
BIOGRAPHICAL SKETCH

NAME: de la Haye, Kayla

eRA COMMONS USER NAME: kayladelahaye

POSITION TITLE: Assistant Professor of Preventive Medicine

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Adelaide, Adelaide, Australia	B.A.	11/2004	Psychology/ Anthropology
University of Adelaide, Adelaide, Australia	BHSc (Hons)	11/2006	Psychology
University of Adelaide, Adelaide, Australia	Ph.D.	04/2011	Health psychology

A. Personal Statement

Commencing in my Ph.D. program, and during the past seven years of my research career (as a Behavioral / Social Scientist at the RAND Corporation, and now as Assistant Professor of Preventive Medicine at the University of Southern California), I have developed an innovative and rigorous program of research that merges health behavioral theory, social psychology, social network analysis, and systems science, to generate new understandings of how social systems impact human health. The most interesting findings emerging from my research to date show that social networks and health behaviors evolve in mutually dependent ways: social selection based on similarities in demographics and behaviors create social groupings with particular social and behavioral norms, and these social groups subsequently shape and reinforce behavior in ways that have profound impacts on health and wellbeing. My research is therefore strongly focused on the “person in complex systems” and advancing the integration of health behavior theory, systems science, and health promotion; a unique perspective that is central to the proposed research. My expertise is in social influences on health behaviors; in particular those related to obesity and risk behaviors in youth and families, and the application of social network analysis to understand and intervene on social processes. Over the past two years I have increased my focus on developing interventions that integrate knowledge of social influence and social system dynamics for effective chronic disease prevention. Some of this work has been in partnership with community-based home visitation programs, capitalizing on an existing service infrastructure that holds great promise in preventing childhood obesity by holistically targeting multiple risk factors in the social-ecological systems of low-income, at-risk children and their families. My academic background is in social and health psychology, with specific training in social network analysis. I am actively involved in the social network science community, and keep abreast of important advances in these methods.

Key publications:

1. Hunter, R. F., **de la Haye, K.**, Badham, J., Valente, T., Clarke, M., & Kee, F. Social network interventions for health behaviour change: a systematic review. *The Lancet*. 2017; 390, S47.
2. **de la Haye, K.**, Dijkstra, J.K., Lubbers, M.J., van Rijsewijk, L., Stolk, R. The dual role of friendship and antipathy relations in the marginalization of overweight children in their peer networks: The TRAILS Study. *PLOS One*. 2017; 12(6), e0178130.
3. **de la Haye, K.** RE: ‘Are network-based interventions a useful antiobesity strategy?’. *American Journal of Epidemiology*. 2013; 178(5), 837-838.
4. **de la Haye, K.**, Robins, G., Mohr, P., & Wilson, C. Obesity-related behaviors in adolescent friendship networks. *Social Networks*. 2010; 32(3), 161-167.

B. Positions and Honors

Employment

2005-2007 Research Assistant, New Focus Research, Adelaide, SA, Australia
2007-2008 Tutor, School of Psychology, University of Adelaide, Adelaide, SA, Australia
2007-2009 Research Assistant, CSIRO Food & Nutritional Sciences, Adelaide, SA, Australia
2009-2010 Research Assistant, School of Medicine, Flinders University, Adelaide, SA, Australia
2010-2014 Associate Behavioral/Social Scientist, RAND Corporation, Santa Monica, CA
2014-present Assistant Professor of Preventive Medicine, Keck School of Medicine, University of Southern California, Los Angeles, CA

Other Experience and Professional Memberships

2004-present Member, Golden Key International Honor Society
2008-present Member, International Network for Social Network Analysis
2011-present Member, APA Division 38, Health Psychology
2013-present Member, American Academy of Health Behavior
2016-present Member, Board of Directors, International Network for Social Network Analysis

Honors

2007 Australian Postgraduate Award, Australian Government
2007 CSIRO Preventative Health Flagship Scholarship, Australia's Commonwealth Scientific and Industrial Research Organisation
2011 University of Adelaide Doctoral Research Medal
2011 Franz Dalziel Prize for Thesis in Psychology, School of Psychology, University of Adelaide
2011 Australian Psychological Society Award for Excellent Higher Degree Thesis in Health Psychology 2011
2013 Brook Scholar Award (Top young health scholar), RAND Corporation

