SOCIAL NETWORKS AND SOCIAL SUPPORT:
A SYNTHESIS FOR HEALTH EDUCATORS

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INTRODUCTION

Over the past 15 years, empirical evidence increasingly suggests a positive relationship between social networks and social support and physical and mental health. The growth in the number of studies conducted is substantial. House & Kahn (1985) report that in the Social Science Citation Index the number of articles with the term “social support” in their titles grew from two in 1972 to fifty in 1982. This research has involved diverse populations, study designs, conceptual frameworks, measurement instruments, outcome variables, data analyses, findings, implications for practice, and limitations. These investigations have been carried out by persons representing numerous disciplines, including health education, epidemiology, social psychology, gerontology, sociology, anthropology, psychology, and social work. As a result of this broad examination of social networks and social support, there has been an accompanying increase in the number of literature reviews of this area. These reviews have represented many perspectives and contain varied suggestions for future directions. The expan-
sion of the literature is continuing. For example, within the last two years, three journals, Health Education Quarterly (Israel & McLeroy, 1985), the Journal of Social Issues (Brownell & Shumaker, Part I 1984, Part II 1985) and the Journal of Counseling and Clinical Psychology (Heller, in press), have devoted entire theme issues to the topic of social networks and social support, and three edited books have a similar focus (Cohen & Syme, 1985; Sarason & Sarason, 1985; Sauer & Coward, 1985).

Given the extensiveness of the subject and the discrepancies within the field of study, a person interested in but relatively new to the area is faced with the difficult task of reviewing the literature. This is perhaps even more problematic for health educators concerned with organizing, synthesizing and integrating diverse theoretical perspectives and empirical findings into the design, implementation and evaluation of interventions. The purpose of this article is to provide a guide for identifying and understanding the social network and social support literature. The article is written primarily for health educators who are relatively new to this area; however, others may find the article to be a useful review. In an attempt to provide an integration of relevant theoretical and conceptual considerations, empirical findings and issues, and practice implications, this article will build upon the existing literature by presenting a review of reviews. Hence, the focus of this chapter will be on summarizing and analyzing literature reviews that have examined the concepts of social networks and social support.

The review articles were located through a computerized search using Social Science Citation Index and Psychological Abstracts and through personal networks. Journal articles and book chapters written from 1980 to early 1985 are included. Although the reviews are not all-inclusive, they comprise an extensive representative sample that reflects the interdisciplinary nature and multiple perspectives found in the topic area. The studies reviewed in these articles have included diverse adult populations and have examined both physical and mental health outcomes.

Thirty-three review articles were selected for examination in this chapter. (See References for complete listing.) Over half of the articles review the empirical evidence regarding the relationship between social networks and social support and health status or health behavior (e.g., Antonucci, 1985; Berkman, 1984; Broadhead et al., 1983; Cohen & Wills, 1985; DiMatteo & Hays, 1981; Kesseler & McLeod, 1985; Leavy, 1983; Levy, 1983; Mueller, 1980; Thoits, 1982; Wallston et al., 1983). Approximately one-third of the articles present conceptual frameworks from which social networks and social support are viewed (e.g., Cohen & McKay, 1984; Heller & Swindle, 1983; House, 1981; Kahn & Antonucci, 1980; Moos & Mitchell, 1982; Norbeck, 1981). Several of the articles focus on applying social support and social network concepts in the analysis of interventions (e.g., Gottlieb, 1981b; Minkler, 1981; Pilisuk & Minkler, 1980). Additionally, several of these review articles have integrated the presentation of empirical evidence, the development of a conceptual framework, and the discussion of practice considerations (e.g., Ell, 1984; Israel, 1982; Mitchell & Trickett, 1980; Norbeck, 1981).

It is useful to mention types of review materials that were not selected for this article. There are numerous important literature reviews written before 1980 and thus are not included (e.g., Caplan, 1974; Cassel, 1976; Cobb, 1976; Dean & Lin, 1977; Hamburg & Killilea, 1979; Heller, 1979; Kaplan, Cassel, & Gore, 1977; Mitchell, 1969; Pilisuk & Froland, 1978; Sarason et al., 1977). Entire books on social support or social networks written by a single author were not examined here (e.g., Biegel, 1984; Gottlieb, 1983; Maguire, 1983), and may be of interest to the reader. Literature reviews that focus on social networks and social support in relation to only one specific disease entity, for example, schizophrenia (e.g., Hammer, 1981; Marsella & Snyder, 1981) or cancer (e.g., Wortman, 1984) are not included. Articles in which the emphasis in the review is on the application of social network and social support concepts to the treatment of chronically mentally ill persons, are not examined (e.g., Greenblatt et al., 1982; Cuter & Tatum, 1983). Finally, there are articles that were not selected that present a conceptual framework and review empirical studies, but are primarily a report of the author's own research (e.g., LaRocco et al., 1980; Lieberman, 1982; Schaefer et al., 1981).

This chapter focuses on describing and analyzing previous reviews of the social network and social support literature. The similarities and differences of topics and findings addressed in these reviews will be highlighted along with issues considered to be particularly important for health education. First, the definitions and concepts that describe the terms "social networks," "social support," "social support system" and "social support networks" will be examined. Next, the theoretical underpinnings and conceptual frameworks applied to social networks and social support will be reviewed. Third, a summary of the major empirical findings will be reported. After that, some of the methodological issues that the review articles address will be presented. Fifth, important practice implications will be reviewed. A summary of each section will be followed by conclusions and future directions suggested by the present authors.

**SOCIAL NETWORKS AND SOCIAL SUPPORT:**

**DEFINITIONS**

Both of the terms "social networks" and "social support" have been defined and conceptualized differently by various authors. Furthermore, the terms "social support network" (McKinlay, 1980; Minkler, 1981; Pilisuk & Mink-
functions are both given and received); durability (the extent of stability of the relationships, usually referred to as an individual's social network; and (3) the functional content of the relationships, usually referred to as social support. Because these three aspects are closely interrelated (e.g., the structure of an individual's social relationships may determine how much or what type of social support he/she receives), House and Kahn (1985) recommend that in a research study at least two if not all three of these aspects be conceptualized and measured. Another useful conceptualization of social support proposed by Leavy (1983) has two interrelated components: structure (network characteristics) and content (the form that help takes, i.e., types of support) that interact with a third component, process ("the way an individual develops, nurtures, and uses supportive ties," p. 17). He argues that all

Social Networks and Social Support

In addition to the term "social network," Kahn and Antonucci (1980) refer to a "convoy" as the personal network over the life-course of an individual. Thoits (1982) uses the term "social support system" to describe the "subset of persons in the individual's total social network upon whom he or she relies for socioeconomic aid and/or instrumental aid" (p. 148). The terms "social support networks" and "social networks" are used interchangeably by McKinlay (1980) adding to the lack of clarity among these terms. Wellman (1981) takes issue with the use of the term "support system," arguing that it oversimplifies the nature of social networks by assuming that ties between certain network members are supportive.

The literature reviews examined in this article cite numerous definitions of social support. (For a comprehensive discussion and review of social support definitions, refer to Antonucci, 1985; House, 1981; Leavy, 1983; and Turner, 1983.) The definitions most often cited are those of Caplan (1974), Cobb (1976), House (1981), and Kahn and Antonucci (1980). Of these definitions, the House taxonomy is most frequently cited by other authors of these review articles as the most comprehensive (e.g., Cwik & Israel, 1985; Jung, 1984; Leavy, 1983). House (1981) includes four broad types of supportive behaviors or acts in his conceptualization of social support: (1) emotional support (esteem, affect, trust, concern, listening); (2) appraisal support (affirmation, feedback, social comparison); (3) informational support (advice, suggestion, directives, information); and (4) instrumental support (aid, money). While these four support functions can be conceptually differentiated, Cohen and Wills (1985) note that "in naturalistic settings they are not usually independent" (p. 313).
three components need to be included in conceptualizing social support to
understand its complexity fully.

The distinction between social networks and social support is an important
one (Berkman, 1984; Eli, 1984; Gottlieb, 1981a, b; Heller & Swindle,
1983; Israel, 1982; Mitchell & Trickett, 1980; Moos & Mitchell, 1982), but
one that is not always made. Social network refers to the linkages among
persons and social support refers to some of the functions that may or may
not be provided by these linkages. The advantages of using a social network
approach to study social support are presented by several authors (Gottlieb,
to these authors, a network analysis approach provides for (1) a neutral
approach that does not assume that ties are necessarily supportive; (2) an
examination of network characteristics and their relationship to health
status; (3) an examination of the different types of support that might be provided
by different types of relationships; (4) the study of the interconnectedness of
relationships, for example, how network linkages and structure affect the flow
of social support; and (5) an assessment of network characteristics that might
be important in the development of interventions.

The lack of consensus regarding the terms “social network” and “social
support” is a major problem. As will be discussed later, it creates difficulty
in measurement as well as in summarizing study findings regarding the
relationship between social networks, social support, and health. Any effort
to improve conceptual clarity requires that the distinction discussed here
between the concepts of social network and social support be made and
that the terms not be used interchangeably. As mentioned earlier, it is
important that the existence, structure, and functions of social relationships
be conceptualized and measured (House & Kahn, 1985). We suggest that
social network is a broader concept than social support and that it
embraces social support as defined by the House (1981) typology (emotional,
appraisal, informational, and instrumental support). Thus social support
is a functional characteristic of a social network. We agree with the
advantages presented earlier of using a social network approach. We do not
view this as an either/or choice (i.e., social networks or social support),
rather as a matter of emphasis. When making such decisions for practice,
of whether to examine numerous characteristics of social networks,
including social support, or to focus on social support functions, consideration
needs to be given to theoretical and empirical findings, the needs of the
target population, intervention goals and objectives, and pragmatic issues
such as funding, staff, and available time.

