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# LINDA M. COLLINS, PH.D.

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The Methodology Center  
The Pennsylvania State University  
404 Health & Human Development Building  
University Park, PA 16802

lmcollins@psu.edu  
(814) 865-3253 (office)  
(814) 863-0000 (fax)  
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## EDUCATION

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- 1977 B.A., University of Connecticut (Psychology)  
1983 Ph.D., University of Southern California (Quantitative Psychology)

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## PROFESSIONAL EXPERIENCE

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- 2014-present *Distinguished Professor*, Department of Human Development & Family Studies  
The Pennsylvania State University
- 2000-present *Professor*, Department of Statistics  
The Pennsylvania State University
- 1994-present *Director*, The Methodology Center, College of Health and Human Development  
The Pennsylvania State University
- 1994-2013 *Professor*, Department of Human Development & Family Studies  
The Pennsylvania State University
- 1987-1993 *Assistant/Associate Professor*, J.P. Guilford Laboratory of Quantitative Psychology  
Department of Psychology, University of Southern California
- 1983-1987 *Senior Research Associate/Assistant Research Professor*, Department of Preventive  
Medicine and Institute for Health Promotion and Disease Prevention Research  
University of Southern California

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## HONORS AND AWARDS

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- 2015 Elected Fellow, Society for Prevention Research
- 2015 Keynote address, annual meeting of the Council for Advancement of Academic Nursing

- 2014 Presentation at TEDxPSU
- 2014 Named Distinguished Professor
- 2014 Elected Fellow, Society of Behavioral Medicine
- 2013 Keynote address, Modern Modeling Methods Conference, University of Connecticut, Storrs, CT
- 2013 Mind the Gap lecture, National Institutes of Health
- 2011 Evan G. and Helen G. Pattishall Outstanding Research Achievement Award
- 2011 Keynote address, Annual Meeting of the Society for Prevention Research
- 2007-2011 President-elect and then President, Society for Prevention Research
- 2008 Keynote address, Annual Meeting of the Society of Behavioral Medicine
- 2004 President's Award, Society for Prevention Research
- 2000 Penn State Faculty Scholar Medal for the Social and Behavioral Sciences
- 1997-2005 Selected as a Core Scientist for the Tobacco Etiology Research Network (funded by the Robert Wood Johnson Foundation)
- 1997 Elected Fellow, Association for Psychological Science
- 1996 Elected Fellow, Division 5, American Psychological Association
- 1995 President, Society of Multivariate Experimental Psychology
- 1992 USC Psychology Department Teacher of the Year
- 1991 USC Psychology Department Mentorship Award
- 1991 R.B. Cattell Award for Distinguished Multivariate Behavioral Research
- 1987 Elected to Society for Multivariate Experimental Psychology

## SERVICE

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### ***Editorial & Journal Review***

- 2009-2013 Editorial Board, *Prevention Science*
- 2005-2008 Chair, Society for Prevention Research Publications Committee
- 1998-2005 Associate Editor, *Prevention Science*
- 1996-1998 Editorial Board, *Psychological Methods*
- 1992-1995 Associate Editor, *Multivariate Behavioral Research*
- 1992-1994 Associate Editor, *Journal of Educational Statistics*

Ad hoc reviewer for many journals, including *Psychometrika*, *Psychological Methods*, *Psychological Bulletin*, *Journal of Mathematical Psychology*, *Journal of Personality and Social Psychology*, *Applied Psychological Measurement*, *Journal of Consulting and Clinical Psychology*, *Computational Statistics and Data Analysis*, *Psychology and Aging*, *Biometrics*, *Statistics in Medicine*, *Journal of Research on Adolescence*.

**Grant Proposal Review**

- 1998-2013 Member, National Institute on Drug Abuse Centers Study Section
- 1997-1998 Member, National Institute on Drug Abuse Prevention and Epidemiology Study Section

**Other Service**

- 2015 Established ongoing special interest group on Optimization of Behavioral Interventions in the Society of Behavioral Medicine
- 2014-2017 International Advisory Board, Theories and Techniques of Behaviour Change Project
- 1997-2000, 2005-12 Member, Board of Directors, Society for Prevention Research
- 1996 Mission to Kazakstan, United Nations Drug Control Program
- 1991-1995 Member-at-large, Executive Committee, American Psychological Association, Division 5 (elected)
- 1993 Program Chair, American Psychological Association 1993 Convention, Division 5 (appointed)
- 1991-1993 Chair, Psychometric Society's Committee on Graduate Student Recruitment (appointed)

**PROFESSIONAL AFFILIATIONS**

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- American Psychological Association (Division 5) (Fellow)
- American Psychological Society (Fellow)
- Society for Prevention Research
- College on Problems of Drug Dependence
- American Academy of Health Behavior
- Society of Behavioral Medicine
- Society for Research on Nicotine and Tobacco

## COURSES TAUGHT

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Introductory Statistics (Undergraduate)  
Psychological Measurement (Undergraduate)  
Methods and Statistics in Longitudinal Research (Graduate)  
Analysis of Categorical Data (Graduate)  
Multivariate Statistics (Graduate)  
Measurement (Graduate)  
Latent Class and Latent Transition Analysis (Graduate)  
Quantitative Methods for Intervention Science (Graduate)

## GRANTS AWARDED

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### ***Federal Grants***

- 2016-2021 Co-Principal Investigator (in an MPI arrangement): *Using Most to Optimize an HIV Care Continuum Intervention for Vulnerable Populations* (co-PI: Dr. Marya Gwadz, New York University)  
R01, National Institute on Drug Abuse; Direct costs: \$766,000 (approx..)
- 2015-2020 Principal Investigator: *Center for Complex Data to Knowledge in Drug Abuse and HIV Behavioral Science*  
P50, National Institute on Drug Abuse; Direct costs: \$ 10,000,000 (approx.)
- 2015-2020 Principal Investigator: *Engineering an Online STI Prevention Program*  
R01, National Institute on Alcohol Abuse and Alcoholism; Direct costs: \$2,200,000 (approx.)
- 2014-2019 Principal Investigator of Core: *Optimized Chronic Care for Smokers: A Comparative Effectiveness Approach* (Center Director: Dr. Michael Fiore, University of Wisconsin)  
P01, National Cancer Institute; Direct costs of core: \$500,000 (approx.)
- 2012-2017 Co-Principal Investigator (in an MPI arrangement): *Opt-In: Optimizing Intensive Intervention for Weight Loss* (co-PI: Dr. Bonnie Spring, Northwestern University)  
R01, National Institute of Diabetes and Digestive and Kidney Diseases; Direct costs: \$2,500,000 (approx.)
- 2010-2015 Principal Investigator: *Center for Prevention and Treatment Methodology*  
P50, National Institute on Drug Abuse; Direct costs: \$9,000,000 (approx.)

- 2009-2014 Principal Investigator of Core: *A Tobacco Intervention Laboratory (Intervention Optimization Core)* (Center Directors: Drs. Michael Fiore and Timothy Baker, University of Wisconsin)  
P50, National Cancer Institute; Direct costs of core: \$450,000 (approx.)
- 2007-2011 Co-Principal Investigator: *Dynamical Systems and Related Engineering Approaches to Improving Behavioral Interventions* (Dr. Daniel Rivera, co-PI)  
R21, NIH Roadmap; Direct costs: \$1,000,000.
- 2005-2010 Investigator: *Prevention and Methodology Training*  
T32, National Institute on Drug Abuse; Direct costs: \$1,800,000 (approx.)
- 2005-2010 Investigator: *Drug Abuse Prevention Research Methodology Conferences*  
R13, National Institute on Drug Abuse; Direct costs: \$125,000 (approx.)
- 2005-2010 Principal Investigator: *Center for Prevention and Treatment Methodology*  
P50, National Institute on Drug Abuse; Direct costs: \$6,000,000 (approx.)
- 2004-2009 Principal Investigator: *Methodology for Drug Abuse Prevention Research*  
K05, National Institute on Drug Abuse; Direct costs: \$617,000 (approx.)
- 2003-2005 Principal Investigator: *Drug Abuse Prevention Research Methodology Conferences* R13,  
National Institute on Drug Abuse; Direct costs: \$73,800 (approx.)
- 2000-2005 Principal Investigator: *Center for Prevention Methodology*  
P50, National Institute on Drug Abuse; Direct costs: \$4,400,000 (approx.)
- 1998-2003 Principal Investigator: *Drug Abuse Prevention Research Methodology Conferences*  
R13, National Institute on Drug Abuse; Direct costs: \$150,000 (approx.)
- 1996-2000 Principal Investigator, *Center for the Study of Prevention through Innovative Methodology*  
P50, National Institute for Drug Abuse; Direct costs: \$2,000,000 (approx.)
- 1991-1996 Principal Investigator: *Latent Path/Latent Transition Analysis in Drug Abuse Prevention*  
Competing Continuation, National Institute on Drug Abuse; Direct costs: \$365,000 (approx.)
- 1987-1991 Principal Investigator: *Latent Path Methodology in Drug Abuse Prevention*  
National Institute on Drug Abuse; Direct costs: \$97,000 (approx.)
- 1984-1986 Principal Investigator: *Longitudinal Scaling Methodology*  
National Science Foundation; Direct costs: \$80,000 (approx.)

