

Do Network Members' Resources Generate Health Inequality?

Social Capital Theory and Beyond

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Social Capital Theory and Beyond

"The real nature of man is the totality of social relations" (Marx 1963: 83). Every individual lives in a web of connections or a social network, that is, "a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behavior of the persons involved" (Mitchell 1969: 2). One relatively upstream structural attribute of social networks is the resources network members (alters) control and possess. The concept of network members' resources lies at the intersection of two major research traditions in sociology: social networks and social stratification. It constitutes the meso-level stratified network context in which ego dwells and socializes in daily life. As an old axiom states, it is not what you know, but who you know. Network members' resources capture the assets of "who you know." This concept has stimulated voluminous research for about ten decades for its roles in social interaction, social exchange, and status attainment (Bourdieu 1986 [1983]; Fischer et al. 1977; Homans 1950; Lazarsfeld and Merton 1954; Laumann 1966; Lin, Dayton, and Greenwald 1978; McPherson and Smith-Lovin 1987; Simmel 1955 [1922]).

Durkheim's seminal work on suicide has inspired a twelve-decade-long research tradition on the health impacts of various properties of social networks (Durkheim 1951 [1897]; for reviews see Berkman et al. 2000; House, Landis, and Umberson 1988; Smith and Christakis 2008; Pescosolido 2006; Thoits 2011; Uchino 2013; Umberson and Montez 2010). Specific research on the health consequences of network members' resources emerged in the early 1990s and has been growing steadily for more than two decades (Acock and Hurlbert 1993; for reviews see Song 2013a; Song, Son, and Lin 2010). The dominant theory guiding existing studies on network members' resources and health has been the network-based

approach to social capital (Bourdieu 1986 [1983]; Lin 2001a). Recently, scholars have combined that approach with other theoretical perspectives to explain the complicated relationship between network members' resources and health, including social comparison, social support, networking cost, cumulative advantaged, gender norms, and institutional contexts (i.e., relational culture, self-evaluation motive, and inequality structure) (Moore, Daniel, Paquet, Dubé, and Gauvin 2009; Song 2013b, 2014a, 2015a, 2015b; Song and Lin 2009; Song, Pettis, and Piya forthcoming). As existing studies suggest, depending on measurement, outcomes, and cultural contexts, network members' resources can stratify health in both protective and detrimental directions, and can interplay with other social factors to exert diverse—direct, indirect, mediating, and moderating—effects in the social dynamics of health and well-being.

The purpose of this chapter is to review the existing literature on network members' resources and health. In this review, we choose to focus more on the theoretical concepts, arguments, and development but less on analytic strategies and empirical findings. We first introduce the network-based theoretical approach to social capital and empirical studies that apply this approach, and then summarize studies that go beyond and combine social capital theory with other theoretical perspectives. We conclude by discussing future research directions. Note that Coleman (1990) and Putnam (2000) have contributed substantially to the theoretical popularity and development of the concept of social capital from a normative or communitarian perspective. This chapter does not attempt to resolve current debates on these different approaches to social capital. Instead, it focuses on the network-based approach that conceives of social capital as network members' resources. Despite the long research tradition on its social causes and consequences, the heuristic value of social capital as network members' resources has been relatively understudied in the health literature (Moore et al. 2005; Pevalin 2003; Song 2013a; Webber and Huxley 2004).

Theory: Network-Based Approach to Social Capital

Bourdieu: Resources Linked to Durable Social Networks

Bourdieu is the pioneer in the conceptualization of social capital. He introduced this concept in his French version of *Distinction* in 1979 (Adam and Rončević 2003; Bourdieu 1984). His theory of social capital was originally published in French in 1983, and translated into English for the first time in 1986. As a conflict theorist, Bourdieu was interested in what and how social constraints in society lead to unequal structural opportunities for status attainment. He argued that social structure and its functioning over time depend on the unequal acquisition and accumulation of capital in all three fundamental forms—economic, cultural, and social—between the dominant and dominated classes. He analyzed other forms of capital as sources of and returns to social capital, and discussed the mechanisms of the production and reproduction of social capital. However, he did not specify measurements of social capital.

