

/RELATIONSHIPS BETWEEN SOCIAL SUPPORT
AND HEALTH, ILLNESS AND MORTALITY/ ^{no}

by

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS.....	ii
LIST OF TABLES.....	vi
INTRODUCTION.....	1
CONCEPTS OF SOCIAL SUPPORT.....	4
Definitions.....	5
Sources and Types.....	10
Characteristics and Properties.....	12
Models and Theories.....	15
Class and Cultural Variations.....	22
Negative Aspects of Social Support.....	25
METHODOLOGICAL ISSUES.....	31
Research Design Issues.....	32
Measurement Issues.....	35
Interpretive Issues.....	40
FINDINGS.....	43
Numerical Values.....	43
Studies.....	45
CONCLUSIONS.....	63
REFERENCES.....	66
APPENDIX.....	83

LIST OF TABLES

TABLE		Page
1	Summary of Findings Relating Social Support to Health, Illness and Mortality.....	46
2	Summary of Study Characteristics.....	59

Introduction

This paper discusses the relationships between social support and physical health, onset of illness, and mortality. My goal is to investigate relationships, examine the meaning of findings, and evaluate the appropriateness of intervention based on results. The three sections that comprise this report correspond to the three criteria according to which the literature is evaluated. The first analyzes several different conceptions of social support. The second outlines the methodological problems raised in the literature, as well as additional problems evident to me. Finally findings relating social support to physical health, onset of illness, and mortality are organized according to these same categories: health, illness, and mortality. A critical overview of this literature, and suggestions for further research, conclude the report.

Approximately 150 articles were identified in the process of assembling a preliminary bibliography. Sources included Psychological Abstracts, Medline, Inventory of Marriage and Family Literature, and public health journals. These articles represent a small portion of approximately 1500 articles available from the 10 years to which I limited my study.

Before proceeding to the first section, I hope to support my conviction that this is a growing and worthy area of research to examine.

Incorporated in American cultural norms is the notion that we should maintain close contact with family and a variety of friends--the more the better. Media advertising such as telephone company commercials telling us to "reach out and touch someone," and popular press attention to "support" and "networking" readily demonstrate and contribute to this belief. Why is social support important? The literature relating social support to health, onset of illness and mortality claims it maintains physical and emotional health. This literature may be perpetuating false beliefs, and should be critically examined for validity of conclusions and potential for such interventions as prevention and treatment.

Blake, Weigl, and Perloff (1975) claimed that personal relations are one of three important dimensions in an ideal community. Social relationships, with activity in this particular study, are important to health because they offer social support, feelings of belonging, reasons for living, and may encourage more preventive and effective health behaviors (House, Robbins, & Metzner, 1982). Some researchers (Cohen &

Sokolovsky, 1979a; Hammer, Makiesky-Barrow, & Gutwirth, 1978; Pilisuk & Froland, 1978; Vaillant, 1978b) have suggested that manipulation of the social support network may be one way to effectively treat or prevent illness. This might be accomplished by enhancing the quality of social support by improving and strengthening social supports (Pilisuk & Froland, 1978), or expanding the quantity of social supports by helping an individual develop new sets of linkages (Hammer et al., 1978). Since schizophrenics with hotel networks averaging five or fewer individuals are more prone to rehospitalization, Cohen and Sokolovsky (1979a) suggested concentrating agency efforts on this segment of the target population. Others (DiMatteo & Hays, 1981) have indicated that too little is known about outcomes such as costs and benefits to warrant, currently, this type of implementation. Clearly we are moving into an era of implementation, whether warranted or not, as the popular press draws conclusions, and provides tests for self-administration and recommendations for treatment (Kobasa, 1979). The priority for examining this literature must first be to determine the validity of a causal link between social support and health, illness and mortality.

For whatever reasons, there is growing interest in social influences on health. Rodin (1980) appeared before a committee of the U.S. House of Representatives to argue for consideration of a biobehavioral approach to research funding that would encourage collaboration between social and medical scientists in order to coordinate research efforts. Speck and Speck (1979) noted an increase in the number of organizations and publications centered around social network approaches. Matarazzo (1980) cited the founding of the American Psychological Association's Division 38 in Health Psychology, increases in the number of behavioral health graduate research training programs, and concurrent interest in a biopsychosocial model among medical disciplines as evidence of a rapidly emerging behavioral health field.

Concepts of Social Support

Before operationally defining social support, it is necessary to have a clearer understanding of the meaning of the concept. Thus, this section examines several aspects of social support definitions, including sources and types, characteristics and properties, models and theories, class and cultural variations, and negative aspects of social support.

It is important to note that the conceptions of social support have their roots in several disciplines and literary traditions. This diversity may help to explain some of the differences in conceptions of social support. Among the disciplines historically or presently concerned with social support and social networks are sociology, anthropology, epidemiology, social work, psychology, family therapy, health education and planning, environmental design, architecture, psychoanalysis, social and community psychiatry, medicine, biology, social exchange theory, mathematics, computer science, and political science (Cohen & Syme, in press; Kaplan, Cassel, & Gore, 1977; Pilisuk & Froland, 1978; Silberfeld, 1980; Speck & Speck, 1979; and Wellman, 1981).

Definitions

Conceptual definitions are important in that they can impose some structure and direction on programs of research. Obviously, then, they can limit these as well. This section will demonstrate that a single, comprehensive, well-specified definition of social support does not exist. Rather, there are several, generally stated definitions.

Cobb's (1979) definition identified four kinds of interpersonal support: social, instrumental or counseling, mothering, and material. Social support (the type of support of interest here) can be either emotional support, which communicates that one is loved, esteem support, which conveys that one is valued, or network support, which communicates that one has a place in and obligations to a network.

In an excellent review of the literature on social support and serious illness, DiMatteo and Hays (1981) concluded that there is no uniformly accepted definition of social support. Their discussion included a number of definitions that provide a flavor of the existing variety. Social support is...

...any input, directly provided by an individual (or group) which moves the receiver of that input toward goals which the receiver desires (Caplan, Robinson, French, Caldwell, & Shinn, 1976); social support is objective or subjective, tangible or psychological (Caplan, 1979).

...any action or behavior that functions to assist the focal person in meeting his [or her] personal goals or in dealing with

the demands of any particular situation
(Tolsdorf, 1976).

...interpersonal transactions that include
one or more of the following: the
expression of positive affect of one
person toward another; the endorsement
of another person's behaviors, perceptions,
or expressed views; and/or giving of
symbolic or material aid to another
(Dimond, 1979; Kahn, 1979).

Cohen and Syme (in press) define social supports as
those resources provided by others. Gore (1978) cited
Moss' (1973) definition of support:

the subjective feeling of belonging,
of being accepted, of being loved, of
being needed all for oneself and not
for what one can do.

Kaplan et al. (1977) assumed social support meets
certain basic needs, and is defined by the degree to
which resources from significant others are present. By
social support, Cohen and Brody (1981) mean group
membership and reinforcement of self-identity. Finally,
Carveth and Gottlieb (1979) summarized the vagueness in
many terms and definitions. Social support may be
simply the presence of others, feedback, linkages with

valued groups, psychosocial assets, and/or the psychological sense of community.

These definitions of the concept provide little consensus, clarity and specificity because the concept is difficult to define and this field of inquiry is relatively new. Further, these many disciplines represent a multiplicity of perspectives that contribute to conflict between definitions, and confusion in this literature.

