research on Nicotine and Tobacco (March 2013).
- Gaalema, DE, Higgins, ST, Pepin, CS, Heil, SH, Bernstein, IM. "Illicit drug use among pregnant women enrolled in treatment for cigarette smoking cessation" Poster presented at the 74th annual College on Problems of Drug Dependence conference (June 2012).
- Gaalema, DE, Saulsgiver, KA, Lopez, AA, Higgins, ST. "Voucher redemption patterns as a naturalistic measure of impulsivity" Presented at the 38<sup>th</sup> annual Association for Behavior Analysis International conference (May 2012).
- Gaalema, DE, Higgins, ST, Bradstreet, M, Heil, SH, Bernstein, I. "Using NicAlert strips to validate smoking status among pregnant cigarette smokers." Presented at the 119<sup>th</sup> annual meeting of the American Psychological Association (August 2011).
- Gaalema, DE, Scott, TL, Heil, SH. "Differences in the profile of neonatal abstinence syndrome signs in methadone- vs. buprenorphine-exposed infants." Poster presented at the 73rd annual College on Problems of Drug Dependence conference (June 2011).
- Gaalema, DE, Higgins, ST, Heil, SH, Lopez, A, Hanson, J, Naylor, A. "The use of contingency management to promote breastfeeding in low income women." Talk presented at the 37<sup>th</sup> annual Association for Behavior Analysis International conference (May 2011).
- Gaalema, DE and Davison, M. "Components of time allocation in 2- and 3-alternative choice" Poster presented at the 33<sup>rd</sup> annual meeting of the Society of the Quantitative Analyses of Behavior (May 2010).
- Gaalema, DE. "Sexual conditioning in the dyeing dart frog." Talk presented at the 35<sup>th</sup> annual Association for Behavior Analysis International conference (May 2009).
- Gaalema, DE, Kelling, AS, Clay, A, and Perdue, BM. "Relationships between caregiver ratings and obtained values for food preferences in captive exotics: the value of systematic testing." Presented at the 25<sup>th</sup> annual meeting of the Southeastern Association of Behavior Analysis (October 2008).

- Gaalema, DE. "Using reinforcer preference assessment to improve animal care." Presented at the 84<sup>th</sup> annual Association of Zoos and Aquariums (AZA) conference (September 2008).
- Gaalema, DE. "Predicting reinforcer value of stimuli through food choice in monitor lizards (*Varanus spp.*)." Presented at the 4<sup>th</sup> annual Georgia Tech Graduate Student Symposium (March 2008).
- Gaalema, DE. "Food choice, reinforcer preference, and visual discrimination in monitor lizards (*Varanus spp.*)." Presented at the 24<sup>th</sup> annual meeting of the Southeastern Association of Behavior Analysis (October 2007).
- Perdue, BM, Gaalema, DE, & Maple, TL. "Animal cognition research in zoos: A new opportunity for psychologists." Presented at the 99<sup>th</sup> annual Southern Society for Philosophy and Psychology (April 2007).
- Gaalema, DE. "Reinforcer preference and stimulus discrimination in a Komodo Dragon (*Varanus komodoensis*)." Presented at the third annual Georgia Tech Grad Student Symposium (March, 2007).
- Allard, SM, Gaalema, DE, & Maple, TL. "Flamingo social organization." Presented at the 82<sup>nd</sup> annual Association of Zoos and Aquariums conference (September 2006).
- Gaalema, DE. "Husbandry training for large reptiles." Presented at the 32<sup>nd</sup> annual Association for Behavior Analysis International conference (May 2006).
- Gaalema, DE and Benboe, D. "Training large reptiles for husbandry and veterinary procedures." Presented at the first national Reptile and Amphibian Training and Enrichment Conference (December 2005).
- Gaalema, DE. "Background matching in ornate tree lizards (*Urosaurus ornatus*)." Poster presented at the UBEP 2003 Tenth Annual Undergraduate Research Poster Symposium (February 2003).
- Hamilton, PS and Gaalema, DE. "A photographic method for quantifying color characteristics and patch morphometrics in lizards." Presented at the 82<sup>nd</sup> annual meeting of American Society of Ichthyologists and Herpetologists (July 2002).

## Research Support

### Ongoing

- |   |                   |
|---|-------------------|
| R61 HL143305 (Gaalema)  | 08/25/18-07/31/23 |
| Improving Participation in Cardiac Rehabilitation among Lower-Socioeconomic Status Patients: Efficacy of Early Case Management and Financial Incentives |                   |
| Role: PI  |                   |
| P20 GM103644 (Higgins)  | 08/1/18-07/31/23  |
| Vermont Center on Behavior and Health   |                   |
| Role: Co-I  |                   |
| U54 DA036114 (Higgins)  | 09/30/18-08/31/23 |
| Vermont Center on Tobacco Regulatory Science  |                   |
| Role: Site-PI   |                   |

## **Completed**

P20 GM103644 (Higgins) NIH/NIGMS Vermont Center on Behavior and Health Role: Project Director	12/1/12-11/30/17
P50 DA036114 (Higgins) NIH/FDA Vermont Center on Tobacco Regulatory Science Role: Site-PI	09/30/13-08/31/18
R01 DA031928 (Heil) NIH/NIDA Testing the Reliability and Validity of Pupil Diameter in Opioid-exposed neonates Role: Co-I	09/15/12-07/31/15
Work Order #M610000767 Agency: DOE Energy Usage Related to Smart-grid Deployment in Vermont Role: Co-PI	03/31/11-08/07/11
EAPSI-0913094 (Gaalema) Agency: NSF An Analysis of Time Allocation of Behavior in Concurrent VI VI Schedules Role: PI	06/01/09-09/30/09