C. Contributions to Science

1. Social network dynamics and obesity. I have carried out independent, school-based research on the spread of obesity in adolescent peer networks. This work applied social-psychological theory, and recent advances in social network methods, to test competing hypotheses proposed to explain the clustering of obesity in social networks. We produced innovative findings that peer network effects on obesity-related behaviors (including diet and physical activity) are important mechanisms underpinning this phenomenon. The findings also highlighted how weight-based stigma and the marginalization of overweight youth by their peers results in similarities in weight status among friends and thus the clustering of obesity in youths' social networks. Based on my dissertation work, I was awarded the University of Adelaide Doctoral Research Medal and the 2011 Australian Psychological Society Award for Excellent Higher Degree Thesis in Health Psychology. I have since had the opportunity to undertake research on the role of social networks in obesity in other populations including diverse youth, families, and communities, and have produced a review of this literature (Salvy, de la Haye et al., 2012) which documents the nuanced mechanisms through which peers influence diet and activity, and subsequently obesity risk. I was recently awarded a R01 (PI: de la Haye, Salvy) to evaluate an intervention to prevent obesity in at-risk children by targeting maternal and family social network mechanisms. Collectively, the findings arising from this work emphasize that obesity cannot be tackled as an individual problem, but one that is deeply engrained in our social systems.
 - a. McGlashan J, Johnstone M, Creighton D, **de la Haye K**, Allender S. Quantifying a systems map: Network analysis of a childhood obesity causal loop diagram. *PLoS One*. 2016; 11(10).
 - b. Salvy, S.-J., **de la Haye, K.**, Bowker, J.C., & Hermans, R.C.J. Influence of peers and friends on children's and adolescents' eating and activity behaviors. *Physiology & Behavior*. 2012; 106(3), 369-378.
 - c. **de la Haye K**, Robins G, Mohr P, Wilson C. How physical activity shapes, and is shaped by, adolescent friendships. *Soc Sci Med*. 2011; 73: 719-728. PMC Journal – In Process.
[PMID:21802807](https://pubmed.ncbi.nlm.nih.gov/21802807/)

- d. **de la Haye, K.**, Robins, G., Mohr, P., & Wilson, C. Homophily and contagion as explanations for weight similarities among adolescent friends. *J. Adolescent Health*. 2011; 49, 421-427.
2. Integrating social networks in theoretically-driven health behavior interventions. Despite the prominence of conceptual and theoretical complex-system and social network models for health behaviors and outcomes, empirical research identifying social system dynamics that propagate, or protect against health risks is lacking. Research must also apply advances in these methods to the development of health promotion initiatives to understand how social-ecological factors are interrelated and how multi-level influences can be combined to reduce health risk. I have been fortunate to collaborate with several teams of international researchers on projects that seek to harness or alter social networks to promote and support health behavior change; including project that target obesity. One of these projects, in collaboration with researchers at the National Human Genome Research Institute (NHGRI) and several institutions in Australia, promotes communication about family health history to elicit support for healthy behaviors within family systems, to reduce diabetes, obesity, and cancer risk. We have completed pilot studies to adapt and evaluate this intervention for families from diverse race/ethnic and socio-economic backgrounds.
 - a. Salvy, SJ, **de la Haye, K.**, Galama, T, Goran, M, Home visitation programs: An untapped opportunity for the delivery of early childhood obesity prevention. *Obesity Reviews*. 2017; 18:149-163. [PMC5267322](#)
 - b. Allender, S., Millar, L., Hovmand, P., Bell, C., Moodie, M., Carter, R., Swinburn, B., Strugnell, C., Lowe, J., **de la Haye, K.**, Orellana, L., Morgan, S. Whole of systems trial of prevention strategies for childhood obesity: WHO STOPS Childhood Obesity. *Int. J. Environ. Res. Public Health*. 2016; 13(11), 1143.
 - c. De Heer, H.D., **de la Haye, K.**, Skapinsky, K., Goergen, A., Wilkinson, A. & Koehly, L.M. Let's move together: Impact of family health history information on encouragement and co-engagement in physical activity of Mexican origin parents and children. *Health Education and Behavior*. 2017; 44:141-153. [PMID:27198532](#)
 - d. Wilson, C.J., **de la Haye, K.**, Coveney, J., Hughes, D.L., Hutchinson, A., Miller, C., Prichard, I., Ward, P., Koehly, L.M. Protocol for a randomized controlled trial testing the impact of feedback on familial risk of chronic diseases on family-level intentions to participate in preventive lifestyle behaviors. *BMC Public Health*, 2016; 16: 965 . [PMC5020523](#).
3. The role of social networks in the health behaviors of priority populations. Social networks research has often used convenience samples, and as such has been limited in its application to understand the health risks of priority or hard-to reach populations. I have been fortunate to participate in several research projects that sought to understand how social network dynamics impact risky health behaviors and wellbeing among priority populations. Much of my current work, and projects that are under development, focus on priority populations with the aim of utilizing knowledge of social systems in health interventions that will effectively reduce health disparities.
 - a. Flórez, KR, Ghosh-Dastidar, M, Beckman, R, **de la Haye, K.**, Duru, K, Abraido-Lanza, A, Dubowitz, The power of place: Social network characteristics, perceived neighborhood features, and psychological distress among African Americans in the historic Hill District in Pittsburgh, Pennsylvania. *American Journal of Community Psychology*, 2016; 58:60-68. [PMC5303018](#).
 - b. Green HD Jr, **de la Haye K.**, Tucker JS, Golinelli D. Shared risk: Who engages in substance use with homeless youth? *Addiction*. 2013; 108(9): 1618-1624. [PMC Journal – In Process. PMID:23600596](#)
 - c. **de la Haye K.**, Green HD Jr, Kennedy DP, Zhou A, Golinelli D, Wenzel SL Tucker JS. Who is supporting homeless youth? Predictors of support in personal networks. *J Res Adolesc*. 2012; 22(4): 604-616. [PMC3507516](#)
 - d. **de la Haye K.**, De Heer HD, Wilkinson AV, Koehly L. Predictors of parent-child relationships that support physical activity in Mexican-American families. *J Behav Med*. 2014; 37(2): 234-244. [PMC Journal – In Process. PMID:23203139](#)
4. **Applying advances in statistical methods for social network analysis to understand risk behaviors.** In the past decade, there have been major advances in the development of methods and statistical models