THEORETICAL AND CONCEPTUAL CONSIDERATIONS

Before examining the empirical evidence regarding the association between
social networks, social support, and health, it is important to understand
the theoretical and conceptual contexts within which social networks and
social support have been discussed. This task is made difficult because of
the different interpretations of what constitutes a theory and what comprises
conceptual issues. For example, some authors present the definitions
of network characteristics as theory; others suggest that the topic of social
support does not yet constitute a theory, and instead use the term “theory”
to refer to a broader explanatory schema, e.g., exchange theory. Some
authors also refer to theoretical issues when they are actually discussing
methodological concerns, e.g., operational confounding.

This chapter in no way purports to untangle this inconsistent use of
terms. However, to compare reviews, we have attempted to apply a
common, although not totally satisfactory, definition. Hence, the summary of
theoretical considerations described in the literature will refer to comprehensive
explanations that address the nature and processes of how people
and social systems relate (Snow & Gordon, 1980). Conceptual issues
will be those associated with an explanatory model or framework that identifies
numerous variables and hypothesizes how they are related to one another
and with what effects. The relationships posited in such conceptual
frameworks can be tested empirically.

Theoretical Considerations

Approximately half of the articles reviewed make no, or only brief,
mention of theoretical considerations. Of the other articles that do
discuss theories to some extent, numerous theories are applied in
different ways. For example, some authors describe a given theory as an
antecedent to social networks and social support (e.g., crisis theory,
Moos & Mitchell, 1982). Other authors discuss theoretical underpinings
that help explain why and how social networks and social support
operate (e.g., social comparison theory: Cohen & McKay, 1984; ex-
change theory: Israel, 1982; symbolic interactionism, Israel, 1982;
Thoits, 1982; theory of anomie: Thoits, 1982; Turner, 1983). Several of
these theories that are most frequently mentioned in the review articles
will be briefly examined below.

After an extensive review of studies on social support and physical health,
Wallston et al. (1983) suggest that social support may have its effect on
health by influencing the state of learned helplessness (i.e., exposure to
unpredictable, uncontrollable aversive events), which has been associated
with illness outcomes. They discuss several mechanisms whereby social
support could contribute to reducing the state of learned helplessness.
For example, social support could provide information that assists an individual
in feeling a greater sense of predictability; or it could influence a person
to respond in a way that produces desirable outcomes and an accompanying
increase in sense of control.
Cohen and McKay (1984), in their interpretation of how social support may be responsible for its presumed buffering effects, describe a possible relationship between learned helplessness, self-esteem and social support. They suggest that the type of social support that enhances one's self-esteem might be effective in encouraging a person to cope when exposed to uncontrollable stressors (a component of learned helplessness) that may otherwise result in feelings of inadequacy.

An interpretation of the major components of exchange theory is suggested by Israel (1982) as a theoretical underpinning to the network characteristic of reciprocity. Exchange theory posits that social interactions are influenced by a desire to obtain maximum rewards (e.g., respect, money, information, advice) at minimum costs. Therefore, relationships are established in which there are valued reciprocal transactions between the persons involved.

Hansson et al. (1984), in their discussion of the influence of personality on maintaining relationships and support networks, suggest that some people have dispositions important to a social exchange framework (e.g., sensitive to the needs of others, sense of equity and personal responsibility). Drawing from equity theory, they posit that those people who are able to maximize the rewards of all network members are able to maintain cohesive and stable support networks.

Heller and Swindle (1983) examine social comparison theory in their presentation of social psychological antecedents to social support. The main premise of social comparison theory is that people assess their opinions and attitudes through a comparison of either how others behave or by objective standards. Since objective standards are usually not available, the theory postulates that people use the behavior of others as a comparison. Heller and Swindle suggest that the relevance of social comparison theory to social support is that it states that under situations of uncertainty or stress people affiliate with others to gain a better idea of how to act. The theory posits that people will choose for comparison people who are similar to themselves.

Cohen and McKay (1984) elaborate on social comparison theory in their discussion of social support and the assessment of situations as threatening. Concerning the selection of similar others for comparison information, the theory states that the important aspects of similarity include similarity of personality, attitudes, and experience. Cohen and McKay build upon the assumption that social support serves as a buffer against stress by helping people reassign a situation as less threatening. They suggest that from a social comparison theory perspective, supportive social support will have the effects of reducing stress only when certain conditions exist; for example, when the supportive comparison person responds to a potential stresor in a relatively calm way.

Thoits (1982) discusses symbolic interactionism as a theoretical basis for why social support should have a direct relationship to psychological well-being, separate from the presence of stressful life events. Symbolic interactionism postulates that social identity and self-evaluation, important components of psychological well-being, come from social interactions. Since social support serves to enhance or maintain social identity and self-esteem, then one would expect it to be directly related to well-being.

Israel (1982) examines symbolic interactionism as an explanation for the importance of the quality (perceived meaning, intensity, mutual sharing) of social interactions and their association to well-being. The theory emphasizes that human behavior is based on the meaning that people assign and derive from social interactions with others. To understand these social interactions, one must obtain the meanings that people give to their actions, which is based on ongoing perceptions and interpretations. Therefore, drawing upon this theory, one would expect that it is not the objective characteristics of social networks (e.g., size, frequency of interaction) but the subjective or qualitative characteristics (e.g., strength of ties and reciprocity), as interpreted by the individual, that are most strongly related to well-being.

In addition to the theories discussed above, numerous others are applied to social networks and social support in the review articles. Some of the theories mentioned are: role theory (Kahn & Antonucci, 1980); attachment theory (Kahn & Antonucci, 1980); reference group theory (Heller & Swindle, 1983); social facilitation theory (Heller & Swindle, 1983); and helping theories (Jung, 1984).

In summary, not only are theoretical considerations often not discussed at all in articles reviewed, but also when they are, no single theoretical perspective is suggested for understanding social networks and social support. Furthermore, the various theories discussed are interpreted differently. This diversity is not surprising given the lack of clarity and agreement on the concepts of social networks and social support. Also, given the various disciplines of the authors, the tendency, for example, of sociologists to apply sociological theory and social psychologists to apply social psychological theory, is somewhat predictable.

There is a need for determining the extent to which a given theoretical perspective helps explain and guide future research in the area of social networks and social support. Building upon these theories, and as more multidimensional studies are conducted, it may be possible to synthesize more clearly these theoretical considerations. Such a synthesis may move us toward the development of a theory of social networks and social support. Although such a theory does not exist to date, several recent articles (e.g., Cohen & McKay, 1984; Hansson et al., 1984) have made important contributions toward this end.
Conceptual Issues

Of the thirty-three articles being reviewed, over two-thirds present an explanatory model or conceptual framework in which the relationships between numerous variables are identified. These articles will be the focus of this discussion. Approximately half of these articles provide a visual representation of the model being discussed (e.g., House, 1981; Kahn & Antonucci, 1980; Norbeck, 1981), and the remaining half provide a verbal description (e.g., Cohen & McKay, 1984; Moos & Mitchell, 1980).

There is considerably more consistency in the literature regarding conceptual issues than was found for theoretical considerations. Of the review articles that examined conceptual issues to a great extent, most present one or the other of two frameworks. Before examining these two specific frameworks, it is important to summarize the more general conceptual underpinnings of social networks and social support.

Almost every article reviewed either refers to, or provides an in-depth explanation of, the early conceptual considerations put forth by the late epidemiologist, John Cassel (1974, 1976). These reviews describe Cassel's thinking concerning the relationship between stress and "psychosocial processes" and health. Drawing from numerous animal and human studies, Cassel (1976) argued that psychosocial variables are associated with disease susceptibility. He elaborated on two sets of psychosocial factors. Cassel (1976) states that at least one of the properties of the stress factor that could affect health status might be that the individual "is not receiving adequate evidence (feedback) that his actions are leading to anticipated consequences" (p. 113). With regard to social support, Cassel explains that there is another set of factors that "might be envisioned as the protective factors buffering or cushioning the individual from the physiologic or psychologic consequences of exposure to the stressor situation. It is suggested that the property common to these processes is the strength of the social supports provided by primary groups of most importance to the individual" (p. 113).

As these review articles emphasize, Cassel provided an early conceptual framework for understanding the relationship between stress and health. Social support is posited as a key psychosocial factor that can potentially have either a direct positive effect on well-being or can serve as a buffer or mediator of the effects of stress on health status. Furthermore, these psychosocial factors are related to both physical and mental health outcomes in a nonspecific way. That is, the effects of this stress process may be different for different individuals. For example, one individual exposed to certain stressors and with certain social supports may be at risk of negative mental health consequences, another individual may experience poor physical health outcomes, and another may have no deleterious effects. Cassel's conceptual framework has provided an important foundation from which other more detailed models have evolved.

The two conceptual models most frequently discussed in these review articles can be roughly categorized along two dimensions. First, there are models of the stress process in which stress is viewed as the central component and social support is referred to as a conditioning or moderating variable (e.g., Cohen & McKay, 1984; Cohen & Wills, 1985; House, 1981; Thoits, 1982). A major aspect of these models is the hypothesized role of social support as a stress buffer against stress or as having a direct effect on stress or well-being. Along a second dimension, conceptual frameworks are presented that place social networks as the central component with their determinants and effects as important variables (e.g., Israel, 1982; Kahn & Antonucci, 1980; Mitchell & Trickett, 1980; Moos & Mitchell, 1982). Social network characteristics (including structure and functions) are viewed as key variables in the relationship between psychosocial factors and health and disease; and stress is usually an implicit not explicit component of these models. Further brief explanations of each of these two models will be provided below. Although within these review articles there are some differences concerning which variables are included in the models and their suggested associations, for the purposes of this article, one model from each category will be described to exemplify the major conceptual issues.

