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Social Relationships and Health

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The importance of social relationships in the treatment of disease and the maintenance of health and well-being has drawn the attention of scientists and practitioners across a large number of behavioral science and medical disciplines. Prospective population studies have established associations between measures of interpersonal relationships and mortality, psychiatric and physical morbidity, and adjustment to and recovery from chronic diseases (reviews by Berkman, Vaccarino, & Seeman, 1993; Broadhead et al., 1983; S. Cohen, 1988; S. Cohen & Wills, 1985; Helgeson, S. Cohen, & Fritz, 1998; House, Landis, & Umberson, 1988; Reifman, 1995). Interventions designed to alter the social environment and the individual's transactions with it have been successful in facilitating psychological adjustment, aiding recovery from traumatic experiences, and even in extending life for persons with serious chronic disease (e.g., Andersen, 1992; Fawzy et al., 1990; Spiegel, Bloom & Kraemer, 1989).

However, increases in social contact, social interaction, and the provision of social resources are not always health protective. Comprehensive reviews of this literature suggest that many of the characteristics of social environments and relationships that are presumed to be beneficial are not associated with better health (S. Cohen & Wills, 1985; Schwarzer & Leppin, 1989). Moreover, attempts to improve health and well-being by planned interventions have had mixed success (Bourgeois, Schulz, & Burgio, 1996; Coates & Winston, 1983; Cowan & Cowan, 1986; Helgeson & Cohen, 1996; Hughes, 1988; Lavoie, 1995). In short, the associations between social relationships and health are complex, and it is challenging to design successful social interventions. It is the premise of this book that the design of effective studies and interventions requires careful consideration of the processes occurring in social relationships, the determinants of health outcomes, and their mutual relations.

This book emphasizes the importance of beginning the planning of studies and interventions with a theory of how social relationships are linked to health. On the measurement side, we discuss different ways of conceiving and measuring people's interactions with others. We argue that appropriate conceptualization of relationships and social interactions is central to the development and testing of theories of how our interpersonal lives influence our health. We also address the choice of measures to aid in designing and evaluating support interventions. On the intervention side, we discuss the importance of explicitly testing a theory of the intervention. We emphasize that a support intervention has to focus on emotions, cognitions, and behaviors that prior research has shown to be consequential for health and adjustment. We also encourage the use of intervention as a quasi-experimental technique for testing theories about how the social environment influences health.

Even the casual reader may have noticed that until this point we have emphasized the role of social relationships and have generally avoided the popular term *social support*. Social support is often used in a broad sense, referring to any process through which social relationships might promote health and well-being. This book adopts this view of support but also identifies different processes through which social relationships can influence health. We categorize these processes into two groups. One type of process involves the provision or exchange of emotional, informational, or instrumental resources in response to the perception that others are in need of such aid. These needs are often associated with acute or chronic stressful experiences such as illness, life events, developmental transitions, and addiction. In this model, the term *social support* is used to refer to the social resources that persons perceive to be available or that are actually provided to them by nonprofessionals in the context of both formal support groups and informal helping relationships.

The other type of process we address focuses on the health benefits that accrue from participation in one or more distinct social groups. The hypothesis here is that others can influence cognitions, emotions, behaviors, and biological responses in manners beneficial to health and well-being through interactions that are not explicitly intended to exchange help or support. Examples of pathways through which these benefits might occur are the effects of human relationships

on the diversity of our self-concepts, feelings of self-worth and personal control, and conformity to behavioral norms that have implications for our health.

This book focuses primarily on characteristics of social relationships that are thought to maintain or promote psychological and physical health. However, even these select characteristics have the potential for harm. For example, those with more close friends and family members have more opportunities for interpersonal conflict than their relatively isolated counterparts. Moreover, the provision of aid in the face of a crisis can have detrimental effects on a recipient when the source or type of aid is inappropriate. Hence, in discussing each social concept and in planning interventions, we also address potentially harmful social and psychological processes.

This chapter begins with a history of the theoretical perspectives on the importance of social relationships for health and well-being. It then presents a series of models that explain how social factors can influence health and discusses the challenges facing the field in regard to the development of measurements and interventions. The chapter concludes with an overview of the remainder of the volume.

APPROACHES TO STUDYING SOCIAL SUPPORT AND HEALTH

The Sociological Tradition

One hundred years ago, Durkheim (1897/1951) postulated that the breakdown in family, community, and work ties that occurred when workers migrated to industrial areas would be detrimental to psychological well-being. The breakdown in social ties was thought to produce a loss of social resources and a reduction in social constraints based on well-defined norms and social roles (Brownell & Schumaker, 1984; Heller, 1979). Durkheim (1897) found that suicides were more prevalent among those with fewer social ties, and other sociologists found similar increases in social disorganization and behavior problems among uprooted populations, including immigrants (Thomas & Znaniecki, 1920) and those forced to leave their communities to find work (Park & Burgess, 1926).