## **Awards/Grants Received**

- TCORS Developmental Grant (2015-2017)
- CVRI-VT travel award (Fall 2016)
- NIDA Women & Sex/Gender Junior Investigator travel award (Summer 2016)
- NISBRE Young Investigator travel award (Summer 2016)
- NIDA Early Career Investigator Travel Award (Summer 2013)
- Participating faculty on Complex Systems IGERT (2012-2017)
- APA travel award (Summer 2011)
- NIDA Women & Sex/Gender Junior Investigator travel award (Summer 2011)
- Graduate student of the year, Georgia Institute of Technology, School of Psychology (Spring 2009)
- National Science Foundation EAPSI (East Asian and Pacific Summer Institutes) summer fellowship (2009)
- Society for the Advancement of Behavior Analysis dissertation award (Spring 2009)
- American Psychological Association dissertation award (Fall 2008)
- Graduate Conference Funds (Georgia Institute of Technology) travel award (Fall 2008)
- Graduate Conference Funds (Georgia Institute of Technology) travel award (Fall 2005)
- Salt River Project science scholarship recipient (Spring 2003)
- Hughes program fellowship recipient (Fall 2002)
- National merit scholar and finalist scholarship recipient (Fall 1999)

## **Dissemination Products**

- Served on committee to craft depression performance guidelines for a national accreditation committee (AACVPR) (2017)
- In conjunction with the CDC/AACVPR, crafted a turnkey on the use of incentives in cardiac rehabilitation clinics (2018)
- Authored a chapter on behavior change for the accreditation handbook for the national organization overseeing cardiac rehabilitation programs (2018)
- Serving on expert committee in conjunction with WHO to provide evidence-based guidelines for care following ischemic cardiac events (2019)

### **Invited Positions/ Presentations**

- Invited presentation “Health-Related Behaviors and Behavioral Economics,” Symposium on Complexity in Human Health and Wellness Behavior (September, 2018).
- Invited presentation “Cardiac Patients and Tobacco Use: Perceptions, Use, and Change in Use after a Major Event”, Vermont Center on Behavior and Health Conference (October, 2017).
- Keynote address “Behavior Change after Major Cardiac Events: Struggles and Strategies.” Women’s Red Lunch, Burlington VT (January, 2017). Invited presentation “Medicaid Patients in Cardiac Rehabilitation: Characteristics and Participation”, Rehabilitation Research at NIH Conference (May, 2016).
- Invited presentation. “Low-income Patients in Cardiac Rehabilitation: What we've learned from increasing attendance.” Vermont Vascular Medicine Conference (January 2016).
- Invited presentation “Cardiac Rehabilitation: Lessons from Behavioral Pharmacology”, Johns Hopkins University (March, 2015).
- Invited presentation “Behavioral Economics and Behavior Change”, Renewable Energy Vermont conference (October 2012).
- Invited presentation “Behavioral Economics and Individual Behavior Change”, Sandia Laboratories (March 2011).
- Discussant for a symposium “Quantitative Analyses of Behavior at the Zoo”, Association of Behavior Analysis International conference (May 2009)
- Instructor for a workshop on animal husbandry, Yerkes Primate Center (Fall 2007)

### **Professional Memberships**

- American Association of Cardiovascular and Pulmonary Rehabilitation
- College on Problems of Drug Dependence, Associate Member
- American Psychological Association (Divisions 25 and 28)
- Association of Behavior Analysts International, Full member

### **Editorial Experience**

- Associate Editor, Tobacco Regulatory Science (2015-2018)
- Standing reviewer, Journal of Cardiopulmonary Rehabilitation and Prevention (2016-2018)
- Guest reviewer, Pediatrics (2018)
- Guest reviewer, Preventive Medicine (2015-2018)
- Guest reviewer, American Journal of Preventive Medicine (2017)
- Guest reviewer, Nicotine and Tobacco Research (2017, 2019)
- Guest reviewer, PLoS (2016-2017)
- Guest reviewer, Psychological Record (2016)
- Guest reviewer, Drug and Alcohol Dependence (2015, 2018)
- Guest reviewer, Addictive Behaviors (2014, 2015)
- Guest reviewer, Journal of Applied Behavior Analysis (2014)
- Guest reviewer, Addiction (2012, 2014)

- Guest reviewer, Journal of Neonatal-Perinatal Medicine (2013)
- Guest reviewer, International Journal of Comparative Psychology (2012)
- Guest reviewer, Journal of Applied Animal Welfare (2008)

### **Teaching experience**

- Behavioral Economics (Spring 2014, Fall 2016)
- Introduction to Psychology (Fall 2007 (team taught), Summer 2008)
- Experimental Analysis of Behavior lab (Fall 2006, Spring & Fall, 2007, Spring 2008)
- Experimental Analysis of Behavior (Fall 2009)
- Guest lectures in: Health Behavior, Behavioral Economics, Comparative Psychology, Learning and Motivation, Research Methods, Environmental Psychology