Bourdieu was concerned with fundamental causes of social stratification. He argued that it is the unequal distribution of capital in all forms between social classes that accounts for the production and reproduction of social structure. Capital is “accumulated labor” allowing its possessors to “appropriate social energy in the form of reified or living labor” (1986 [1983]: 241). Although criticizing economic theories for reducing diverse types of exchanges and capital into mercantile exchange and economic capital, Bourdieu emphasized economic capital as the root of other forms of capital, and highlighted another two essential forms of capital that operate together with economic capital to generate unequal profits: cultural and social (1986 [1983]: 242–8). Both economic and cultural capital are privately owned. Economic capital is material goods invested in mercantile exchanges for monetary profits. Cultural capital consists of three subforms: the embodied state (i.e., habitus, that is, “long-lasting dispositions of

the mind and body”), the objectified state (i.e., cultural goods), and the institutionalized state (i.e., educational credentials).

In contrast, social capital is embedded in networks of social relationships. It is “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition – or in other words, to membership in a group – which provides each of its members with the backing of the collectivity-owned capital, a ‘credential’ which entitles them to credit, in the various senses of the word” (Bourdieu 1986 [1983]: 248–9). Networks of relationships can spread across multiple forms of space. They are “based on indissolubly material and symbolic exchanges” and “partially irreducible to objective relations of proximity in physical (geographical) space or even in economic and social space” (Bourdieu 1986 [1983]: 249). The volume of social capital to which an individual has access depends on two elements: “the size of the network of connections he can effectively mobilize” and “the volume of the capital (economic, cultural or symbolic) possessed in his own right by each of those to whom he is connected” (Bourdieu 1986 [1983]: 249).

Bourdieu analyzed other forms of capital as sources of and returns to social capital. According to Bourdieu, the foundation of capital reproduction, and thus stratification reproduction, is the conversion of capital from one form to another that aims at concealing the intergenerational transmission of economic capital among the dominant class (1986 [1983]: 249–55). Economic capital is convertible into social capital in that monetary investment is usually required in sociability. Cultural capital can change into social capital in that class-based habitus (e.g., relational disposition) and schooling can help establish and maintain social relationships. In turn, social capital can generate material profits in the forms of goods and services, part of which is economic capital. Social capital can transform into cultural capital (i.e., symbolic profits from being associated with prestigious groups). Despite such convertibility, social capital exerts its unique effects independently from other forms of capital. “These effects, in

which spontaneous sociology readily perceives the work of ‘connections,’ are particularly visible in all cases in which different individuals obtain very unequal profits from virtually equivalent (economic or cultural) capital, depending on the extent to which they can mobilize by proxy the capital of a group (a family, the alumni of an elite school, a select club, the aristocracy, etc.) that is more or less constituted as such and more or less rich in capital” (Bourdieu 1986 [1983]: 256).

The production and reproduction of social capital depend on the institution and maintenance of networks of relationships. It requires the use of “investment strategies, individual or collective, consciously or unconsciously aimed at establishing or reproducing social relationships that are directly usable in the short or long term” (Bourdieu 1986 [1983]: 249). In order to accumulate and reproduce social capital, people have to take the strategy of continuous sociability. In order for a group—a network of relationships—to exist and persist, the concentration of within-group social capital is required through the strategy of institutionalized delegation in that a representative is authorized to defend collective interests and exclude members whose mistakes threaten group interests, while institutionalized representation may lead to the embezzlement of social capital. In order for “limits of the group”—boundaries of the network of relationships—to be reproduced, the strategy of perpetual exchanges and reinforced mutual recognition among the members is required. These exchanges are further carried out through the strategy of social exclusion. Instituted groups legitimate and encourage exchanges between homogeneous individuals (Bourdieu 1986 [1983]: 249–51).

Lin: Resources Embedded in Social Networks

Lin’s social capital theory builds upon the original theory of social resources—“resources embedded in one’s social network...accessible through one’s direct and indirect ties”—that he and colleagues gradually developed in the late 1970s and early 1980s (Lin 1982: 132; Lin et al. 1978; Lin, Ensel, and Vaughn 1981). His framework of social capital is rooted in the classic research tradition on capital. He

differentiates two types of social capital from its structural and networking sources at the micro- and meso-levels, its mechanisms, and its instrumental and expressive returns. He also offers an empirically falsifiable operationalization and measurement instrument of social capital.