Interest in the relations between social ties and psychological well-being was rekindled in the 1970s and 1980s. Several studies found that those who participated in their community and the larger society were in better mental health than their more isolated counterparts (e.g., Bell, LeRoy, & Stephenson, 1982; Miller & Ingram, 1979; review in S. Cohen & Wills, 1985). Social network participation, known as *social integration*, was generally measured in terms of the diversity of relationships one participated in. Relationships assessed in a typical social integration measure included spouse, close family member, friend, neighbor, and social and religious group member. The more types of relationships persons reported, the greater their level of social integration.

At the same time, social epidemiologists were using similar social integration measures in their studies of the role of social ties in physical morbidity and mortality. In a seminal study, Berkman and Syme (1979) examined the association

between social integration and mortality in a 9-year follow-up of residents of Alameda County, California. Those who were more socially integrated at the outset of the study lived longer than their counterparts who had fewer types of social ties. Increased longevity among socially integrated persons has since been replicated in several large prospective epidemiologic studies (e.g., Blazer, 1982; Cerhan & Wallace, 1997; House, Robbins, & Metzner, 1982; Schoenbach, Kaplan, Fredman, & Kleinbaum, 1986; Vogt, Mullooly, Ernst, Pope, & Hollis, 1992). Moreover, socially integrated persons have also been found to be less likely to have heart attacks (Kaplan et al., 1988), less likely to develop upper respiratory illness when experimentally exposed to a common cold virus (S. Cohen et al., 1997), and more likely to survive breast cancer (Vogt et al.; Funch & Marshall, 1983; reviewed in Helgeson et al., 1997). The health risks associated with lower levels of social integration are comparable in magnitude to the risks associated with cigarette smoking, high blood pressure, and obesity and are still significant after controlling for these and other traditional risk factors (House et al., 1988).

There is still some controversy about which characteristics of social networks are essential to health. Social integration, whether defined as having a diverse range of relationships (S. Cohen et al., 1997; Thoits, 1983) or involvement in a range of social activities (e.g., House et al., 1982), has received the most support, while number of network members has proved less important. However, there are other structural dimensions of social networks that may have a bearing on health and deserve more systematic investigation (e.g., Wellman, 1985; See chapter 3 of this book).

The Cognitive Tradition and the Stress-Buffering Hypothesis

In 1976, physician and epidemiologist John Cassel and psychiatrist Sidney Cobb argued that those with strong social ties were protected from the potential pathogenic effects of stressful events. Cassel (1976) thought that stressors which placed persons at risk for disease were often characterized by confusing or absent feedback from the social environment. In contrast, the impact of the stressors was mitigated or precluded among individuals whose networks provided them with consistent communication of what is expected of them, support and assistance with tasks, evaluation of their performance, and appropriate rewards (Cassel, 1976). Similarly, Cobb (1976) thought that major life transitions and crises placed people at risk. He argued that those who interpreted communications from others as signifying that they were cared for and loved, esteemed and valued, and that they belonged to a network of mutual obligation were protected. He thought that this protection occurred because these perceptions facilitated coping and adaptation.

In 1985, Cohen and Wills reviewed more than 40 correlational studies designed to test the hypothesis that social support protected persons from the negative psychological consequences of life stress. They concluded that consistent evidence for stress-buffering was found among studies in which the social support measure assessed the perceived availability of social resources that were suited

to ("matched") the needs elicited by the stressful event. The exact parameters on which stressful events and support resources need to match were elaborated by S. Cohen and McKay (1984), as well as by Cutrona and her colleagues (Cutrona & Russell, 1990). There was also evidence that emotional and esteem support provided protection against a wide range of different stressful events (S. Cohen & Wills, 1985). An essential component of these approaches has been that it is the *perception* that others will provide resources when they are needed that is key to stress-buffering (also see Wethington & Kessler, 1986). In short, the data suggest that whether or not one actually receives support is less important for health and adjustment than one's beliefs about its availability.

Chapter 4 includes a discussion of issues that have arisen in the study of stress-buffering and their implications for measurement. They include more careful measurement of the functions and sources of perceived and received support, as well as evaluations of their adequacy and sufficiency.

The Interpersonal Process Tradition

Over the last 20 years, interest in the design of effective social support interventions has spawned research on the dynamics involved in the expression and receipt of social support for those in stressful circumstances. The earliest approaches involved attempts to develop detailed classification schemes of various aspects of the support that is exchanged between people, in both dyadic and group contexts. These schemes were based on the self-reports of those providing or receiving support. For example, based on interviews with a sample of low-income, sole-support mothers, Gottlieb (1978) developed a set of 26 categories of informal helping behaviors that he organized into four classes: emotionally sustaining behaviors, problem-solving behaviors, indirect personal influence, and environmental action. This scheme provided the foundation for Barrera, Sandler, and Ramsay's (1981) Inventory of Socially Supportive Behaviors, which has been widely used as a tool to gauge the mobilization of network support.