1984-1986 Principal Investigator: *Longitudinal Scaling in Drug Abuse Prevention*  
National Institute on Drug Abuse; Direct costs: \$75,000 (approx.)

**Other Grants**

1998 Co-Principal Investigator: *New Methods for the Analysis of Change* (Co-PI: A.G. Sayer)  
Grant to hold a conference and prepare a book, American Psychological Association;  
Direct costs: \$14,000. Conference held 10/12-14/98. Book published 2001.

1997 Principal Investigator: *Biennial Summer Institute in Longitudinal Methods*  
Penn State Continuing and Distance Education Program Innovation Fund; Direct costs:  
\$6,913. Summer Institute held 5/19-21/97.

1989 Principal Investigator: *Best Methods for the Analysis of Change* (Co-PI: J.L. Horn)  
American Psychological Association; (a grant to hold a conference and prepare a book);  
Grant to hold a conference and prepare a book, American Psychological Association;  
Direct costs: \$18,559. Conference held 10/29-31/89. Book published 1991.

**PUBLICATIONS**

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**Books and Monographs**

Collins, L.M., & Lanza, S.T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*. New York: Wiley.

Collins, L.M., & Sayer, A.G., Eds. (2001). *New methods for the analysis of change*. Washington, D.C.: American Psychological Association.

Collins, L.M., & Seitz, L.A., Eds. (1994). *Advances in data analysis for prevention intervention research*. Washington, D.C.: National Institute on Drug Abuse.

Collins, L.M., & Horn, J.L., Eds. (1991). *Best methods for the analysis of change: Recent advances, unanswered questions, future directions*. Washington, D.C.: American Psychological Association.

**Special Issues of Journals**

Murphy, S.A., Collins, L.M., & Rush, A.J. (2007). Special issue of *Drug and Alcohol Dependence: Customizing treatment to the patient: Adaptive treatment strategies*. Elsevier.

Collins, LM., Flaherty, B.P., & Colby, S. (Eds.). (2002). Special issue of *Drug and Alcohol Dependence: Measurement and design issues in tobacco and drug use research*. Elsevier.

Collins, L.M., & Millsap, R.E. (1998). Special issue of *Multivariate Behavioral Research: Innovative methods for prevention research*.

### **Journal Articles**

- Piper, M.E., Schlam, T.R., Cook, J.W., Smith, S.S., Bolt, D.M., Loh, W.-Y., Mermelstein, R., Collins, L.M., Fiore, M.C., & Baker, T.B. (In press). Toward the development of precision smoking cessation treatment I: Moderator results from a factorial experiment. *Drug and Alcohol Dependence*.
- Piper, M.E., Cook, J.W., Schlam, T.R., Smith, S.S., Bolt, D.M., Collins, L.M., Mermelstein, R., Fiore, M.C., & Baker, T.B. (In press). Toward the development of precision smoking cessation treatment II: Proximal effects of five smoking cessation intervention components on putative mechanisms of action. *Drug and Alcohol Dependence*.
- Nahum-Shani, I., Dziak, J.J., & Collins, L.M. (In press). Multi-level factorial designs with experimentation-induced clustering. *Psychological Methods*.
- Baker, T.B., Smith, S.S., Bolt, D.M., Loh, W.-Y., Mermelstein, R., Fiore, M.C., Piper, M.E., & Collins, L.M. (In press). Implementing clinical research using factorial designs: A primer. *Behavior Therapy*.
- Huffman, J.C., Albanese, A.M., Campbell, K.A., Celano, C.M., Millstein, R.A., Mastromauro, C.A., Healy, B.C., Chung, W.J., Januzzi, J.L., Collins, L.M., & Park E.R. (In press). The Positive Emotions after Acute Coronary Events (PEACE) behavioral health intervention: Design, rationale, and preliminary feasibility of a factorial design study. *Clinical Trials*.
- Nahum-Shani, I., Smith, S. N., Spring, B.J., Collins, L.M., Witkiewitz, K., Tewari, A., & Murphy, S. A. (2016). Just-in-time adaptive interventions (JITAI) in mobile health: Key components and design principles for ongoing health behavior support. *Annals of Behavioral Medicine*. Advance online publication. doi: 10.1007/s12160-016-9830-8
- Brown, C.H., Curran, G., Palinkas, L.A., Aarons, G., Wells, K. B., Jones, L., Collins, L.M., Duan, N., Mittman, B., Wallace, A., Tabak, R., Ducharme, L., Chambers, D., Neta, G., Wiley, T., Landsverk, J., Cheung, K., & Cruden, G. (2017). An overview of research and evaluation designs for dissemination and implementation. *Annual Review of Public Health, 38*.
- Watkins, E., Newbold, A., Tester-Jones, M., Javaid, M., Cadman, J., Collins, L.M., Graham, J., & Mostazir, M. (2016). Implementing multifactorial psychotherapy research in online virtual environments (IMPROVE-2): Study protocol for a phase III trial of the MOST randomized component selection methods for internet cognitive-behavioural therapy for depression. *BMC Psychiatry, 16*: 345.
- Hekler, E.B., Michie, S., Rivera, D.E., Pavel, M., Rivera, D.E., Collins, L.M., Jimison, H.B., Garnett, C., Parral, S., & Spruijt-Metz, D. (2016). Advancing models and theories for digital behavior change interventions. *American Journal of Preventive Medicine, 51*, 825-832.
- Murray, E., Hekler, E.B., Andersson, G., Collins, L.M., Doherty, A., Hollis, C., Rivera, D.E., West, R., & Wyatt, J.C. (2016). Evaluating digital health interventions: Key questions and approaches. *American Journal of Preventive Medicine, 51*, 843-851.
- Serrano, K.J., Yu, M., Coa, K.I., Collins, L.M., & Atienza, A.A. (2016). Mining health app data to find more and less successful weight loss subgroups. *Journal of Medical Internet Research, 18*, e154.

- Baker, T.B., Collins, L.M., Mermelstein, R., Piper, M.E., Schlam, T.R., Cook, J.W., Bolt, D.M., Smith, S.S., Jorenby, D.E., Fraser, D., Loh, W.-Y., Theobald, W., & Fiore, M.C. (2016). Enhancing the effectiveness of smoking treatment research: Conceptual bases and progress. *Addiction, 111*, 107-116. PMID: PMC4681592 doi: 10.1111/add.13154
- Cook, J.W., Collins, L.M., Fiore, M.C., Smith, S.S., Fraser, D., Bolt, D.M., Baker, T.B., Piper, M.E., Schlam, T.R., Jorenby, D., Loh, W.-Y., & Mermelstein, R. (2016). Comparative effectiveness of motivation phase intervention components for use with smokers unwilling to quit: A factorial screening experiment. *Addiction, 111*, 117-128. PMID: PMC4681585 doi: 10.1111/add.13161
- Schlam, T.R., Fiore, M.C., Smith, S.S., Fraser, S., Bolt, D.M., Collins, L.M., Mermelstein, R., Piper, M.E., Cook, J.W., Jorenby, D.E., Loh, W.-Y., & Baker, T.B. (2016). Comparative effectiveness of intervention components for producing long-term abstinence from smoking: A factorial screening experiment. *Addiction, 111*, 142-155. PMID: PMC4692280 doi: 10.1111/add.13153
- Piper, M.E., Fiore, M.C., Smith, S.S., Fraser, D., Bolt, D.M., Collins, L.M., Mermelstein, R., Schlam, T.R., Cook, J.W., Jorenby, D.E., Loh, W.-Y., & Baker, T.B. (2016). Identifying effective intervention components for smoking cessation: A factorial screening experiment. *Addiction, 111*, 129-141. PMID: PMC4699315 doi: 10.1111/add.13162
- Collins, L.M., Kugler, K.C., & Gwadz, M.V. (2016). Optimization of multicomponent behavioral and biobehavioral interventions for the prevention and treatment of HIV/AIDS. *AIDS and Behavior, 20*, 197-214. PMID: PMC4715714 doi: 10.1007/s10461-015-1145-4.
- Faggiano, F., Allara, E., Giannotta, F., Molinar, R., Sumnall, H., Wiers, R., Michie, S., Collins, L., & Conrod, P. (2014). Europe needs a central, transparent, and evidence-based approval process for behavioural prevention interventions. *PLOS Medicine, 11*, e1001740. PMID: PMC4188564 doi: 10.1371/journal.pmed.1001740
- Pellegrini, C.A., Hoffman, S.A., Collins, L.M., & Spring, B. (2014). Optimization of remotely delivered intensive lifestyle treatment for obesity using the multiphase optimization strategy: Opt-IN study protocol. *Contemporary Clinical Trials, 38*, 251-259. PMID: PMC4104542. doi: 10.1016/j.cct.2014.05.007 See Pellegrini, C.A., Hoffman, S.A., Collins, L.M., & Spring, B. (2015). Corrigendum to "Optimization of remotely delivered intensive lifestyle treatment for obesity using the multiphase optimization strategy: Opt-IN study protocol." *Contemporary Clinical Trials, 45*, 468-469.
- Collins, L.M., Dziak, J.J., Kugler, K.C., & Trail, J.B. (2014). Factorial experiments: Efficient tools for evaluation of intervention components. *American Journal of Preventive Medicine, 47*, 498-504. PMID: PMC4171184 doi: 10.1016/j.amepre.2014.06.021
- Wyrick, D.L., Rulison, K.L., Fearnow-Kenney, M., Milroy, J.J., & Collins, L.M. (2014). Moving beyond the treatment package approach to developing behavioral interventions: Addressing questions that arose during an application of the multiphase optimization strategy (MOST). *Translational Behavioral Medicine, 4*, 252-259. PMID: PMC4167894 doi: 10.1007/s13142-013-0247-7