Conceptual Framework: The Stress Process

The chapter by House (1981) provides a "Paradigm of Stress Research" (p. 36). He visually presents several major dimensions in the stress process and depicts their hypothesized relationships as having potential direct (main) effects and buffering (interactive) effects on health status. The major dimensions are: "stresses," defined as objective social conditions conducive of stress; which may lead to "perceived stress," defined as appraisal of a given condition as stressful. These may in turn lead to "short-term responses to stress," defined as the resultant short-range physiological, psychological or behavioral responses to perceived stress, e.g., tension, use of alcohol; which may lead to "enduring health outcomes," defined as long-term physiological, psychological or behavioral outcomes, e.g., depression, alcoholism. House (1981) suggests that the level and effect of each of these dimensions may be influenced by "conditioning variables" defined as individual or situational factors, e.g., social support.

In this model, the hypothesized buffering effect of social support suggests that the negative impact of stress on health is reduced as social support increases, and thus, support will have its most beneficial effect on health among people who are experiencing stress. For example, social support...
could buffer the effect of a stressor by influencing an individual to perceive the condition as less threatening or stressful. Additionally, social support could help people adapt to perceived stress, thereby reducing or eliminating short-term responses that are productive of disease. In this framework, the hypothesized direct effect of social support suggests that as social support increases it seems to improve health (regardless of level of stress) and to reduce stress (regardless of level of health). Thus, everyone could potentially benefit from increases in social support.

Although this is an oversimplification of House's (1981) model, there are several points that are of most importance for this article. First, stressors and perceived stress are major variables in understanding short-term and long-term disease outcomes. Second, there are numerous factors including social support, which may serve to have a direct effect or to buffer against the possible deleterious effects of stress, short-term responses and enduring outcomes. Therefore, based on this model (and the others that fit into this category), it is necessary to examine social support within a broader stress paradigm; and within this paradigm a key concern is the hypothesized buffering effects versus main effects of social support. These hypothesized relationships, especially the buffering hypothesis, have guided much of the research and are a focus of several of the review articles (e.g., Cohen & McKay, 1984; Cohen & Wills, 1985; Thoits, 1982). That is, within this broad stress paradigm, the relationship between stress and social support with regards to the buffering hypothesis is emphasized.

Cohen and McKay (1984) argue for a conceptualization of the buffering process that considers both the diversity of coping strategies that may be called upon in a stressful situation, and the different types of support (e.g., emotional, tangible, appraisal) that may or may not be provided by one's social network. Therefore, the effectiveness of social support in buffering one against stress depends upon a match between the type of support provided and the coping requirements. Cohen and McKay (1984) give the example that after the death of a spouse several coping requirements may be elicited (e.g., need to obtain income, need to feel one belongs) in which different types of support are needed (e.g., tangible, emotional) in order for support to serve as an effective buffer against stress. Therefore, Cohen and McKay's (1984) model is an elaboration and further specification of the buffering hypothesis component of the broader stress paradigm (as presented by House, 1981).

Conceptual Framework: Determinants and Effects of Social Networks

The second type of conceptual framework presented in several of these review articles places social networks as the central component from which their determinants and effects are posited (e.g., Israel, 1982; Kahn & Antonucci, 1980; Moos & Mitchell, 1982; Norbeck, 1981). The model discussed by Kahn and Antonucci (1980) will be described below to exemplify this category.

Kahn and Antonucci (1980) provide a visual representation of an explanatory framework of "Hypothetical Determinants and Affects of Convo Y Properties" (p. 270). As defined earlier, they use the term "convo y" to refer to supportive networks over the life course. They regard convo y structure (network characteristics such as size, reciprocity, durability) as the core of this model and "the remainder of it consists of the hypothesized causes and consequences of convo y structure, including its moderating or interactive effects as well as its direct outcomes. The model emphasizes interactions..." (p. 271). The major dimensions and their hypothesized relationships are: a person's "requirements for social support" that are jointly determined by "properties of the person" (e.g., age, other demographic characteristics, needs, abilities) and "properties of the situation" (e.g., role expectations, opportunities, demands, resources). In turn, "convo y structure" is jointly determined by these three dimensions, (i.e., requirements for social support, personal, and situational properties). The "adequacy of social support" that a person receives is determined by convo y structure and the properties of the person and situation; this leads to the "outcomes" (e.g., well-being, individual performance), which are jointly determined by the adequacy of support, and personal and situational factors. Finally, convo y structure and adequacy of social support moderate the effects of personal and situational properties on the outcome.

In summary, Kahn and Antonucci (1980) posit that the structural and interactional characteristics of social networks (convo y structure) are the key variables associated with health, disease and performance outcomes. The model suggests that the causes and consequences of convo y structure are interactive, and include personal and situational factors and a person's need for and adequacy of social support. Network characteristics, including types of support given and received, change over the life course. Furthermore, the role of stress in this framework is implicit not explicit. As mentioned previously, models similar to this one are the focus of several of the other review articles (e.g., Norbeck, 1981).

In addition to the two types of conceptual frameworks described above, several somewhat different models are discussed in some of the articles reviewed. Heller and Swindle (1983) present a model of social support and the coping process, which emphasizes social networks and their determinants, stress, perceived social support, and coping behaviors. Hansson et al. (1984) suggest a conceptual model, which posits that relational competence (defined as "characteristics of the individual that facilitate the acquisition, development and maintenance of mutually satisfying relationships," p. 7) affects the quality and effectiveness of social support. Fur-
thermore, several articles consider social support within the conceptual framework of person-environment fit (e.g., Broadhead et al., 1983; Gottlieb, 1981a).

Section Summary and Suggestions

In summary, over two-thirds of the articles reviewed include a fairly extensive discussion of conceptual issues. Of those that do not, there is usually brief reference to the perspective that social networks and social support are only part of a more encompassing framework comprised of numerous variables. Clearly, the development and presentation of a conceptual framework can serve as an important guide for understanding the concepts, reviewing the empirical findings, and planning for future research and interventions. Not only do such models guide researchers and practitioners in examining the relationship between social networks and social support and health, but they also provide a direction for addressing the interconnectedness between social networks and social support and other key variables, e.g., stress, personal and situational factors (Moos & Mitchell, 1982).

It is useful to recognize that the two most frequently presented types of models (described above) are not contradictory, but rather one can be considered as a subset or expansion of a key variable of the other. That is, the overall stress paradigm highlights the stress process and includes social support or social networks as a conditioning variable. Social networks and social support can, in turn, be considered in more depth through a conceptual model in which they are the central component and their determinants and effects are included. A combined model that incorporates both types is conceptually feasible. However, since no one research study or intervention can examine all the variables within either one of these models, it is perhaps more useful to identify the major aim of and theory behind a given study or program, and to determine the most appropriate conceptual framework. For example, if exchange theory is posited as a major perspective, social network characteristics, especially reciprocity, will be key factors to consider. An appropriate conceptual model might focus on the determinants and effects of network characteristics. If stress is hypothesized to be of primary importance, then social support may be included as one of numerous variables influential in understanding the relationship between stress and health. Both perspectives recognize the complex, interactive nature of these relationships, and thus are not linear cause-and-effect models. Both perspectives also consider the consequences of these relationships as being non-disease-specific, suggesting the importance of examining psychological and behavioral outcomes as well as physical ones.

Social Networks and Social Support

The design and use of a conceptual framework both for research and practice is recommended. In addition to the points discussed above, there are several other issues to consider when developing such a framework. In that theory and empirical evidence guide conceptual development, as further or different findings are substantiated, it is necessary to incorporate them into a conceptual model. In this regard, several of the articles reviewed offer some suggestions with which we concur. Within the broad stress paradigm, the frequently hypothesized buffering relationship between social support and stress may be due to another variable, such as social competence (e.g., Cohen & Wills, 1985; Heller & Swindle, 1983; Jung, 1984; Moos & Mitchell, 1982; Turner, 1983), and hence the inclusion of social competence may strengthen a conceptual model. Also, the relationship between social networks, social support and health status may be different at various stages of an illness or problem (e.g., Berkman, 1984; Jung, 1984; McKinlay, 1980; Wallston et al., 1983), and at various points in time over the life course (e.g., Kahn & Antonucci, 1980), and therefore, this needs to be reflected in a conceptual framework. Many of the conceptual models include personal and situational factors as determinants of social networks and social support. It is also suggested that it may be the interaction of personal and situational characteristics that has the most influence on well-being (e.g., Leavy, 1983; Mitchell & Trickett, 1980; Norbeck, 1981), and thus needs to be considered. Another variable that needs further study for possible inclusion in a conceptual framework is one's orientation toward using network resources (Moos & Mitchell, 1982).

Another issue to consider in developing conceptual models relates to the earlier discussion on definitions. How one defines social networks and social support, and which concept is included in a model, will influence which other variables are selected and the nature of their relationships. That is, a model highlighting social networks will probably include the structural, interactional and functional characteristics of networks as defined here, whereas a model emphasizing social support may only include functional characteristics.

