Social Support

Lijun Song

Vanderbilt University

Joonmo Son

National University of Singapore

Nan Lin

Duke University

Key words: Social support, social network, social integration, social capital, social cohesion

Song, Lijun, Joonmo Son, and Nan Lin. 2011. “Social Support.” Pp. 116-128 in *The Sage Handbook of Social Network Analysis*, edited by John Scott and Peter J. Carrington. London: SAGE.

Social support, a network-based social phenomenon, has become the focus of research attention in the last three decades. As shown by a search of the Social Sciences Citation Index for articles whose topic includes “social support” there were only three such articles in the 1950s and ten in the 1960s. The number rose to seventy-six in the 1970s. Following this, on average per year, there were ninety-four such articles in the 1980s, 1394 in the 1990s and 2687 from 2000 to 2008. Social support has attracted burgeoning attention especially in health literature since the lack of social support is regarded as a potential fundamental cause of disease (Link and Phelan, 1995). As another search of the Social Sciences Citation Index for articles with “social support” and “health” in their topics reports (see Figure 1), on average per year, there were less than six such articles from 1976 to 1989; the number increased to 445 in the 1990s and dramatically jumped to 1135 from 2000 to 2008. A few books explored the relationship between social support and its health consequences (Caplan, 1974; Caplan and Killilea, 1976; Cohen, and Syme, 1985; Cohen, Underwood, and Gottlieb, 2000; Gottlieb, 1981 1983; House, 1981; Lin, Dean, and Ensel, 1986). Many reviews from different disciplinary backgrounds have surveyed the associations of social support with various health-related outcomes (Alcalay, 1983; Berkman, 1984, 2000; Coyne and Downey, 1991; Ell, 1984; Faber and Wasserman, 2002; Green, 1993; House, 1987; House, Umberson, and Landis, 1988; Kessler, Price, and Wortman, 1985; Schwarzer and Leppin, 1991; Smith et al., 1994; Thoits, 1995; Turner and Turner, 1999).

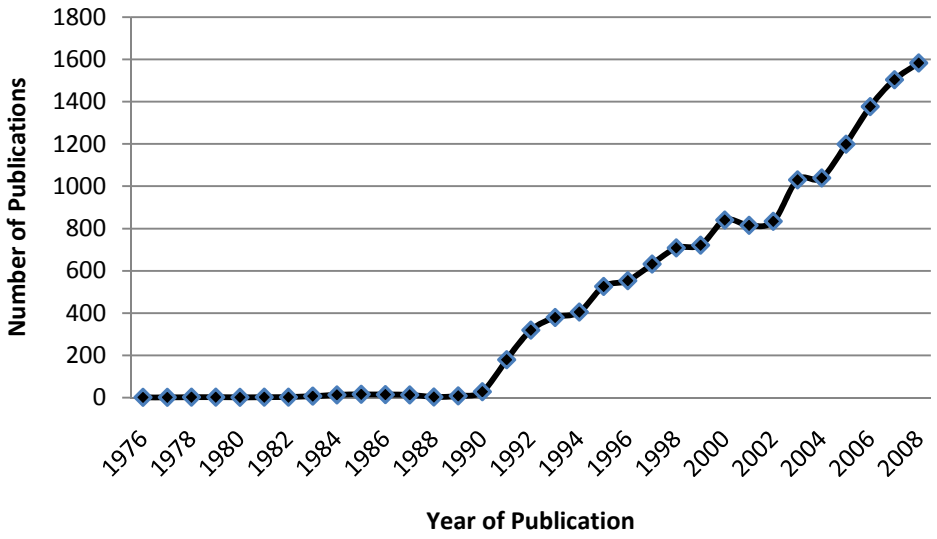

Figure 1 Articles with "Social Support" and "Health" in topic: Social Sciences Citation Index

Despite its substantial popularity and voluminous development, the term of social support still stimulates debates on its conceptualization and operationalization. Social support is confounded with other network-based but distinct social factors without clear discrimination, such as social cohesion, social integration, social networks, and social capital. Empirical results on its health returns are abundant but inconsistent across studies. We thus begin this review by clarifying the nature and forms of social support. We then turn to its distinction from and association with other network-based factors. Next, we examine the operation of social support in the social production process of disease and illness. We conclude with a brief discussion of future research directions of social support research. Even though social support is a sociological phenomenon in nature, the existing literature on the topic has been dominated by epidemiologists, psychiatrists, and

psychologists, as House et al. (1988) observed two decades ago. Sociologists are expected to play a crucial role in the advancement of future studies on social support.

CONCEPT OF SOCIAL SUPPORT: NATURE AND FORMS

The idea of social support has achieved great currency since the middle 1970s (for reviews see Barrera, 1981, 1986; Cohen, Gottlieb, and Underwood, 2000; Dean and Lin, 1977; Gottlieb 1981; Lin, 1986a; Thoits, 1982). Epidemiologist John Cassel, physician and epidemiologist Sidney Cobb, and psychiatrist Gerald Caplan made groundbreaking contributions to its popularity. Cassel and Cobb summarized accumulating empirical evidence on the promising impact of relational factors in health maintenance and promotion, and underscored social support as one such protective antecedent. Cassel (1974, 1976) dichotomizes various social conditions relevant to health from a functionalist perspective: one category protects health, while the other one produces disease. He speaks broadly of social support as the first category, "the protective factors buffering or cushioning the individual from the physiologic or psychological consequences of exposure to the stressor situation" (1976: 113). Cobb (1974, 1976) uses a communication perspective. He (1976) conceives of social support as information, and classifies three types of information in terms of their functions: information leading a person to believe that he or she is cared for and loved (i.e., emotional support), is esteemed and valued (i.e., esteem support), and belongs to a network of communication and mutual obligation. Similar to Cassel's definition, Cobb argues that the major protective role of social support lies in its moderating effect on life stress instead of its main health effect. In addition, psychiatrist Gerald Caplan (1974: 6-7) addresses the

concept of the support system as “an enduring pattern of continuous or intermittent ties that play a significant part in maintaining the psychological and physical integrity of the individual over time”, and lists three types of support activities: “The significant others help the individual mobilize his psychological resources and master his emotional burdens; they share his tasks; and they provide him with extra supplies of money, materials, tools, skills, and cognitive guidance to improve his handling of his situation.”

More attempts to conceptualize the substance of social support from different perspectives quickly followed. Dean and Lin (1977) consider social support as functions of primary groups that meet instrumental and expressive needs. Lin and colleagues later reconstruct social support at multiple levels of social networks as “support accessible to an individual through social ties to other individuals, groups, and the larger community” (Lin et al., 1979: 109). Kaplan and colleagues (Kaplan, Cassel, and Gore, 1977: 54) point out that social support is the content of social ties (i.e., “the meanings that persons in the network give their relationships”), and is contingent on structural and interactional characteristics of social networks (i.e., anchorage, reachability, density, range, directedness, intensity, and frequency). Henderson (1977) applies attachment theory, and views social support as affectively positive social interaction with others under stressful conditions. Gottlieb (1978) lists four forms of informal social support derived from twenty-six helping behaviors: emotionally sustaining behaviors, problem-solving behaviors, indirect personal influence, and environmental actions. Wellman (1981) dichotomizes the content of social ties. He asserts that social support is only one type of content; the other is nonsupport. He lists five forms of social support derived from

twenty-one interactional strands: doing things, giving and lending things, help with personal problems, information help, and shared activities, values, interests, and interaction. He also highlights the variation of social support with network properties (i.e., ties strength, tie symmetry, density). Pearlin and colleagues view social support as "the access to and use of individuals, groups, or organizations in dealing with life's vicissitudes" (Pearlin et al., 1981: 340). House and his colleagues define social support as one type of relational content, "the emotionally or instrumentally sustaining quality of social relationships" (House et al., 1988: 293). Berkman (1984) sees social support as the emotional, instrumental, and financial aid that is obtained form one's social network. More recently, Turner (1999) defines social support as social bonds, social integration, and primary group relations. Cohen and colleagues refer to social support as "any process through which social relationships might promote health and well-being" (Cohen et al., 2000:4).