- Collins, L., Trail, J., Kugler, K., Baker, T., Piper, M., & Mermelstein, R. (2014). Evaluating individual intervention components: Making decisions based on the results of a factorial screening experiment. *Translational Behavioral Medicine*, *4*, 238-251. PMID: PMC4167900 doi: 10.1007/s13142-013-0239-7
- Collins, L. M., Nahum-Shani, I., & Almirall, D. (2014). Optimization of behavioral dynamic treatment regimens based on the sequential, multiple assignment, randomized trial (SMART). *Clinical Trials*, *11*, 426-434. PMID: PMC4257903 doi: 10.1177/1740774514536795
- Trail, J.B., Collins, L.M., Rivera, D.E., Li, R., Piper, M., & Baker, T. (2014). Functional data analysis for the system identification of behavioral processes. *Psychological Methods*, *19*, 175-187. PMID: PMC4098896 doi: 10.1037/a0034035
- Timms, K.P., Rivera, D.E., Collins, L.M., & Piper, M.E. (2014). Continuous-time system identification of a smoking cessation intervention. *International Journal of Control*, *87*, 1423-1437. PMID: PMC4221858 doi: 10.1080/00207179.2013.874080
- Timms, K.P., Rivera, D.E., Collins, L.M., & Piper, M.E. (2014). A dynamical systems approach to understanding self-regulation in smoking cessation behavior change. *Nicotine and Tobacco Research*, *16*, S159-168. PMID: PMC3977628 doi: 10.1093/ntr/ntt149
- Lippold, M.A., Greenberg, M.T., & Collins, L.M. (2014). Youths' substance use and changes in parental knowledge-related behaviors during middle school: A person-oriented approach. *Journal of Youth and Adolescence*, *43*, 729-744. PMID: PMC3938985 doi: 10.1007/s10964-013-0010-x
- Lippold, M.A., Greenberg, M.T., & Collins, L.M. (2013). Parental knowledge and youth risky behavior: A person oriented approach. *Journal of Youth and Adolescence*, *42*, 1732-1744. PMID: PMC3655137 doi: 10.1007/s10964-012-9893-1
- Piper, M.E., Baker, T.B., Mermelstein, R., Collins, L.M., Fraser, D., Jorenby, D.E., Smith, S.S., Christiansen, B.A., Schlam, T.R., Cook, J.W., Oguss, M., & Fiore, M.C. (2013). Recruiting and engaging smokers in treatment in a primary care setting: Developing a chronic care model implemented through a modified electronic health record. *Translational Behavioral Medicine*, *3*, 253-263. PMID: PMC3771018 doi: 10.1007/s13142-012-0178-8
- Dziak, J.J., Nahum-Shani, I., & Collins, L.M. (2012). Multilevel factorial experiments for developing behavioral interventions: Power, sample size, and resource considerations. *Psychological Methods*, *17*, 153-175. PMID: PMC3351535. doi: 10.1037/a0026972
- Caldwell, L.L., Smith, E.A., Collins, L.M., Graham, J.W., Lai, M., Wegner, L., Vergnani, T., Matthews, C., & Jacobs, J. (2012). Translational research in South Africa: Evaluating implementation quality using a factorial design. *Child and Youth Care Forum*, *41*, 119-136. PMID: PMC3375728 doi: 10.1007/s10566-011-9164-4
- Thomas, D.M., Navarro-Barrientos, J.E., Rivera, D.E., Heymsfield, S.B., Bredlau, C., Redman, L.M., Martin, C.K., Lederman, S.A., Collins, L.M., & Butte, N.F. (2012). Dynamic energy-balance model predicting gestational weight gain. *American Journal of Clinical Nutrition*, *95*, 115-122. PMID: PMC3238455 doi: 10.3945/ajcn.111.024307

- Cobb, N.K., Graham, A.L., Byron, M.J., Abrams, D.B., & Workshop Participants. (2011). Online social networks and smoking cessation: A scientific research agenda. *Journal of Medical Internet Research*, *13*, e119. PMID: PMC3278105 doi: 10.2196/jmir.1911
- Tan, X., Dierker, L., Rose, J., Li, R., & Tobacco Etiology Research Network. (2011). How spacing of data collection may impact estimates of substance use. *Substance Use and Misuse*, *46*, 758-768. PMID: PMC3107528 doi: 10.3109/10826084.2010.537731
- Zafra-Cabeza, A., Rivera, D.E., Collins, L.M., Ridao, M.A., & Camacho, E.F. (2011). A risk-based model predictive control approach to adaptive interventions in behavioral health. *IEEE Transactions on Control Systems Technology*, *19*, 891-901. PMID: PMC3107527 doi: 10.1109/TCST.2010.2052256
- Valentine, J.C., Flay, B.R., Biglan, A., Boruch, R.F., Castro, F.G., Collins, L.M., Kellam, S., Moscicki, E.K., & Schinke, S. (2011). Replication in prevention science. *Prevention Science*, *12*, 103-117. doi: 10.1007/s11121-011-0217-6
- Navarro-Barrientos, J.-E., Rivera, D.E., & Collins, L.M. (2011). A dynamical model for describing behavioural interventions for weight loss and body composition change. *Mathematical and Computer Modelling of Dynamical Systems*, *17*, 183-203. PMID: PMC3111923 doi: 10.1080/13873954.2010.520409
- Collins, L.M., Baker, T.B., Mermelstein, R.J., Piper, M.E., Jorenby, D.E., Smith, S.S., Schlam, T.R., Cook, J.W., & Fiore, M.C. (2011). The Multiphase Optimization Strategy for engineering effective tobacco use interventions. *Annals of Behavioral Medicine*, *41*, 208-226. PMID: PMC3053423 doi: 10.1007/s12160-010-9253-x
- Baker, T.B., Mermelstein, R.J., Collins, L.M., Piper, M.E., Jorenby, D.E., Smith, S.S., Schlam, T.R. Cook, J.W., & Fiore, M.C. (2011). New methods for tobacco dependence treatment research. *Annals of Behavioral Medicine*, *41*, 192-207. PMID: PMC3073306 doi: 10.1007/s12160-010-9252-y
- Bray, B.C., Lanza, S.T., & Collins, L.M. (2010). Modeling relations among discrete developmental processes: A general approach to associative latent transition analysis. *Structural Equation Modeling*, *17*, 541-569. PMID: PMC3094019 doi: 10.1080/10705511.2010.510043
- Cleveland, M.J., Collins, L.M., Lanza, S.T., Greenberg, M.T., & Feinberg, M.E. (2010). Does individual risk moderate the effect of contextual-level protective factors? A latent class analysis of substance use. *Journal of Prevention and Intervention in the Community*, *38*, 213-228. PMID: PMC2898733 doi: 10.1080/10852352.2010.486299
- Chakraborty, B., Collins, L.M., Strecher, V., and Murphy, S.A. (2009). Developing multicomponent interventions using fractional factorial designs. *Statistics in Medicine*, *28*, 2687-2708. PMID: PMC2746448 doi: 10.1002/sim.3643
- Collins, L.M., Dziak, J.J., & Li, R. (2009). Design of experiments with multiple independent variables: A resource management perspective on complete and reduced factorial designs. *Psychological Methods*, *14*, 202-224. PMID: PMC2796056 doi: 10.1037/a0015826