An examination of loneliness, disengagement and suicide (situations in which social support may be expected to be low) might shed some light on the meaning of social support. Loch (1982) viewed loneliness as a sign often signifying defective coping with depression. Disengagement (Manis, 1976) is a process of gradual reduction of activities and associations outside the home. Anomic suicide (Cohen & Brody, 1981; Kytte, 1978; Trout, 1980) reflects normlessness, dissatisfaction and powerlessness due to inconsistent feedback from, or competence needs blocked by significant others, while egoistic suicide is attributed to lack of social integration. The notions of feedback, needs, and position in a network are found here as well as in social support definitions but are no more clearly stated.

While the concept of social support is unclear, Cohen and Sokolovsky (1979a; 1980) are convinced that the concept of social network (used in studies of social support) is precisely defined. They used a quantitative, precisely defined operational definition. For a conceptual definition, they used that of Mitchell (1969), which defines a social network as a specific set of linkages, the characteristics of which may be used to interpret social behavior. This is not a precise, specified definition because the specific set of linkages and their characteristics are not identified or defined. In addition, the preceding list of other definitions (Caplan, 1979; Carveth & Gottlieb, 1979; Cohen & Brody, 1981; Dimond, 1979; Kahn, 1979; Kaplan et al., 1977; Tolsdorf, 1976) does not support Cohen and Sokolovsky's belief that a precise definition of either social support or social network is possible at this time.

It appears warranted to conclude that a comprehensive, well-specified definition of social support remains to be developed in order to provide a basis for operational definitions that will aid further study, and to provide a means to organize and integrate findings. That will require further testing and refinement of theory. In the meantime, the existence of several

superficial definitions is not necessarily undesirable. They may serve as a stimulus to further thought, and refinement. Discrepancies between definitions may foster different hypotheses suitable for testing.

Sources and Types

There are a number of components of social support that may influence its effectiveness. It is useful to examine them to more fully understand social support. So, to further refine what is meant by social support, components such as sources and types of social support are examined. Cohen and Syme (in press) raise a number of social support issues in the form of questions. WHO provides what KIND of social support to WHOM for what PROBLEM? WHEN and for HOW LONG is the support provided? What are the COSTS of giving and receiving support? How do these issues INTERACT? What were the outcomes (DiMatteo & Hays, 1981)? This section is concerned with the providers of social support (sources) and the kinds (types) of social support provided.

According to Babchuk (1978), one's support network consists of four types of people--relatives and friends with whom one is either close (primary) or very close (confidant). The importance of a confidant in maintaining mental health (with which I shall not deal

in any depth in this paper) has been treated elsewhere (Lefcourt, Martin, & Ebers, 1981; Lowenthal & Haven, 1968). Hammer et al. (1978) mentioned immediate, second order, and extended networks. Each of the three orders mentioned above is more remote from the focal individual. Carveth and Gottlieb (1979) studied contacts with 15 categories of people, such as family members, friends, acquaintances, and professionals. DiMatteo and Hays (1981) listed providers of social support. They specified a number of professionals (medical, coronary care, and interdisciplinary teams; lecturers, hospital staff, clergy-chaplains, physicians, surgeons, general duty nurses, bosses, cancer rehabilitation counselors, pharmacists) and organizations (unspecified volunteer and church organizations) in addition to the sources mentioned above.

The primary elements of a network, be they kith, kin, or neighbor, may be critical to the quality of support offered (Phillips, 1981). Better support, as indicated by higher morale, comes from those with whom one shares values, such as a friend or neighbor rather than family. Of course the opposite may be true as well. Perhaps the fact that one shares values with the support person makes that support more potent. Apparently one cannot rule out pets (Fields, 1978) or plants as sources

of social support. It may be stretching a point, however, to suggest that plants can offer social support.

Types of interpersonal support provided are many and varied. Generally, these include information, counseling, concern, closeness, disclosure, encouragement, presence of specific significant other, listening, providing services, understanding, home visits, acceptance, contact, availability, assistance with problems, and equipment (DiMatteo & Hays, 1981).

Characteristics and Properties

Those who discussed properties and characteristics of social support in greatest detail were in basic agreement about looking at both structural or morphological and interactional or relational characteristics of social support. Others have touched on this quality-quantity issue more briefly (Hammer et al., 1978; McFarlane, Neale, Norman, Roy, & Streiner, 1981; Pilisuk & Froland, 1978; Silverstone & Miller, 1980). The quality-quantity distinction, among others, is important because, while quantity of social support (number of people in a social network, for example) is information that is fairly easily obtained and verified, quality-of-social-support questions may

better answer what it is about social support that is beneficial.

Cohen and Sokolovsky's (1979a) interactional measures included the frequency, duration and direction of interaction. They categorized transactional content as either uniplex (one type of content) or multiplex. Morphological measures included network size, density (ratio of actual to potential links), and clustering (high density compartments in a network).

Kahn (1979) referred to the social network as a convoy, meaning the changing set of persons the individual relies upon, and who rely upon the individual for support. This is a particularly useful concept for envisioning changes in social support over the life cycle. There can be turnover among particular individuals in a particular convoy over time. For example, an adolescent may find that parents and grammar school classmates may become less potent members of the social support convoy than newly acquired teachers and friends in the junior high school setting. With marriage, and death of a spouse, a change in individuals constituting the convoy can be expected. The term "convoy" conveys the dynamic nature of social support. Properties of a convoy include quantitative components such as size, internal connectedness (number who relate

to each other), external connectedness (number who relate to others outside the support system), frequency, and capacity (maximum potential support available), as well as qualitative components such as homogeneity, stability (duration of membership), symmetry (direction of support), magnitude (importance), initiative taking, range (number of domains involved), and type of transaction. Some components may be considered as measures of both quantity and quality of social support. While this list is clearly not exhaustive, it provides a beginning list of considerations in assessing social support.

In their discussion of the child's initiation into social networks, Cochran and Brassard (1979) included content, direction, and intensity in relational characteristics. Structural characteristics were network size, personal interconnectedness, and diversity of membership types. In addition, they mentioned accessibility, which is influenced by geographic proximity and influences continuity, that is frequency and regularity of contacts.

Kaplan et al. (1977) detailed morphology or accessibility criteria: anchorage (the network itself), reachability, density, and range. Interactional properties included content, directedness, intensity,

and frequency. Phillips (1981) measured some characteristics not mentioned above: number of instrumental supporters, number of confidants, network make-up that has a majority or minority of kin, number of dependent others, and number of social contexts.

While these authors seem to hold a similar view of which broad characteristics of social support are important (structural and relational), and agree about some specific properties, each values some unique properties as well. A composite list or synthesis of characteristics of social support (organized, for example, by quality and quantity of social support dimensions) has not been presented here as this would suggest a degree of consensus in this area of research that does not exist. I would suggest that all of these properties remain under consideration until it is evident that some are not useful or predictive of health, illness, or mortality. However, I suspect the qualitative components hold more promise for unraveling the dynamics of the effects of social support.

Models and Theories

This section examines models and theories relevant to the relationships between social support and health, illness and mortality. Included under the heading of

"health" are development, that is, physical and psychosocial growth within normal limits, and well-being, or the individual's subjective sense of physical and emotional health. Some theories and models are very specific; others are more global, dealing, for example, with the entire domain of psychosocial variables rather than just social support.