These different conceptualizations reflect an ambiguous construction of the social support concept. Despite the inconsistent framing, most of these efforts explicitly or implicitly converge on the relationship-based, assisting nature of social support. Based on the above review, we are more attracted to a strict synthetic definition of social support as the aid—the supply of tangible or intangible resources—individuals gain from their network members (Berkman, 1984; House, 1981). This definition narrows down social support to a specific relational content, separates its nature from its preceding social structures such as social networks and social integration, and eliminates its tautological assumption that social support protects against disease and what fosters health is social support. The

stretching of social support as general environmental factors (Cassel, 1976), relational content (Kaplan et al., 1977; Henderson, 1977), or relational process (Cohen et al., 2000) paves the way for diverse measurements and mixed evidence, and endangers the unique theoretical value of social support. The functionalist framing of social support (Cassel, 1976; Cohen et al., 2000; Henderson, 1977) mixes social support with its consequences, and overlooks the fact that social support does not always function in a positive direction to meet needs, or to intervene between stressors and health. The disease- or stress-related definition (Cassel, 1976; Cobb, 1976; Cohen et al., 2000; Henderson, 1977; Pearlin et al., 1981) constrains the significance of social support within the health area, which would be applicable to the production of other consequences and the general stratification process.

Most conceptualizing efforts also converge on multifaceted forms of social support. Social support can be categorized in different ways. In terms of its content, for example, social support can be divided into emotional support (liking, love, empathy); instrumental support (goods and services); informational support (information about the environment); or appraisal support (information relevant to self-evaluation) (House, 1981). In terms of its degree of subjectivity, social support is dichotomized into perceived support and objective or actual support (Caplan, 1979). In terms of the role relationship between the recipient and the donor (Dean and Lin, 1977; LaRocco, House, and French, 1980; Thoits, 1982), social support could be kin-based (e.g., parents, spouses, children, siblings, other relatives) or nonkin-based (e.g., friends, neighbors, coworkers). In terms of its contexts, social support could be routine support within an ordinary situation or nonroutine support within a crisis situation (Lin, Dean, and Ensel, 1986). Social support is thus a

multidimensional construct. Its exhaustive typology is beyond the scope of this chapter. A cross-tabulation following the foregoing strategies produces thirty-two forms of social support. Also note that social support is traditionally used as a single directional concept, and refers only to support that egos receive from their network members. Some argue that social support is bidirectional (Pearlin, 1985; Wellman, 1981). Egos not only receive support from alters, but also give support to alters or reciprocate support with alters. Providing or reciprocal support has received limited attention. We will focus on received support in the rest of this chapter.

DISTINCTION FROM OTHER NETWORK-BASED CONCEPTS

Theoretical Distinction

Social support thus rigorously conceived allows us to distinguish it from other network-based but distinct preconditions of disease and illness such as social cohesion, social integration, social network, and another recently popular construct, social capital. The health consequences of these four factors have also been well documented (for reviews see Berkman, 1995; Berkman and Glass, 2000; Berkman et al., 2000; Greenblatt, Becerra, and Serafetinides, 1982; House et al., 1988; Kawachi, Subramanian, and Kim, 2008; Kawachi and Berkman, 2001; Lin and Peek, 1999; Luke and Harris, 2007; Pescosolido and Levy, 2002; Smith and Christakis, 2008; Song, Son, and Lin, forthcoming; Stansfeld, 2006). However, the distinction between social support and these factors tends to be blurred in recent health literature. Some put social networks, social integration, and social resources under the rubric of social support (e.g., Elliott, 2000; Lin, Ye, and Ensel, 1999; Roxburgh, 2004; Turner, 1999). One recent fashionable trend is to subsume social

support together with social cohesion, social integration, and social network under the popular umbrella of social capital (e.g., Carpiano 2006; Coleman, 1990; Putnam 2000; Szreter and Woolcock 2004).

Such an entangled conceptualization jeopardizes the unique heuristic utility of each concept, and confounds their causal relationships. To overcome this theoretical issue scholars have attempted to distinguish them from each other (Berkman et al., 2000; House et al., 1988; House and Kahn, 1985). We have made careful efforts to differentiate them elsewhere (Song and Lin, forthcoming). To begin, social network 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). Its simplest form is a dyadic social tie. Social network is not a theory but a perspective (Mitchell 1974). It provides guides to explore various network properties, their causes, and consequences. Network properties may be objective, including tie attributes such as tie strength and relational contents; structural attributes such as network size; and compositional attributes such as network members' characteristics. They may also be subjective, such as network norms. Specific theories such as social cohesion, social integration, social capital, and social support are derived from the network perspective (Berkman et al., 2000; Lin and Peek, 1999; Pescosolido 2007). Social cohesion is the degree of social bonds and social equality within social networks, indicated by trust, norms of reciprocity, and the lack of social conflict (Kawachi and Berkman 2000). Social integration is the extent of participation in social networks, indicated by active engagement in social roles and social activities, and

cognitive identification with network members (Brissette, Cohen, and Seeman 2000). Social capital is resources embedded in social networks, measured as structural positions of one's network members (Lin 1999a).

Thus conceived (see Figure 2), social support is separated from its structural contexts (Dohrenwood and Dohrenwood, 1981; House and Kahn, 1985; Lin et al., 1999). Social cohesion as norms is more upstream in the causal chain, and may regulate properties of other network-based factors. Social integration is positively associated with the quality and quantity of social capital and social support by maintaining old relationships and establishing new relationships. Social capital is a source of social support since network members' resources are drawn for various supportive purposes. Social support may therefore be conceived as a downstream factor subsequent to the operation of social cohesion, social integration, and social capital, and other network features. Certain indicators of social integration, social capital, and other network characteristics may act as proximate measures of social support. The relationship between these network-based factors is indeed reciprocal and dynamic from a longitudinal perspective. For example, the activation process of social support, either satisfying and effective or unsatisfying and ineffective may redirect the degree and form of social integration, reconstruct the availability of social capital, and finally reshape the strength of social cohesion. After clarifying the meaning of these terms, we turn to empirical evidence on the network contingency of social support. Little attention has been paid to the relationship between social cohesion and social support. We review a few studies on the associations of social integration, social capital, and other network features with social support.