According to Lin, social capital is “resources embedded in a social structure that are accessed and/or mobilized in purposive actions” (2001a: 29). Social structures include both formal hierarchical structures (e.g., organizations) and less formal social networks. Lin’s definition of social capital is grounded in the classic tradition of personal capital theories (e.g., Marx’s capital, human capital, cultural capital). Both personal and social capital are valuable assets. But the former is under the control of individuals themselves, while the latter is under the possession of individuals’ network members. Lin conceives social capital as a relational stratifier from a conflict perspective, and operationalizes it narrowly and strictly as “resources (e.g., wealth, power, and reputation, as well as social networks) of other individual actors to whom an individual actor can gain access through direct or indirect social ties” including ties in the cyberspaces especially on the Internet (2001a: 43). In other words, social capital refers to network members’ personal and social capital. In a presumed hierarchical social structure in the shape of a pyramid, resource allocation depends on structural positions. The amount of individuals’ social capital hinges in general upon structural positions, occupational positions in particular (Blau and Duncan 1967), of their social network members, including those in cyberspace.

Lin distinguishes two types of social capital: contact resources and network resources (2001b). The former refers to resources from network members that individuals mobilize in their purposive actions, indicated by resources of contacts that individuals use in purposive actions. The latter corresponds to resources available from network members to whom individuals have access. To capture network resources, Lin and colleagues developed a position generator to map positional networks (Lin and Dumin 1986; Lin, Fu, and Hsung 2001), which are not constrained by tie strength, geographical location, content, and homogeneity (Lin 2008; Lin et al. 2001). This instrument asks respondents to

identify their contacts associated with a representative sample of occupational positions salient in a society. If respondents know several people in that type of position, they are usually asked to name the one that occurs to them first.

Alters' different socioeconomic positions or accessed positions captures "who you know" in the positional hierarchy. The major indicator of accessed positions is accessed socioeconomic status (SES, including education, occupation, and income) or network members' SES in that SES represents one central indicator of hierarchical social locations in contemporary society (Blau and Duncan 1967). Accessed SES constitutes a meso-level pyramid-shaped network hierarchy with multiple structural properties. Using the position generator, five traditional indicators of network resources or accessed SES can be created on the occupational dimension: 1) diversity (the total number of positions in which respondents identify one contact) measures the size of different positions in the network hierarchy; 2) upper, lower, and average reachability (the highest, lowest, and average status of occupations to which respondents have access) respectively captures the top, bottom, and average status of the network hierarchy; and 3) extensity (the difference between the highest and lowest status of occupations to which respondents have access) represents the range of status of the network hierarchy (Campbell et al. 1986; Lin and Dumin 1986). The higher the values of these indicators of accessed SES, the greater the diversity, reachability or quality, and extensity of social capital. Note that these five indicators measure the absolute aspect of accessed SES. The relative aspect of accessed SES receives little attention and can be indicated by the size of accessed positions ranked higher or lower than ego's, which measure ego's relative structural position within the network hierarchy (Song 2015a). The greater the size of higher accessed positions, the greater the volume of social capital; the greater the size of lower accessed positions, the smaller the amount of social capital.

Network resources can also be derived from two additional network instruments: the name generator and the resource generator. The name generator, which maps personal networks (McCallister

and Fischer 1978), asks respondents to name a fixed number of contacts (usually five) with whom they discuss important matters (Burt 1984). Similar to the position generator, it may calculate social capital, for example, based on socioeconomic attributes of named contacts (Acock and Hurlbert 1993; Song and Chang 2012). The resource generator (Snijders 1999; Van der Gaag and Snijders 2005) directly maps resource networks and asks respondents to identify contacts associated with a fixed list of useful and concrete social resources across multiple life domains (e.g., knowledge, skills, and material and financial goods). It measures social capital as the sum score of access to all different resources. The position generator proves to be generalized across societies due to its association with the occupational structures common in modern societies; it is more flexible, useful, and efficient in describing access to social capital than the name generator and the resource generator (Song and Lin 2009; Van der Gaag, et al. 2008).