Looking first at the health end of the continuum, Cochran and Brassard (1979) proposed that specific characteristics of the social support network (discussed earlier) operate by means of childrearing sanctions or social reinforcement of parenting behaviors by members of the parents' social network, access to information and ideas, emotional and material assistance, cognitive and social stimulation, and modeling to influence specific developmental outcomes. (Since development is part of the maximally functioning, healthy individual, it is appropriate to consider here.) These outcomes include cognitive receptivity or openness of the child to novel intellectual stimuli, perceptions of the appropriateness of social roles (particularly regarding sex and occupation), conceptions of child rearing learned in part from network members, independence behavior, representational thinking, task completion, perceptual representation, and attachment. A broader

outcome is the socialization of the child regarding development and maintenance of social support networks. These detailed descriptions of means and ends evolving from characteristics of social support, and culled from a vast literature, are useful for formulating hypotheses for further testing of associations and causation, and organizing and integrating research findings. It is important to keep in mind that this is but one example of developmental theory in which social support plays a role.

Moving from health to illness, Berkman and Syme (1979) suggested three pathways by which social isolation leads to illness: health practices, psychological responses, and physiological changes. It seems reasonable that all three may influence development of illness. Others support this notion that social support operates by facilitating coping and adaptation, that is, psychological responses (Gore, 1978; McFarlane, Norman, Streiner, Roy, & Scott, 1980) and/or by interacting with immunological processes (psychoimmunology), that is, physiological changes, to influence susceptibility to disease (Jemmott & Locke, 1984).

According to Kahn (1979), demographic and situational factors such as age, sex, race, and residence determine (and perhaps mediate) the formal properties or

characteristics (discussed earlier) of a person's convoy, which, in turn, determine the adequacy of social support received and given. For example, an elderly widow may have few individuals in her social support network because she has outlived most of her contemporaries. Those few who are available for social support may or may not provide support of sufficient quality to meet her needs. She may have limited capability and resources to offer much support as well. Her convoy might differ dramatically from that of an infant. The adequacy of social support affects well-being, performance, and success in managing life changes and transitions. Kahn did not define adequacy, but perception of social support is more relevant than size of network because, as described later, it better predicts death (Blazer, 1982). Mattessich (1979) agreed with Kahn that the composition of a network or convoy changes with regularity over the life cycle because of changing needs, values, and availability of social support. Finally, Kahn hypothesized that the relationship between acute stress (loss of a loved one, a move, or loss of job) and well-being is buffered by social support, but did not specify how this occurs. Possibly esteem, emotional, network, material, and

counseling types of support operate alone or together to reduce perception of stress or enhance well-being.

A current issue in this area of research is whether social support is indeed a buffer or a main effect (Cohen & Syme, in press). According to the main effect hypothesis, support enhances health (undefined) regardless of stress level. Cohen and Syme used the World Health Organization's definition of health, which is physical, mental and social well-being. The buffering hypothesis holds that high levels of support protect one from stress-caused illness (for example, illness resulting in part from the stress of many life changes), but are unimportant when levels of stress are low. The main effect hypothesis proposes a direct, unmediated effect. However, determinants of health are numerous, and interact in a variety of ways. Examples of effects that are more direct would include tobacco use and radiation in relation to cancer, and obesity in relation to diabetes. Even for these relatively direct predictors, other variables, such as genetic predisposition and family support during illness, will mediate these direct effects. Thus, because of the complexity of multiple causation, a direct effect model appears less relevant to this subject matter.

Several authors claimed that the buffering hypothesis was supported in the widely cited and described study by Nuckolls, Cassell, & Kaplan (1972) (Cobb, 1976, 1979; Gore, 1978). In this study highly stressed, unsupported (as assessed by the TAPPS measure; see Appendix) pregnant women had three times as many complications as the highly stressed, supported women. Only in this highly stressed group did high social support apparently buffer the relationship. (At the very least, high social support for the highly stressed group of pregnant women was associated with a lower rate of complications.) This supports the buffering hypothesis: social support buffered the relationship between (high) stress and illness. High social support did not affect the low stress group. However, the fact that high social support was associated with a positive outcome in this study (fewer complications) supports a main effect hypothesis, too. So, this is not a critical study to decide the buffering versus main effect issue. In other studies high social support with low stress had negative effects (Cohen et al., in press). In this case, stress may moderate the social support-illness relationship. Unfortunately, the measures of stress (life change events scales such as Holmes & Rahe's, 1967) are heavily laden with items that tap social

support, so the stress and social support variables are confounded.

Finally, it is possible that only certain kinds of resources operate as buffers, that is, those that match coping requirements (Cohen, Mermelstein, Kamarck, & Hoberman, in press). This implies a "fit" model, wherein resources of the social support network match needs or requirements of the individual.

Other models where social support is less central, but in which psychosocial factors play a role, are those presented by Plaut and Friedman (1982), based on animal studies, and by Kiritz and Moos (1974). Cohen (1979) presented the most comprehensive discussion and summary of the models found. The following six models link stress and disease, and are listed here merely to give a flavor of their content. They deal with psychosocial variables that may encompass social support specifically.

The illness behavior models included the psychologically oriented stress appraisal model, and personality dimension models (both the response tendency model and the hypersensitivity model). These involve increased sensitivity to and reporting of symptoms leading to increased treatment-seeking behavior and diagnosis without (necessarily) an increase in true

incidence of illness. In the giving-up model, hopelessness and helplessness in response to stress produce increased somatic vulnerability. Selye's General Adaptation Syndrome model, and cognitively mediated endocrine/immunological mechanisms models involve physiological reactions that wear down resistance. To summarize, these models deal with stress and illness, but at a broader, more general level than the social support models. They offer several different explanations of illness causation and are, therefore, valuable in generating hypotheses. Those models that discuss psychosocial variables provide an appropriate place to incorporate social support.

It appears that a well-accepted general model of stress-illness relationships, in which social support has a well specified place, does not yet exist.

Class and Cultural Variations

Since prevalence for some diseases varies dramatically by culture and class, it is worthwhile to examine such variables as social support in various classes and cultures. Class and culture differences have an impact on social support networks. For example, compared with the middle class, kin were more important in working class patterns of socializing in England

(Allan, 1977). Non-kin were not usually entertained in the home. A friend might be someone with whom one bowls, but would not be seen otherwise. This implies a more shallow relationship with friends than with family. Working class couples had independent social lives. Their closest friends were often siblings, usually of the same sex. This sibling relationship was closest to the middle class concept of friend. Cohen and Sokolovsky (1980) also found that individuals defined friendship quite differently, ranging from an acquaintance to a close, confidant style of relationship. It is difficult to compare data on friendships when meanings differ. The implication of more shallow relationships between friends than among family members in blue-collar England is a contradiction to the work of Gans (Jurich, 1984). Since lower classes have higher incidence of disease, it is important to look at these social support differences by class.

Just as the meaning of "friend" varied by class, Garrison and Podell (1981) found that "family" had different meanings in different cultures as well. Relationship terms were inconsistent across cultures. For example, comadre means "co-parent" for an Hispanic woman; "aunt" or "sister" refers to an unrelated, non-friend for a Southern Black. The variations were

striking enough that these authors used "culture specialists" to gather data. It is reasonable that the meanings of both "friend" and "family" will vary according to class or cultural context.

Cultures vary in their beliefs regarding which groups of people can influence health, a more overt acknowledgement of the relationship between social support and health. Hawaiians and American Indians, among others, have used tribal healing or tribal assembly to treat emotional and physical problems (Coulton, 1978; Speck & Speck, 1979).

An individual may pay a price, in terms of his health, for deviating from the practices of his subculture. The degree to which members of a subculture have given up traditional ways of life is associated with varying degrees of illness risk, presumably because of changes in social supports, life style and diet. For example, assimilated Japanese Americans are at greater risk for coronary disease (Cohen & Brody, 1981).

