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The Role of Social Networks in Adult Health: Introduction to the Special Issue

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Our social connections and the quality of these relationships are clearly important for physical health (Barger, 2013; Berkman & Glass, 2000; Cohen, 2004; Holt-Lunstad, Smith, & Layton, 2010). One recent review concluded that the influence of social relationships on risk for mortality is comparable to that of smoking and alcohol consumption (Holt-Lunstad et al., 2010). Having a more diverse social network is associated with better health outcomes such as greater immunity to infectious disease (e.g., Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997) and better cardiovascular health (e.g., Eng, Rimm, Fitzmaurice, & Kawachi, 2002). The perceived availability of social support, especially emotional support, has direct effects on health and buffers the negative effects of stress (Cohen, 2004; Holt-Lunstad et al., 2010).

The research literature on social relationships and health has grown considerably in breadth and depth over the past 30 years. There is greater recognition that relationships are potential sources of conflict and support, and measuring both of these dimensions provides a fuller understanding of relationship effects on health (Rook, August, & Sorkin, 2011). There has been a great deal of attention to whether the shrinking of social networks with age is purposeful and benefits emotion regulation (English & Carstensen, 2014). Researchers have also developed models of behavioral and biological mechanisms linking social relationships to health (Robles, Slatcher, Trombello, & McGinn, 2014; Uchino, 2006). Each of these research advances are reflected in studies included in this special issue.

Overview of Special Issue

The goal of this special issue is to highlight recent research examining the role of social networks in adults' physical health. The studies featured in this special issue used diverse measures to quantify social relationships, ranging from network size or composition (Cheng, Leung, & Chan, 2014; Marquez et al., 2014) and social integration (Crittenden et al., 2014) to availability of a confidante (Bookwala, Marshall, & Manning, 2014) and quality of social interactions (Chang, Wray, & Lin, 2014; Sneed & Cohen, 2014; Sorkin et al., 2014). Each of these measures provides important information; in fact, it may be ideal to have a sense of the size of an individual's network and the quality of their social interactions.

Various health indicators are examined in these studies of social influences on health, including onset and management of the most common and costly diseases in the United States and other industrialized countries—hypertension (Sneed & Cohen, 2014) and diabetes (Sorkin et al., 2014). Moreover, risk factors for morbidity and mortality were also investigated in these studies, including pulmonary function (Cheng et al., 2014; Crittenden et al., 2014), health lifestyle behaviors (Marquez et al., 2014; Sorkin et al., 2014), and physical health symptoms and conditions (Bookwala et al., 2014; Chang et al., 2014). With one exception (i.e., Marquez and colleagues), these studies demonstrate that individuals' connections to and interactions with close others are linked to daily physical functioning and chronic disease processes.

It merits mention that several studies included in this special issue highlight social and demographic factors beyond individuals' connections to social ties that may shape health outcomes, such as age, gender, marital status, and culture. Exploring network connections and interpersonal interactions together with these personal and social factors affords a more nuanced representation of the influence of social ties on health outcomes. Moreover, considering when, where, and with whom interactions with social partners take place provides insight into which individuals are at particular risk for negative health outcomes and sheds light on potential approaches to intervention. It is important to note that two of these studies focus on Latino families— the fastest-growing minority population in the United States (Marquez et al., 2014; Sorkin et al., 2014).

Common Themes Across Studies

At least two themes emerge from the research featured in this special issue. The first theme is that connections with close others and interactions with these ties likely promote (or sometimes detract from) health through shaping daily health behavior choices (Kiecolt-Glaser & Newton, 2001; Umberson, Crosnoe, & Reczek, 2010). In two separate studies (Cheng, Crittenden), health behaviors such as physical activity mediated the association of the composition of the social network and pulmonary function among healthy older adults. Of note, Cheng and colleagues' findings suggest that expectations and opportunities for being active may differ across various types of social networks. In addition, investigation of specific social roles revealed that being in the marital role was strongly associated with better lung function, and that

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occupying the roles of relative and friend contributed independently to better lung function (Crittenden et al., 2014).

Considering how composition of the social network shapes health behavior choices (and health outcomes) is consistent with an accumulating body of evidence suggesting that engaging in health (or risk) behaviors mirrors the behavior choices of close social partners. For example, in a large, longitudinal study of social network ties, the likelihood of becoming obese was increased when an individual's network included others who were obese, particularly friends, partners, and siblings (Christakis & Fowler, 2007). Moreover, married partners often demonstrate correspondence in their health behaviors, such as diet, exercise, weight management, smoking (and smoking cessation), and consumption of alcohol (Franks, Pienta, & Wray, 2002; Franks et al., 2012; Meyler, Stimpson, & Peek, 2007). These findings underscore the relevance of connections with specific social partners in the adoption and maintenance of health-promoting (and health-risk) behaviors.

The quality of social interactions with network partners was the focus of two studies of health behaviors in older adults (Chang et al., 2014; Sneed & Cohen, 2014). In these studies, an active lifestyle was investigated as a mediator of social interactions and health outcomes (onset of hypertension, physical health, and psychological well-being). Findings across these studies were mixed in regard to whether change in physical activity helped to explain the effects of social interactions on health. In the study by Chang and colleagues, leisure activity (which included physical activity) mediated the association between positive social interactions and physical health and psychological well-being. However, reduced physical activity did not mediate the association between negative social interactions and hypertension risk in the study by Sneed and Cohen. Moreover, other health-risk behaviors, including tobacco and alcohol use, were also examined, but no mediating effects of these behaviors were detected.