Social capital thus framed, operationalized, and measured enables us to distinguish it from other relationship-based concepts that tend to be used interchangeably without discrimination—social cohesion, social integration, and social support—from a social network perspective, and to understand their causal relationships (Song and Lin 2009; Song et al. 2010; Song et al. 2011). In brief, social cohesion reflects norms of trust and reciprocity among network members (Kawachi and Berkman 2000); social integration refers to involvement in social roles, networks, and activities (Brissette, Cohen, and Seeman 2000); and social support represents various forms of aid individuals receive or perceive from their network members such as emotional support (e.g., liking, love, and care), instrumental support (e.g., goods and services), informational support (e.g., knowledge and skills), and appraisal support (e.g., positive and encouraging evaluation) (Berkman 1984; House 1981). In contrast, social capital in Lin's theoretical framework uniquely captures various forms of assets (e.g., economic, political, and social) that network members actually possess.

Social capital stems from two sources: structural and networking (Lin 2001a). Structural sources include an individual's earlier hierarchical roles or positions, both ascribed (e.g., gender, race, family origins) and achieved (e.g., prior socioeconomic status). Higher previous social positions lead to greater social capital. Networking sources consist of tie strength and network location. Weak ties and closeness to social bridge in social networks create more social capital (Burt 1992; Granovetter 1973). Furthermore, the positive impacts of social positions and closeness to social bridge on social capital are contingent on three macro-level structural factors: the number of hierarchical levels, the equal number of occupants across levels, and the resource differential across levels (Lin 2001a). The positive effect of social positions is moderated negatively by the first two structural factors and positively by the third one, while that of closeness to social bridge is moderated by these structural factors in the opposite direction.

Social capital exerts both main and moderating effects (Lin 2001a). Social capital theory assumes that network members' resources indicate non-redundant valuable social resources beyond and above ego's own resources, and can be mobilized to facilitate ego's purposive actions. Network members' resources can generate instrumental (e.g., wealth, power, and reputation) and expressive (e.g., health and life satisfaction) returns through four mechanisms: providing information, exerting influence, acting as social credentials, and reinforcing group identity and recognition (Lin 2001a). The positive effect of network members' resources interplays with tie strength. Resources derived from weak ties creates more instrumental returns, while resources embedded in strong ties produces more expressive returns. Also, instrumental returns and expressive returns fortify each other.

There is a reciprocal relationship between social capital and macro-level "institutional fields" (Lin 2001a). On the one hand, an institutional field regulates and constrains its members' access to and use of social capital by legitimating certain social norms of social interaction. On the other hand,

individual members can establish alternative norms and transform the existing institutional field through activating and mobilizing social capital.

Lin's initial efforts were geared more toward an individual-level conceptualization of social capital. Recently, he extends his original theory to the macro-level (Lin 2008). He defined two forms of social capital for a collectivity. Internal social capital is resources provided by members within a collectivity (i.e., associations, organizations, communities, regions, or nation-states), and external social capital refers to resources accessible from other collectivities with which the focal collectivity is networked.

In summary, Bourdieu and Lin exemplify a network-based approach that is deeply rooted in the stratification research tradition in sociology (Song 2013a; Song et al. 2011). They define social capital as a relational asset available to individuals, decompose it into network members' personal and social capital, and identify it as one independent stratifier, parallel to other forms of capital, in the production and reproduction of the hierarchical social structure. Their approach strictly distinguishes social capital from its antecedents and yields for individuals from a conflict perspective (Adam and Rončević 2003; Portes 1998). Bourdieu and Lin discuss the reinforcing interplay between personal and social capital, and assert that networks are preconditions of social capital and exist across multiple contexts. Lin develops a methodological instrument to measure social capital embedded in social networks, while Bourdieu did not explicitly discuss measurements of social capital. However, Bourdieu's proposed elements of social capital (i.e., network size and resources—economic, cultural, and social capital—of network members) can be captured by the three network instruments used to measure Lin's idea of social capital. The diversity of accessed SES measured through the position and name generators indicates the size of personal and positional networks, and its diversity, reachability, and extensity as well as the total sum of accessed resources measured through the resource generator approximates network members' economic, culture, and social capital.

One major theoretical difference between Bourdieu and Lin lies in their positions on the relationship between structural constraints and individual agency. Bourdieu more strongly emphasizes structural constraints (such as network closure and social exclusion) in the creation of social capital and the role of social capital in the reproduction of social hierarchy, while Lin more strongly underlines individual agency (such as heterophilous interaction and network bridging) in the accumulation of social capital and the function of social capital in climbing the social ladder. Also, Lin pays more attention to macro-level institutional arrangements: their reciprocal relationship with social capital and their interaction effect with causes of social capital.