In addition to cultural groups, social support networks may be found within religious groups as well. In the late 1960s, the Havurah became popular among American Jews. It entailed families meeting regularly to engage in religious or universal human activities (Wasserman, 1979). (These types of religious support

groups may or may not have implications for health, but were included to give an idea of the varied sources of social support.) Rutzen (1980) found that social isolation varied by socioeconomic class and subculture.

In spite of the difficulties associated with the study of social support across classes or cultures, due largely to discrepant meanings and contextual differences, it is an important pursuit in situations where prevalence of diseases varies by culture or class.

Negative Aspects of Social Support

It is surprising how little attention has been devoted to the notion that social support networks have as much potential for negative as for positive influence. The same individuals who are positive supporters have the potential to produce negative effects as well. Still, even "negative support" may be preferable to being ignored.

Wellman (1981) is the only author who treated this issue in any depth, and his words say it best:

We all know intuitively that ties are not always supportive; that support is transmitted in variable, often ambiguous ways; that people often participate in several social networks in different

spheres of their lives. However, the "support system" concept negates this sound intuitive knowledge of the complexities of ties and networks by denoting a single system composed only of supportive relations. Its focus on a simple "support/nonsupport" dichotomy deemphasizes the multifaceted, often contradictory nature of social ties. Its assumption that supportive ties form a separate system isolates them from a person's overall network of interpersonal ties. Its assumption that all of these supportive ties are connected to each other in one integrated system goes against empirical reality and creates the dubious expectation that solidary [sic] systems are invariably more desirable. Its assumption that there are no conflicts of interest between "supporters" invokes the false premise of a common good.

Just as the negative aspects of social support have received little attention, few authors (Berezin, 1980;

Chellam, 1977-78) have touched on the potentially positive effects of isolation (i.e., as a defense mechanism) or self-engagement (i.e., as instrumental to the individual's integration) in the final years of life. The situation, then, appears to be complex. Both isolation and involvement can have positive and negative aspects. A number of examples of the negative aspects of social support follow.

For those elderly individuals who would rather be alone but are not, and those who would like to socialize but cannot, morale was low (Rosow, 1967). In addition, interaction with children has been viewed positively for older women (perhaps reflective of their socialization to nurture and interact), but negatively for dependent older men, for whom it may emphasize loss of power (Dowd & LaRossa, 1978; Dowd & LaRossa, in press).

In a study of married working women, those raising three or more children had a higher incidence of coronary heart disease, particularly if they were clerical workers married to blue collar workers (Haynes & Feinleib, 1980). Probably many factors, such as socioeconomic status, operate here. Presence of many significant others may mean more people for the focal individual to give support to, as opposed to being able to receive support from them.

Negative effects of social support are dependent on context and degree of social support. Increased social support has been shown to harm those with low levels of stress, according to Cohen et al. (in press). They found an increase in reporting of symptoms in this situation, perhaps due to the burdens imposed by demands of a large social support network. Moderate levels of social integration or activity were associated with the lowest mortality levels; mortality increased when a moderate level was exceeded (House et al., 1982).

Increased responsibilities, that is, being expected to give support to the network in exchange for support received, may increase stress (Cohen & Hoberman, 1983). Some ties in a social support network may be necessary, even though distasteful, because of the resources one individual controls and another values (Wellman, 1981). For example, an individual may be superb support in a crisis, but obnoxious on a day-to-day basis.

A great deal of social support or attention directed to one (perhaps ill) member of a group (family) can be disruptive to the rest of the group (DiMatteo & Hays, 1981), who receive less support and attention for a period of time. Social support may subvert compliance to a medical regimen (Yellowthunder, 1981). For example, recovering alcoholics returning to a support

group that values drinking may undermine continued abstinence. It may diminish self-esteem by communicating that the focal individual is viewed as impaired. Finally, it may promote long term dependence if the individual receives secondary gain in--that is, rewards for--his state of diminished functioning. For example, it may be difficult to give up an addiction, limp, cast, or sling that brought so much concern and attention from others.

Numerous books and television documentaries have attributed loss of life in Vietnam to the inability of American soldiers to refrain from clustering together, which apparently gave them a feeling of social support; this also allowed the enemy to use limited resources, such as hand grenades, with maximum effectiveness. Viet Cong troops, on the other hand, often operated alone.

In conclusion, the concept of social support is complex, and has been defined in several ways. There are many possibilities for types and sources of social support of varying properties and characteristics. Several related models and theories exist. They need further refinement. Class and culture variations are a consideration in planning research. Social support may be positive as well as negative. The goal of this

section was to gain a better understanding of the social support concept. Methodological issues are examined next.

Methodological Issues

This section addresses methodological problems and considerations in this area of research. Thus, the groundwork will be laid for a critical evaluation of results in the next, and final, section. Details of the studies mentioned are provided in Table 1 (in the Findings section). Comments here will focus on research design, measurement, and interpretive issues.

Before proceeding, I must acknowledge that the physical health and illness variables, which I assumed would be delightfully objective and clear-cut, are fraught with as many problems as is social support. (Death is more desirable as an outcome measure, at least in terms of reliability and validity!) Cohen (1979) provided an excellent discussion of health and illness measurement, including the distinction between illness (clinical pathology) and illness behavior (visits to the doctor, for example). It is important in this area of research to look for associations with any illness state, not just with specific diseases; when looking for relationships between psychosocial variables and heart disease, for example, one could overlook an association with cancer. A particularly salient point is the direction of effect. What comes first--

subclinical, premorbid illness changes or changes in social support, or do they occur simultaneously?

Research Design Issues

Social support is a complex concept, requiring designs that can handle large numbers of variables. Carveth and Gottlieb (1979) provided an example in this literature. They used three measures of social support, included 15 sources of social support, and looked for the unique resources each source provided. They employed a correlational strategy to identify associations, but suggested the use of experiments, comparison groups, and longitudinal designs to determine causality.

Many of the studies reported are retrospective (see Table 1), and are therefore contaminated by social desirability and other such biases and/or inaccuracies of recollection and rationalization. Unfortunately, subjects are also capable of fitting recall to whatever they believe the researcher is studying. All else being equal, one can have more confidence in the results of prospective studies (those that assess variables in the present and future) such as those by Berkman and Syme (1979), House et al. (1982), Vaillant (1978a, 1978b),

Gore (1978), Blazer (1982), and Clayton (1979). (See Table 1.)

Berkman (1978) and Berkman and Syme (1978) provided evidence (prospective study) of an association between social ties and mortality using the Social Network Index. Berkman obtained responses to questionnaires from approximately 7000 randomly selected adults in Alameda County, California, who reported concerning four sources of social relationships: marriage, contacts with close relatives and friends, church membership, and informal and formal group associations. Each predicted mortality independently, but marriage and contacts with friends and relatives were better predictors of death. Mortality data (death certificates) were collected for nine years. Differences in mortality rates were assessed using a modified Mantel-Haenszel Chi-square statistic. Conversion to a correlation coefficient-equivalent statistic was apparently not performed. Still, the fact that this study was prospective and used a large general population warrants our paying attention to the results.

In addition to the benefits of prospective studies, use of both longitudinal and cross-sectional designs can produce different results, as demonstrated by Fenwick and Barresi (1981). In this case, looking at results

from both was more informative than either considered alone. The cross-sectional results indicated that spousal loss produced a deterioration in perceived health. Longitudinal results demonstrated that this was an immediate effect, and that long-term perceived health was stable. Therefore, employing both strategies, where possible, is a consideration in designing a study.