RESEARCH FINDINGS

The research on social networks, social support and health includes the study of a wide range of populations, from large study samples of the general population to small samples of individuals experiencing a specific life transition such as widowhood or recovery from a serious illness. DiMatteo and Hays (1981) describe the following problems encountered in reviewing the research: lack of consensus regarding the concept of social
support; measurement problems; and a paucity of empirical findings. These problems are compounded when one attempts to review and summarize these 33 literature reviews because the authors organize and approach the research in different ways. Some authors report findings without critiquing the studies; others critique individual studies but do not summarize findings; and approximately one-third of these literature reviews report, critique, and summarize findings (e.g., Cohen & Wills, 1985; Kessler & McLeod, 1983; Leavy, 1983). Because reviews in the latter group tend to be more comprehensive in their treatment of empirical findings, this section will draw primarily, but not exclusively, from them.

Another difficulty with summarizing findings discussed in these 33 review articles is that some authors examine both studies of social networks and of social support, while others include only studies that deal with one or the other of these two concepts. Rather than discuss research findings from studies of social networks separately from those of social support, we have chosen to combine the two. The findings regarding specific network determinants and characteristics are covered in a separate subsection.

These 33 reviews include research that examines a variety of physical and mental health outcomes. Approximately two-thirds of the articles review both studies involving mental health outcomes and studies of physical health outcomes (e.g., Broadhead et al., 1983; Norbeck, 1981; Turner, 1983). The remaining one-third focus on studies involving mental health outcomes ranging from psychiatric disorder to psychological well-being (e.g., Kessler, Price, & Wortman, 1985; Leavy, 1983; Mueller, 1980), or on studies of individuals with physical health problems and examine physical and/or mental health outcomes (e.g., DiMatteo & Hays, 1981; Wallston et al., 1983; Wortman & Conway, 1985). While it can be argued that making a separation between mental health and physical health is not valid because of the “reciprocal influence of the two” (Jung, 1984, p. 144), it is one way that some authors have used to narrow the focus of their review. The major emphasis of a few of the reviews is the examination of studies that test the buffering hypothesis (e.g., Cohen & Wills, 1985; Kessler & McLeod, 1983; Thoits, 1982). Some of the reviews discuss studies that examine the determinants and characteristics of social networks (e.g., Antonucci, 1985; Israel, 1982; Mitchell & Trickett, 1980). Thus, this section is organized to reflect the major ways that the authors have approached and summarized their findings: social networks and social support and their relationship to physical health, mental health or psychological well-being; tests of the stress-buffering hypothesis; and social-network determinants and characteristics. In addition, the findings on two other issues of interest, the negative effects of social support and gender differences in social support, will be discussed.

The six reviews (Berkman, 1984; Cwikel & Israel, 1985; DiMatteo & Hays, 1981; Levy, 1983; Wallston et al., 1983; Wortman & Conway, 1985) that focus primarily on studies concerning specific physical health problems categorize their findings in a variety of ways. Any discussion of these findings is not completely straightforward because, while the reviewed studies are of individuals with physical health problems or who are at risk for such, the examined outcomes include both physical and mental health outcomes. For example, DiMatteo and Hays (1981) limit their review to studies of serious physical illness and injury that examine the outcome variables of physical, social role and socioemotional recovery. These three outcome factors were created by asking a panel of eleven psychologists to group eighteen general outcomes into three to five conceptually related factors. The review is organized according to the categories of serious illness and injury, and “at risk,” which includes new parenthood and hypertension. The authors draw the following conclusions: (1) social support may be associated with rehabilitation, compliance, and adjustment during terminal illness; and (2) “taken as a whole, the research suggests that social support may, in fact, be associated with recovery, and coping with serious illness and injury” (p. 121). It is unclear from the text what the conclusions are regarding social support and at-risk populations.

Wallston et al. (1983) organize their review of the relationship between social support and physical health according to stages of health and illness: illness onset; utilization of health services; adherence to medical regimens; and recovery, rehabilitation, and adaptation to illness. The authors make the following conclusions: (1) overall, findings differ based upon the stage of illness and the type of research study; (2) the evidence is neither strong nor adequate enough to suggest a direct link between lack of support and the onset of illness; (3) there appears to be some evidence for a relationship between social support and compliance to prescribed medical regimens, although the evidence is stronger for intervention studies than for correlational studies; (4) the strongest evidence for the social support—health relationship is found in studies on recovery, rehabilitation, and adaptation to illness. This latter conclusion appears to be consistent with the findings of others. Wortman and Conway (1985) also conclude that “the majority of studies show that support facilitates recovery from health problems” (p. 284). The studies that Wortman and Conway are referring to are generally of interventions using health care professionals, support groups, or lay persons with similar health problems, not of interventions using members of the individual’s naturally occurring social network.

The article by Cwikel and Israel (1985) reviews experimental and quasi-
experimental studies that examine the effects of social network and social support interventions on individuals who are experiencing or who are at risk for a physical health problem. They categorize studies according to the type of preventive effort (primary, secondary, and tertiary). Based on their review of studies, Cwikel and Israel make the general conclusions that the interventions that seem to have a stronger effect are those that use emotional support rather than informational support, those that use a combination of different types of support, and those that use lay counselors to deliver the intervention rather than professionals.

One of the reviews specifically focuses on the effect of social networks and social support on adherence to medical regimens (Levy, 1983). The review examines experimental studies that are categorized into four groups based on the nature of the intervention: home visits, training of significant others outside the home, structured reinforcement and contracting, and group support. Levy concludes that, on the whole, the evidence suggests a positive association between social support and compliance, but that it is difficult to draw conclusions regarding the specific effects of social support. While a positive association may exist, it should be viewed cautiously because many of the studies use health outcomes rather than measures of compliance, and it is difficult to determine whether or not social support was actually provided (Levy, 1983). Another problem with studies of this type is that many of the supportive interventions are multifaceted, which makes it difficult to assess what part of the treatment caused the effect (Wortman & Conway, 1985).

Several of these reviews discuss findings from studies that examine the relationship between social networks and health care utilization or help seeking (e.g., McKinlay, 1980; Mitchell & Trickett, 1980; Wallston et al., 1983). One problem in summarizing such studies is that they use different definitions of “help.” However, there appears to be evidence that social network characteristics “influence the degree and mode of help seeking behavior” (Mitchell & Trickett, 1980, p. 36). Wallston et al. (1983) note that the characteristics that influence utilization may differ between women and men. They also conclude that the social network’s norms or values regarding help-seeking have a greater effect on utilization than whether or not one’s network consists predominately of kin vs. non-kin.

Mental Health or Psychological Well-Being

While several of the articles discuss the research on the relationship between social networks, social support and mental health, three reviews in particular comprehensively review this research (Kessler, Price, & Wortman, 1985; Leavy, 1983; Mueller, 1980). These reviews examine studies of populations ranging from psychiatric patients (e.g., schizophrenics, depressives) to individuals in the general population dealing with a life crisis. Although each review approaches the research differently, the overall findings and conclusions among the articles are fairly consistent.

The information summarized here from the Kessler, Price, and Wortman (1985) review is contained in the section on social support from their more extensive article on social factors in psychopathology, which include stress, social support, and coping processes. They discuss findings from both research studies and other review articles and group the research according to: studies of clinical samples, normal population, and case-control studies, studies on reactions to life crises, and experimental support interventions. Leavy (1983) reviews 46 studies on informal social support and psychological disorder, 80 percent of which were conducted since 1978. The review is organized according to five different research strategies: (1) comparison between the “informal support systems” of clinical and nonclinical populations; (2) studies of clinical populations with a specific type of disorder; (3) studies of the support systems of the general population; (4) studies of individuals dealing with specific life crises; and (5) gender differences in support. Using social networks as a framework, Mueller (1980) organizes his review of the research according to the relationship between network structure and psychiatric disorder, the relationship between supportiveness of network ties and disorder (specifically depression), and how change or disruption in the network affects psychiatric disorder.

As noted earlier, the findings among these three reviews are fairly similar. All three conclude that there is consistent evidence supporting the finding that there are differences between the networks of psychiatric patients and “normals.” Generally speaking, individuals with psychiatric disorders have networks that are smaller, more asymmetric (less reciprocal) and with fewer multiplex relationships (Mueller, 1980). Also, clinical populations tend to rely more on nonfamily ties than normal populations (Leavy, 1983). However, it remains unclear whether there is a causal relationship between network characteristics and psychiatric disorder and, if so, what the direction of this relationship might be.

After reviewing the research on the effects of lack of support or the supportiveness of network ties, Mueller (1980) concludes that there is considerable evidence for the relationship between lack of social support and psychiatric impairment. This relationship appears to be particularly evident in the case of depressive symptoms, especially among women. Kessler, Price, and Wortman (1985) also note that there is evidence that suggests a negative relationship between the supportiveness of family members and relapse among schizophrenics. Leavy (1983), however, states that while lack of emotional support seems to be positively related to psychiatric impairment among a clinical population, this association is significant but weaker among the general population.
Regarding the impact of stressful life events on well-being, Kessler, Price, and Wortman (1985) state that most of the longitudinal studies on reactions to major life events provide evidence for a positive relationship between support and emotional adjustment. Mueller (1980) notes that many stressful life events involve changes or disruption (loss) in the social network, and that there appears to be a positive relationship between loss in the social network and psychiatric disorder (Mueller, 1980). However, it is difficult to draw any clear conclusions from this literature because the differences among the stressful situations and various populations studied make it hard to compare findings (Leavy, 1983).