Application to Health and Evidence

Social capital theory assumes that network members' resources are valuable social resources non-redundant with personal capital. With this social resource assumption, the theory argues that network members' resources can stratify health net of ego's SES (Lin 2001a; Song and Lin 2009). Extending social capital theory, network members' resources as a network-level resource locator can exert a positive health effect arguably through diverse possible social, psychological, and physiological mechanisms. Such resources can possibly 1) influence macro-level health policy decision-making, 2) advance socioeconomic status attainment, 3) promote identity with higher social classes, 4) provide various forms of social support (i.e., emotional, instrumental, informational, and appraisal aid), 5) encourage conformation to healthy norms and engagement in healthy lifestyles, 6) facilitate help seeking, 7) ensure and improve access to health care and insurance, 8) act as social credentials in accessing health resources, 9) decrease stress exposure, 10) reinforce psychological resources (e.g., sense of control, and self-esteem), and 11) boost the immune system (Christakis and Fowler 2008; Erickson 2003; Lin 2001a; Moore, Daniel, Paquet, Dubé, and Gauvin 2009; Song 2011; Song and Chang 2012; Song et al. forthcoming; Song et al. 2011).

Most existing empirical studies examine the direct effect of network members' resources on health and well-being, and find that effect to be positive in different societies. Among studies using the position and name generators, in the United States, average reachability of accessed education and occupations is associated positively with smoking cessation and life satisfaction but negatively with anomie and depression, and average and upper reachability of accessed education is positively related to health information seeking (Acock and Hurlbert 1993; Christakis and Fowler 2008; Haines et al. 2011; Song 2011; Song and Chang 2012). In urban China, the diversity of accessed occupations has positive effects on satisfaction with marital life and the relationship with children (Song 2014a). In Taiwan, three indicators of accessed occupational status—diversity, extensity (or range), and upper reachability—are related positively to self-reported (physical and mental) health, health literacy, and life satisfaction with the relationship with neighbors but negatively to depression, and family members' education, in particular children's education, is negatively related to depressive symptoms (Lee et al. 2017; Song and Lin 2009; Song 2014a; Yang et al. 2011; Yang et al. 2013). In Montreal, Canada, the above three indicators are associated positively with self-reported health but inversely with the chance of being overweight and smoking relapse; and the diversity of accessed occupations is negatively associated with physical inactivity (Legh-Jones and Moore 2012; Moore, Daniel, Paquet, Dubé and Gauvin 2009; Moore et al. 2011; Moore, Teixeira, and Stewart 2014). In Canada, the diversity of accessed occupations is positively associated with self-reported health and mental health (Carpiano and Hystad 2011). In England, adults with contacts in managerial and professional jobs report better self-reported health (Verhaeghe and Tampubolon 2012). In Belgium, the diversity of accessed occupations from strong ties exerts a positive impact on self-reported health (Verhaeghe et al. 2012). In Seoul, South Korea, the diversity, extensity, and upper reachability of accessed occupations have a positive effect on self-reported health (Han, Kim, and Leen 2012). Among studies using the resource generator, one community study in the United Kingdom finds that accessed domestic resources, expert advice, personal

skills, and problem-solving resources from network members are negatively associated with the incidence of common mental disorders (Webber and Huxley 2007). One community study on elderly rural residents in China and one community study on urban residents in Japan also report positive effects of accessed resources respectively on health-related quality of life and self-reported health (Kobayashi et al. 2013; Sun et al. 2017).

As introduced earlier, there are diverse possible mechanisms linking network resources to health. Two studies directly examine possible mechanisms: class identity or subjective social class and health lifestyle (Song 2011; Song et al. forthcoming). In the United States, average reachability of accessed occupations is negatively associated with depressive symptoms partially through class identity (Song 2011). Average reachability and upper reachability of accessed education is negatively related to body weight ratings partially through athletic identity, an indicator of health lifestyle. Subjective social class is a psychological determinant of health. It exerts direct positive effects on various physical and mental health outcomes net of objective social status through diverse possible pathways, including tempering relative deprivation and status anxiety (Schnittker and McLeod 2005). Accessed SES can directly enhance subjective social status (Hodge and Treiman 1968; Song 2006). The higher the occupational positions that their network members occupy, the higher the social class that individuals identify themselves with.