Jemmott and Locke (1984) also argued for use of stronger designs. Correlational studies, while appropriate at the beginning stages of an investigation, may have problems with spurious relationships. Experimental and quasi-experimental designs, employed where possible, could provide information about direction of effect, that is, causation. However, they may reflect reality poorly because of their contrived nature. Subjects who respond to demand characteristics of the experimental situation may produce invalid results. In this literature, Van Egeren (1979) and Rockwell, Hodgson, Beljan, and Winget (1976) used laboratory manipulation to study Type A individuals and responses to an isolation situation, respectively. Gore (1978) began her study of men who became unemployed with a control group, but had to abandon it because the control groups varied on health problems and concerns as well as on employment status. It can be difficult to obtain a

control group that varies only on the variable of interest.

While the several design strategies mentioned have appropriate uses, this field could benefit from more prospective designs that handle complexity (that is, deal with large numbers of variables and their inter-relationships), and more experimental and quasi-experimental strategies to assess causality once correlational relationships are established.

Measurement Issues

This section addresses a number of measurement issues: instruments, sources of bias, sampling, statistics, and variable domain contamination. These issues are those that are most relevant to the literature reviewed here.

The most glaring problem here resides in the use of instruments to measure social support. Many researchers created their own (Gore, 1978, for example). Fourteen different measuring instruments, their sources, characteristics measured, and any indications of reliability and validity are listed in the Appendix. Those instruments used by Berkman and Syme (1979) and Cohen and Hoberman (1983) appear to be the instruments of choice at the moment, since their reliability and

validity are, in most cases, more impressive, and they are discussed in greater detail than the psychometric properties of other measures. With any instrument, it is useful to know the content validity of the items, as well as the rationale for selecting them (Cleary, 1980).

The work of Cohen et al. (in press) is particularly exciting because of the attention to psychometric detail (reliability and validity, including concurrent validity, of the ISEL and its subscales), the use of ten different student samples and one non-student sample in different geographic regions, and the fact that the subscales tap elements that are theoretically important components of social support: appraisal, belonging, tangible, and self-esteem. Therefore, because of their theoretical and empirical work, Cohen and his associates appear to be at the "cutting edge" of this research. The instrument of Berkman and Syme (1979) is important because it is the only one used in a long term, prospective study, and that correlated with mortality.

Reducing bias is another problem in this area of research. Common method variance is a potential problem here because most studies used paper-and-pencil self-report measures that can introduce systematic bias, such as selectively reporting too much or too little social

support. Incorporating more objective measures of social support (long distance telephone bills, or "wiring" cooperative subjects with sound recording equipment, for example) would help to minimize this problem. These methods are admittedly impractical, however. Another source of bias, socially acceptable responding, is especially likely to be a problem with questionnaire research in this content area. Cleary (1980) argued for standardization of conditions and timing of data collection to further reduce unnecessary bias or error.

What are the sampling strategies employed? Although the study of special populations may have its place, an appropriately selected sample from a general population will yield more generalizable results. Special populations dominate the social support literature reviewed here, because researchers have looked, often retrospectively, at psychosocial antecedents of specific illnesses such as cancer or heart disease. Thus, the purpose of the research has determined the sample used. It is advisable to fully describe the sample used, so that others can attempt replication of results (Cleary, 1980).

Researchers' use of differing statistics makes it especially difficult to compare results. To improve

comparability, Cleary (1980) argued for the use of correlation coefficients, or their equivalents (Chi-square, for example, can be transformed to a correlation-equivalent statistic), so that the magnitudes of results are comparable as well as the statistical significance. Many authors reported percentages, or Chi-square statistics in isolation, which may have made the results appear more impressive than would have been the case had they been appropriately transformed to correlation coefficient equivalents. Even though statistically significant, many findings were trivial given the small portions of variance explained.

Several authors, including House et al. (1982), reported nonsignificant "tendencies." Only the careful reader will avoid interpreting such reports as definitive findings. When the number of positive findings was small, and the number of variables examined was large, I suspect the results may simply represent alpha (Type I) error. For example, Burke and Weir (1978b) reported a significant demographic difference (more first-born males) which they apparently later (1978a) dismissed as alpha error, because they reported no significant differences in demographic variables. One way to minimize this problem is to set stringent

significance levels. Some legitimate findings can be lost this way, however. Another strategy is to use a formula (the Bonferroni inequality, for example) to determine likely alpha error, given the number of correlations in a study. This produces a study-specific significance level.

Another measurement issue is the appropriateness of a median split strategy versus one that compares the extremes. Cooley and Keesey (1981) found no difference in social support among ill individuals, even though they looked at illness extremes (top and bottom quartiles). This strategy is more likely to yield significant results than using a median split, but is appropriate if one wishes to study extreme cases. (Studies finding no differences are reported with much lower frequency than those with positive findings. It would be informative to know how many other studies of social support found no differences.) Gore (1978) looked at the top and bottom thirds in her sample, and labeled the two groups supported and unsupported. In the case of the unemployed males studied, social support was a significant factor in health.

A final measurement problem involved "variable domain contamination." Both the independent and dependent variable domains contained measures or items

that appeared to tap the same construct--social support--thereby "loading the dice" in the direction of finding positive relationships. For example, in a study in which supportive relationships were hypothesized to mediate the relationship between stress and well-being (Burke & Weir, 1978a, 1978b), measurement of stress included assessment of peer acceptance, parental demands, isolation, difficulties with parents, and relationships with the opposite sex. The concept of supportive relationships was measured by total satisfaction with helpers. Well-being was measured by anomie and lack of social support, among other variables. Findings from this research may be a result of variable domain contamination.

Interpretive Issues

The primary deficiency noted in researchers' discussions of results was a failure to entertain alternative explanations for findings. Cobb's (1976, 1979) reviews reflect this. For example, in that review he claimed that bladder control at night (Stein & Susser, 1967) is delayed for children whose mothers worked outside the home during the second six months of the child's life. Although a developmental delay is implied (resulting from the loss of an important source

of support), the mother may simply be sleeping more soundly, and therefore not hearing the appropriate cues! She may also have made a conscious decision to postpone training. Cohen (1979) considered alternative explanations to loss of social support for those studies which found increased mortality among those who had recently lost a spouse. The two deaths may have been due, instead, to the sharing of a deleterious environment over many years.

It is important to discuss other findings that are consistent or discrepant with those of the study at hand, in order to integrate and evaluate findings. House et al. (1982), in the Tecumseh Community Health Study, followed mortality over 9-12 years for a cohort of 2754 adults interviewed and examined in 1967-1969. Comparisons with Berkman and Syme (1979) were made throughout the article. In addition, it is helpful to discuss findings in relation to prevailing theories and hypotheses. Cohen and Syme (in press) and Gore (1978) discussed findings that agree or disagree with the buffering hypothesis.

Another potential problem involves misinterpretation of the meaning of responses. DeGrove (1979) inferred lack of social support from a demographic variable, "persons living alone." In fact,

not all, or even a majority, of subjects who lived alone may have felt isolated. Blazer's (1982) finding that perception of social support is most predictive of mortality emphasizes the need to look more at the personal relevance of social support, rather than at demographic variables.

A final interpretive issue is also validity-related. Have these studies, in fact, measured social support or is an underlying personality dimension, a preclinical illness, or socioeconomic status reflected in the findings? Jemmott and Locke (1984) suggested the need for affiliation as a likely personality dimension. Cohen and Syme (in press) argued extensively that this is probably not the case. Further studies will be needed to resolve this issue.