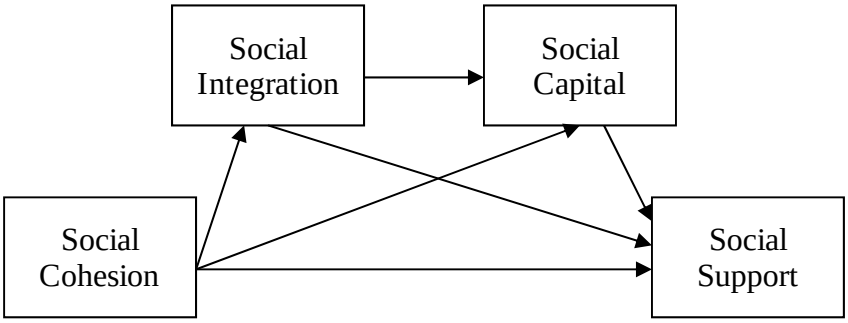

Figure 2 A Conceptual Model of Social Support and Its Network-Based Sources

Empirical Evidence: The Network Contingency of Social Support

Social integration fosters the social production of social support. Lin and colleagues (Lin et al., 1999) use a community sample of adults. They measure social support based on forty items, and derive four latent factors to respectively indicate perceived instrumental support, actual instrumental support, perceived expressive support, and actual expressive support. As they report, social integration (or participation in community organizations, in their own words) directly leads to more actual instrumental support, indirectly increases all types of support through expanding network size (i.e., the number of weekly contacts), and indirectly produces perceived and actual instrumental support by increasing the chance of the presence of an intimate relationship. Seeman and Berkman (1988) analyze a community sample of older adults. Two types of perceived support, instrumental (i.e., help on daily tasks) and emotional (i.e., talking over problems and decision making), are both positively associated with network size; number of face-to-

face contacts; number of proximal ties; having a confidant relationship; and direct contacts with children, friends, and relatives. One specific form of social integration, religious participation, and its linkage to social support has received much attention. Ellison and George (1994) employ a community sample of adults. Their findings vary with the measurements and the types of actual support. They presented a list to respondents of thirteen types of support, and asked whether their network members ever offered these types of support. If each type of received support is measured separately as dummy variables, the frequency of religious attendance is positively associated with the supplies of four out of thirteen types of support: gifts or presents, business or financial advice, house maintenance and repair tasks, and running errands. When they measure received support as a summed score ranging from zero to thirteen, the frequency of religious attendance increases the variety of received support only indirectly through expanding the size of networks (i.e., number of nonkin ties, in-person contacts, and telephone contacts). Nooney and Woodrum (2002) focus on religious participation and church-based support. Using a national sample of adults, they find that the frequency of church attendance is positively associated with perceived support from their congregations. Taylor and Chatters (1988) investigate a national sample of black Americans, and report that the frequency of church attendance expands the chance of receiving support from people in the church. In a study of a national longitudinal data of adolescents (Petts and Julliff, 2008), social support (i.e., how much adults, teachers, parents, and friends care about them; and how much their family understands them, cares about them, and has fun together) explains away the effect of religious participation on depression.

The positive linkage of social capital to health and economic well-being has been documented (Lin, 1999b; Song et al., forthcoming). As social capital researchers generally assume, social capital contributes to various returns by providing a higher level of different forms of social support such as information, influence, social credential, and reinforced identity (Lin, 2001). However, direct examinations of the impact of social capital on social support are very limited if we operationalize social capital strictly as structural positions of network members (Lin, 2001). Empirical results are also mixed. One study examines the relationship between social capital and informational support (Lin and Ao, 2008). It employs a national sample of currently or previously employed adults between twenty-one and sixty-four years of age and captures informational support by asking respondents whether they received job information at the time they started their current job. They map positional network through the position generator that asked respondents to identify contacts, if any, in each of twenty-two occupational positions at the time they started their current job. Social capital is derived from three indicators of positional networks: range (i.e., the difference of the highest and lowest prestige scores among the positions that each respondent could access), extensity (i.e., the number of different positions each respondent could access), and upper reachability (i.e., the highest score among accessed positions). They find a significant positive effect of social capital on the receipt of job information. Another study (Wellman and Wortley, 1990) collected information on twenty-nine respondents' active network members in the East York section of Toronto, the total of which is around 335. It finds no association between network members' socioeconomic positions (i.e., education, employment status, and

occupational status) and five indicators of actual support (i.e., emotional aid, major services, small services, financial aid, and companionship). In addition, one study explores the influence of social capital on actual support in a natural disaster context (Beggs, Haines, and Hurlbert, 1996). The authors interviewed residents in two communities after Hurricane Andrew in Louisiana and collected information on their core networks prior to the disaster and on their actual support as well as support from formal organization during disaster recovery. They measure eleven network characteristics. Among them, the proportion of alters with a less than high school education reflects structural locations of network members, and is the most proximate indicator of social capital. That proportion is positively associated with the receipt of informal recovery support. This finding seems to disconfirm our previous causal argument on the positive association of social capital with social support. As the authors explain, that finding is consistent with previous disaster studies. The underlying rationale is that individuals with less education may possess disaster-relevant occupational skills. Such a finding implies that the function of social capital in the social distribution of social support varies across social contexts.

Apart from social integration and social capital, other network features also shape the process of social support. Haines and Hurlbert (1992) study a community sample of adults. They measure three indicators of perceived support: instrumental (i.e., having enough people to get help), companionship (i.e., having enough people with whom to socialize), and emotional (i.e., having enough people to talk to). The average number of contents per tie decreases instrumental support only for women; the proportion of kin

among alters increases instrumental support only for men; and density among alters increases companionship and emotional aid for men only. Wellman and Wortley's East York study (1989) observes that various forms of actual support vary with kinship relations. Parents and adult children offer higher levels of emotional aid, services, and financial aid; siblings especially supplement the provision of services; and extended kin are least supportive and less companionable. They further report (Wellman and Wortley, 1990) that stronger ties, measured as a higher degree of intimacy and voluntary interaction within diverse contexts, supply wider support and offer more emotional aid, small services, and companionship, and that physically accessible ties tend to provide services. They do not find significant associations of actual support with frequency of contact, group's interconnections, and positional similarity between egos and network members. A more recent study (Plickert, Côté, and Wellman, 2007) investigates determinants of reciprocal exchange of emotional support, minor services, and major services. It reports significant associations between the giving and receiving of emotional support, the giving and receiving of minor services, and the giving and receiving of major services. It also finds partial evidence that giving one type of resource is associated with getting other types of resources in turn. Being a neighbor, a parent, or an adult child is positively associated with reciprocal support of major and minor services. The number of ties is positively associated with reciprocal emotional support. Tie strength does not exert a significant effect. We next review the theoretical and empirical evidence for the role of social support in the social production of disease and illness.