As highlighted in the work of Bourdieu and Lin, social capital is an endogenous social factor. It can act as a linking mechanism between its social antecedents and health. A couple of studies directly investigates the mediating effect of accessed SES on the relationship between more upstream social factors and health (Moore, Stewart, and Teixeira 2014; Song 2011; Song et al. forthcoming). In the United States, the more socially and economically advantaged groups (in terms of age, gender, race/ethnicity, education, occupation, income, and social integration) are mentally healthier partially due to their higher accessed SES (Song 2011). Older adults, men, whites, people with higher SES (i.e.,

education, occupation, and family income), and those with memberships in voluntary organizations report higher average reachability of accessed occupations which in turn is negatively associated with depressive symptoms. Average and upper reachability of accessed education together with health lifestyle partially mediates the negative effect of education on body weight ratings (Song et al. forthcoming). In Montreal, Canada, the diversity, extensity, and upper reachability of accessed occupations mediates the health effects of age, education, household income, employment status, social integration, sense of control, social cohesion, and generalized trust (Moore, Stewart, and Teixeira 2014).

Beyond Social Capital: Theories and Evidence

The original network-based approach to social capital is embedded in the social stratification tradition in sociology, and focuses on the positive function of social capital in the process of status attainment (Bourdieu 1986 [1983]; Lin 2001a). It argues that the more resources one's network members possess, the more advantaged he or she is in climbing the social ladder. This approach pays limited theoretical attention to the negative effect of social capital on well-being and the varying function of social capital by other social and structural factors. Recently researchers have contributed to refining the network-based approach to social capital by combining this approach with other theoretical perspectives and documenting the detrimental impact of network members' resources on health and the variation of that impact.

Protect or Hurt

Social capital theory assumes that network members' resources represent nonredundant valuable social resources (Bourdieu 1986 [1983]; Lin 2001a). This social resource assumption has been challenged in a

few recent studies. Three theoretical perspectives have been proposed to explain the detrimental effect of network members' resources: social comparison (Song 2014a, 2015a, and 2015b), unsolicited social support (Song 2014b, 2015b), and networking cost (Moore, Daniel, Paquet, Dubé, and Gauvin 2009).

From a social comparison perspective, comparative reference group theory underscores network members as one origin of the frame of reference and their resources as social comparison standards (Festinger 1954; Gartrell 1987; Merton and Kitt 1950). It argues that reference groups with more resources and higher SES can damage one's health through triggering upward or negative social comparison, which can damage health through threatening self-esteem and provoking stressful reactions (e.g., goal-striving stress, relative deprivation, life dissatisfaction, anger, and sense of failure) and risky behaviors (Eibner and Evans 2005; Merton and Kitt 1950). But reference groups with less resources and lower SES can protect health through eliciting downward or positive social comparison.

The unsolicited social support perspective underlines network members as possible providers of distressing unsolicited aid (Song 2014b, 2015a). As it argues, if surrounded by network members with more resources, individuals are more likely to receive support without asking. The receipt of such support can damage mental health due to its nature of not being actively sought by recipients. Possible mechanisms include mismatch with recipients' actual need, miscarriage, violation of reciprocity, self-esteem threat, and elicitation of comparative reference group behavior (Barrera 1986; Bolger and Amarel 2007; Song 2015b; Song and Chen 2014).

The networking cost perspective emphasizes the various forms of costs involved in the establishment and maintenance of social networks (Bourdieu 1986[1983]; Coleman 1990; Lin 2001a). Arguably it is more difficult and costs more (in terms of time, physiological and psychological energy, and social, cultural, and financial resources) to successfully reach out to and maintain existing connections with high-status and resource-rich social contacts. These various forms of stressful and

burdensome costs can induce distress and damage psychological resources and mental health directly and physical health indirectly (Moore, Daniel, Paquet, Dubé, and Gauvin 2009).