In conclusion, while many of the methodological issues discussed in the prior three sections may be relevant to most studies, design, measurement and interpretation will be dictated by the question(s) asked. Some approaches and issues will be more appropriate and relevant to one type of research than another.

Findings

Numerical values for parameters of social support networks alone (without looking at relationships with health, illness or mortality) are presented, in order to give a very general sense of the size of social networks and their components. It is useful to know the range and the variety of types of social support; such knowledge clarifies what is "normal" and what is "extreme." This type of information might eventually be organized into a categorization scheme useful for further study.

The first table displays the results of 50 studies found in this literature that examined social support as it relates to health, illness and mortality. Six of the studies reported are from secondary sources, as noted. Findings are discussed and evaluated in terms of specific criteria summarized in a second table.

Numerical Values

Hammer et al. (1978) found consistency in the size and structure of personal networks, in spite of differences in culture and data gathering techniques. Normal individuals had 6 to 10 intimately known, and approximately 30 regularly seen individuals in their social support networks (overall range of 25 to 50, mean approximately 40). However, only twenty percent of the

potential number of connections reasonably available (for example, in a church membership) occurred in reality. The form of the network was 5 or 6 clusters of 6 or 7 highly interconnected people, with little connection between clusters. They estimated from their own and others' data that the more extended but still readily accessible (in times of crisis, for example) network might include 1000 individuals.

According to Wellman (1981), most members of Western societies have significant ties with 20 to 50 individuals, and occasional contact with 1000 to 1500 individuals. In his own research, significant others with whom the subjects were in touch numbered between 16 and 35 individuals.

McFarlane et al. (1981) found a mean network size of 9--2.24 close family, 2.21 friends, 1.43 work related persons, 1.14 professionals, 0.82 spouses, 0.65 other relatives, and 0.17 neighbors. They noted sex differences in composition of networks. Women's networks contained more family and friends, while men's contained more fellow workers. Hirsch (1979) reported that women receive more social and emotional support; perhaps this is because of sex role socialization which has encouraged females to nurture and interact socially.

In an elderly sample of 44, Stephens and Bernstein (1982) found a mean of 5.3 relationships (range 2 to 10), of which 35.6% were with fellow residents of a housing facility, 43.4% were with family, and 21.6% were with nonresident friends and associates. Resources exchanged were described as well. Among the elderly poor in downtown San Diego hotels, the average number of acquaintances was 14 (Erickson & Eckert, 1977). The aged in single-room-only hotels in Manhattan, New York, averaged 7.5 contacts, and ranged from 0 to 26 (Cohen & Sokolovsky, 1980). The mean number of links within the hotel was 2.7, and outside was 4.8. Authors did not elaborate on the meaning of a number of terms used above to report numerical values (for example, significant other, network size, social and emotional support, relationships, and acquaintances), so the meaning of these findings is limited and it is difficult to compare results. Authors may have meant something quite different, even though they used the same term for a phenomenon. The numerical values presented here are only descriptive; their significance is unknown.

Studies

The results of 50 studies are listed in Table 1. (It will be helpful to read the footnote at the end of

Table 1
Summary of Findings Relating Social
Support to Health, Illness and Mortality

Health Studies

Amantharaman (1980): N=100 (ave. age = 66) S, SI	Elderly who stayed with children were better adjusted, more active, and perceived health as better than those who were institutionalized (India).
Arling (1976): N=409 widows (65-85 yrs. old) RS, S, SI	Good health and economic resources facilitated involvement with family, neighbors and friends, and activity.
Burchfield (1978): N=? prepaid group health participants (18-65 yrs. old) Q?	Extremely healthy people had more satisfactory marriages, enjoyed sex more, and were more often moderate in their habits.
Burke & Weir (1978a): N=93m., 181f. (13-20 yrs. old) Q, S	Satisfaction with help moderated the stress-well being relationship; the more satisfied with help, the better well-being.

Table 1 (cont.)

Burke & Weir (1978b): (as above)	Female adolescents reported greater life stress, received more support from peers, and had poorer emotional well-being than males.
Burke & Weir (1980): N=127 senior administrators (20-60+ yrs. old) Q, S	Type A individuals were more rigid and social, had stronger need for social approval, and were more active in community organizations but not in friendships.
Carveth & Gottlieb (1979): N=99 mothers Q, S	Three measures of social support obtained from mothers 8 weeks after delivery; unique types of support are extended by different network members.
Cohen & Sokolovsky (1979b, 1980): N=96 in 21 hotels (60-93 yrs. old) (ave. age = 72) S, SI, Q	These elderly were not isolates; network characteristics varied with health.

Table 1 (cont.)

Demi (1978):	Adjustment to widowhood
N=40 widows	(suicide vs. nonsuicide) was
(19-58 yrs. old)	influenced by suspicion of
(ave. age = 37.8)	death, role changes, and
S, SI	ambivalence.
Dressler (1980):	Significant main effects of
N=44m., 56f.	social support on health
(40-49 yrs. old)	(blood pressure) were found;
Bp, RS, S, SI	West Indies.
Dunkle (1978):	Past social relationships and
N=194m., 324f.	environmental factors buffered
(65+ yrs. old)	the change in life experience-
Q, R	health relationships.
Fenwick & Barresi (1981):	Death of one's spouse led to
N=7696	decline in perceived health;
(65+ yrs. old)	cross-sectional and longitudinal
P, RS, SI	analyses produced different results
	regarding immediacy of effect.
Freshley (1979):	Subjective health rating best
N=1700	predicted subsequent activity;
(ave. age = 79m.,	membership in groups had bene-
= 81f.)	ficial effect on subsequent
P, RS, S, SI	health status.

Table 1 (cont.)

Held (1981):	Grandmother-to-be was most
N=62 (<18 yrs. old)	disapproving of teenage
Q, S (in 1 hospital)	pregnancy, yet adolescent
	turned to her for support.
Kivett (1978):	Levels of loneliness in rural
N=30 rural widows	widows differentiated by
(ave. age = 75.5)	satisfaction with relationships,
RS, S, SI	self-perceived health, and
	transportation.
Kobasa (1979):	High stress/low illness executives
N=161	showed stronger commitment to self,
(modal age: 40-49)	vigorous attitude toward the
Q, R, S	environment, and sense of
	meaningfulness, and internal
	locus of control.
Phillips (1981):	Network size for men, and
N=1050 (18+ yrs. old)	range of socializing for women,
G, RS, SI	best predicted well-being.
Stein & Susser (1967)*	Bladder control at night was
	delayed for children whose
	mothers went to work during
	their second six months of
	life.

Table 1 (cont.)

Stitzer, Griffiths, Bigelow, & Liebson (1981):	Found interactions between drug effects and socializing, with four different drugs; several studies.
Vaillant (1978b): N=95m. (CS 1930s) P(35 yrs.), S, SI	Physical health at 52, childhood environment, psychopathology, and maturity of defense correlated highly with high school social adjustment, adult friendship patterns, marital satisfaction, and outcome of children.
Van Egeren (1979): N=30m., 30f. CS Q, S, X	Type As were more aggressive and competitive in performing a task, and in dyads exhibited larger digital vasomotor responses than Type Bs; Type A-Type B dyads did not show these differences.
<u>Illness Studies</u>	
Chen & Cobb (1960)*	Lack of social support associated with tuberculosis.

Table 1 (cont.)