for social network data. My work bridges these analytic developments to the field of health promotion and disease prevention, and employs a range of innovative tools, including recently developed statistical models for social networks (e.g., exponential random graph models and stochastic actor-based models/SIENA models) to study how individual behaviors and health outcomes are related to features of socio-ecological systems. This research has looked at relationships between health risk behaviors and social networks cross-sectionally (e.g., how friendships, or popularity among friends, is associated with youth health behaviors such as substance use, diet, and physical activity), and how individual health attributes both shape, and are shaped by, social networks and broader socio-ecological systems longitudinally. This work has also utilized simulations to understand how social systems and health evolve under different hypothetical conditions. Since 2007 I have been actively involved in the International Network for Social Network Analysis research community and in 2016 I was appointment to the Board of Directors of this organization. I keep abreast of recent advances in social network methods and systems science models through workshops, meetings, and national and international collaborations.

- a. **de la Haye, K**, Embree, J, Punkay, M, Espelage, DL, Tucker, JS, Green, HD, Analytic strategies for longitudinal networks with missing data. *Social Networks*. 2017; 50:17-25. PMID: In process.
- b. **de la Haye K**, Green HD Jr, Kennedy DR, Pollard M, Tucker JS. Selection and influence mechanisms associated with marijuana initiation and use in adolescent friendship networks. *J Res Adolesc*. 2013; 23(3): 474-486. PMC Journal – In Process. [PMID:24187477](https://pubmed.ncbi.nlm.nih.gov/24187477/)
- c. **de la Haye K**, Green HD, Pollard M, Kennedy DP, Tucker JS. Befriending risky peers: Factors driving adolescents' selection of friends with similar marijuana use. *J Youth Adolesc*. 2014; 44(10): 1914-1918. [PMC4418957](https://pubmed.ncbi.nlm.nih.gov/24418957/)
- d. Green HD Jr, Horta M, **de la Haye K**, Tucker JS, Kennedy DR, Pollard M. Peer influence and selection processes in adolescent smoking behavior: A comparative study. *Nicotine Tob Res*. 2013; 15(2): 534-541. [PMC3612003](https://pubmed.ncbi.nlm.nih.gov/23612003/)

Complete List of 32 Published Works in MyBibliography:

http://www.ncbi.nlm.nih.gov/sites/myncbi/1TSh_ZqrawwAW/bibliography/48200773/public/?sort=date&direction=ascending

D. Research Support

Current Research Support

APP1114118 Allender (PI) 01/31/16-02/01/19
National Health and Medical Research Council (NHMRC) Partnership Project

Whole of Systems Trial of Prevention Strategies for childhood obesity: WHO STOPS childhood obesity

This project aims to: 1) strengthen community action for childhood obesity prevention; and, 2) measure the impacts of increased action on risk factors for childhood obesity by working with local partners to embed best practice for obesity prevention into existing community systems (e.g. health, workplaces, councils, schools).