HEALTH RETURNS TO SOCIAL SUPPORT

Theoretical Modeling

Social support initially received research attention only as a buffer in the association of stressors with mental health (Cassel, 1976; Cobb, 1976; Kaplan et al., 1977). Most individuals have limited personal capital. When encountering undesirable life events they are expected to use social capital (i.e., personal capital of their network members) to supplement their personal capital through the process of social support. This process may reduce the negative health effects of stressful life events. In the last three decades diverse models linking social support to health have been developed (Barrera, 1986; Berkman, 2000; Cohen, Gottlieb, and Underwood, 2000; Dohrenwend and Dohrenwend, 1981; Ensel and Lin, 1991; House et al., 1988; Lin, 1986b; Thoits, 1982; Wheaton, 1985). Most of these modeling efforts focus on the health functions of social support in the stressor-distress framework. We attempt to summarize these efforts, extend them beyond that framework, and focus on the crucial operation of social support. From a social causation perspective, social support has four major roles in the production of health: main effect, mediating effect, indirect effect, and moderating effect. The main effect hypothesis states that social support can protect health net of other social preconditions. In other words, social support adds a unique explanatory power to the social etiology of health and illness. Personal capital such as socioeconomic status is a fundamental cause of disease and illness (Link and Phelan, 1995). Therefore social support, the use of personal capital from network members, is expected to exert a direct health effect as well. The mediating effect hypothesis argues that social support may act as an intermediate variable, and intervene in the relationship between its precursors and health consequences. As mentioned earlier, other network-based factors such as social integration or social capital may exert positive

health impacts through strengthening social support. Personal resources such as socioeconomic status may have similar indirect health effects by determining the quality and quantity of social support. Stressors could play similar roles by either triggering the use of social support or diminishing its availability. The indirect effect hypothesis holds that social support may prevent disease indirectly by shaping other health risk factors, such as health behaviors, psychological resources, and the physiological system (Berkman et al., 2000; House et al., 1988). Also, as the prominent job search literature in the area of social stratification assumes (Lin, 2001), social capital advances socioeconomic status attainment through the provision of social support. In this context, social support may exert an indirect health effect by increasing socioeconomic positions that are fundamental causes of disease and illness (Link and Phelan, 1995). The moderating effect hypothesis assumes that social support may mitigate or exacerbate the health effects of other risk factors. For example, disadvantaged individuals with lower personal capital may be more motivated to use social support in the protection of health. In this case social support equalizes the inequality effect of personal capital. On the other hand, advantaged individuals may invest more resources in social networking, and may be able to use social support more successfully and more efficiently in their access to health resources. Social support could thus intensify the inequality effect of personal capital. Take the stress paradigm as another example. Social support may ameliorate the negative health effect of stressors by helping individuals successfully deal with undesirable life situations. It may also enlarge that negative effect on mental health especially, for example, by increasing the recipients' psychological burden. Furthermore, from a social selection perspective health status may also influence the availability and

activation of social support (Thoits, 1995). There are two possibilities. On one hand, poorer health may provoke the recognition and mobilization of social support. On the other hand, poorer health may produce lower perceived and received social support because of resultant higher needs for help, or because of its constraint on social interaction with network members. Finally, as mentioned earlier, the mainstream social support literature focuses on received support rather than providing support. The foregoing theoretical modeling applies to received support. Some have argued for the direct and mediating effect of providing social support on health (Krause et al., 1999). Supporting others may protect health directly through fostering personal control, sustaining a sense of self-worth, maintaining network ties, and improving immune functioning. It may also mediate the relationship between religious practice and health.

Next, we selectively review recent empirical evidence. We include only quantitative studies using a noninstitutionalized sample of adults due to limited space and for the purpose of stronger generalizability and more rigorous theoretical examination (Dean and Lin, 1977). We also choose to highlight varying specifications of social support by summarizing these studies one by one.

Empirical Evidence

Most studies explore received support. They employ data from cross-sectional surveys and report inconsistent evidence. The health impact of perceived support receives much more attention, and most studies use data from community surveys. In one study (Ross and Mirowsky, 1989), perceived support (i.e., having someone to talk to or run to for

support) has a main negative effect on depression. It mediates some positive effects of marriage and education but not those of family income or race/ethnicity. Perceived support also interacts in a complementary manner with the level of control. The positive depression effect of a low level of control is significantly reduced by access to a higher level of perceived support. Another study (Jackson, 1992) examines four-item perceived spouse support, and four-item perceived friend support. The relationship of support with depression depends on the sources of support and the nature of stressors. Spouse support reduces the depression effect of all five kinds of stressors (i.e., marital strain, parental strain, work strain, economic strain, and physical health), while friend support plays similar roles only for three kinds of stressors (i.e., martial strain, economic strain, physical health strain). Roxburgh (2006) investigates perceived support from co-workers and partners. Partner support exerts a main negative effect on depression for both gender groups, and does not have moderating effects. Co-worker support has a main negative effect on depression only for men, and buffers the positive depression effect of the stressor time pressure only for men. Turner and colleagues (Turner and Lloyd, 1999; Turner and Marino, 1994) measure perceived support from partners, relatives, friends, and co-workers based on twenty-five items. Perceived support has main negative effects on both depressive symptoms and major depressive disorder. It mediates some effects of gender, age, marital status, and socioeconomic status on depressive symptoms, but does not mediate their effects on major depressive disorder. It does not moderate the linkages of stressors, age, sex, marital status, and socioeconomic status to both measures of mental health. Haines and Hurlbert (1992) use three indicators of perceived support: instrumental (i.e., having enough people to get help), companionship (i.e., having enough people with

whom to socialize), and emotional (i.e., having enough people to talk to). Among them, only companionship exerts a main negative effect on distress. Only this indicator buffers the effect of stressors. Landerman and colleagues (Landerman et al., 1989) measure perceived support (e.g., the frequency of feeling lonely, feeling understood, feeling useful, feeling listened to, feeling one has a definite role, knowing what is going on with family and friends, and talking about problems) and satisfaction with social support. The negative interaction effects of those two indicators with life events on depression are significant in linear probability models but not in logistic regression models. Elliott (2000) uses two indicators of social support: emotional support (i.e., presence of a confidant) and social integration (i.e., frequency of social interaction). Both types of social support reduce depressive symptoms and protect physical health, but only for residents of higher-SES neighborhoods. It is speculated that disadvantaged neighborhoods are less likely to foster social interactions between residents, and residents there are less able to offer support.

Four studies investigate perceived support using national samples. Gorman and Sivaganesan (2007) report that social support (i.e., the frequency of getting social or emotional support) does not exert a main effect on both hypertension and self-reported health. Ferraro and Koch (1994) measure perceived emotional support based on a four-item scale (i.e., feeling loved, listened to, demanded, and criticized). This indicator has a direct positive effect on health status (i.e., subjective health, chronic conditions, activity limitation) for both black and white respondents. In contrast, another study (Lincoln, Chatters, and Taylor, 2003) reports racial/ethnic differences. Their latent social support

factor is derived from three indicators (i.e., the extent to which respondents feel that relatives understand the way they feel, appreciate them, and can be relied on for help). Social support exerts a main effect on psychological distress only for African Americans. It mediates the effect of personality only for African Americans in that neuroticism decreases social support. It has an indirect negative effect on psychological distress only for whites in that it increases personal control, which decreases distress. Furthermore, Ross and Willigen (1997) analyze two national data sets simultaneously. Both data sets have information on perceived emotional support (i.e., having someone to turn to for help and talk to), and one on perceived instrumental support (i.e., having someone to help with daily tasks and care in sickness). Social support as a sum of emotional and instrumental support in one data set has a main negative effect on four forms of psychological distress such as depression, anxiety, malaise, and aches and pains. In another data set social support as emotional support exerts a similar effect on all outcomes except for aches and pains. They fail to find evidence from both data sets for social support as a significant mediator between education and distress.

A few studies examine both perceived and actual support. Wethington and Kessler (1986) use a national sample of married adults. They have one indicator of perceived support (i.e., the presence of someone to count on for help), and six indicators of actual support: support from providers, support from spouse, support from close relatives, support from others, emotional support, and instrumental support. For those experiencing undesirable life events, perceived instead of actual support has a direct negative effect on

psychological distress. Actual spouse support exerts an indirect effect by increasing perceived support.