- Patrick, M., Collins, L.M., Smith, E.A., Caldwell, L., Flisher, A., & Wegner, L. (2009). A prospective longitudinal model of substance use onset among South African adolescents. *Substance Use & Misuse, 44*, 647-662. PMID: PMC2796627 doi: 10.1080/10826080902810244
- Collins, L.M., Chakraborty, B., Murphy, S.A., & Strecher, V. (2009). Comparison of a phased experimental approach and a single randomized clinical trial for developing multicomponent behavioral interventions. *Clinical Trials, 6*, 5-15. PMID: PMC2711350 doi: 10.1177/1740774508100973
- Lanza, S.T., & Collins, L.M. (2008). A new SAS procedure for latent transition analysis: Transitions in dating and sexual behavior. *Developmental Psychology, 44*, 446-456. PMID: PMC2846549 doi: 10.1037/0012-1649.44.2.446
- Strecher, V.J., McClure, J.B., Alexander, G.W., Chakraborty, B., Nair, V.N., Konkel, J.M., Greene, S.M., Collins, L.M., Carlier, C.C., Wiese, C.J., Little, R.J., Pomerleau, C.S., Pomerleau, O.F. (2008). Web-based smoking cessation programs: Results of a randomized trial. *American Journal of Preventive Medicine, 34*, 373-381. PMID: PMC2697448 doi: 10.1016/j.amepre.2007.12.024
- Dierker, L. C., Stolar, M., Richardson, E., Tiffany, S., Flay, B., Collins, L., Nichter, M., Nichter, M., Bailey, S., Clayton, R. and the Tobacco Etiology Research Network (TERN). (2008). Tobacco, alcohol and marijuana use among first-year U.S. college students: A time series analysis. *Substance Use and Misuse, 43*, 680-699. PMID: PMC2706584 doi: 10.1080/10826080701202684
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- Sledjeski, E., Dierker, L., Costello, D., Shiffman, S., Donny, E., Flay, B., & the Tobacco Etiology Research Network (TERN). (2007). Predictive validity of four nicotine dependence measures in a college sample. *Drug and Alcohol Dependence, 87*, 10-19. doi: 10.1016/j.drugalcdep.2006.07.005
- Costello, D., Dierker, L., Sledjeski, E., Flaherty, B., Flay, B., Shiffman, S., & the Tobacco Etiology Research Network (TERN). (2007). Confirmatory factor analysis of the Nicotine Dependence Syndrome Scale in an American college sample of light smokers. *Nicotine and Tobacco Research, 9*, 811-819. doi: 10.1080/14622200701484979
- Lanza, S.T., & Collins, L.M., Lemmon, D., & Schafer, J. L. (2007). PROC LCA: A SAS procedure for latent class analysis. *Structural Equation Modeling, 14*, 671-694. PMID: PMC2785099 doi: 10.1080/10705510701575602
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## **SOFTWARE**

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## PRESENTATIONS

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### ***Workshops and Trainings***

- Collins, L.M. (October, 2016). An introduction to the multiphase optimization strategy (MOST) for building more effective, efficient, economical, and sustainable preventive interventions. Workshop presented at the Seventh European Society for Prevention Research Members' Meeting, Berlin, Germany.
- Collins, L.M., & Almirall, D. (September, 2016). Training on optimization of behavioral and biobehavioral interventions. Workshop sponsored by the National Institutes of Health Office of Behavioral and Social Science Research, National Cancer Institute Building, Gaithersburg, MD.
- Collins, L.M. (May, 2016). Optimization of behavioral and biobehavioral interventions. Workshop sponsored by the National Institutes of Health Office of Behavioral and Social Science Research, Bethesda, MD.
- Collins, L.M. (May, 2016). Introduction to the multiphase optimization strategy (MOST) for building more effective, efficient, economical, and scalable behavioral and biobehavioral interventions. Workshop presented at the International Behavioural Trials Network, Montreal, Canada.

- Collins, L.M. (March, 2016). Introduction to the multiphase optimization strategy (MOST). Preconference workshop presented at the Annual Meeting of the Society of Behavioral Medicine, Washington, DC.
- Collins, L.M. (December, 2015). Introduction to the multiphase optimization strategy (MOST). Workshop presented at the Annual Principal Investigators' Meeting, Institute of Educational Sciences, Washington, DC.
- Collins, L.M. (December, 2015). Introduction to the multiphase optimization strategy (MOST). Workshop presented at A Taste of Methodology, Penn State, University Park, PA.
- Collins, L.M. (November, 2015). This year you will write your first grant proposal. Presented at the College of Health and Human Development, Penn State, University Park, PA.
- Collins, L.M. (September, 2015). Workshop on the multiphase optimization strategy (MOST). Presented at Ulster University, Belfast, Ireland.
- Collins, L.M. (October, 2014). Optimising behavioural interventions. Wolfson mind brain behaviour cluster workshop. Presented at Oxford University, Oxford, United Kingdom.
- Collins, L.M. (October, 2014). Optimising behavioural interventions – The MOST model and understanding effective prevention programme components. Preconference workshop at the European Society for Prevention Research, Palma de Majorca, Majorca, Spain.
- Collins, L.M. (July, 2013). The Multiphase Optimization Strategy (MOST). Workshop presented at University College, London, United Kingdom.
- Collins, L.M. (July, 2013). The Multiphase Optimization Strategy (MOST). Workshop presented at the University of Exeter, Exeter, United Kingdom.
- Collins, L.M. (June, 2013). The Multiphase Optimization Strategy (MOST). Workshop presented at the MD Anderson Cancer Center, University of Texas, Houston, TX.
- Collins, L.M. (May, 2012). Introduction to the multiphase optimization strategy (MOST). Workshop presented at A Taste of Methodology, Penn State, University Park, PA.
- Collins, L.M. (September, 2011). The multiphase optimization strategy (MOST). Workshop presented at The Methodology Center Summer Institute, Penn State, University Park, PA.
- Collins, L.M., Lanza, S.T., & Bray, B.C. (October, 2008). Workshop on latent class and latent transition analysis. Presented at the Center for Drug Abuse Research Translation, University of Kentucky, Lexington, KY.
- Collins, L.M., Lanza, S.T., & Bray, B.C. (September, 2008). Masterclass: Latent class analysis for cross-sectional and longitudinal data. Workshop presented at the Department of Mathematics and Statistics Postgraduate Statistics Centre of Lancaster University and the Economic and Social Research Council National Centre for Research Methods, Lancaster, United Kingdom
- Collins, L.M., Lanza, S.T., & Bray, B.C. (February, 2007). Workshop on latent class and latent transition analysis. Presented at the University of Cologne, Cologne, Germany.

**Invited Presentations**

- Collins, L.M. (February, 2017). An introduction to the multiphase optimization strategy (MOST). Presented at the Centre for Evidence-Based Intervention, University of Oxford, Oxford, England.
- Collins, L.M. (January, 2017). An introduction to the multiphase optimization strategy (MOST). Presented at the Bench to Bedside and Beyond (B3) Seminar Series, Penn State Clinical and Translational Science Institute, Penn State, University Park, PA
- Collins, L.M. (September, 2016). The multiphase optimization strategy (MOST) for developing more effective, efficient, economical, and scalable behavioral and biobehavioral interventions. Presented at the Research Methodology Center, Ohio State University, Columbus, OH.
- Collins, L.M. (April, 2016). Toward more effective, efficient, economical, and scalable behavioral and biobehavioral interventions. Presented at the Fred Hutchinson Cancer Center, Seattle, WA.
- Collins, L.M. (March, 2016). A brief introduction to the multiphase optimization strategy (MOST) for developing behavioral and biobehavioral interventions. Presented at Wake Forest School of Medicine, Winston-Salem, NC.
- Collins, L.M. (November, 2015). A culture of innovation in design and analysis: The Methodology Center. Presented at the Division of Epidemiology, Prevention, and Services Research Seminar, National Institute on Drug Abuse, Bethesda, MD.
- Collins, L.M. (October, 2015). Optimizing interventions for family health. Keynote address at the Council for Advancement of Academic Nursing, Washington, DC.
- Collins, L.M. (December, 2014). Introduction to the Multiphase Optimization Strategy (MOST). Presented at the Institute of Educational Sciences, Washington, DC.
- Collins, L.M. (September, 2014). Testing program components using the multiphase optimization strategy (MOST). Presented at What Works, Under What Circumstances, and How? Methods for Unpacking the “Black Box” of Programs and Policies, Washington, DC.
- Collins, L.M. (June, 2014). Unpacking the black box: Engineering behavioral interventions using the multiphase optimization strategy (MOST). Presented at Grand Rounds, HIV Center for Clinical and Behavioral Studies, Columbia University, NY, NY.
- Collins, L.M. (June, 2014). Unpacking the black box: Engineering behavioral interventions using the multiphase optimization strategy (MOST). Presented at the Department of Population Health, Langone Medical Center, New York University, NY, NY.
- Collins, L.M. (April, 2014). A very brief introduction to the multiphase optimization strategy (MOST). Presented at the College of Family and Consumer Sciences, University of Georgia, Athens, GA.
- Collins, L.M. (March, 2014). Reducing smoking deaths: Is it rocket science? Presented at TEDxPSU, University Park, PA.
- Collins, L.M. (December, 2013). Unpacking the black box: Engineering more potent behavioral interventions using the multiphase optimization strategy (MOST). Presented at Department of Public Health Sciences Grand Rounds, University of Miami, Miami, FL.

