<p style="text-align:center">**Social Network Diffusion of Individual Behavior Change Interventions**
National Institute on Aging Division of Behavioral and Social Research Workshop
March 2-4, 2022
Virtual (Zoom)</p>

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Workshop Description:
The Science of Behavior Change (SOBC) Program has ushered in a new era of behavior change research, encouraging the integration of basic behavioral research with applied interventional research and a focus on mechanisms of change. As we look forward to the next era of behavior change research, an important question is how to enhance uptake of behavioral change at a broader scale. Existing paradigms conceptualize large-scale behavior change as resulting from widescale dissemination and implementation of behavioral interventions that have been developed for individuals (or small social units such as the dyad or family) within an experimental therapeutics framework, such that the behavioral intervention is directly administered to a greater number of individuals. An alluring but yet underexamined alternative model for producing large-scale behavior change involves leveraging social network dynamics, such that behavioral interventions (developed within the experimental therapeutics framework and administered to individuals) are administered to key "change agents" within a network so that behavior change can be efficiently diffused to other members of the network. Such "social network interventions" hold promise, but a number of methodological and theoretical questions remain, such as the mechanism by which behavior is diffused, how to identify such "change agents", which behavioral interventions would most effective diffuse and why, and whether the success of these interventions varies as a function of changes in social network structure across the lifespan. A workshop on the topic of network interventions would bring together scholars from diverse fields for interdisciplinary conversations to identify what is known in the area of social network interventions and diffusion of individual behavior change, what gaps yet remain, and how these types of interventions can be leveraged to promote healthy aging, prevention of cognitive impairment and Alzheimer's Disease and Related Dementias (AD/ADRD), and improved outcomes for persons living with AD/ADRD and their caregivers. This workshop is consistent with NIA Strategic Plan goals to "conduct research aimed at modifying organizational or individual behaviors in order to improve important health outcomes among members of population groups at older ages" and to "develop effective interventions to maintain health, well-being, and function and prevent or reduce the burden of age-related diseases, disorders, and disabilities". It is also consistent with NIA's AD+ADRD Research Implementation Milestones focused on supporting innovation in AD/ADRD trial design, development of non-pharmacological interventions for AD/ADRD, and support for dementia care and caregivers.

Workshop Agenda:

<u>**Wednesday, March 2, 2022**</u> *(10:30 AM EST – 3:30 PM EST; Open Session)*

    Introductory Remarks *(10:30 AM EST – 11:00 AM EST)*

    Session 1: Characterizing Social Networks and Social Network Processes in Aging *(11:00 AM EST – 1:00 PM EST)*
    How do social networks and the ways that people leverage them change over the life course? How do older adults use their social networks? What are major issues in older adult social networks?
    Discussion Points:
      a. What characteristics of social networks are associated with healthy aging? Are such characteristics related to diffusion of individual behavior change? What are the mechanisms by which we can build or adapt networks in aging to exemplify these characteristics?
      b. How do changes in social network composition and function with age impact the likelihood of diffusion of individual behavior change? Are there optimal times across the life course when network interventions are most likely to be efficacious?
      c. Who are change agents in older adults' social networks, and how do we identify them?
    Speakers: Toni Antonucci, Brea Perry, Stacey Torres, Markus Shafer

    Break *(1 PM EST – 1:30 PM EST)*

Session 2: Mapping Social Network Diffusion Processes *(1:30 PM EST – 3:30 PM EST)*
How does behavior change spread across a network (and what are the methods and means by which we can study it)? What are the network dynamics that influence uptake of behaviors?
Discussion Points:
  a. How do networks interventions perturb the network dynamics, and do these perturbations enhance or diminish the efficacy of the network interventions? Will efforts to map networks undermine network interventions by making individuals within the networks aware of their position (and the position of their contacts, and the contacts they do not possess)? Will individuals be reluctant to make their network position known? How do these processes vary with aging?
  b. How does network diversity (e.g., in terms of race, age, sex, sexual orientation, socioeconomic status, etc., as well as the type of ties, such as weak or strong ties) impact the spread of behavior change across the network? How does the spread of behavior change differ in open networks (e.g., the community) versus closed networks (e.g., assisted-living facilities, nursing homes)?
  c. What insights from social network analysis in other fields and populations can be applied to older adults and life course development?
Speakers: Laura Koehly, Jim Moody, Tom Valente, Reza Yousefi Nooraie

Thursday, March 3, 2022 *(11:00 AM EST – 3:30 PM EST; Open Session)*

Session 3: Adapting Existing Social Network Interventions to Aging Populations *(11:00 AM EST – 1:00 PM EST)*
How can we adapt network interventions for older people? What are the mechanisms of network interventions and what might be challenges for adapting them for older adults?
Discussion Points:
  a. Which existing social network interventions (e.g., to address substance use, HIV, obesity, etc.) that have demonstrated efficacy in other populations might also work for aging populations and older people? How would we best adapt them? What considerations would we need to make?
  b. Do the best change agents for a given intervention vary with life course stage?
  c. To what extent do social norms or peer effects facilitate or disrupt social network interventions and behavior change diffusion processes in aging?
   Speakers: Kar-Hai Chu, Kayla de la Haye, Carl Latkin, Kimberly Van Orden

Break *(1 PM EST – 1:30 PM EST)*

Session 4: Adapting Existing Individual Behavior Change Interventions For Aging Populations to Leverage Network Dynamics *(1:30 PM EST – 3:30 PM EST)*
What behaviors are intervenable in aging? What types of behavior change in mid- and late-life would most benefit from a network intervention approach?
Discussion Points:
  a. What are the characteristics of behavioral interventions that are efficacious at changing individual behavior in aging? What behavior change problems do they address, and what mechanisms of behavior change do they leverage?
  b. How can we understand whether and how components of efficacious behavioral interventions for individual behavior change can be adapted to scale to network interventions?
  c. Which behavior change interventions for prevention of AD/ADRD might benefit from a social network approach? What components of non-pharmacological interventions for AD/ADRD prevention or care could best diffuse through social networks?
Speakers: Linda Collins, Jim Dearing, Amar Dhand, David Kennedy

Friday, March 4, 2022 *(11 AM EST – 2:30 PM EST; Closed Session)*
   Recap of Days 1 & 2 *(11 AM EST – 11:45 AM EST)*
   Breakout Groups *(11:45 AM EST – 12:30 PM EST)*
   Break *(12:30 PM EST – 1 PM EST)*
   Large Group Discussion *(1 PM EST – 2:15 PM EST)*
   Closing Remarks *(2:15 PM – 2:30 PM EST)*