Role: Associate Investigator

1R01HD084606-01A1 Gesell (PI) 02/18/16 - 02/17/19
NIH/NICHD

Building Social Networks to Improve Physical Activity and Weight Loss in Latino Parents

This study will examine the social network conditions that can facilitate (or constrain) the spread of physical activity and healthy weight changes in obesity intervention groups.

Role: Co-Investigator/USC PI (18% effort)

National Science Foundation Spruijt-Metz (PI) 09/01/15 – 08/30/19

Monitoring and Modeling Family Eating Dynamics (M2 FED): Reducing Obesity without Focusing on Diet and Activity

This project proposes M2FED – an integrated system of in-home beacons, wireless and wearable sensors, and smartphones that provide real-time 'big data' on in-home eating behaviors and theory-based process variables. This data will be aggregated to generate real-time models of family eating dynamics.

Role: Co-Primary Investigator (10% effort)

Army Research Office DoD Multidisciplinary University Research Initiative (MURI)	Singh (PI)	09/01/15 – 08/30/20
QUANTA: Quantitative Network-based Models of Adaptive Team Behavior		
The multidisciplinary, multi-institutional team will utilize expertise in cognitive and behavioral science, sociology, computer science, network science and statistics to generate multilevel, dynamic models of teams and social groups that effectively explain various dimensions of performance and success. The resulting conceptual and statistical models that relate group composition, interaction patterns, and network evolution to task performance, will break new ground in understanding the optimal design of teams for complex tasks.		
Role: Co-Primary Investigator/USC PI (20% effort)		
1R01HD092483-01 NIH/NICHD	de la Haye (MPI), Salvy (MPI)	09/01/2017-05/31/2022
In-home obesity prevention to reach low-income infants through maternal and social transmission		
This study capitalizes on the strengths and interests of established Home Visitation Programs, which serve at-risk, low-income, diverse mothers and their infants, to test a weekly, in-home evidence-based childhood obesity prevention model delivered in the first 2 years of children's life. This project represents a unique opportunity to test an innovative model of primary childhood obesity prevention that targets important maternal and social network mechanisms.		
Role: Primary Investigator (20% effort)		
<u>Completed Research Support (selected)</u>		
1R01CA157577-01A1 NIH/NCI	Valente (PI)	05/01/12 - 03/31/17
The Global Diffusion of Tobacco Control		
This study compiles extensive network data from GLOBALink, an electronic forum for global tobacco advocacy, to study network diffusion and adoption of the Framework Convention for Tobacco Control.		
Role: Co-Investigator (10% effort)		
R01DA033280 National Institute on Drug Abuse	Green/Tucker (PIs)	04/04/12 – 10/04/16
Social Network Effects in the Context of Adolescent Risk Behaviors		
This project investigates how adolescents' peer networks influence their use of alcohol and other drugs, as they transition from middle school to the end of high school.		
Role: Co-Investigator (10% effort)		
5U54HD070725-03 Johns Hopkins University Bloomberg School of Public Health	de la Haye (PI)	11/01/14 – 04/30/16
Health Support Networks for Prevention Childhood Obesity in Home Visitation Programs		
This pilot study evaluates the health support networks of low-income mothers with young, and the role these networks play in supporting health behavior change and preventing childhood obesity.		
Role: Primary Investigator (10% effort)		
Intergovernmental Personnel Act National Human Genome Research Institute	Koehly (PI)	04/01/13 – 12/20/13
The Role of the Family Genetics Health Educator in Influencing Health Promoting Behaviors		
A series of pilot studies were conducted to explore the motivational influence of family health history on improving health behaviors in diverse families. We assessed communication and support within family social networks as a mediator of behavior change and indicator of a communal family response to disease risk.		
Role: Co-Investigator (25% effort)		