Overall, the above three perspectives can operate together to damage health. Three studies report supportive evidence (Song 2014a, 2015a, 2015b). In urban China, knowing people in authority at the workplace is positively associated with depressive symptoms indirectly through financial dissatisfaction and the receipt of unsolicited job leads (Song 2015b). Upper and average reachability of accessed occupations and the number of higher accessed occupational positions are positively related to depressive symptoms (Song 2015a). Upper reachability of accessed occupations exerts a negative effect on life satisfaction with the relationship with neighbors and with one's current job, and the extensity of accessed occupations has a detrimental impact on life satisfaction with the relationship with neighbors, one's current job, and financial situation (Song 2014a). In the United States, the extensity of accessed occupations is negatively associated with life satisfaction with financial situation.

Interaction with Other Social Factors

The health effect of network members' resources can depend on other social factors such as personal resources or SES and gender (Song and Lin 2009; Song et al. forthcoming). Two competing explanations are possible on the interaction between personal and network members' resources (Song and Lin 2009). According to the compensation effect proposition, people with lower SES are more likely to need and resort to network members for help, and then their health tends to benefit more from network members' resources. The cumulative advantage proposition predicts the opposite. It argues that people with higher SES are able to invest more and mobilize network members' resources more successfully and efficiently. Consistent with the former proposition, the protective effect of accessed occupations on mental health is stronger for people with lower education in Taiwan (Song and Lin 2009).

Social capital theory needs to be combined with the gender perspective to understand differences between men and women. Accessed education is associated with body weight ratings negatively for women but positively for men in the United States (Song et al. forthcoming). Arguably network members' resources help produce and reproduce the gendered body weight norm at the network level: the slenderness ideal for women and the masculine breadwinner role for men (Courtenay 2000; Hesse-Biber 2007; McLaren 2007). Accessed resources protect women's health (i.e., health-related quality of life in rural China and self-rated health in urban Japan) more strongly for men's (Kobayashi et al. 2013; Sun et al. 2017). Arguably women seek and mobilize resources from social contacts more actively than men (Kessler and McLeod 1985).

Variations across Societies

The explanatory power of social capital theory and its competing theories such as comparative reference group theory can be contingent on institutional arrangements across space and time. Three institutional explanations have been developed in the existing literature: relational dependence, self-evaluation motive, and inequality structure (Song 2013b, 2014a, 2015a). The relational dependence explanation expects social capital theory to apply more to collectivistic societies and comparative reference group theory to apply more to individualistic societies. In comparison with individualistic culture, collectivistic culture institutionalizes the legitimacy of individuals' dependence on and mobilization of social ties to a greater degree (Lin 2001a, 2001c; Markus and Kitayama 1991). Network members' resources can be perceived more likely as salubrious assets but less likely as targets of negative social comparison in collectivistic culture.

The self-evaluation motive explanation predicts the opposite pattern. In the process of self-evaluation, individualistic culture nurtures a motive to self-enhance, while collectivistic culture cultivates

a motive to self-improve (Markus & Kitayama, 1991; Sasaki et al. 2014). People in individualistic culture are more likely to prefer downward or positive social comparison but less likely to seek upward or negative social comparison than those in collectivistic culture. Network members' resources can be conceived more likely as valuable assets but less likely as triggers of upward or negative social comparison in individualistic culture.

The inequality structure explanation expects social capital theory to apply more to egalitarian societies and comparative reference group theory to apply more to unequal societies. In more equal societies, the resource differentials between socioeconomic groups are less pronounced, and the social distance between these groups is much smaller and easier to cross. In such societies, actual mobilization of and capitalization on network members' resources, in particular resources from high-SES network members, is thus easier, more feasible, and more successful (Lin 2001a). People in such societies are less likely to make detrimental social comparison since they experience less status stratification, are less conscious of social divisions, and are less sensitive to the difference between their social standings and resources and those of their network members (Wilkinson and Pickett 2010).

Two studies have investigated these three institutional explanations (Song 2014a, 2015a). Results vary by outcome and indicator of network members' resources. Song (2014a) investigates the impacts of three indicators of accessed occupations—diversity, extensity, and upper reachability—on satisfaction with six life domains in three societies: the United States, urban China, and Taiwan. Results in general are consistent with social capital theory in people's satisfaction with private life domains in urban China and Taiwan and with comparative reference group theory in people's satisfaction with public life domains in urban China and the United States. Urban China and Taiwan exemplify collectivistic culture, and Taiwan is more egalitarian than the other two societies. Thus the inequality structure explanation is confirmed in the quality of public life, while the relational dependence

explanation in the quality of private life. Arguably public life is more visible than private life. Network members' resources are more likely to trigger social comparison in public life in more unequal societies.