Lin and colleagues also examine both perceived and actual support in three cross-sectional studies. One study (Lin et al., 1979) uses a community sample of Chinese-American adults. Social support is measured by a nine-item scale (i.e., interaction with friends, neighbors, people nearby, and the subcultural community, and feelings about the neighborhood, community, and workplace). It has a main negative effect on psychiatric symptoms. It does not moderate the effect of stressors. Another study (Lin et al., 1999) distinguishes two components of social support: structural support and functional support. It measures three layers of structural support: belonging relationship (i.e., participation in seven types of formal organizations), bonding relationship (i.e., the number of weekly contacts), and binding relationship (i.e., the presence of an intimate tie). It uses forty items of social support from which four latent factors are derived: perceived and actual instrumental support, and perceived and actual expressive support. Among these indicators, bonding and binding relationships as well as perceived expressive support and actual instrumental support exert main negative effects on depression. Three layers of structural support also have indirect effects on depression by producing actual instrumental support, and the bonding relationship exerts an indirect effect through enhancing perceived emotional support. The third study (Lin, Woelfel, and Light, 1985) asked respondents to identify their most important life event in the last six months, then asked them about people they interacted with following that event. This collected information on respondents' support networks. The study measures social support in two

ways: the strength of tie and the homophily between egos and helpers, assuming that such indicators capture the quality of social support. As the authors observe, strong ties decrease the negative effect of undesirable life events on depression but only for those in a stable marital status. Age and educational homophily reduce depressive symptoms only for the married, while occupational homophily exerts a similar effect only for the unmarried.

Longitudinal studies are limited and also report mixed evidence. In one study of a two-wave community sample (Thoits, 1984), stable emotional support (i.e., the presence of an intimate relationship) over time directly reduces the level of anxiety and depression at Time 2. It does not interact with stressors. In another study of a two-wave community sample (Pearlin et al., 1981), emotional support (i.e., the presence of someone who provides understanding and advice, intimate exchange with spouses) does not have a main effect on changes in depression over time while decreasing economic strain and increasing mastery. It also does not moderate the relationship between the stressor (i.e., job disruption) and depression. One study uses a four-wave community sample (Aneshensel and Frerichs, 1982). Its latent variable of social support is derived from three measures: number of close friends, number of close relatives, and received socioemotional and instrumental assistance. As it reports, current social support has a main negative effect on current depression at Time 1 and Time 4. Current social support also has indirect effects on subsequent depression as a result of the impact of current depression on subsequent depression over time. Depression does not seem to influence the social support factor over time. Current stressors result in a higher level of current

social support at Time 1 and Time 4, which may imply that stressors trigger the use of social support.

Lin and colleagues (Ensel and Lin, 1991; Lin, 1986b; Lin and Ensel, 1984, 1989; Tausig, 1986) collected a three-wave community sample. Three of their studies use the first two waves of data. One (Lin, 1986b) measures social support as a latent variable derived from thirty-nine items covering community support, network support, confidant support, and instrumental-expressive support. Social support thus measured has a main negative effect on depression and its change over time. It mediates the effect of prior undesirable life events, which indirectly increase depressive symptoms by decreasing social support. It also exerts an indirect effect by suppressing current life events. There is no evidence for the interaction of social support with undesirable life events. In the other two studies (Lin and Ensel, 1984; Tausig, 1986), social support is indicated by a two-item perceived strong tie support (i.e., perception of having enough close companions or friends). Prior social support and change in social support have a main negative effect on the change in depression over time. Prior social support also has an indirect effect on the change in depression by suppressing the change in undesirable life events. Change in social support mediates some effects of prior social support, prior undesirable life events, the change in undesirable life events, and prior depression, which decrease the change in social support. Furthermore, prior physical health has a positive association with current social support. Two more studies use the three waves of data, and measure social support using the foregoing two-item strong-tie support scale. One study (Lin and Ensel, 1989) focuses on physical health. It fails to find a main effect of social support on physical symptoms at

Time 3. Social support at Time 2, however, does buffer the effects of stressors and depression at Time 1. The second study (Ensel and Lin, 1991) explores depression. Social support at Time 2 has a main negative effect on depression at Time 3. It also mediates the effect of stressors at Time 1 that decreases social support. The study fails to find evidence for any moderating effect.

In addition, providing support and its health effects receives little attention. For example, Krause and colleagues (Krause et al., 1999) examine a national sample of the elderly in Japan. They measure emotional support provided to others based on two items (i.e., how often respondents listen to people who wish to talk about worry or trouble, and how often respondents encourage and comfort people experiencing hardship). Providing emotional support is positively associated with self-reported health for both men and women. It also mediates the positive health effect of religious practice, but only for men.

In summary, the above empirical studies focus on received support. They are concerned more with mental than physical health outcomes. Most studies assume a social causation explanation. They pay more attention to the main and moderating health effect of social support than its mediating and indirect impact. The results of these studies are inconsistent. There is more confirming than disconfirming evidence that social support exerts a direct protective effect on health, mental health in particular. The significance of that effect may vary with samples, outcomes, measures of social support, sociodemographic groups, and even neighborhood contexts. Some studies demonstrate that social support mitigates the effect of psychological resources and stressors, but more

studies do not. The importance of the moderating role of social support differs across gender groups, statistical methods, and types of social support. A few studies on the mediating function of social support report that social support may help explain some health effects of sociodemographic and socioeconomic variables, psychological resources, social integration, tie and network attributes, and precedent stressors. Furthermore, social support may act as a precursor and affect health indirectly by influencing psychological resources and reducing stressors. Longitudinal research designs are limited. As a result, the social selection argument receives very little attention. Such limited studies also report conflicting evidence. Aneshensel and Frerichs (1982) do not find an impact of depression on social support, while Lin and colleagues (Lin, 1986b, Tausig, 1986) find that better physical and mental health brings in more social support. In addition, providing support seems to have a direct or mediating effect on health.

CONCLUSION

As this review suggests, social support has triggered a burgeoning multidisciplinary research literature, especially in the area of health during the last three decades. Social support initially arose as a post hoc explanation for the emerging relationships that linked social factors, especially relational factors to health and well-being. Since the appearance of the seminal works, scholars have made significant advances in exploring the substance and dimensions of social support, developing diverse measurement instruments, and examining its multiple functions in the social distribution of health using a variety of data. However, they have accumulated mixed evidence. Further efforts are needed to clarify and expand our current understanding of social support.

Social support is a unique social concept. As is the case with relatively new concepts in social sciences, social support has been defined in diverse ways. The intellectual value of a concept is evaluated not by its widening meaning or its potential role as a panacea, but by its uniqueness and originality. Rather than going as far as Barrera (1986) in proposing the abandonment of the general concept of social support, we suggest a rigorous strategy in which future studies should define social support by its precise nature and the supply of resources from network members, and separate it from its structural preconditions and functional consequences. The priority of a reliable and valid social support scale was recognized decades ago (Dean and Lin, 1977). As the reviewed empirical studies illustrate, the indicators of social support were still quite diverse, probably due to the use of secondary data and post hoc measurements (Berkman, 1984). A strict definition may help us overcome such inconsistency in operational measurements of social support and empirical results.