Chien, Townsend, & Ross-Townsend (1978): N=242 (60-95 yrs. old) (ave. age = 73) S, SI	56% of a sample of elderly resided alone; mean number of drugs taken per subject was 3.8, range 0 to 15.
Cohen & Hoberman (1983): N=27m., 43f. CS Q, S	Social support and positive events protected from the consequences of high levels of stress; partial support for the buffering hypothesis.
Cohen et al. (in press): G (5 studies), S (7 CS studies), Q	ISEL measure of social support predicted physical symptomato- logy, but variance explained was small.
Cooley & Keesey (1981): N=281 CS R, Q	Highest and lowest quartiles in illness showed no differences in social support.
Francis (1976): N=31 Q, S	Adolescents who attempted suicide had perceptions of relationships that made loss of support, isolation, and experienced rejection likely.

Table 1 (cont.)

Gore (1978): N=100m. (ave. age = 49) C (dropped), P, S, SI	With job loss, unsupported subjects showed higher levels and more changes in cholesterol, illness symptoms, and affective response.
Jessor, Chase, & Donovan (1980): N=4845m., 5560f., JSHSS Q, RS, S	Adolescent substance abuse was associated with less parent-friend compatibility, greater influence of friends, greater models and support for problem behavior, and other variables.
LaRocco, House, & French (1980): N=636 employed Q, RS, S	Support for the buffering hypothesis of social support in the stress-somatic symptoms relationship.
Nahemow (1979): N=115 aged (ave. age = 67m., = 73f.) S, SI	A majority of elderly in Uganda did not view old age as a period of isolation or loneliness; loneliness was associated with widowhood, residential separation from kin, and ill health.

Table 1 (cont.)

Nuckolls et al. (1972)*	High life changes with low social support were associated with higher rates of complications of pregnancy.
Drr (1977): N=521 CW (to 40.6?) P, Q, S	Those who experienced work stress, combined with inappropriate intensity in interpersonal interactions or distant, distrustful relationships with others, had more physical illness.
Raphael (1977)*	Poorer health reported 13 mos. after losses of loved ones by subjects with little social support
Rockwell et al. (1976): N=9 Observation, Q, X	Time shifts in a 105-day isolation experience were associated with increases in depression, hostility, aggression, and physical symptoms.

Table 1 (cont.)

Stephens & Bernstein (1982):	Locus of networks were outside
N=44 (93% f.)	the housing facility in which
(ave. age = 74.6)	subjects resided; the less
RS, S, SI	healthy were more isolated,
	except during medical crises.
Svanborg (1979):	12% of males and 20% of females
70 yr. old Ss	were lonely; the women felt sick
P, S, SI	more, and visited the physician
	more (Germany).
Totman (1979):	Interview after heart attack to
N=25	examine the premorbid year
R, S, SI	showed reduction in socializing
	and goal-directed activities.
Vaillant (1978a):	Subjects who developed psycho-
N=95m.	somatic illnesses were less
P(35 yrs.), S, SI	likely to indulge in vacations
	and athletics.

Mortality Studies

Berkman (1978) and	Groups with the fewest social
Berkman & Syme (1979):	ties had mortality rates 2 to
N=2229m., 2496f.	4.5 times those with the most
(30 to 96 yrs. old)	ties.
G, P, Q, RS	

Table 1 (cont.)

Blazer (1982):	30-month mortality rates,
N=331 (65+ yrs. old)	controlling for 10 potentially
P, RS, S, SI	confounding variables, were
	2.04 for impaired roles, 3.40
	for impaired perceived social
	support, and 1.88 for impaired
	frequency of social interaction.
Chynoweth, Tonge, &	Among other factors, social
Armstrong (1980):	isolation appeared to contribute
N=135 suicide	to suicide risk.
victims	
S, SI, records	
Clayton 1979):	During first year after death
N=62 young widows	of a spouse, remaining spouses
and widowers	coped with minimal morbidity
(<45 yrs. old)	and mortality.
C, P	
DeGrove (1979):	Presented a path model to
G, SI(census)	explain 73% of the variance in
	suicide; used gov't statistics
	for suicide, crime, and insanity
	rates, median age, and "persons
	living alone" (very predictive).

Table 1 (cont.)

Felsten (1981)*	Suicide rate among displaced workers was 30 times the national average (AFL-CIO).
Helsing & Szklo (1981): N=1204m., 2828f. (18+ yrs. old) C, G, P, records of death	Widowers had higher mortality risk; widows were more at risk two years following loss.
House et al. (1982): N=1322m., 1432f. (35 to 69 yrs. old) G, P, SI, (medical exams, records of death)	Prospective study found that men with more social relationships and activities in 1967-69 were less likely to have died by 1981.
Phillips & Feldman (1973)*	Fewer deaths in the 6 mos. preceding birthdays, but rate increased in the 6 mos. following them; 5 studies.
Talbott, Kuller, Perper, & Murphy (1981): N=160f. (25 to 64 yrs. old) C=80f., R, S, SI	In cases of sudden unexpected death, subjects had more often experienced loss of significant other during prior 6 mos.

Table 1 (cont.)

Wenz (1976, 1977):	Anomie, actual social isolation,
N=85	and future social isolation were
RS, S, SI	identified as etiological factors
	in widow suicide.

* Obtained from a secondary source.

Note. N = number of subjects; m = males; f = females; Bp = blood pressure; C = control group used; CS = college students; CW = caseworkers; G = general population studied; JSHSS = junior and senior high school students studied; P = prospective study; Q = questionnaire used; R = retrospective study; RS = random sample used; S = special population studied; SI = structured interview used; and X = experiment performed.

the table first.) Several review articles presented a large number of studies that are not included here because they were less relevant, were beyond the 10 years I examined, or a bibliography was not available. Jemmott and Locke (1984) provided an excellent review of psychosocial factors (particularly life change research such as that utilizing the Holmes & Rahe, 1967, instrument) and physiological outcomes. Reviews by Cobb (1976, 1979), Cohen (1979), and DiMatteo and Hayes (1981) are also available. Of the 50 studies listed, 21 involve health, well-being or development, 18 deal with illness states, and 11 explore relationships with mortality. Health, illness, and mortality categories are the organizing scheme for these studies.

The 50 studies are organized more systematically in Table 2, in an effort to facilitate comparison and evaluation of health, illness, and mortality results. The numbers of studies within each of the three categories that used specific or general population samples, retrospective or prospective designs, questionnaires or structured interviews, random samples, control groups, and experiments were tallied. In addition, sample sizes were recorded.

Health and illness studies are compared first. General population samples were used more often in

Table 2
Summary of Study Characteristics

		<u>Type of Study</u>		
		<u>Health(21)</u>	<u>Illness(18)</u>	<u>Mortality(11)</u>
Sample:	S	15*	18*	4*
	G	1	5	4
Design:	R	2	2	1
	P	3	3	5
Instrument:	Q	10	19	1
	SI	10	6	6
Controls:	RS	6	3	3
	C	0	1	3
	X	1	1	0
Sample N:	1**	11	6	2
	2**	3	5	3
	3**	2	0	3
	4**	1	1	0

* Numbers in columns do not sum to numbers in parentheses, since one study may have used both Q and SI, for example; one reference summarized 12 studies; much information was not available.

**1 = 0 to 100 subjects; 2 = 101 to 1000; 3 = 1001 to 5000; and 4 = 5001 or more.

Table 2 (cont.)

Note. S = special population sample; G = general population sample; R = retrospective study; P = prospective study; Q = questionnaire used; SI = structured interview used; RS = random sample drawn; C = control group used; and X = experiment performed.

illness than in health studies. Thus, the illness results may be more generalizable. This is the only way in which the illness studies compare favorably with the health studies.