- Collins, L.M. (November, 2013). Unpacking the black box: Engineering more potent behavioral interventions using the Multiphase Optimization Strategy (MOST). Presented at the European Society for Prevention Research conference, Paris, France.
- Collins, L.M. (November, 2013). Raising the bar: Engineering optimized behavioral interventions for increased public health impact. Presented at Presented at the *Workshop on the Prevention of Obesity in Infancy and Early Childhood*, Bethesda, MD.
- Collins, L.M. (October, 2013). A brief introduction to optimization of adaptive behavioral interventions: MOST and SMART. Presented at the EARLY Adaptive Intervention Webinar.
- Collins, L.M. (September, 2013). Dynamic interventions: Opportunities and challenges. Presented at *Big D.A.T.A. (Data And Theory Advancement) Workshop*, Bethesda, MD.
- Collins, L.M. (September, 2013). Introduction to the Multiphase Optimization Strategy (MOST). Presented at *The Future of HIV Prevention and Treatment: Integrating Innovative Methods with Intervention Science*, Bethesda, MD.
- Collins, L.M. (September, 2013). How optimizing behavioral interventions will help advance the national HIV/AIDS strategy. Presented at *The Future of HIV Prevention and Treatment: Integrating Innovative Methods with Intervention Science*, Bethesda, MD.
- Collins, L.M. (June, 2013). Unpacking the black box: Engineering more potent behavioral interventions using the Multiphase Optimization Strategy (MOST). Presented at the MD Anderson Cancer Center, University of Texas, Houston, TX.
- Collins, L.M. (June, 2013). The Multiphase Optimization Strategy (MOST) for building more efficient and effective behavioral interventions. Presented at the Osher Center for Integrative Medicine, University of California, San Francisco, CA.
- Collins, L.M. (May, 2013). Optimizing behavioral interventions: An integration of methodological perspectives from the behavioral and engineering sciences. Presented at the Modern Modeling Methods Conference, University of Connecticut, Storrs, CT.
- Collins, L.M., Nahum-Shani, I., & Almirall, D. (April, 2013). SMART: An integral part of the Multiphase Optimization Strategy (MOST). Presented at the 6<sup>th</sup> Annual Conference on Statistical Issues in Clinical Trials, University of Pennsylvania, Philadelphia, PA.
- Collins, L.M. (March, 2013). Raising the bar: Engineering optimized behavioral interventions for increased public health impact. Presented at the Mind the Gap lecture series, National Institutes of Health, Bethesda, MD.
- Collins, L.M. (January, 2013). Unpacking the black box: Engineering more potent behavioral interventions using the Multiphase Optimization Strategy (MOST). Presented at the BSRF Journal Club Series, University of Kentucky, Lexington, KY.
- Collins, L.M. (December, 2012). Improving intervention design and development: The Multiphase Optimization Strategy (MOST). Presented at Physical Activity and Disease Prevention: Identifying Research Priorities, Office of Disease Prevention, National Institutes of Health, Bethesda, MD.

- Collins, L.M. (December, 2012). Unpacking the black box: The Multiphase Optimization Strategy (MOST) for building more potent behavioral interventions. Presented at the Wednesday Workshop Series, Institute for Public Health and Medicine, Feinberg School of Medicine, Northwestern University, Chicago, IL.
- Collins, L.M. (October, 2012). Unpacking the black box: Engineering more potent preventive interventions using the Multiphase Optimization Strategy (MOST). Presented at the Division of Epidemiology, Services, and Prevention Research, National Institute on Drug Abuse, Bethesda, MD.
- Collins, L.M. (October, 2012). Optimizing family intervention programs: The Multiphase Optimization Strategy. Presented at the 20<sup>th</sup> Annual Symposium on Family Issues, Penn State.
- Collins, L.M., Caldwell, L.L., Smith, E.A., Graham, J.W., Lai, M., Wegner, L., Vergnani, T., Matthews, C., & Jacobs, J. (September, 2012). Implementation fidelity in a drug abuse and HIV prevention program in South Africa: Taking an experimental approach to establish what works. Presented at the International Congress of Behavioral Medicine, Budapest, Hungary.
- Collins, L.M., Dziak, J.J., & Nahum-Shani, I. (July, 2012). Fractional factorial experiments and cluster randomization: An integration of engineering research methods and educational research methods. Presented at the Institute of Mathematical Statistics Asia-Pacific Rim Meeting, Tskuba, Japan.
- Collins, L.M. (July, 2012). Integrating ideas from statistics and engineering into behavioral intervention science. Presented at the Guanghua School of Management, Peking University, Beijing, China.
- Collins, L.M. (June, 2012). The Multiphase Optimization Strategy (MOST) for engineering better behavioral and educational interventions. Presented at the Institute for Policy Research, Northwestern University, Evanston, IL.
- Collins, L.M. (March, 2012). The Multiphase Optimization Strategy (MOST) for engineering better behavioral interventions. Presented at MDRC, New York, NY.
- Collins, L.M. (March, 2012). Unpacking the black box: Engineering more potent behavioral interventions to improve public health. Annual Pattishall Lecture. Presented at the College of Health and Human Development, Penn State, University Park, PA.
- Collins, L.M. (December, 2011). The Multiphase Optimization Strategy (MOST) for engineering better behavioral interventions. Presented at the Center for Technology and Behavioral Health, Dartmouth Psychiatric Research Center, Dartmouth University.
- Collins, L.M. (November, 2011). The Multiphase Optimization Strategy (MOST) for engineering better behavioral interventions. Presented at the School of Social Work, Columbia University, New York, NY.
- Collins, L.M. (October, 2011). Building more efficient and effective behavioral interventions. Presented at Psychiatry Grand Rounds, Memorial-Sloan Kettering Cancer Center, New York, NY.
- Collins, L.M. (August, 2011). The Multiphase Optimization Strategy (MOST): Building highly efficacious, effective, and efficient interventions to improve minority health. Presented at the National Hispanic Science Network Meeting, Miami, FL.



- Collins, L.M. (August, 2011). Study design II: Introduction. Presented at the mHealth Evidence Workshop, Bethesda, MD.
- Collins, L.M. (June, 2011). Prevention in the 21st Century: Adapting engineering optimization strategies to create leaner, meaner, better interventions. Presidential Address at the Annual Meeting of the Society for Prevention Research, Washington, DC.
- Collins, L.M., Dziak, J.J., & Nahum-Shani, I. (April, 2011). Factorial experimental designs in multilevel situations. Presented at the Annual Meeting of the Society of Behavioral Medicine, Washington, DC.
- Collins, L.M. (April, 2011). Efficient designs for examining the effects of individual intervention components. Presented at *From Discovery to Public Health Impact: New Approaches to Developing, Testing & Optimizing Behavioral Interventions*, a preconference workshop at the Annual Meeting of the Society of Behavioral Medicine, Washington, DC.
- Collins, L.M. (February, 2011). Blending psychology and engineering to build better behavioral interventions. Presented at Psychology: Transforming Science and Practice (50th Anniversary Celebration for URI Department of Psychology). University of Rhode Island, Kingston, RI.
- Collins, L.M. (January, 2011). The Multiphase Optimization Strategy (MOST) for engineering better behavioral interventions. Presented at the Department of Preventive Medicine, Northwestern University Medical School, Chicago, IL.
- Collins, L.M. (December, 2010). Efficient experimental designs for examining the effects of individual intervention components. Presented at Translating Ideas into Interventions: The Process of Developing Behavioral Interventions. Bethesda, MD.
- Collins, L.M. (October, 2010). The Multiphase Optimization Strategy (MOST) for building behavioral interventions. Presented at Online Social Networks and Smoking Cessation: Strategic Research Opportunities, Washington, DC.
- Collins, L.M. (August, 2010). Behavioral interventions should first test individual components and then evolve to integrated interventions (debate format). Presented at Controversies in Clinical Trials, a preconference symposium held at the International Congress of Behavioral Medicine, Washington, DC.
- Collins, L.M. (June, 2010). The Multiphase Optimization Strategy (MOST) for Building Optimized Behavioral Interventions. Presented at Behavioral Intervention Optimization: Capitalizing on Engineering, Computer Science, and Technology, Bethesda, MD.
- Collins, L.M. (June, 2010). Building better behavioral interventions: The Multiphase Optimization Strategy (MOST). Presented at Albert Einstein College of Medicine, New York, NY.
- Collins, L.M. (April, 2010). Engineering better behavioral interventions. Presented at the Department of Public Health Education, University of North Carolina, Greensboro, NC.
- Collins, L.M. (March, 2010). Building better behavioral interventions: Engineering-inspired approaches. Presented at the Center for Behavioral and Preventive Medicine, Brown University, Providence, RI.