Stress-Buffering Effects

Several reviews examine studies that test the buffering hypothesis, i.e., the hypothesis that social support mediates or buffers the effects that stress has on well-being (e.g., Cohen & Wills, 1985; Kessler & McLeod, 1985; Thoits, 1982). Conclusions regarding the buffering hypothesis vary considerably, with some authors stating that the findings are strongly supportive of the buffering hypothesis, and others asserting that such conclusions are overstated. Kessler & McLeod (1985) discuss and critique 25 studies that demonstrate either clearly positive or negative results of the stress-buffering effect of social support, and find evidence for buffering in two-thirds of the studies. When they compare the results of studies that examine “membership in affiliative networks and a life-event inventory in predicting psychological distress” (p. 232) with the results of studies that examine “interactions between emotional support and a life event inventory” (p. 233), they conclude that emotional support has a buffering effect, while membership in “affiliative networks” does not. Membership in affiliative networks is determined by scales that measure the number of friends and relatives, membership in clubs and church, and frequency of interaction. Studies that examine interactions between perceived availability of support and life events are also reviewed; these findings are inconclusive. They also examine studies that use measures of chronic strain rather than life events, and conclude that there is evidence that social support buffers the impact of chronic strains.

Heller and Swindle (1983), on the other hand, conclude that there is little evidence to support the buffering hypothesis. They review 15 articles that are frequently cited as evidence of stress buffering, and conclude that only six demonstrate effects of buffering. Because of the conceptual and methodological problems inherent in many of these studies, Heller and Swindle call for a moratorium on “classical buffering studies.” Thoits (1982) seems to concur; she notes that while there appears to be some evidence of stress buffering, because of the problems in methodology these findings have to be interpreted cautiously. Thoits argues that buffering effects may be a result of a statistical artifact resulting from the confounding of social support and life events such as losses from the social network. However, findings of others (Cohen & Wills, 1985) do not support the statistical artifact argument.

Evidence for buffering may, in part, be dependent upon the type of study conducted and measures used. Wallston et al. (1983) note that while retrospective studies that test for interaction between stress and social support usually provide evidence for buffering, prospective studies do not. Cohen & Wills (1985) organize their review of the research on the buffering effect according to the type of measurement of social support that is used in the study. They use a typology based on: (1) structural (the existence of relationships) versus functional (the degree to which support functions are provided by relationships) measurements; and (2) specific measures of structures or functions versus global measures (the combination of structures or functions in a global index). They suggest that to find a buffering effect, specific measures of support functions that are relevant to a particular stressor need to be used. Findings suggestive of a stressor-buffer specificity model are discussed in detail by Cohen and McKay (1984). They found that in studies where social support is measured by assessing how well individuals are integrated into a larger social network, there is evidence for a main effect, rather than a buffering effect.

Social Network Determinants and Characteristics

Several authors review studies that examine the determinants of social networks (e.g., Antonucci, 1985; Kahn & Antonucci, 1980; Mitchell & Trickett, 1980). Mitchell and Trickett (1980) organize their review of this research according to three categories of network determinants: environmental factors, individual characteristics, and the interaction of environmental and individual influences. Three environmental determinants are listed as having an important effect on network development: the influence of family characteristics, physical proximity or access to social interaction, and the individual’s experience of and participation in community processes. Individual determinants that may influence the social network include expectations about relationships and the individual’s behavior. Mitchell and Trickett note that there have been few studies that assess the role that individuals play in determining their networks, and in particular that examine the effect of social competence on network development and maintenance. (For more on social or relational competence see Hansson et al., 1984). Because few studies have been conducted that examine the effect of the interaction between environmental and individual influences on the network, these studies are not summarized by Mitchell and Trickett.
However, they assert that interactional approaches to assessing network development are the most useful.

The importance of an interactional approach is also emphasized by Kahn and Antonucci (1980) who state that an individual's convoy (social network over the lifespan) is "determined jointly by enduring properties of the person, by the person's requirements for social support, and by properties of the situation" (p. 269). Antonucci (1985) reviews the research on the effect of individual characteristics (e.g., age, sex, ethnicity, marital and family status), and situational characteristics (e.g., living arrangements, role changes, organizational membership) on a person's convoy (structure, function, and adequacy). The findings from these studies are too diverse and numerous to summarize here. However, it is important to note that while extensive research has been conducted on the determinants of networks, investigators rarely take an interactional approach in assessing the determinants of networks.

The limited body of research that examines the relationships between specific social network characteristics and health and well-being is reviewed by a number of authors (e.g., Antonucci, 1985; Israel, 1982; Mitchell & Trickett, 1980; Mueller, 1980) and has primarily focused on structural and interactional network characteristics (Israel, 1982) such as size, density, intensity, and reciprocity. Findings regarding structural and interactional characteristics and their relationship to well-being are conflicting and difficult to summarize (House & Kahn, 1985; Israel, 1982). For instance, evidence suggests that, in general, a network characterized by high density (that is, one in which a high percentage of people in the network know one another) is positively related to perceived support; but specific studies, for example, of women in transition (e.g., recently widowed or returning to college) indicate that density is negatively related to perceived support and adaptation. However, there seems to be evidence to suggest that intensity (Israel, 1982) and reciprocity (House & Kahn, 1985; Israel, 1982; Mitchell & Trickett, 1980) within networks are positively related to well-being.

Other Issues

While the research findings on the negative effects of social networks and social support are sparse and inconclusive, several reviews discuss this issue as one that holds promise and needs further investigation. Wortman & Conway (1985) cite several reasons why it is important to assess negative effects, especially in the context of physical illness. In the studies that they review, negative effects are generally the result of supportive others having misperceptions about coping with physical illness and thus, while trying to provide support, may be increasing the patient's stress. DiMatteo & Hays (1981) cite several studies where the social support provided by family members is overprotective and has a negative impact on the individual's recovery and return to work. Social support may have a negative impact on individuals recovering from illness by reducing their self-esteem; however, there are no findings to support this (DiMatteo & Hays, 1981; Wallston et al., 1983). A number of reviews (Jung, 1984; Wortman & Conway, 1985) cite studies that found the association between the negative aspects of social relationships and mental health outcomes to be stronger and more consistent than the association between positive aspects and mental health.

A number of these reviews cite evidence of gender differences in the role of social support and the composition of social networks. The social networks of women tend to be larger and more multifaceted and the nature of these ties seem to be different from those of men (Antonucci, 1985). Findings from studies of normal populations suggest that women have more supportive relationships than men (Leavy, 1983). Norbeck (1981) cites a number of studies that indicate that men and women have different social support needs and receive different amounts of social support. However, she states that it is difficult to conclude from the research evidence whether women actually need more support or whether they are able to obtain more than men. Cohen and Wills (1985) conclude that there may be gender differences in whether or not certain support functions act as buffers against stress. They suggest that these differences may be related to the differences in the content of supportive interactions among men and women. Some evidence supports the fact that "relationships with women may be more supportive and health promotive than relationships with men" (House & Kahn, 1985, p. 93).

This section has summarized the research findings presented in these review articles along the categories of: social networks and social support and their relationship to physical health, mental health or psychological well-being, tests of the stress-buffering hypothesis, and social network determinants and characteristics. Findings regarding the negative effects of social support and gender differences in social networks and social support have also been discussed. Despite the fact that study populations, measurement of key variables, and methodologies vary across studies, there appears to be sufficient evidence to suggest a positive relationship between social networks, social support (especially affective support) and health and well-being. This relationship seems to be most consistent in the evidence presented regarding psychiatric populations, and recovery from physical illness. Several promising issues warrant considerably more research: gender differences, the negative effects of ties, the role of social competence, and reciprocity. As noted earlier, the findings regarding specific network characteristics and their relationships to health and well-being are limited and conflicting; the network characteristics of reciprocity, sex
composition, and density seem to be the most promising for further research (House & Kahn, 1985). Finally, social support needs to be investigated as a dependent variable. Broadhead et al. (1983) suggest that findings from such research would assist in the development of prevention and intervention strategies.

METHODOLOGICAL ISSUES

Approximately three-fourths of the 33 review articles address methodological issues to some extent; of these, numerous articles strongly emphasize methodological issues (e.g., Berkman, 1984; Broadhead et al., 1983; Cohen & Wills, 1985; House & Kahn, 1985; Jung, 1984; Kessler & McLeod, 1985;Thoits, 1982). There appears to be general agreement on the main methodological concerns surrounding the research on the relationship between social networks and social support and well-being. Several key issues emerge from this literature: problems in the measurement of the social network and social support constructs, the preponderance of cross-sectional studies and the lack of studies designed to assess causality, the problem of operational confounding, and issues regarding the study population and sample size.

The methodological issue most frequently referred to in these review articles is the problem with measurement of social networks and social support. The lack of agreement and specificity surrounding the definition of the terms “social network” and “social support” is reflected in their measurement. (For a comprehensive critique of measurement issues see House & Kahn, 1985.) Imprecise and inadequate measures appear to be a major concern (e.g., Berkman, 1984; Leavy, 1983). Several authors cite the lack of measurement standardization across different studies as creating a difficulty in comparing research findings (DiMatteo & Hays, 1981; Jung, 1984; Wallston et al., 1983). Others raise the problem of low reliability or validity of support measures (Cohen & Wills, 1985; Leavy, 1983) resulting in part from the use of single item measures or scales created for secondary data analysis of large data sets (Berkman, 1984; Cohen & Wills, 1985). Thoits (1982) and Mueller (1980) discuss the need for measures that reflect the multidimensional nature of social support. Mueller suggests that measures should include the dimensions of source (i.e., who is providing the support: a relative, friend, or professional), type (e.g., emotional, instrumental), and the intensity of the relationship (e.g., whether or not it is a confiding relationship). For each source of support the occurrence or availability should be assessed (House & Kahn, 1985). Concerning types of support, it is suggested that a distinction be made among emotional support, informational support, instrumental support and affirmation or appraisal support (House, 1981; House & Kahn, 1985; Kahn & Antonucci, 1980). By assessing these dimensions, researchers may be able to determine what type(s) and source(s) of support have what effects on health behavior, stress, and physical and mental health status.