Health studies used structured interviews more often than questionnaires to gather information. Structured interviews depend less on subjects' reading and writing skills, and may be less subject to bias. (The interviewer may be able to identify subject bias more readily than an experimenter reading questionnaires.) Health studies more often used random samples, which improve generalizability of results. Finally, health studies were based on larger sample sizes, which increase the power of statistical tests and help ensure a more representative sample.

Mortality studies appear stronger than either health or illness studies. They more often used general population samples, thereby making results more generalizable. They more often used prospective designs, so findings should not be a result of biased recall. They more often used structured interviews that are possibly less biased. They more often used random samples (more representative) which, combined with larger sample sizes on the average, produce more generalizable results. They more often used a control

group, but less frequently used an experimental strategy (perhaps for ethical reasons, since death is an outcome). If the control group and the experimental group differ systematically only on the variable of interest, we can have more confidence in the results.

. According to the above criteria, admittedly not all-inclusive but subject to consistent coding, I believe, the results and methods of these studies warrant our placing more confidence in the findings of the mortality studies than in the health or illness studies. The illness studies compare least favorably because they most often used special populations, questionnaires, and smaller sample sizes.

Conclusions

Relationships between social support and mortality are rather well supported. Those between social support and health or illness states are not as well supported (Cohen & Syme, in press; DiMatteo & Hays, 1981). In spite of this support for relationships between social support and health, illness and mortality, three possible confounds must be addressed: personality factors, socioeconomic status and preclinical illness.

In measuring social support, researchers may have actually been tapping an aspect of personality such as need for affiliation. Social support measures may simply reflect socioeconomic status, which has long been known to be related to illness (tuberculosis, for example). Finally, illness (in the preclinical, premorbid, as yet undiagnosed state) may precede changes in social support networks; that is, the direction of the effect may be opposite to that assumed and hypothesized. Social support network changes may be a result rather than a cause of changes in health. (Several studies, however, suggest the expected direction of effect, that health is influenced by social support: Nuckolls et al., 1972; Raphael, 1977; Rockwell et al., 1976; Talbott et al., 1981.)

This literature does not provide the basis for intervention at this time. Recommendations to clients to work on the quality of interactions with members of their social support networks, or to increase the size of their social support networks, for example, to improve their chances of remaining healthy (preventing illness and death) are not warranted because neither the validity of associations nor the direction of effect has been clearly, unequivocally demonstrated. In fact, social support appears to sometimes have negative consequences (see Negative Aspects of Social Support).

Other literatures dealing with the role of social support in recovery from illness, in compliance with medical regimens, and in mental health may provide stronger evidence for intervention. These areas were not addressed in this report. The reader should refer to them for suggestions regarding intervention.

The quality of future research in this area can be improved by providing: (1) clearer conceptualizations of social support and health and illness states; (2) further refinement of theories and hypotheses; (3) greater reliability and validity in measuring instruments; (4) less contamination of variable domains; (5) more multi-method data gathering techniques (structured interviews and observations rather than

questionnaires, for example); (6) more prospective designs and more experimental or quasi-experimental designs; (7) greater use of comparable statistics; (8) increased attention to alternative explanations for results; (9) greater utilization of general populations and random samples to enhance generalizability of results; and (10) increased efforts to study larger samples to increase the power of statistical tests and to better represent the population under study. Of course, one must consider the appropriateness of any of these suggestions in light of the specific study aims. Some research questions will necessitate the use of certain specific, limited methods. The ten considerations listed above cannot necessarily be applied to all research in this area.

This concludes a review of a sample of the literature addressing social support and its relationships with health, illness, and mortality. Intervention is not recommended until more questions about the roles of social support have been answered. Possible confounds must be addressed. It will be necessary to more firmly establish relationships between social support and health or illness. With respect to mortality, it is time to investigate the dynamics of the indicated relationship.

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APPENDIX

Measures of Social Support

Instrument: Social Network Index

Content domain: social ties (number, importance, type,
and extent)

References:

Berkman & Syme (1979): see Berkman (1978) for detailed
descriptions of reliability and validity.

House et al. (1982): no psychometric information.

Stephens & Bernstein (1982): interrater reliability = .92;
test-retest reliability = .80; no indices of validity.

Instrument: Inventory of Socially Supportive Behaviors

Content domain: frequency of received supportive actions
(during the past 4 weeks)

Reference:

Cohen & Hoberman (1983): test-retest reliability was
"adequate"; internal consistency reliability = .93;
indices of criterion-related validity.

Instrument: Interpersonal Support Evaluation List (ISEL)

Content domain: perceived availability of support

Reference:

Cohen & Hoberman (1983): internal consistency reliability
ranged from .77 to .86; indices of criterion-related
validity.

Instrument: Community Support System Assessment

Content domain: (a clinical tool)

Reference:

Garrison & Podell (1981): no psychometric information.

Instrument: Interview Schedule for Social Interaction

Content domain: availability and adequacy of attachment and
social integration

Reference:

Henderson, Duncan-Jones, Byrne, & Scott (1980): internal
consistency reliability ranged from .37 to .81;
test-retest reliability ranged from .51 to .87;
indices of content and criterion-related validity.

Instrument: Social Network Questionnaire

Content domains: satisfaction with network, and its density

Reference:

Hirsch (1979): no psychometric information.

Instrument: Social Network Rating Scale

Content domain: several complex social network variables

Reference:

Hirsch (1979): no psychometric information.

Instrument: Daily Interaction Rating Form

Content domain: quantity and quality of social and emotional
support received

Reference:

Hirsch (1979): no psychometric information.

Instrument: Social Relationship Scale

Content domain: helpfulness of people in 6 realms (work,
money, home, health, personal, society)

Reference:

McFarlane et al. (1981): test-retest reliability ranged
from .54 to .99; indices of content and criterion-
related validity.

Instrument: TAPPS

Content domain: subjective measure of psychosocial assets

Reference:

Nuckolls et al. (1972): no psychometric information.

Instrument: Network Analysis Profile

Content domain: frequency, duration, intensity, and
directions of interactions

Reference:

Sokolovsky & Cohen (1981): interrater reliability ranged
from .83 to .92; no indices of validity.

Instrument: Social Activity Survey

Content domain: social participation and available social
support

Reference:

Thomason (1977): internal consistency reliability = .80;
no indices of validity.

Instrument: Social Isolation in the Present Scale

Content domain: feelings of actual isolation

Reference:

Wenz (1976): no psychometric information.

Instrument: Anticipation of Social Isolation in the Future

Content domain: anticipation of social isolation

Reference:

Wenz (1977): no psychometric information.

RELATIONSHIPS BETWEEN SOCIAL SUPPORT
AND HEALTH, ILLNESS AND MORTALITY

by

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B.S., University of Rochester, 1968

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

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1984

Abstract

This paper discusses the relationships between social support and physical health, illness, and death. Psychosocial influences are recognized increasingly as relevant to health states. These relationships are examined to increase understanding of the phenomena and to determine appropriateness of intervention, given current knowledge.

Social support is analyzed conceptually and found to be quite complex. Methodological problems associated with this area are discussed, and findings are reported. Findings are organized according to three categories: health, illness, and mortality.

There is substantial evidence for social support-mortality relationships from prospective studies using large, randomly selected samples. Evidence for relationships between social support and health or illness states is equivocal.

Sources for this literature review included Psychological Abstracts, Medline, Inventory of Marriage and Family Literature, and public health journals.