Social support is a multidimensional factor in its intrinsic features. More theoretical and empirical attention has been paid to received support than providing or reciprocal support. Note that providing or reciprocal support influences health through different mechanisms than received support. Among the literature on received support, there are more studies on perceived than actual support, and on emotional than instrumental or other types of support. Different kinds of support appear to be outcomes of disparate network-based preconditions. Perceived and emotional support seem to have stronger explanatory power in the social distribution of health than other types. To achieve a more complete picture

of social support, such multiple kinds of support concepts and measures need to be simultaneously subjected to a rigorous empirical test in order to distinguish their network-based antecedents and further compare their effects on specific health outcomes.

Social support is a distinctive network-based factor. Its precise definition is crucial for a coherent and comprehensive understanding of the general literature from a social network perspective. Various network-based concepts, including social support, are different constructs. Social support is expected to be a meaningful pathway that links other prominent network-derived concepts to our outcomes of interests. Some of the above reviewed empirical studies use other network terms as proximate measures of social support, but they do not examine social support directly. Their results in making stronger causal inferences regarding social support are limited. Future studies should make measure network concepts independently, and examine their relationships systematically in a causal sequence. Thus the urgent task in the area of health research is to examine how divergent types of social support mediate the effect of dissimilar network-based antecedents. The application of network analysis to social support research is undoubtedly a promising direction (Hall and Wellman, 1985; Wellman, 1981). The caveat is that social support should be captured more accurately through support-related network instruments than by general network instruments (Bearman and Parigi, 2004).

Social support is dynamic over time rather than being a constant feature (Dean and Lin, 1977; Pearlin, 1985). Most empirical studies are still cross-sectional, which leaves us questioning the robustness of their results. We are also aware of limited information

about, for example, how health and well-being shape the availability or mobilization of social support (Thoits, 1995), or how social support and its change may be in a reciprocal causal relationship with the change of other network-based terms. Refined longitudinal research designs are therefore needed to disentangle these complicated causality puzzles.

Finally, social support goes beyond its traditional function as a stress buffer, and plays multiple roles in the social organization of health and illness. It may protect health directly, or indirectly by reducing other health risks. It may mediate and moderate health effects of other determinants. There is further but mixed evidence for its direct and moderating effects, and fewer but also conflicting findings for its mediating and direct effect. For a thorough understanding of social dynamics through which social support maintains or changes health status, future studies should explore various models simultaneously in single studies as far as their data allow, and report all relevant results, either confirming or disconfirming.

REFERENCES

Alcalay, Rina (1983) 'Health and Social Support Networks: A Case for Improving Interpersonal Communication', *Social Networks*, 5: 71-88.

Aneshensel, Carol S. and Frerichs, Ralph R. (1982) 'Stress, Support, and Depression: A Longitudinal Causal Model", *Journal of Community Psychology*, 10:363-76.

Barrera, Manuel Jr. (1981) 'Social Support in the Adjustment of Pregnant Adolescents: Assessment Issue', in Benjamin H. Gottlieb (ed.), *Social Networks and Social Support*. Beverly Hills: SAGE Publications. pp.69-96.

_____ (1986) 'Distinctions between Social Support Concepts, Measures, and Models', *American Journal of Community Psychology*, 14: 413-45.

Bearman, Peter and Parigi, Paolo (2004) 'Cloning Headless Frogs and Other Important Matters: Conversation Topics and Network Structure', *Social Forces*, 83:535-557.

Beggs, John J., Haines, Valerie A., and Hurlbert, Jeanne S. (1996) 'Situational Contingencies Surrounding the Receipt of Informal Support', *Social Forces*, 75:201-22.

Berkman, Lisa F. (1984) 'Assessing the Physical Health Effects of Social Networks and Social Support', *Annual Review of Public Health*, 5:413-32.

_____ (2000) 'Social Support, Social Networks, Social Cohesion and Health', *Social Work in Health Care*, 31:3-14.

Berkman, Lisa F. and Glass, Thomas (2000) 'Social Integration, Social Networks, Social Support and Health', in L. F. Berkman and I. Kawachi (eds), *Social Epidemiology*. New York: Oxford University Press. pp. 137-73.

Berkman, Lisa F., Glass, Thomas, Brissette, Ian, and Seeman, Teresa E. (2000) 'From Social Integration to Health: Durkheim in the New Millennium', *Social Science & Medicine,* 51:843-857.

Brissette, Ian, Cohen, Sheldon, and Seeman, Teresa E. (2000) 'Measuring Social Integration and Social Networks', in Sheldon Cohen, Lynn G. Underwood, and Benjamin H. Gottlieb (eds), *Social Support Measurement and Intervention*. New York: Oxford University Press. pp. 53–85.

Caplan, Gerald (1974) *Support Systems and Community Mental Health*. New York: Behavioral Publications.

Caplan, Gerald and Killilea, Marie (1976) *Support Systems and Mutual Help: Multidisciplinary Explorations*. New York: Grune & Stratton.

Caplan, Robert D. (1979) 'Social Support, Person-Environment Fit, and Coping', in L. A. Ferman and J. P. Gordus (eds), *Mental Health and the Economy*. Michigan: W. E. Upjohn Institute for Employment Research. pp. 89-138.

Carpiano, Richard M. (2006) 'Toward a Neighborhood Resource-Based Theory of Social Capital for Health: Can Bourdieu and Sociology Help?' *Social Science & Medicine,* 62:165-75.

Cassel, John (1974) 'An Epidemiological Perspective of Psychosocial Factors in Disease Etiology', *American Journal of Public Health,* 64:1040-3.

_____ (1976) 'The Contribution of the Social Environment to Host Resistance', *American Journal of Epidemiology,* 104:107-23.

Cobb, Sidney (1974) 'Physiologic Changes in Men Whose Jobs Were Abolished', *Journal of Psychosomatic Research,* 18:245-58.

_____ (1976) 'Social Support as a Moderator of Life Stress', *Psychosomatic Medicine,* 38:300-14.

Cohen, Sheldon and Syme, S. Leonard. (eds) (1985) *Social Support and Health*. Orlando: Academic Press.

Cohen, Sheldon, Underwood, Lynn G., and Gottlieb, Benjamin H. (eds) (2000) *Social Support Measurement and Intervention: A Guide for Health and Social Scientists*. New York: Oxford University Press.

Cohen, Sheldon, Gottlieb, Benjamin H., and Underwood Lynn G. (2000) 'Social Relationships and Health', in Sheldon Cohen, Lynn G. Underwood, and Benjamin H. Gottlieb (eds), *Social Support Measurement and Intervention: A Guide for Health and Social Scientists*. New York: Oxford University Press. pp. 3-25.

Coleman, James S. (1990) *Foundations of Social Theory*. Cambridge: Belknap Press of Harvard University Press.

Coyne, James C. and Downey, Geraldine (1991) 'Social factors and psychopathology: Stress, social support, and coping processes', *Annual Review of Psychology,* 42:401-25.

Dean, Alfred, and Lin, Nan (1977) 'The Stress-Buffering Role of Social Support: Problems and Prospects for Systematic Investigation', *Journal of Nervous and Mental Disease,* 165: 403-17.

Dohrenwend, Snell Barbara, and Dohrenwend, Bruce P. (1981) 'Life Stress and Illness: Formulation of the Issues', in B. S. Dohrenwend and B. P. Dohrenwend (eds), *Stressful Life Events and Their Contexts*. New York: Prodist. pp. 1-27.