Several authors discuss the importance of making a distinction between perceived and objective social support, and the need to measure both (Antonucci, 1985; DiMatteo & Hays, 1981; Jung, 1984). Perceived or subjective support is from the frame of reference of the receiver; whereas, objective support is measured from the viewpoint of an outside observer (Caplan, 1979). Most measurement of social support is based on self-report and therefore, is perceived support. Because the perception that social support is available may mediate one’s perception of a stressful event, a measure of perceived availability of support is especially important to show evidence of a buffering effect (Cohen & McKay, 1984; Cohen & Wills, 1985). Heller & Swiddle (1983) define perceived social support as “the appraisal that one is supported” and describe it as a function of the “availability of social networks” and “interpersonal skills in accessing and maintaining supportive relationships” (p. 35). While obtaining measures of objective support is highly desirable, it is also very time-consuming and costly because it requires interviewing providers as well as receivers of support or observing actual behaviors.

There are a number of different measurement approaches that are used to assess social networks. In part, the difference in approach is the result of how the term social network is conceptualized and subsequently operationalized. Mitchell and Trickett (1980) list a number of diverse operational definitions that vary based upon how social network membership is defined. For example, membership criteria might be based on the frequency of interaction or strength of the relationship. Antonucci (1985) discusses several ways of assessing the social network. Two of these are (1) by asking about formal (or categorical) relationships such as relatives, friends, and neighbors; and (2) by asking the respondent to list those individuals who perform or can be counted on to help with supportive acts. As Antonucci notes, the disadvantage of the first method is that important network members may be left out because they do not fit into a particular category. The problem with the second method is that it only obtains membership of a support network and not of the entire network. Therefore, it excludes negative interactions which may have an important effect on well-being. House and Kahn (1985) point out several problems with network measurement. One of these is the amount of time and cost required to fully measure the structure of an individual’s social network. Since evidence has not indicated that assessment of a total network is critical, they suggest limiting the network size to 5 to 10 persons.

The use of weak study designs, primarily cross-sectional and retrospec-
Several authors discuss the need for conducting longitudinal studies (Cohen & McKay, 1984; Ell, 1984; Mueller, 1980) to make causal inferences. The problem with cross-sectional study designs is that the relationship between social support and health is open to several interpretations: social support affects well-being (health status), well-being affects social support, and/or another usually unmeasured variable affects both social support and well-being (Cohen & Wills, 1985). The difficulty in determining the direction of causality is especially problematic in studies of the chronically ill. The problem of the "third variable" (Wortman & Conway, 1985) affecting both social support and well-being can arise when variables that are closely related to social support are not measured or controlled. Social competence or skill and neuroticism have been proposed as such plausible underlying variables (e.g., Cohen & Wills, 1985; Heller & Swindle, 1983; Jung, 1984; Wortman & Conway, 1985).

A number of authors address the problem of confounding in their discussion of methodological concerns (e.g., Broadhead et al., 1983; Kessler, Price, & Wortman, 1985; Thoits, 1982). Thoits (1982) suggests that life events (as a measure of stress) may be seriously confounded with support. The occurrence of a major life event, such as the death of a spouse, divorce, or job loss, could be interpreted as an indicator of change in social support. This is especially a problem in research that measures social support after a major life event. Thus, Thoits concludes that to adequately test the buffering hypothesis, social support needs to be measured at more than one point in time. Other ways to deal with confounding post hoc are suggested by Cohen and Wills (1985). They recommend that the correlation between stress and social support be examined (post hoc), and that a finding of a significant negative correlation would suggest confounding. If confounding exists, a modified life-events score should be created by removing the "social-exit events" from the total stress score.

Confounding of the independent and dependent measures may also be a problem (Heller & Swindle, 1983). For instance, individuals' perception of amount and adequacy of support may be influenced by their psychological state (Berkman, 1984). That is, depressed persons might be more likely to report low levels of support when their support may actually be adequate. Confounding may also exist between the independent and dependent variables in the research on social support and health behaviors, specifically regarding adherence to medical regimens. Individuals who tend to be compliant may also be more attentive to family relationships, thus promoting a more supportive environment (Levy, 1983).

In their critique of research on the buffering hypothesis, Cohen and Wills (1985) note that one of the problems with prospective, longitudinal designs is that they assume that social support is stable over time, which is often not the case. Therefore, they recommend that in evaluating prospective research, one examine "the correspondence between longitudinal intervals, the time-course of the criterion disease, and the stability of social support in the population under study" (p. 21).

Broadhead et al. (1983) review research findings and methodologies in the context of Hills' (1965) criteria for causality and assert that few studies use adequate randomized clinical trials and pre- and post-intervention measures. Several other authors emphasize the need for experimental interventions (House & Kahn, 1985; Jung, 1984; Kessler, Price, & Wortman, 1985; Turner, 1983). Kessler & McLeod (1985) conclude that evidence for a causal influence of support will more likely come from intervention experiments than from surveys of normal populations.

Another methodological issue that is raised by a few of these authors concerns the nature of the study population and size of the study sample. Berkman (1984) addresses the "well-integrated communities problem" that he describes as the problem of using the number of social contacts and social activities as measures of social support in studies of populations in well-integrated communities. Berkman reviews studies of well-integrated populations, where the differences in risk between isolated and nonisolated individuals is not significant. One explanation that she presents is that in such communities, the overall level of social support is so high that "very few people are isolated severely enough to reveal significant increases in risk" (Berkman, 1984, p. 427). In a review of studies testing the buffering hypothesis, Cohen & Wills (1985) discuss the problem of using a young healthy population or a clinical sample, in which there is little variability in stress levels because most subjects are experiencing high levels of stress. With such populations, the probability of finding relationships between stress, support, and symptoms is statistically less than in a sample with broad ranges of these variables. Regarding the issue of sample size, after reviewing 25 normal population surveys that examine support, stressful life experiences, and mental health outcomes, Kessler & McLeod (1985) conclude that several studies fail to find a significant buffering effect, in part due to small sample size.

In summary, the methodological problems in the research on social networks and social support and their relationship to health and well-being are well-documented in these review articles. While the problems are nu-
numerous and difficult to resolve, it is encouraging to note that many of them are being addressed presently in current research efforts. We especially concur with the conclusions of several reviewers (e.g., Broadhead et al., 1983; Kessler & McLeod, 1985) regarding the need for and potential contribution of intervention studies that can address some of these methodological issues. In the field of health education, such intervention and action-research studies are of critical importance and should focus on prevention as well as treatment.

**PRACTICE IMPLICATIONS**

Of particular interest to the health educator is to what extent and how are the theories, conceptual issues, and empirical evidence concerning social networks and social support applicable to the practice of health education? The integration of the existing work on social networks and social support can enrich the development, implementation, and evaluation of health education interventions. However, of the 33 articles reviewed here: one-third discuss to some extent implications for practice; slightly fewer than one-third make only brief mention of practice considerations, and in the remaining one-third, there is no reference to practice. Not surprisingly, the extent to which theory and research are applied to practice often is related to the purpose of the review article, the background and training of the author(s), and the focus of the journal in which the article is published.

This section will summarize and analyze the major points linking theory and research to practice as reviewed in those articles (approximately one-third) that emphasize such points. Of these articles, several present an extensive review of theoretical, conceptual and empirical findings concerning social networks and social support and then discuss implications for practice (e.g., Ell, 1984; Israel, 1982; Mitchell & Trickett, 1980; Norbeck, 1981). Several of the articles (e.g., Gottlieb, 1981b; Minkler, 1981; Pilisuk & Minkler, 1980) summarize major findings from the field (e.g., importance of reciprocity) and describe and analyze specific interventions in light of these findings (e.g., the extent to which a program enhanced the development of reciprocal ties). Additionally, several of these articles are reviews of intervention studies and hence practice issues are addressed, directly or indirectly, throughout (e.g., Cwikel & Israel, 1985; DiMatteo & Hays, 1981; Levy, 1983; Wortman & Conway, 1985). The articles differ whether their primary emphasis is on social support (e.g., DiMatteo & Hays, 1981; Levy, 1983; Wortman & Conway, 1985), social networks including social support functions (e.g., Ell, 1984; Gottlieb, 1981b; Israel, 1982; Jung, 1984; Mitchell & Trickett, 1980; Moos & Mitchell, 1982), or social support networks (e.g., Minkler, 1981; Norbeck, 1981; Pilisuk & Minkler, 1980). These articles also vary in their focus on health education practice (e.g., Israel, 1982; Minkler, 1981; Pilisuk & Minkler, 1980) social work practice (e.g., Ell, 1984); medical settings (e.g., DiMatteo & Hays, 1981; Norbeck, 1981; Wortman & Conway, 1985), and community mental health (e.g., Gottlieb, 1981a, b; Mitchell & Trickett, 1980).

Given the diversity and inconsistencies of the empirical evidence concerning social networks and social support, and the methodological limitations discussed above, any discussion of practice implications will be somewhat tentative. Several authors caution that, given the present research findings, it is too early to suggest specific factors that would be most effective in the design of social network interventions (e.g., DiMatteo & Hays, 1981; Jung, 1984; Wortman & Conway, 1985). Although we concur with the need to apply these concepts cautiously, the following discussion provides some evidence of the appropriateness of linking current knowledge to the development of health education programs.