- Collins, L.M. (February, 2010). Building better multicomponent interventions for prevention and treatment of disease. Presented at the Center for Infectious Disease Dynamics, The Pennsylvania State University, University Park, PA.
- Collins, L.M., Coffman, D.L., Lanza, S.T., Li, R., Murphy, S.A. (October, 2009). The Penn State Methodology Center: Bringing the power of innovative methods to bear on drug abuse. Presented at the Division of Epidemiology, Services, and Prevention Research Seminar, National Institute on Drug Abuse, Bethesda, MD.
- Collins, L.M. (October, 2009). Reflections on methodology. Presented at Facilitating Interdisciplinary Research: Methodological and Technological Innovation in the Behavioral and Social Sciences, Bethesda, MD.
- Collins, L.M. (March, 2009). Building better behavioral interventions: Engineering-inspired approaches. Presented at the Department of Family Studies, Miami University of Ohio, Oxford, OH.
- Collins, L.M. (March, 2009). Building better behavioral interventions: Engineering-inspired approaches. Presented at the Department of Psychology, Arizona State University, Tempe, AZ.
- Collins, L.M. (October, 2008). The optimization cycle approach to building better behavioral interventions. Presented at the Department of Psychiatry, University of Cincinnati, Cincinnati, OH.
- Collins, L.M. (October, 2008). The optimization cycle approach to building better behavioral interventions. Presented at the Institute of Applied Health Sciences, College of Life Sciences and Medicine, University of Aberdeen, Aberdeen, Scotland.
- Collins, L.M. (September, 2008). The optimization cycle approach to building better behavioral interventions. Presented at the Center for Tobacco Research and Intervention, Department of Psychiatry, University of Wisconsin, Madison, WI.
- Collins, L.M. (June, 2008). Building more efficacious and effective behavioral interventions using the optimization cycle approach. Presented at the National Institutes of Health Summer Institute on Randomized Clinical Trials, Airlie, VA.
- Collins, L.M. (April, 2008). The optimization cycle approach to building better behavioral interventions. Presented at Department of Psychiatry, Yale University, West Haven, CT.
- Collins, L.M. (March, 2008). Building more efficacious and effective behavioral interventions: One view of the future of intervention development. Keynote address presented at the Annual Meeting of the Society of Behavioral Medicine, San Diego, CA.
- Collins, L.M. (March, 2008). Building better behavioral interventions: One view of the future of intervention development. Presented at New York University, New York, NY.
- Collins, L.M. (February, 2008). Building more efficacious and effective behavioral interventions. Presented at the Cancer Prevention Research Center, University of Rhode Island, Kingston, RI.
- Collins, L.M. (February, 2008). Building more efficacious and effective behavioral interventions: One view of the future of intervention development. Presented at the Yale Child Study Center, Yale University, New Haven, CT.

- Collins, L.M. (November, 2007). New strategies for building more potent behavioral interventions. Presented at the Carolina Consortium on Human Development, University of North Carolina, Chapel Hill, NC.
- Collins, L.M. (October, 2007). Building more potent interventions to prevent drug abuse: Some new directions. Presented at Le Colloque International Toxicomanies Hépatites Sida (THS) 8, Biarritz, France.
- Collins, L.M. (October, 2007). Methodology for empirical research in obesity: Issues and new directions. Presented at Beyond Individual Behavior: Multidimensional Research in Obesity Linking Biology to Society, Arlington, VA.
- Collins, L.M. (August, 2007). The obesity prevention/treatment field's stake in innovative methodological research. Presented at the Working Group on Future Research Directions in Childhood Obesity Prevention and Treatment, Bethesda, MD.
- Collins, L.M. (April, 2007). Introduction to the Multiphase Optimization Strategy (MOST): An empirical framework for increasing the effects of evidence-based behavioral medicine. Presented at the Penn State Diabetes Center Research Retreat, Penn State, University Park, PA.
- Collins, L.M. (April, 2007). New approaches for building and evaluating behavioral interventions. Presented at the Center for Excellence in Cancer Communication Research, University of Pennsylvania, Philadelphia, PA.
- Collins, L.M. (March, 2007). New strategies for building more potent behavioral interventions. Presented at the Annual Meeting of the American Academy of Health Behavior, Savannah, Georgia.
- Collins, L.M. (March, 2007). New strategies for building and evaluating behavioral interventions. Presented at Deakin University, Melbourne, Australia.
- Collins, L.M. (March, 2007). The Multiphase Optimization Strategy (MOST) for building and evaluating behavioral interventions. Presented at the Clinical Epidemiology and Biostatistics Unit, University of Melbourne, Melbourne, Australia.
- Collins, L.M. (December, 2006). The Multiphase Optimization Strategy for empirical intervention development. Presented at the Department of Psychology, University of Hong Kong.
- Collins, L.M. (October, 2006). The Multiphase Optimization Strategy for empirical development of behavioral interventions. Presented at the Department of Biobehavioral Health, Penn State University, University Park, PA.
- Collins, L.M. (October, 2006). A multi-phase approach for building, optimizing, and evaluating behavioral interventions. Presented at the Department of Public Health, Oregon State University, Corvallis, OR.
- Collins, L.M. (September, 2006). The Multiphase Optimization Strategy for building and evaluating behavioral interventions. Presented at the Center for Injury Research and Prevention, Children's Hospital, University of Pennsylvania, Philadelphia, PA.

- Collins, L.M. (August, 2006). Analysis of longitudinal data: The integration of theoretical model, temporal design, and statistical model. Presented at the CALDAR Summer Institute, Los Angeles, CA.
- Collins, L.M. (August, 2006). Overview of methodological challenges in prevention and treatment research. Presented at the Office of Behavioral and Social Science Research Methodology and Technology Summit, Bethesda, MD.
- Collins, L.M. (June, 2006). The Multiphase Optimization Strategy for building and evaluating adaptive interventions. Presented at the New Clinical Drug Evaluation Unit (NCDEU) Meeting, Boca Raton, FL.
- Collins, L.M. & Lanza, S.T. (June, 2006). Introduction to latent class and latent transition analysis. Presented at the International Developmental Sciences Institute, Penn State, University Park, PA.
- Collins, L.M. (December, 2005). The Multiphase Optimization Strategy (MOST) for optimizing and evaluating behavioral interventions. Presented at the School of Public Health, University of North Carolina, Chapel Hill, NC.
- Collins, L.M. (November, 2005). Methodological research in an interdisciplinary context. Presented at the University of South Carolina, Columbia, SC.
- Collins, L.M. (October, 2005). The Multiphase Optimization Strategy (MOST): An extension of randomized clinical trials. Presented at the Statistics Department Colloquium Series, Penn State, University Park, PA.
- Collins, L.M. (August, 2005). Introduction to methodological research at Penn State. Presented at the University of the Western Cape, Cape Town, South Africa.
- Collins, L.M. (June, 2005). Developing and evaluating behavioral interventions using MOST. Presented at the Annual Meetings of the College on Problems of Drug Dependence, Orlando, FL.
- Collins, L.M. (June, 2005). eIntervention Science: Looking inside the black box with the Multiphase Optimization Strategy (MOST). Keynote address at the Critical Issues in eHealth Conference, Bethesda, MD.
- Collins, L.M. (April, 2005). The Multiphase Optimization Strategy (MOST) for development and evaluation of behavioral interventions. Presented at the University of Michigan, Ann Arbor, MI.
- Collins, L.M. (April, 2005). Introduction to latent transition analysis (LTA). Presented at Case Western Reserve University, Cleveland, OH.
- Collins, L.M. (February, 2005). The Multiphase Optimization Strategy (MOST) for behavioral intervention development. Presented at the University of Pennsylvania, Philadelphia, PA.
- Collins, L.M. (February, 2005). The Multiphase Optimization Strategy (MOST). Presented at Rutgers University, New Brunswick, NJ.
- Collins, L.M. (December, 2004). Methodological considerations in longitudinal behavioral research. Presented at the EXPORT conference, University of Puerto Rico, San Juan, PR.

- Collins, L.M. (November, 2004). The Multiphase Optimization Strategy (MOST) for drug abuse prevention and treatment research. Presented at National Development and Research Institute, New York, NY.
- Collins, L.M., Flaherty, B.P., & Tang, Z. (July, 2004). Associative latent transition analysis (ALTA). Presented at the biennial meetings of the Society of Multivariate Analysis in the Behavioral Sciences, Jena, Germany.
- Collins, L.M. (June, 2004). The Multiphase Optimization Strategy (MOST). Presented at the University of Puerto Rico Medical School, San Juan, PR.
- Flay, B.R., & Collins, L.M. (December, 2003). School-based risk reduction trials: Some methodological considerations. Presented at the Campbell Place Based Briefing Conference, Rockefeller Foundation, New York, NY.
- Collins, L.M. (June 2003). Latent transition analysis for analyzing stage development. Presented at the Annual Developmental Sciences Institute, Uppsala, Sweden.
- Collins, L.M. (October, 2002). Latent transition analysis: Some new results using data augmentation. Presented at the RAND Corporation, Santa Monica, CA.
- Collins, L.M., Tang, Z., & Flaherty, B.P. (August, 2002). Two-sequence latent transition models. Presented at the Joint Statistical Meetings, New York, NY.
- Collins, L.M. (August, 2001). Latent Transition Analysis: Some new results using data augmentation. Presented at the American Psychological Association Convention, San Francisco, CA.
- Collins, L.M. (August, 2001). Latent Transition Analysis. Presented at the Department of Psychology, Pontificia Universidad Católica de Chile.
- Collins, L.M. (August, 2001). Methodological considerations in longitudinal research. Presented at the Interamerican Congress of Psychology, Santiago, Chile. (Keynote address)
- Collins, L.M. (April, 2001). Important methodological issues in biomedical research. Presented at the School of Social Work Trainees' Seminar, University of Washington.
- Collins, L.M., Schafer, J.L., Lanza, S., & Flaherty, B.P. (April, 2001). Latent transition analysis: Some new results using data augmentation. Presented at the Social Work Colloquium Series, University of Washington.
- Collins, L.M. (January, 2001). Important methodological issues in biomedical research. Presented at the Psychology Department, University of Miami.
- Collins, L.M., Schafer, J.L., Lanza, S., & Flaherty, B.P. (January, 2001). Latent transition analysis: Some new results using data augmentation. Presented at the Quantitative Methods and Measurement Colloquium Series, University of California, Santa Barbara.
- Collins, L.M. (November, 2000). Important methodological issues in drug abuse research. Presented at the Addictions Research Center, University of Pennsylvania.
- Collins, L.M. (April, 2000). A new look at mediation. Presented at the Organizational Psychology Colloquium Series, Department of Psychology, Penn State.