Ell, Kathleen (1984) 'Social Networks, Social Support, and Health Status: A Review',

The Social Service Review, 58:133-49.

Elliott, M. (2000) 'The Stress Process in Neighborhood Context', *Health & Place,* 6:287-99.

Ellison, Christopher G. and George, Linda K. (1994) 'Religious Involvement, Social Ties, and Social Support in a Southeastern Community', *Journal for the Scientific Study of Religion,* 33:46-61.

Ensel, Walter M. and Lin, Nan (1991) 'The Life Stress Paradigm and Psychological Distress', *Journal of Health and Social Behavior,* 32:321-41.

Faber, Ashley D. and Wasserman, Stanley (2002) 'Social Support and Social Networks: Synthesis and Review', in Judith A. Levy and Bernice A. Pescosolido (eds), *Social Networks and Health*. New York: JAI Press. pp. 29-72.

Ferraro, Kenneth F. and Koch, Jerome R. (1994) 'Religion and Health among Black and White Adults: Examining Social Support and Consolation', *Journal for the Scientific Study of Religion,* 33:362-75.

Gorman, Bridget K. and Sivaganesan, Ahilan (2007) 'The role of social support and integration for understanding socioeconomic disparities in self-rated health and hypertension', *Social Science & Medicine,* 65:958-75.

Gottlieb, Benjamin H (1978) 'The development and application of a classification scheme of informal helping behaviours', *Canadian Journal of Behavioural Science,* 10:105-15.

_____ (ed.) (1981) *Social Networks and Social Support*. Beverly Hills: SAGE Publications.

_____ (1981) 'Social Networks and Social Support in Community Mental Health', in B. H. Gottlieb (ed.), *Social Networks and Social Support*. Beverly Hills: SAGE Publications. pp. 11-42.

Gottlieb, Benjamin H. (1983) *Social Support Strategies: Guidelines for Mental Health Practice*. Beverly Hills: SAGE Publications.

Green, Gill (1993) 'Editorial Review: Social Support and HIV', *AIDS Care,* 5:87-104.

Greenblatt, Milton, Becerra, Rosina M., and Serafetinides, E. A. (1982) 'Social Networks and Mental Health: On Overview', *American Journal of Psychiatry,*139:977-84.

Haines, Valerie A. and Hurlbert, Jeanne S. (1992) 'Network Range and Health', *Journal of Health and Social Behavior,* 33:254-66.

Hall, Alan and Wellman, Barry (1985) 'Social Networks and Social Support', in S. Cohen and S. L. Syme (eds), *Social Support and Health*. New York: Academic Press. pp. 23-41.

Henderson, Scott (1977) 'The Social Network, Support and Neurosis: The Function of Attachment in Adult Life', *The British Journal of Psychiatry,* 131:185-91.

House, James S. (1981) *Work Stress and Social Support*. Reading, MA: Addison-Wesley.

_____ (1987) 'Social Support and Social Structure', *Sociological Forum,* 2:135-46.

House, James S. and Robert L. Kahn (1985) 'Measures and Concepts of Social Support', in S. Cohen and S. L. Syme (eds), *Social Support and Health*. New York: Academic Press. pp. 83-108.

House, James S., Landis, Karl R., and Umberson, Debra (1988) 'Social Relationships and Health', *Science,* 241:540-45.

House, James S., Umberson, Debra, and Landis, Karl R. (1988) 'Structures and Processes of Social Support', *Annual Review of Sociology,* 14:293-318.

Kaplan, Berton H., Cassel, John C., and Gore, Susan (1977) 'Social Support and Health', *Medical Care,* 15:47-58.

Krause, Neal, Berit Ingersoll-Dayton, Jersey Liang, and Hidehiro Sugisawa (1999) 'Religion, Social Support, and Health among the Japanese Elderly', *Journal of Health and Social Behavior* 40: 405-21.

Jackson, Pamela Braboy (1992) 'Specifying the Buffering Hypothesis: Support, Strain, and Depression', *Social Psychology Quarterly,* 55:363-78.

Kawachi, Ichiro and Berkman, Lisa (2000) 'Social Cohesion, Social Capital and Health', in L. F. Berkman and I. Kawachi (eds), *Social Epidemiology*. New York: Oxford University Press. pp. 174–90.

_____ (2001) 'Social Ties and Mental Health', *Journal of Urban Health: Bulletin of the New York Academy of Medicine*,78: 458-67.

Kawachi, Ichiro, Subramanian, S. V., and Kim, Daniel (eds) (2008) *Social Capital and Health*. New York: Springer.

Kessler, Ronald C., Price, Richard H., and Wortman, Camille B. (1985) 'Social Factors in Psychopathology: Stress, Social Support, and Coping Processes', *Annual Review of Psychology*, 36:531-72.

Landerman, Richard, George, Linda K., Campbell, Richard T., and Blazer, Dan G. (1989) 'Alternative Models of the Stress Buffering Hypothesis', *American Journal of Community Psychology,* 17:625-41.

Lin, Nan (1986a) 'Conceptualizing Social Support', in Nan Lin, Alfred Dean, and Walter Ensel (eds), *Social Support, Life Events and Depression*. Orlando: Academic Press. pp. 17-30.

_____ (1986b) 'Modeling the Effects of Social Support', in Nan Lin, Alfred Dean and Walter Ensel (eds), *Social Support, Life Events and Depression*. Orlando: Academic Press. pp. 173-209.

_____ (1999a) 'Building a Network Theory of Social Capital', *Connections*, 22:28–51.

_____ (1999b) 'Social Networks and Status Attainment', *Annual Review of Sociology*, 25:467-88.

_____ (2001) *Social Capital: A Theory of Social Structure and Action*. Cambridge: Cambridge University Press.

Lin, Nan and Ao, Dan (2008) 'The Invisible Hand of Study: An Exploratory Study', in Nan Lin and Bonnie Erickson (eds), *Social Capital: Advances in Research*. Oxford University Press. pp.107-32.

Lin, Nan and Ensel, Walter M. (1984) 'Depression-Mobility and Its Social Etiology: The Role of Life Events and Social Support', *Journal of Health and Social Behavior*, 25:176-88.

_____ (1989) 'Life Stress and Health: Stressors and Resources', *American Sociological Review*, 54:382-99.

Lin, Nan and Peek, M. Kristen (1999) 'Social Networks and Mental Health', in A. V. Horwitz and T. L. Scheid (eds), *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems*. Cambridge: Cambridge University Press. pp. 241-58.

Lin, Nan, Dean, Alfred, and Ensel, Walter (1986) *Social Support, Life Events and Depression*. Orlando: Academic Press.

Lin, Nan, Ensel, Walter M., Simeone, Ronald S., and Kuo, Wen (1979) 'Social Support, Stressful Life Events, and Illness: A Model and an Empirical Test', *Journal of Health and Social Behavior,* 20:108-19.

Lin, Nan, Woelfel, Mary W., and Light, Stephen C. (1985) 'The Buffering Effect of Social Support Subsequent to an Important Life Event', *Journal of Health and Social Behavior,* 26:247-63.

Lin, Nan, Ye, Xiaolan, and Ensel, Walter M. (1999) 'Social Support and Depressed Mood: A Structural Analysis', *Journal of Health and Social Behavior,* 40:344-59.

Tausig, Mark (1986) 'Prior History of Illness in the Basic Model', in Nan Lin, Alfred Dean and Walter Ensel (eds), *Social Support, Life Events and Depression*. Orlando: Academic Press. pp. 267-80.

