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The health benefits of network growth: New evidence from a national survey of older adults

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ABSTRACT

Scholars who study how social networks affect older adults' health are often concerned with the prospect of declining social connectedness in late life. This paper shifts the focus to older adults' tendencies to cultivate *new* social ties. This process of network growth can improve access to social resources, boost self-esteem, reduce loneliness, and increase physical activity. We therefore examine the link between tie cultivation and health using new longitudinal data from the National Social Life, Health, and Aging Project (NSHAP), which recorded changes in older adults' confidant network rosters over a period of about five years. Most respondents (81.8%) added at least one new network member during the study period, and most (59.4%) cultivated multiple new confidant relationships. Longitudinal analyses suggest that the addition of new confidants is associated with improvements in functional, self-rated, and psychological health, net of baseline connectedness as well as any network losses that occurred during the same period. Network losses were associated with physical but not psychological well-being. These findings underscore the importance of distinguishing between concurrent processes that underlie social network change in later life, and highlight the need for additional research on the mechanisms by which network change may improve health.

Introduction

With a few important caveats, researchers have generally emphasized the health benefits of having strong, stable social connections (see Berkman, Glass, Brissette, & Seeman, 2000; York Cornwell & Waite, 2009). Expanding on this work, some researchers have begun to consider the implications of network *change* for health. Social network-related changes involve unique process that cannot be boiled down to static features of social ties or networks, and therefore may have independent effects on health. Some recent work reveals that over-time changes in social connections are linked to health outcomes independently of baseline network-related properties such as size, density, and supportiveness (e.g., Cerhan & Wallace, 1997; Eng, Rimm, Fitzmaurice, & Kawachi, 2002; Giordano & Lindstrom, 2010; Seeman et al., 2011; Thomas, 2011).

The issue of social network change and its potential health effects is especially important in the context of research on aging, as later life can be a time of particular challenges, upheaval, and adaptation with respect to both social connectedness and health. In addition to health decline, life-course transitions like retirement, widowhood, and residential changes can drastically alter a person's network (Cornwell, 2009; Donnelly & Hinterlong, 2010; Litwin & Stoeckel, 2013; Perry & Pescosolido, 2012; Schafer, 2013). Unfortunately, we know little about the health consequences of changes in social connectedness that may accompany these kinds of transitions. Several lines of research provide clues, however, about the link between changes in related forms of social connectedness and health in later life. First, life-course research sheds light on the effects of common late-life transitions that involve separation from key social roles (especially retirement) and the loss of contacts (especially widowhood). While much of this work connotes loss and isolation, some social-gerontological research has begun to view these as transitions that can spur network growth. This work is informed by continuity and activity theories, which argue that cultivating new social connections is one way that many older adults adapt to later-life challenges and compensate for loss (Atchley, 1989; Donnelly & Hinterlong, 2010; Zettel & Rook, 2004).

Recognizing variation in how older adults deal with late-life transitions, health researchers have begun to consider the implications of both network loss and growth for older adults. This raises

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the issue of how to measure these network changes. Most research (e.g., Cerhan & Wallace, 1997; Eng et al., 2002; Thomas, 2011) has operationalized change in social connectedness using summary measures of net change between waves (e.g., network size at time2 minus network size at time1). One limitation of this approach is that it assumes that increases in connectedness have equivalent but opposite effects on health as do decreases in connectedness. A few studies have attempted to correct for this by introducing separate measures for network growth and decline. Seeman et al. (2011), for example, employ two dummy variables to classify individuals who experienced decreases in social engagement over time versus those who experienced increases, where "no change" is the reference category. This approach has the intriguing implication that increases in network connectedness may not simply have the opposite effect of decreases, as the magnitudes of the two associations may differ. A remaining limitation, though, is that this approach still treats these two processes as mutually exclusive, alternative trajectories.

Thus, a gap remains in our understanding of separate processes of network change and how they relate to health. Because people may adjust to network losses by cultivating new ties and mobilizing support, proactively rearrange their networks in anticipation of change, or simply cultivate new relationships to expand their networks, the loss of network members and the addition of new ones may occur simultaneously, in close succession, or entirely independently (e.g., Atchley, 1989; Donnelly & Hinterlong, 2010; Zettel & Rook, 2004). The possibility that processes of network loss and addition can be parallel, sequential, or orthogonal is rarely taken into consideration in the work that has been done on the link between social network change and health in later life.