- Collins, L.M. (March, 2000). An introduction to latent class and latent transition analysis with WinLTA (1 day workshop). Presented at the University of Houston, Houston, TX.
- Collins, L.M., Hyatt, S.L., & Flaherty, B.P. (October, 1999). Latent transition analysis: A method for estimating and testing stage-sequential models in longitudinal contingency tables. Presented at Measuring Change in Complex Social Systems: Best Practices and State-of-the-Art Developments for Measuring Change in Organizations, College Park, MD.
- Collins, L.M. (July, 1999). Testing latent class and latent transition models with WinLTA (One-day workshop). Presented at the Psychology Department at Ege University, Izmir, Turkey.
- Collins, L.M. (October, 1998). Measurement reliability for static and dynamic categorical latent variables. Presented at New Methods for the Analysis of Change, State College, PA.
- Collins, L.M. (June, 1998). Using latent transition analysis to examine the gateway hypothesis. Presented at Stages and Pathways of Involvement in Drug Use: Examining the Gateway Hypothesis, Los Angeles, CA.
- Collins, L.M. (May, 1998). Using latent transition analysis in developmental work. Presented at the Developmental Science Institute, Chapel Hill, NC.
- Collins, L.M. (May, 1998). An introduction to latent transition analysis with WinLTA (1 and ½ day workshop). Presented at Summer Institute on Longitudinal Methods, State College, PA.
- Collins, L.M. (April, 1998). Latent transition analysis. Presented at the Centers for Disease Control, Atlanta, GA.
- Collins, L.M. (February, 1998). A practical introduction to using latent transition analysis in developmental research. Presented at the Biennial Meetings of the Society for Research on Adolescence, San Diego, CA.
- Collins, L.M., Hyatt, S.L., & Graham, J.W. (February, 1998). Perceived parental permissiveness as a risk factor for substance use onset: An example of Latent Transition Analysis. Presented at the Population Research Institute, Pennsylvania State University.
- Collins, L.M., Hyatt, S.L., & Graham, J.W. (February, 1998). Perceived parental permissiveness as a risk factor for substance use onset: An example of Latent Transition Analysis. Presented at the Institute for Social Research, University of Michigan, Ann Arbor, MI.
- Collins, L.M. (December, 1997). Using Latent Transition Analysis to estimate and test stage-sequential models of development. Presented at the University of Wisconsin, Madison, WI.
- Collins, L.M. (October, 1997). Research-based prevention programming. Presented at Understanding Drug Abuse and Addiction: A Community Town Meeting. Philadelphia, PA.
- Collins, L.M., Graham, J.W., & Flaherty, B.R. (September, 1997). Mediation as intra-individual change. Presented at the 6<sup>th</sup> European Conference on Assessment, Lisbon, Portugal.
- Collins, L.M., Hyatt, S.L., & Graham, J.W. (July, 1997). LTA as a way of testing models of stage-sequential development in longitudinal data. Presented at the Conference on Developmental Methods, University of Nuremberg, Nuremberg, Germany.

- Collins, L.M., Hyatt, S.L., & Graham, J.W. (July, 1997). LTA as a way of testing models of stage-sequential development in longitudinal data. Presented at the University of Jena, Jena, Germany.
- Collins, L.M., Hyatt, S.L., & Graham, J.W. (June, 1997). LTA as a way of testing models of stage-sequential development in longitudinal data. Presented at Practical Approaches to Longitudinal and Multi-Group Data, Max Plank Institute for Human Development, Berlin, Germany.
- Collins, L.M. (June, 1997). Effective measurement methods and data analytic techniques for assessing change over time. Prevention Research Working Group Lunch Time Conversation Series, National Institute on Drug Abuse, Rockville, MD.
- Collins, L.M., & Flaherty, B.P. (April, 1997). Using latent transition analysis to analyze data from prevention trials. Presented at Design and Analysis of Prevention Trials for the Future, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD.
- Collins, L.M., Graham, J.W., & Rousculp, S.S. (March, 1997). An introduction to latent transition analysis. Presented at the Department of Biostatistics, Yale University, New Haven, CT.
- Collins, L.M., Graham, J.W., & Flaherty, B.R. (February, 1997). Using latent transition analysis to assess mediation: Back to basics. Presented at the Department of Psychology, New York University, New York, NY.
- Collins, L.M., Graham, J.W., & Flaherty, B.R. (November, 1996). Using latent transition analysis to assess mediation: Back to basics. Presented at the Thurstone Laboratory of Quantitative Psychology, University of North Carolina, Chapel Hill.
- Collins, L.M., Graham, J.W., & Flaherty, B.R. (October, 1996). Using latent transition analysis to assess mediation: Back to basics. Presented at the Annual Meetings of the Society of Multivariate Experimental Psychology, Evanston, IL. (Presidential address).
- Collins, L.M. (August, 1996). Latent transition analysis: Modeling stage-sequential development. Presented at the XIVth Biennial Meetings of the International Society for the Study of Behavioral Development, Quebec City, Canada.
- Collins, L.M. (May, 1996). Latent transition analysis and its applications in prevention research. Presented at the Prevention Methodology Conference, Phoenix, AZ.
- Collins, L.M. (May, 1996). Building program strength and accountability through research (expert panelist). Presented at Forging New Prevention Partnerships for Youth and Families, Metropolitan Washington Council of Governments, National Press Club, Washington, DC.
- Collins, L.M. (May, 1996). Latent transition analysis and its applications in developmental research. Presented at the University of Kansas, Lawrence, KS.
- Collins, L.M., & Shanahan, M.J. (January, 1996). Methodological issues in family-based prevention research. Presented at the National Institute on Drug Abuse Meetings on Family-Based Prevention, Gaithersburg, MD.

- Collins, L.M., & Tracy, A.J. (July, 1995). Identifiability and stability of complex latent transition models involving multiple occasions of measurement and second-order processes. Presented at the European Meetings of the Psychometric Society, Leiden, Holland.
- Collins, L.M., Graham, J.W., Rousculp, S.S., & Hansen, W.B. (December, 1994). Caffeine as a marker for early substance use onset: An illustration of latent transition analysis. Presented at the Department of Statistics, Pennsylvania State University, University Park, PA.
- Collins, L.M., Graham, J.W., Rousculp, S.S., & Hansen, W.B. (November, 1994). Caffeine as a marker for early substance use onset: An illustration of latent transition analysis. Presented at the Department of Mental Hygiene, Johns Hopkins University, Baltimore, MD.
- Collins, L.M. (August, 1994). Longitudinal research: Where we've been and where we're headed. Presented at the Annual Convention of the American Psychological Association, Los Angeles, CA.
- Collins, L.M. (June, 1994). Methodological issues in prevention research. Presented at the Annual Meetings of the Society for Prevention Research, Palm Beach, FL.
- Collins, L.M. (May, 1994). Methodology and prevention research: A symbiotic relationship. Presented at the NIDA Workshop for New Investigators, New York, NY.
- Collins, L.M., Graham, J.W., Rousculp, S.S., & Hansen, W.B. (February, 1994). Does caffeine play a role in early substance use onset? An illustration of latent transition analysis. Presented at the NIAAA Working Group on Quantitative Methods for Alcohol Abuse Prevention, Washington, D.C.
- Collins, L.M. (October, 1993). Measurement and analysis of dynamic latent variables in gerontology research. Presented at the School of Gerontology, University of Southern California, Los Angeles, CA.
- Collins, L.M., Fidler, P.L., & Wugalter, S.E. (May, 1993). Estimation in latent class and latent transition models: Conceptual and technical issues. Presented at the Conference on Categorical Variables in Developmental Research, The Pennsylvania State University, State College, PA.
- Collins, L.M. (April, 1993). Measurement and analysis of dynamic latent variables. Presented at the Department of Human Development and Family Studies, The Pennsylvania State University, State College, PA.
- Collins, L.M., & Johnston, M.V. (March, 1993). Measurement and analysis of change in psychiatry research. Presented at the annual meetings of the Association of Academic Psychiatrists, Albuquerque, NM.
- Collins, L.M. (March, 1993). Introduction to latent class and latent transition models. Presented at the Department of Psychology, Arizona State University, Tempe, AZ.
- Collins, L.M. (October, 1992). Cattell Award Address: Goodness-of-fit for sparse latent class models: problems and solutions. Presented at the Annual Meetings of the Society for Multivariate Experimental Psychology, Cape Cod, MA.