Drawing from the literature, the review articles present several overall points that are important for practitioners to consider when developing social network interventions. The choice and effectiveness of any given intervention strategy will depend upon a number of these general factors, including: the kind of problem or crisis and stage at which it is occurring (Ell, 1984; Israel, 1982; Moos & Mitchell, 1982); the individual’s need for social support (Israel, 1982; Norbeck, 1981); the availability of different types and sources of support (Moos & Mitchell, 1982; Norbeck, 1981); the presence of certain network structural characteristics and norms appropriate for resolving a given problem (Gottlieb, 1981b); the individual’s orientation toward using network resources (Israel, 1982); availability of broader socioeconomic resources and conditions (Minkler, 1981; Mitchell & Trickett, 1980); and the theoretical and ideological perspective of the practitioner (Mitchell & Trickett, 1980). Given these numerous factors, it is apparent that the integration of social network and social support concepts into practice extends beyond any one strategy, purpose or target population, problem area, or professional role. Hence in the following discussion, it is important that the practitioner keep in mind these general considerations.

The selection of a target population for an intervention involving social networks can be made in accordance with the conceptual framework presented earlier, concerning the relationship between stress, social support and health. Gottlieb (1981b) discusses interventions that are intended to enhance the quality of social support within existing ties, which are aimed at “promoting the health” (p. 211) of the targeted individuals, without reference to specific stressors. This identification of program recipients without emphasis on a given stressful experience or situation, is consistent
with the conceptually founded and empirically tested hypothesis that social support has a direct positive effect on health. Gottlieb (1981b) also analyzes interventions that are intended to strengthen new or existing social ties, which are aimed at “protecting the health” (p. 211) of individuals experiencing certain life events and transitions. This selection of program participants considered to be at risk because of exposure to stressful conditions, is consistent with the conceptually founded and empirically tested hypothesis that social support has a buffering effect on stress and health. Moos and Mitchell (1982) suggest that the attitudes of practitioners about which of these processes is operating influences their design of programs. They state that those practitioners who believe that generally beneficial effects come from strengthening network resources (i.e., direct effect hypothesis) are more likely to develop broad-based interventions. Practitioners who believe that strengthening network resources will have the greatest effect on people experiencing stress (i.e., buffering effect hypothesis) are more likely to develop programs that are targeted at people undergoing a life crisis or transition (Moos & Mitchell, 1982). As presented earlier, the research evidence to date would support the design of programs targeted at both populations.

This discussion is also congruent with the distinctions made between social network and social support programs aimed at primary prevention (including health promotion), secondary prevention, and tertiary prevention (e.g., Broadhead et al., 1983; Cwikel & Israel, 1985; Ell, 1984; Gottlieb, 1981a; Israel, 1982). Broadly defined, programs aimed at primary prevention may include the population at large (i.e., direct effect hypothesis), or persons considered to be at risk (i.e., buffering effect hypothesis), but without as yet experiencing any negative health outcome. Programs aimed at secondary and tertiary prevention would include persons experiencing stress (i.e., buffering effect hypothesis) who also have an identifiable illness.

Types of Social Network and Social Support Interventions

In examining the various types and purposes of interventions that have integrated social network and social support concepts, one finds diverse approaches toward categorizing program examples. Levy (1983), in her review of interventions concerning social support and compliance, describes programs according to how social support is manipulated (e.g., home visits, significant-other training, structural reinforcement, group). DiMatteo & Hays (1981) divide the studies that they review according to recovery from serious illness (e.g., myocardial infarction, cancer) and recovery from risk states (e.g., hypertension, new parenthood). Cwikel & Israel (1985) analyze intervention studies by prevention category, e.g., primary prevention—widowhood, transition to parenthood; secondary prevention—compliance, acute illness; and tertiary prevention—rehabilitation from myocardial infarction, chronic illness.

Program examples have also been discussed with an emphasis placed on the type of network linkages and sources of support involved. One typology (Israel, 1982) that includes four broad categories of interventions, will be briefly presented here. Review articles that describe programs that fit into each category are cited. An elaboration of the specific strategies used (e.g., training, consultation, group discussion) within each of the four categories will not be provided here, but is included in some of the review articles (e.g., Gottlieb, 1981b; Israel, 1982; Minkler, 1981; Pilisuk & Minkler, 1980).

The first category refers to interventions that focus on strengthening already-existing network ties. The emphasis here is usually on identifying individuals with particular needs and then involving significant members of their network in the process of meeting those needs. For example, family members involved in a program to get hemodialysis patients or hypertensives to follow prescribed medical regimens, or close friends participating in an intervention aimed at getting clients to stop smoking. Several of the articles reviewed here describe such programs (e.g., Cwikel & Israel, 1985; Ell, 1984; Gottlieb, 1981b; Israel, 1982; Levy, 1983; Norbeck, 1981; Pilisuk & Minkler, 1980). There are numerous important questions to consider in designing this type of intervention: To what extent does the client have already-existing network linkages? What is the nature of these relationships, e.g., types of support provided, reciprocity, negative aspects? To what extent are network members available and able to enhance their involvement with the targeted individual? Hence, this type of intervention may be most effective for an individual who has existing network ties that are capable of providing different types of support, are reciprocal, and not overburdened.

A second category of programs is often referred to as including those that are aimed at developing and enhancing new network linkages (e.g., Cwikel & Israel, 1985; Ell, 1984; Gottlieb, 1981b; Israel, 1982; Norbeck, 1981; Pilisuk & Minkler, 1980). The focus here is on linking a given individual in need with another person or persons, previously not a part of the given individual’s network, in a way that will provide new network resources. For example, a program that brings together parents of children with cancer to form a mutual-aid group, or an intervention in which recently widowed individuals are contacted by someone who has effectively handled the experience. Frequently, these types of programs develop new linkages between persons who share a common situation. Important questions to consider in planning this type of intervention include the following: What are the limitations of a client’s already existing network relationships? What
additional network resources are available in the community? What is the nature of the problem situation and to what extent might others experiencing similar problems benefit from establishing interpersonal ties? Thus, this type of program may be particularly effective for individuals whose existing network relationships are limited, destructive, overburdened or not able to provide the type of support needed (e.g., appraisal support).

A third category of interventions involves enhancing the total network through natural helpers (see Israel, 1982, for program examples). The emphasis here is on identifying natural helpers—lay people to whom others naturally turn for advice, emotional support and tangible aid—and involving them in a training or consultation capacity to further strengthen and extend the provision of social support. For example, a neighborhood-based program that identifies persons who frequently provide information and advice on health matters and involves them in training concerning health and disease and how to make appropriate referrals. This type of program is often developed within a neighborhood or geographic community. Some of the questions to be addressed in designing such a program are as follows: To what extent do natural helpers exist within a given target area? What is the nature of the help they provide and how does it relate to the needs identified? How can a program involve natural helpers without negatively altering the “naturally occurring” benefits that they provide? To what extent is this strategy understood and valued by the agency to be involved? Therefore, the careful selection of these natural helpers and the strategies for collaborating with them are most important for program success.

A fourth category of programs involves bringing together overlapping networks/communities in meeting identified needs. The development of network linkages occurs as a secondary aim of this type of program (e.g., Israel, 1982; Pilisuk & Minkler, 1980). The focus is on people joining together to engage in cooperative problem-solving strategies around the issues identified by the people themselves. A program in which community members organize and engage in income-generating projects is an example. There are numerous questions to be considered in developing this type of program. To what extent does communication, influence, help-giving and problem-solving exist across overlapping networks? In what ways might the strengthening of network linkages be given more direct program emphasis? Thus, the extent to which such programs directly emphasize enhancing social networks might result in increased benefits for the persons involved.

Although these intervention categories are often presented as if they are separate and discrete, it is useful to recognize that programs that combine strategies have the potential for complementing each other. For example, a stroke patient may benefit from both involvement in a mutual-aid group of other stroke patients (i.e., developing new network linkages) and having family members assist in health maintenance activities (i.e., strengthening already existing ties). The latter might be accomplished by family members periodically participating in the mutual-aid group or perhaps organizing a mutual-aid group for family members of the stroke patients. Additionally, a community-based program focused on the development of jobs and job skills (i.e., in which network strengthening is a secondary aim) may involve natural helpers in the provision of informational and affective support to unemployed workers. In deciding which approach might be most appropriate and effective for a given population or problem area, the health educator is encouraged to consider the general points for practice discussed earlier in this section.

Program Implications of Assessment Issues and Research Findings

Regardless of which type of intervention is used, the issue of how to assess social networks and social support is important for program planning and evaluation. Since a summary of and recommendations for measurement were presented in the section on Methodological Issues, the discussion here will focus on suggested uses of assessment tools for interventions, not the specific content of the measurement instruments.

Several of the review articles describe the usefulness in clinical interventions of assessing social network characteristics (e.g., Ell, 1984; Israel, 1982; Mitchell & Trickett, 1980; Norbeck, 1981). Mitchell & Trickett (1980), in their discussion of individual and family-focused treatment interventions, suggest that conducting a social network analysis as part of an intake interview allows the clinician “to focus attention more clearly on the interpersonal and social context within which behavior occurs” (p. 38). This information in turn can be used to determine how and when to involve the client (e.g., skill training on maintaining network ties), to engage network members for what ends, or to seek new social ties. Thus, a clinical assessment of social networks can determine an individual’s need as compared to availability of support as a means of assessing the adequacy of interpersonal relationships, that in turn will be helpful in planning interventions (Norbeck, 1981).