In this paper, we conceptualize network change as a multidimensional process that involves multiple countervailing processes (Feld, Suitor, & Hoegh, 2007). We theorize several potential mechanisms through which losses and additions of network members may influence different aspects of physical and psychological health. We then examine the extent to which different elements of network change – including social network losses and additions – relate to these health outcomes. We use new longitudinal data on older adults' egocentric social networks and health that were collected in two waves by the National Social Life, Health, and Aging Project (NSHAP) between 2005/6 and 2010/11. The analyses reveal some surprising trends with respect to the extent of network loss, addition, and turnover, and underscore the importance of treating these as related but unique influences on different dimensions of older adults' well-being.

Social network change and health

Most research on the link between networks and health implicitly treats networks as static or stable structures whose health-relevant properties can be captured at a given moment in time. This approach is not entirely unjustified, as some research documents considerable stability in social networks over time (e.g., Wellman, Wong, Tindall, & Nazer, 1997). But scholars also recognize that change is endemic in social networks, and a growing number have begun to urge researchers to remain mindful of the dynamic nature of networks (Snijders & Doreian, 2010). Several important processes – ranging from the loss of network members to the addition of new ones, and how these experiences are sequenced – constitute a class of network phenomena that are rarely studied or utilized in empirical analyses of important individual outcomes. Health researchers have also begun to recognize that these processes may represent new, poorly understood mechanisms that directly affect health (e.g., Giordano & Lindstrom, 2010; Seeman et al., 2011; Thomas, 2011).

Network loss

The idea that shifts in the social environment can exert powerful independent influences on health is not new. A large body of research on bereavement, for example, is motivated by this concern over the consequences of network loss. The experience of loss triggers a bereavement process, which in turn often evokes stress, depression, and loneliness (see Stroebe, Schut, & Stroebe, 2007). Beyond this, because being socially connected helps individuals maintain a sense of control and mastery as well as access to coping resources during periods of strain (Thoits, 2011), network losses can reduce sense of control and decrease individuals' abilities to cope with stress (Gerstorf, Röcke, & Lachman, 2010). These things, in turn, have numerous downstream health consequences, due in part to their effects on immune, cardiovascular, and neuroendocrine function (see Uchino, 2006). Stress and psychological distress are also closely associated with elevated allostatic load (e.g., Juster, McEwen, & Lupien, 2009), which relates to internal wear and tear on the body and its organ systems. Even mild chronic stress can increase the risk of long-term physical disability and infection (Rai et al., 2012).

Relatedly, the loss of network members can result in a reshuffling of social influences and norms. This, in turn, can give rise to *anomia*, or a sense of normlessness or detachment from society (see Deflem, 1989). This sense of normlessness can increase stress and suppress immune function (Graham, Christian, & Kiecolt-Glaser, 2006), which can have negative health consequences. Anomia may derive not only from the loss of preexisting social routines with a given lost network member, but also from disruption in the larger social network in which that person was embedded. This is especially true with respect to someone who was well connected to one's other network members, perhaps having connected them to each other and played a key role in organizing their supportive efforts all along. The loss of such a person can throw a network into disarray. Likewise, it can leave one in a situation in which one's network members do not get along or are effectively segregated, which is an element of Durkheimian anomie (Bearman, 1991).

Expanding on this, the loss of a key network member can disrupt the internal functions of one's network. Over time, network members develop routines that facilitate the coordination of social support and informal social control. As a result of these routines, people may develop a stable cognitive map of the resources they can secure from their networks in different situations (e.g., see Pescosolido, 1992). The loss of a network member can therefore negatively affect health not only due to psychological bereavement, but also because, structurally speaking, loss disrupts established routines of contact and communication among one's contacts. Again, the loss of a particularly central network member, such as one's spouse, can be particularly damaging to a network's capacity to provide coordinated social support (Kalmijn, 2003). Losses may thus create uncertainty about to whom one can turn in times of need.

Network growth

Perhaps due to the assumption that aging begets isolation, considerably less attention has been paid to the health implications of adding new relationships in late life. Adding new ties to a network can benefit health for a number of reasons (e.g., Eng et al., 2002). For one, the addition of new ties can increase the number, range, and quality of social resources that are available to a person. To the extent that one's previous stock of resources had been inadequate or problematic in some way, then, a change may solve preexisting problems and improve well-being. The addition of new network members also provides an opportunity to expand one's network beyond existing boundaries. This can increase network

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