Distinct aspects of social network ties (i.e., size and characteristics of the network; interactions with social partners) and their associations with health behavior and health behavior change were examined in two studies of Latino adults (Marquez et al., 2014; Sorkin et al., 2014). In a novel investigation of at-risk dyads (i.e., mothers with type 2 diabetes and their daughters who were overweight or obese), Sorkin and colleagues conducted a feasibility test of a 16-week intervention targeting health behaviors (weight loss and dietary intake) and health-related interactions. The intervention group showed improvements in the targeted health behaviors and greater health-related support and persuasion compared with the control group. This study provides evidence for promoting collaborative behavior changes in interventions targeting multiple family members. However, in the study by Marquez and colleagues, few associations between social network size or characteristics and health behaviors (i.e., physical activity, sleep, medical checkups, consumption of fast food or alcohol) were detected among Latino adults. Taken together, these findings suggest that health-related social interactions among network members, more so than network characteristics, may be a key mechanism through which social ties are linked with engagement in health-promoting behaviors.

Social connections afford frequent opportunities for interpersonal interactions that facilitate health-promoting behaviors and thereby are health protective. Findings from these studies underscore the need to consider the quality of interpersonal interactions to better elucidate the ways in which social ties benefit individual health and well-being. Social network members often play a key role in facilitating the health behaviors and treatment adherence critical to promoting health and managing disease through specific health-related interactions with one another (e.g., Franks et al., 2006; Stephens et al., 2013). Among married partners, provision of health-related support that affirms and reinforces one another's health-promoting efforts and behaviors is positively associated with behavioral adherence (Franks et al., 2006; Stephens et al., 2013). However, it is important to note that when partners attempt to exert control over one another's lapses in health behaviors, these efforts frequently are ineffective in bringing about behavior change and sometimes fortify the undesired behavior (August & Sorkin, 2010; Franks et al., 2006; Helgeson, Novak, Lepore, & Eton, 2004; Martire et al., 2013; Stephens et al., 2009, 2013). Thus, simply seeking to increase the involvement of social partners in promoting health behavior choices without also considering the quality of their interactions may not be an effective strategy for improving individual health behaviors.

The second theme to emerge from this special issue is that there may be risks associated with a shrinking social network in adulthood. Sneed and Cohen's (2014) finding that negative interactions in close relationships put older adults at risk for hypertension raises the question of whether failing to cultivate a wide range of social connections may put health at risk. The primary challenges of midlife and late life are personal health problems and caregiving to close family members or friends with health problems. However, a recent analysis shows that the rapidly growing population of Baby Boomers (i.e., individuals born between 1946 and 1964) is less likely than previous cohorts to have a spouse or nearby adult child (Ryan, Smith, Antonucci, & Jackson, 2012). Thus, individuals who would have relied on such close relationships as they age may be less likely to have peripheral connections (neighbors, church or social members) to provide care and support for caregiving. Conversely, expanding one's network of friends in midlife and late life may protect against the losses experienced with aging. The study by Bookwala and colleagues (2014) shows that having a friend confidante buffers the effects of widowhood on health over a 12-year period. In addition, Cheng and colleagues (2014) report that older adults with diverse, friend-focused, and distant family networks have significantly better pulmonary function than those with restricted networks.

Future Directions

The studies of this special issue have the potential to stimulate new research that answers several questions. First, despite evidence for the constriction of social connections with age, little is known about the implications of such changes. Although some research has focused on change in social networks and support (e.g., Martire, Schulz, Mittelmark, & Newsom, 1999; Shaw, Krause, Liang, & Bennett, 2007) and other studies have examined social indicators at one time point as predictors of health at follow-up (e.g., Berkman & Syme, 1979), there has been little attention to how changes in social networks are related to changes in health. An exception is the study by Cerhan and Wallace (1997), showing that a low level of social ties and a decrease to a low level of social ties over a 3-year period were associated with greater

mortality over 8 years. At this point there are many unanswered questions regarding the prospective effects of social network changes and their mechanisms (e.g., perceived support, cognitive engagement, health behaviors) and the importance of voluntary versus involuntary changes in the social network.

This literature would also be strengthened by greater attention to the role of socioeconomic status (SES) in constriction of the social network and the effect of such changes on health. Low SES is associated with less supportive social interactions and poorer overall relationship satisfaction (Conger, Conger, & Martin, 2010; Umberson & Montez, 2010). Therefore, the risks of a shrinking network are likely to be greater for low-SES adults than high-SES adults. In addition, individuals' ability to choose or control social interactions is important. Older adults prefer assistance from specific family members and are more satisfied with assistance from these preferred caregivers (Suitor, Gilligan, & Pillemer, 2013). Such choices may be fewer when resources such as income and transportation are limited.

Finally, findings from this rapidly growing literature argue for greater attention to behavioral interventions targeted at the family or dyad for the purpose of improving health behaviors and subsequent the risk of disease or managing chronic disease. The final paper in this special issue reports findings from a weight-loss intervention with Latina diabetic women and their obese adult daughters that resulted in significant weight loss and improvement in eating habits (Sorkin et al., 2014). This type of study reflects a growing interest in targeting illness management behaviors using a dyadic approach in populations such as prostate cancer, type 2 diabetes, and HIV/AIDS (Burkert, Scholz, Gralla, Roigas, & Knoll, 2011; Keogh et al., 2011; Remien, 2005; Trief et al., 2011).

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