Song (2015a) examines the effects of five indicators of accessed occupations—upper, average, and lower reachability, and the number of higher and lower accessed occupational positions—depressive symptoms in the United States, an individualistic society, and urban China, a collectivistic society. Her overall results support the self-evaluation motive explanation but not the relational dependence explanation. There is evidence for both social capital theory and comparative reference group theory in the United States but only the latter theory in urban China.

Conclusion

Do network members' resources generate health inequality? As reviewed above, this seemingly simple research question has a complicated answer and deserves further scrutiny in the future. Network members' resources can produce health stratification in both positive and negative directions, and those stratifying effects vary by micro- and macro-level social factor, measurement of network members' resources, and health outcome.

First, according to the network-based social capital theory (Bourdieu 1986 [1983]; Lin 2001a), network members' resources can stratify health in a positive direction. People's health benefits from more resources of network members. Despite its theoretical dominance in the existing research on the relationship between network members' resources and health, social capital theory per se is not sufficient to explain that complex relationship. Its social resource assumption can be challenged by some competing theoretical perspectives (e.g., social comparison, unsolicited support, and networking cost), which expect network members' resources to produce health inequality in a negative direction. People's health can suffer from their connection with resource-rich network members. The positive and negative

stratifying functions of network members' resources in the social dynamics of health and well-being may coexist and offset each other. These theoretical speculations warrant further investigation. Future longitudinal research on various possible psychosocial mechanisms linking network members' resources to health can advance our causal understanding of how the two opposite roles of network members' resources operate together.

Second, the health effect of network members' resources can be contingent on micro-level (e.g., gender, and SES) and macro-level (e.g., relational dependence, self-evaluation motive, and inequality structure) social factors. The application and strength of the social resource assumption in social capital theory may vary by social category, time, and society. Future research should pay more attention to the interaction of network members' resources with other social determinants of health and integrate social capital theory with corresponding theories involving other social determinants. Future larger-scale comparative research across societies and over time is needed for a fuller examination of the institutional contingency of social capital theory.

Furthermore, network members' resources have multiple dimensions and indicators which can exert different health effects. The existing studies have two major methodological implications. First, the direct measurement of network members' resources captured through the resource generator may be more likely to meet the social resources assumption in social capital theory and be protective of health, while the indirect measurement of network members' resources as accessed SES through the position and name generators may both protect and hurt health. Accessed SES is a more upstream network-based concept than specific resources network members possess. On the one hand, it can serve as a resource locator and approximate the potential amount of assets network members control. On the other hand, due to its hierarchical nature, it can trigger negative social comparison, lead to stressful unsolicited support, and involve various forms of cost. Second, accessed SES forms a meso-level pyramid-shaped network hierarchy with multiple structural properties which can affect health in

different directions (Song 2014a, 2015a). Relatively speaking, three properties of accessed SES (extensity, upper reachability, and the size of higher accessed positions) are more likely to involve higher-status network members and damage health through negative social comparison, stressful unsolicited support and demanding networking costs. In contrast, another four properties of accessed SES (diversity, average and lower reachability, and the size of lower accessed positions) are less likely to trigger health-damaging mechanisms. Their relationships with health can be explained more powerfully through social capital theory. In order to further investigate these theoretical and methodological speculations, future research should use diverse network instruments and measure diverse aspects of network members' resources.

Finally, network members' resources operate differently for different health outcomes. As the existing studies suggest, the social resource assumption underlying social capital theory may apply more to outcomes that are instrumental, objective, and related to private life domains but less to those that are expressive, subjective, and related to public life domains. Network members' resources may be more likely to motivate and facilitate ego's instrumental efforts in upward status attainment, access to health-related resources, and the maintenance of physical health and quality of private life. However, they may also damage ego's mental health, psychological well-being, and quality of public life more possibly through detrimental mechanisms such as negative social comparison, unsolicited support, and burdening networking costs. The generalizability of these outcome-specific speculations requires future examination involving more diverse health and well-being outcomes.

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