Application of social network analyses within the context of a community needs assessment is also recommended by several authors (e.g., Ell, 1984; Israel, 1982; Mitchell & Trickett, 1980). An examination of social networks within a given neighborhood could provide information on: the existence of natural caregivers; the extent and nature of interpersonal helping, communication, and influence patterns; and problem areas and at-risk groups. Mitchell & Trickett (1980) describe an example of conducting a needs assessment of the elderly within a given neighborhood, in which the analysis of social network patterns might reveal problems of isolation and failure.
to use existing formal services. This same analysis might indicate that the elderly frequently mention church membership as an important link, which may suggest disseminating information and developing programs through the church and clergy to strengthen social ties and enhance community integration (Ell, 1984; Mitchell & Trickett, 1980).

Many of the review articles discuss the application of research findings to the development and critique of interventions (e.g., Cwikel & Israel, 1985; Gottlieb, 1981b; Pilisuk & Minkler, 1980). These discussions often focus on the evidence regarding the effect of a given network characteristic, for example reciprocity or density on health status or health behavior. Minkler (1981) defines seven network characteristics (i.e., size, geographic dispersion, density, member homogeneity, strength of ties, reciprocity and multiplicity) as having important implications for the development of interventions. She documents the significance of network size, strength of ties and reciprocity, particularly for elderly persons, and then describes examples of health education programs that have applied these network properties. Minkler (1981) suggests that health educators involved in designing programs for the elderly “should take into account the various properties of social networks which may then help to increase program responsiveness to the possibility of increasing network opportunities” (p. 160).

A slightly different approach to applying the research evidence regarding network characteristics has also been used. Characteristics frequently cited as being significantly related to various health outcomes include: reciprocity, size, density, strength of ties, and affective support. Program examples are then described in some detail and assessed with regards to the extent to which these interventions have emphasized and brought about changes in each of these network characteristics (e.g., Cwikel & Israel, 1985; Gottlieb, 1981b; Pilisuk & Minkler, 1980). A more general discussion of the importance of and how to integrate such network characteristics into practice is also provided by some authors (e.g., Israel, 1982; Norbeck, 1981). Consistent with the research evidence presented earlier, the network characteristics of reciprocity and affective support are most frequently mentioned as important properties to consider in designing health education interventions.

Issues regarding the role of the professional in linking formal and informal sources of help are mentioned only briefly in a few of the review articles (e.g., Israel, 1982; Gottlieb, 1981a; Minkler, 1980). Such role issues are concerned with the extent to which the responsibility for and control of activities and decision-making is separate or shared by the professionals and the lay persons involved. More in-depth analysis of these important issues can be found in numerous other sources (e.g., Collins & Pancoast, 1976; Froland et al., 1981; Gartner & Riessman, 1977; Kleiman et al., 1976; Lenrow & Burch, 1981). A common thread linking many of these discussions is an emphasis on the need for a professional role that does not interfere with nor co-opt the already existing capacity of the network to provide support.

Social Network and Support Interventions: Cautions and Limitations

In addition to the enthusiastic application of network concepts to practice, there are also cautionary points or caveats presented in the review articles. Several of these considered by us to be particularly salient are mentioned below. This will be followed by a discussion of future directions for practice.

Gottlieb (1981b), in his description and critique of preventive interventions that involve training of natural helpers, emphasizes the need to examine the position in the helpee's network occupied by the natural helper. That is, the extent to which the helper is a member of a local, grass roots network, and how much influence the helper actually has on the behavior and problem-solving efforts of the helpee, will have an impact on program effectiveness. Furthermore, Gottlieb (1981b) stresses the importance of providing training that is congruent with the norms and expectations of helping that already exist within the informal system. For example, training helpers in professionally determined skills (e.g., reflective listening) may not be appropriate for many situations. Additionally, Gottlieb (1981b) cautions that the use of close-ended surveys to carry out network analyses may not be adequate for gaining an understanding of when, how, and with what effects helping networks operate.

When designing social network interventions, the practitioner is also urged to not only consider individual characteristics but also to examine broader socioeconomic, political, and environmental forces. Such forces may weaken already-existing supportive ties and serve as a barrier to the development of new supportive, reciprocal relationships (e.g., Ell, 1984; Kahn & Antonucci, 1980; Minkler, 1980; Mitchell & Trickett, 1980). So, for example, it may not be enough to organize a support group for at-risk elderly within a nursing home, when simultaneously the nursing home is adopting a policy in which Medicaid patients are no longer accepted, resulting in relocation of such patients with the concomitant change in network ties of the elderly and their families. Health educators need to recognize the potential impact on social networks of these broader forces and policies, and to engage in strategies that address these issues. (See Pilisuk & Minkler, 1985, for an elaboration of this discussion.)

Another potential limitation of network interventions involves the problems sometimes associated with obtaining adequate social support. Wortman and Conway (1985) describe situations where well-intentioned attempts to provide
support are not considered to be helpful by the recipient. Similarly, Gottlieb (1981b) suggests that programs aimed at strengthening existing network resources could backfire if network members are not able to provide support or if they recommend inappropriate coping strategies.

The practitioner is also cautioned to be aware of possible negative consequences for the provider of social support. This may be particularly problematic for individuals required to provide high levels of support over a considerable time period, but where the recipient of the support is unable or unwilling to reciprocate (Wortman & Conway, 1985). The development of network interventions that further overburden such support providers could have deleterious effects on all persons involved, and thus, health educators need to design programs that minimize or ameliorate this problem. (See Rounds & Israel, 1985, for an in-depth discussion.)

Future Directions for Practice

In reviewing the literature on social networks and social support, it is apparent that a gap frequently exists between the work being conducted by those who consider themselves primarily researchers and those who consider themselves primarily practitioners. Several of the review articles recognize this gap as they discuss the need for integrating theory, research and practice (e.g., Cwikel & Israel, 1985; Ell, 1984; Israel, 1982; Norbeck, 1981). Many of these reviews recommend evaluation research and action-research which, within the context of an intervention, would examine both the effectiveness of the processes and outcomes of the program, and the relationships between major variables, e.g., social support, stress, health (e.g., Ell, 1984; Gottlieb, 1981b; Israel, 1982; Jung, 1984; Pilisuk & Minkler, 1980; Norbeck, 1981). As discussed earlier, to make causal inferences from the findings of such evaluation research, there is a need for both longitudinal studies (e.g., Cohen & Wills, 1985; Levy, 1983; McKinlay, 1980) and experimental studies (e.g., Broadhead et al., 1983; DiMatteo & Hays, 1981; Ell, 1984; Kessler & McLeod, 1985; Levy, 1983; Norbeck, 1981). Additionally, the published results of intervention research need to respond to the frequent critique regarding the lack of information in articles specifying the details of a given intervention (e.g., Cwikel & Israel, 1985; Levy, 1983; Wortman & Conway, 1985). That is, it is not enough to know whether a program successfully enhanced network ties and with what effects. Also needed is a well-documented assessment of how program activities were carried out and the specific processes involved, including information on other factors that may have influenced program outcomes.

There are numerous questions that evaluation research could appropriately address. Many of these are similar to the general research issues discussed earlier, and thus, only a few are mentioned here. For example, an intervention could assess the relationship between network structural (e.g., size), interactional (e.g., reciprocity) and functional (e.g., affective support) characteristics and health behavior and health status. The program could, in turn, be evaluated as to its effectiveness in changing such network characteristics and accompanying health behavior and well-being (e.g., Ell, 1984; Gottlieb, 1981b; Moos & Mitchell, 1982).

Intervention research can also be used to examine the roles of helpers within naturally occurring networks—their impact on help-seeking, utilization and compliance behavior (e.g., Ell, 1984). This information could be used to design and evaluate an appropriate program aimed at, for example, increasing compliance with medical advice. Such an effort could also examine what people actually do when providing support and the extent to which it is perceived by the recipient as supportive, nagging, patronizing or overprotective (Wortman & Conway, 1985).

Additionally, an evaluation-research approach is most appropriate for assessing the relationship between occupational stress, social support and physical and mental health status. Here again, data gathered can be used to develop network-related interventions aimed at reducing stress.

This section has summarized how the concepts of social networks and social support have been applied to different types of practice situations; discussed limitations and cautions in carrying out network interventions; and described future directions for more effectively linking theory, research and practice. Although it is apparent that there are many opportunities for the health educator to apply social network concepts, it is most important that these types of interventions neither be considered “the answer” for successful programming nor as an alternative to providing existing and needed services (Israel, 1982; Minkler, 1981).

CONCLUSION

As we stated at the beginning of this article, the concepts of social networks and social support have received increasing attention as major variables positively related to health behavior and physical and mental health status. Given the extensive theoretical perspectives, empirical findings and practice implications, the aim of this chapter has been to provide health educators with a guide to the social network and social support literature through a review of 33 review articles.

As this review has highlighted, there are numerous limitations and inconsistencies in the conceptualizations, applications of theory, measurements, research designs, outcomes, and interventions concerning social networks and social support. However, even with this diversity, there is notable constancy that suggests that this is a viable area in need of further
refinement and expansion. To that end, we have made concluding remarks and suggestions for future directions at the end of each section of this article.

We particularly advocate the conduct of intervention research. Such studies could draw from different conceptual frameworks, research designs, and program strategies, as appropriate to the needs and objectives of the people involved. The complexity of the social network and social support constructs suggests the use of multidisciplinary teams to carry out successful intervention research. Such teams, involving researchers, practitioners, and members of the lay system have the potential to contribute not only to our understanding of social networks and social support and to improved health status, but also to the development of collaborative mechanisms that strengthen interdependence and mutual assistance. In this regard, we can engage in efforts that will enhance our own social networks as well as those with whom we work.

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REFERENCES

The 33 review articles that are the focus of this chapter are preceded by an asterisk.