- Collins, L.M. (September, 1992). Some design, measurement, and analysis pitfalls in drug abuse prevention research and how to avoid them: Let your model be your guide. Presented at the National Institute on Drug Abuse (NIDA) Technical Review: Scientific Methods for Prevention Intervention Research.
- Collins, L.M. (September, 1992). Measurement and analysis of dynamic variables: Latent transition analysis. Presented at the National Institute on Drug Abuse (NIDA) Technical Review: Advances in Data Analysis for Prevention Intervention Research, Bethesda, MD.
- Collins, L.M. (May, 1992). Latent transition analysis: Models for categorical longitudinal data. Presented at the Department of Psychology, University of Rhode Island, Kingston, Rhode Island.
- Collins, L.M. (May, 1992). Latent transition analysis: Models for categorical longitudinal data. Presented at the Department of Statistics, University of California, Riverside.
- Collins, L.M. (June, 1991). Analyzing and understanding patterns of change: Where are we headed? Presented at the Assessment Forum of the American Association for Higher Education, San Francisco, CA.
- Collins, L.M. (March, 1992). Measurement issues in longitudinal research. Presented at the University of Southern California School of Social Work.
- Collins, L.M. (July, 1991). Measurement issues in longitudinal research. Presented at the Center for Health Studies, Group Health Cooperative of Puget Sound, Seattle, WA.
- Collins, L.M. (December, 1990). Measurement issues in longitudinal research. Presented at the Department of Psychology, California State University, Fullerton.
- Collins, L.M. (June, 1990). Measurement of individual growth: Applications to assessment. Presented at the Assessment Forum of the American Association for Higher Education, Washington, D.C.
- Collins, L.M. (May, 1986). Agreement between retrospective and concurrent reports. Presented at a conference on cognitive models and survey methods sponsored by the Social Science Research Council, at the Center for Advanced Study in the Behavioral Sciences, Stanford University, Palo Alto, California.
- Collins, L.M. (April, 1985). Recent developments in longitudinal measurement. Presented at the Department of Psychology, University of Rhode Island, Kingston, Rhode Island.

***Selected Conference Presentations***

- Collins, L.M. (June, 2015). Using the multiphase optimization strategy (MOST) to develop an effective and scalable weight loss intervention. Presented at the Annual Meeting of the International Society of Behavioral Nutrition and Physical Activity, Edinburgh, Scotland.
- Collins, L.M. (April, 2015). The multiphase optimization strategy (MOST): Toward more effective, efficient, and scalable behavioral interventions. Presented at the Annual Meeting of the Society of Behavioral Medicine, San Antonio, TX.
- Collins, L.M. (June, 2012). Introduction to the Multiphase Optimization Strategy (MOST). Presented at the Annual Meeting of the Society for Prevention Research, Washington, DC.

- Collins, L.M. (April, 2012). Workshop on the Multiphase Optimization Strategy. Presented at the Annual Meeting of the Society of Behavioral Medicine, New Orleans, LA.
- Collins, L.M. (April, 2011). Seminar on the Multiphase Optimization Strategy. Presented at the Annual Meeting of the Society of Behavioral Medicine, Washington, DC.
- Collins, L.M. (December, 2006). An empirical framework for increasing the effectiveness of evidence-based behavioral interventions. Presented at the Asia Pacific Evidence-Based Medicine conference, Hong Kong.
- Collins, L.M. (May, 2006). Fractional factorial designs for intervention research. Presented at the annual meeting of the Society for Prevention Research, San Antonio, TX.
- Collins, L.M. (March, 2006). The Multiphase Optimization Strategy for building, optimizing, and evaluating behavioral interventions. Presented at the Joint Meeting on Adolescent Treatment Effectiveness, Baltimore, MD.
- Collins, L.M., Murphy, S.A., & Nair, V.N. (February, 2004). Using sequential experimentation to develop multi-component interventions. Presented at the Prevention Research Center Colloquium Series, Penn State.
- Collins, L.M., Murphy, S.A., & Nair, V. (June, 2003). Sequential experimentation: Some ideas from engineering useful in prevention science. Presented at the Annual Meetings of the Society for Prevention Research, Washington, DC.
- Collins, L.M. (October, 2002). Two-sequence latent transition analysis. Presented at the Society for Multivariate Experimental Psychology meetings, Charlottesville, VA.
- Collins, L.M., Schafer, J.L., Hyatt, S.L., & Flaherty, B.P. (July, 2000). A demonstration of WinLTA. Presented at the biennial meetings of the Society for Multivariate Applications in the Behavioral Sciences, London, England.
- Collins, L.M., Schafer, J.L., Graham, J.W., & Kam, C.-M. (July, 2000). A comparison of FIML and MI approaches to missing data: Why bother with multiple imputation? Presented at the biennial meetings of the Society for Multivariate Applications in the Behavioral Sciences, London, England.
- Collins, L.M., Schafer, J.L., Hyatt, S.L., & Flaherty, B.P. (July, 1999). Using data augmentation in latent class models for longitudinal data: Estimation, standard errors and hypothesis tests involving combinations of parameters. Presented at the European Meetings of the Psychometric Society, Lueneberg, Germany.
- Collins, L.M., Hyatt, S.L., Flaherty, B.F., Schafer, J.L., & Hames, K. (June, 1999). A demonstration of WinLTA 2.0. Presented at the Annual Meetings of the Society for Prevention Research, New Orleans, LA.
- Collins, L.M. (October, 1997). A demonstration of WinLTA. Presented at the Annual Meetings of the Society for Multivariate Experimental Psychology, Scottsdale, AZ.
- Collins, L.M. (May, 1997). New developments in the LTA software. Presented at the Annual Meetings of the Society for Prevention Research, Baltimore, MD.

- Collins, L.M. (June, 1996). Methodological considerations in longitudinal research. Presented at the Annual Meetings of the Society for Prevention Research, San Juan, Puerto Rico.
- Collins, L.M., Fidler, P.L., & Wugalter, S.E. (October, 1993). Parameter estimation in latent class models with sparse data. Presented at the Annual Meetings of the Society for Multivariate Experimental Psychology, San Pedro, California.
- Collins, L.M. (August, 1993). Measurement in longitudinal research: Trying to hit a moving target. Presented at the Annual Convention of the American Psychological Association, Toronto, Ontario, Canada.
- Collins, L.M. (October, 1991). A general axiomatic measurement model for longitudinal developmental data. Presented at the Annual Meeting of the Society for Multivariate Experimental Psychology, Albuquerque, New Mexico; a revised version presented at the Annual Meeting of the American Psychological Society, June 1992.
- Collins, L.M., Graham, J.W., Pan, J., Wugalter, S.E., & Hansen, W.B. (July, 1991). Crossvalidation of latent class models and of group differences. Presented at the European Meetings of the Psychometric Society, Trier, Germany.
- Collins, L.M., Chung, N.K., & Wugalter, S.E. (July, 1990). Two applications of latent path theory. Presented at the annual meetings of the Psychometric Society, Princeton, N.J.
- Collins, L.M. (October, 1989). Measurement in the context of longitudinal research. Presented at Best Methods for the Analysis of Change, Los Angeles, California.
- Collins, L.M., Chung, N.-K., & Wugalter, S.E. (July, 1989). Recent developments in latent Markov models. Presented at the annual meetings of the Psychometric Society, Los Angeles, CA.
- Collins, L.M., & McGuigan, K.A. (November, 1988). Assessing dependency among observations. Presented at the meetings of the Society for Multivariate Experimental Psychology, Charlottesville, Virginia.
- Collins, L.M. (August, 1988). Latent path theory: Measuring qualitative dynamic constructs. Presented at World Congress of Psychology, Sydney, Australia.
- Collins, L.M. (June, 1988). Latent path theory. Presented at the meetings of the Psychometric Society, Los Angeles, California.
- Collins, L.M. (October, 1987). Dynamic constructs and their measurement. Presented at the meetings of the Society for Multivariate Experimental Psychology, Vancouver, British Columbia, Canada.
- Collins, L.M., Graham, J.W., & McGuigan, K.A. (June, 1987). An adjustment to the ANOVA when subjects must be assigned to treatment in intact groups. Presented at the meetings of the Psychometric Society, Montreal, Quebec, Canada.
- Collins, L.M., Dent, C.W., & Cliff, N. (June, 1986). LGSCLUS: An exploratory procedure for finding longitudinal Guttman scales. Presented at the annual meetings of the Psychometric Society, Toronto, Ontario, Canada.