LaRocco, James M., House, James S., and French, Jr., John R. P. (1980) 'Social Support, Occupational Stress, and Health', *Journal of Health and Social Behavior,* 21:202-18.

Lincoln, Karen D., Chatters, Linda M., and Taylor, Robert J. (2003) 'Psychological Distress among Black and White Americans: Differential Effects of Social Support, Negative Interaction and Personal Control', *Journal of Health and Social Behavior,* 44:390-407.

Link, Bruce G. and Phelan, Jo C. (1995) 'Social Conditions as Fundamental Causes of Disease', *Journal of Health and Social Behavior,* Extra Issue: 80-94.

Luke, Douglas A. and Harris, Jenine K. (2007) 'Network Analysis in Public Health: History, Methods, and Applications', *Annual Review of Public Health,* 28:69-93.

Mitchell, J. C. (1969) 'The Concept and Use of Social Networks', in J. C. Mitchell (ed.), *Social Networks in Urban Situations*. Manchester, England: Manchester University Press. pp. 1–50.

_____ (1974) 'Social Networks', *Annual Review of Anthropology,* 3:279-99.

Nooney, Jennifer and Woodrum, Eric (2002) 'Religious Coping and Church-Based Social Support as Predictors of Mental Health Outcomes: Testing a Conceptual Model', *Journal for the Scientific Study of Religion,* 41:359-68.

Pearlin, Leonard I. (1985) 'Social Structure and Processes of Social Support', in Sheldon Cohen and S. Leonard Syme (eds), *Social Support and Health*. Orlando: Academic Press. pp. 43-60.

Pearlin, Leonard I., Menaghan, Elizabeth G., Lieberman, Morton A., and Mullan, Joseph T. (1981) 'The Stress Process', *Journal of Health and Social Behavior,* 22:337-56.

Pescosolido, Bernice A. (2007) 'Sociology of Social Networks', in Clifton D. Bryant and Dennis L. Peck (eds), *21st Century Sociology: A Reference Book*. Thousand Oaks: Sage Publications. pp. 208-17.

Pescosolido, Bernice A. and Levy, Judith A. (2002) 'The Roles of Social Networks in Health, Illness, Disease and Healing: The Accepting Present, The Forgotten Past, and The Dangerous Potential for A Complacent Future', in Judith A. Levy and Bernice A. Pescosolido (eds), *Social Networks and Health*. New York: JAI Press. pp. 3-25.

Plickert, Gabriele, Côté, Rochelle R., and Wellman, Barry (2007) 'It's Not Who You Know, It's How You Know Them: Who Exchanges What with Whom?', *Social Networks,* 29:405-29.

Putnam, Robert D. (2000) *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.

Ross, Catherine E. and Mirowsky, John (1989) 'Explaining the Social Patterns of Depression: Control and Problem Solving--or Support and Talking?', *Journal of Health and Social Behavior,* 30:206-19.

Ross, Catherine E. and Van Willigen, Marieke (1997) 'Education and the Subjective Quality of Life.' *Journal of Health and Social Behavior,* 38:275-97.

Roxburgh, Susan (2006) '"I Wish We Had More Time to Spend Together...": The Distribution and Predictors of Perceived Family Time Pressures Among Married Men and Women in the Paid Labor Force', *Journal of Family Issues,* 27:529-53.

Schwarzer, Ralf and Leppin, Anja (1991) 'Social Support and Health: A Theoretical and Empirical Overview', *Journal of Social and Personal Relationships,* 8:99-127.

Seeman, Teresa E. and Berkman, Lisa F. (1988) 'Structural characteristics of social networks and their relationship with social support in the elderly: Who provides support', *Social Science & Medicine,* 26:737-49.

Smith, Carol E., Fernengel, Karen, Holcroft, Carolyn, Gerald, Ken, and Marien, Lydia (1994) 'Meta-Analysis of the Associations Between Social Support and Health Outcomes', *Annals of Behavioral Medicine,* 16:352-62

Smith, Kirsten P. and Christakis, Nicholas A. (2008) 'Social Networks and Health', *Annual Review of Sociology,* 34:405-29.

Song, Lijun, and Lin, Nan (forthcoming) 'Social Capital and Health Inequality: Evidence from Taiwan', *Journal of Health and Social Behavior*.

Song, Lijun, Son, Joonmo, and Lin, Nan (forthcoming) 'Social Capital and Health', in William C. Cockerham (eds), *The New Blackwell Companion to Medical Sociology*.

Stansfeld, Stephen A. (2006) 'Social Support and Social Cohesion', in M. Marmot and R. G. Wilkinson (eds), *Social Determinants of Health*. 2nd edition. New York: Oxford University Press. pp. 148-71.

Szreter, Simon and Woolcock, Michael (2004) 'Health by Association? Social Capital, Social Theory, and the Political Economy of Public Health', *International Journal of Epidemiology*, 33:650-67.

Taylor, Robert Joseph and Chatters, Linda M. (1988) 'Church Members as a Source of Informal Social Support', *Review of Religious Research*, 30:193-203.

Thoits, Peggy A. (1982) 'Conceptual, Methodological, and Theoretical Problems in Studying Social Support as a Buffer against Life Stress', *Journal of Health and Social Behavior*, 23:145-59.

_____ (1984) 'Explaining Distributions of Psychological Vulnerability: Lack of Social Support in the Face of Life Stress', *Social Forces*, 63:453-81.

_____ (1995) 'Stress, Coping, and Social Support Processes: Where Are We? What Next? ', *Journal of Health and Social Behavior*, Extra Issue: 53-79.

Turner, R Jay (1999) 'Social Support and Coping', in A. V. Horwitz and T. L. Scheid (eds), *A Handbook for the Study of Mental Health: Social Contexts, Theories, and Systems*. New York: Cambridge University Press. pp. 198-210.

Turner, R. Jay and Lloyd, Donald A. (1999) 'The Stress Process and the Social Distribution of Depression', *Journal of Health and Social Behavior,* 40:374-404.

Turner, R. Jay and Marino, Franco (1994) 'Social Support and Social Structure: A Descriptive Epidemiology', *Journal of Health and Social Behavior,* 35:193-212.

Turner, R Jay and Turner, J. Blake (1999) 'Social Integration and Support', in C. S. Aneshensel and J. C. Phelan (eds), *Handbook of the Sociology of Mental Illness*. New York: Kluwer Academic Press. pp. 301-20.

Wellman, Barry (1981) 'Applying Social Network Analysis to the Study of Social Support', in B. H. Gottlieb (ed.), *Social Networks and Social Support*. Beverly Hills: SAGE Publications. pp. 171-200.

Wellman, Barry and Wortley, Scot (1989) 'Brothers' Keepers: Situating Kinship Relations in Broader Networks of Social Support', *Sociological Perspectives,* 32:273-306.

_____ (1990) 'Different Strokes from Different Folks: Community Ties and Social Support', *American Journal of Sociology.* 96:558-88.

Wethington, Elaine and Kessler, Ronald C. (1986) 'Perceived Support, Received Support, and Adjustment to Stressful Life Events', *Journal of Health and Social Behavior*, 27:78-89.

Wheaton, Blair (1985) 'Models for the Stress-Buffering Functions of Coping Resources', *Journal of Health and Social Behavior,* 26:352-64.