At the same time, Levy (1979) studied support groups in several U.S. towns and cities, including groups focused on behavioral control, personal growth, support and coping, and counteracting stigma. He also developed a classification of the supportive exchanges that occur in mutual aid self-help (MASH) groups based on members' reports of supportive processes. Of the scheme's 28 categories, Levy found that the 9 most frequently occurring helping exchanges involved empathy, mutual affirmation, explanation, sharing, morale building, self-disclosure, positive reinforcement, personal goal setting, and catharsis. Other proposals for categories of support-intended behaviors (types of social resources) include emotional, informational, and tangible support (House & Kahn, 1985); esteem, belonging, informational, and tangible support (S. Cohen & McKay, 1984); and esteem, network (companionship), informational, tangible, and emotional support (Cutrona, Suhr, & MacFarlane, 1990). (See the review of alternative typologies in Cutrona and Russell, 1990.)

Others have examined how support is elicited and provided. For example, Cutrona and her colleagues (Cutrona et al., 1990) developed a framework that de-

Types of
helping behaviors

scribes support elicitation strategies that differ in their directness and specificity. To communicate the kind of support desired, individuals can directly complain about the stressful situation they are grappling with, express doubt about their own coping abilities, or elicit support indirectly through nonverbal emotional displays. Barbee (1990) developed a framework for classifying how support is provided. Using scenarios and laboratory-based behavioral observation methods, she identified four types of "cheering-up" strategies, two reflecting efforts to actively provide problem- and emotion-focused support, and two reflecting efforts to help the recipient avoid or escape from the problem or the feelings it provokes.

Other work has addressed the interactional context in which support occurs and how it might influence the unfolding of the support process. For example, Barbee (1990) has examined how the two parties' moods affect the kinds of support that arise. She found that subjects in an induced positive mood tended to approach a partner's distress by offering suggestions, whereas those who were in a negative mood tended to engage in such avoidant behaviors as withdrawal and changing the subject. She also examined the helper's attributions regarding the controllability and importance of a stressful circumstance. Helpers who regarded the problem as controllable tended to be dismissive, while those who regarded the problem as uncontrollable tended to offer suggestions about how to cope with the problem or the feelings it provoked. *Solicited vs Spontaneous*

The contrasting effects of support solicited by would-be recipients and support spontaneously tendered by providers have been studied by Eckenrode and Wethington (1990). Among the benefits of receiving support from network members without explicitly requesting it are the preservation of self-esteem and a reinforced sense of intimacy and dependability in the relationship with the provider. Moreover, Eckenrode and Wethington (1990) observe that, by their very nature, some stressors are more visible to network members, allowing them to intervene earlier and without being asked to do so. Other stressors may be invisible to the network, either because they are actively concealed because of the embarrassment or stigma associated with them or because they are chronic in nature and therefore less likely to be noticed and interpreted as a cue to render support. Similarly, Steinberg and Gottlieb (1994) have shown that hidden messages underlying the support process, such as expectations of repayment, often undermine any positive effects of support.

*some
STRESSORS
invisible
to
network*

The work discussed in this section provides evidence that the materialization and benefits of social support are strongly influenced by many personal, relational, situational, and emotional characteristics of the interactional context. Many contemporary studies use intensive diary techniques that allow on-line monitoring of social interactions to assess these processes. An overview of recent studies and techniques is provided in chapter 5.

The Intervention Tradition

Two of the most frequently quoted early investigators of social support admonished the social science community to act on the epidemiological evidence linking social ties to health by planning programs aimed to augment the support

people exchange with others. John Cassel (1976) urged his audience to "attempt to improve and strengthen the social supports rather than reduce the exposure to the stressors" (p. 479); Sydney Cobb (1976) echoed his message and added that "we should start now to teach all our patients, both well and sick, how to give and receive social support" (p. 312).

① Early network-centered interventions aimed to increase the responsiveness and upgrade the helping skills of informal community caregivers. Targets of these outreach programs included informal helping agents such as teachers, police, family physicians, and clergy. For example, Weisenfeld and Weis (1979) trained hairdressers to use a set of core helping skills while at the same time discouraging the use of helping tactics that were deemed to be less constructive. Compared to a control group of hairdressers who were equally motivated but did not have the time to participate in the training, those who participated altered their helping behaviors in the ways recommended by the program.

In a similar vein, D'Augelli, Vallance, Danish, Young, and Gerdes (1981) implemented a much larger and more ambitious initiative in two rural counties of Pennsylvania. The program planners recruited individuals who had been functioning as informal helpers in their own social networks and taught them the same kinds of generic helping skills the hairdressers in the previous study had learned. In addition, they trained them in crisis intervention and life development skills. This project also found evidence that the trainees adopted the helping skills they were taught. However, the evaluation stopped short of assessing the effects of the training on the intended beneficiaries, namely, those citizens who received the trainees' support.

② The second approach to early support interventions also began in the late 1970s. It entailed the creation of support groups for people who had experienced a range of acute life events and crises, including bereavement, natural disasters, marital separation, and the transition to parenthood. Numerous short-term groups were designed to offer intensive, albeit temporary, support to these populations at risk.

One of the first and most carefully evaluated support groups was convened for bereaved women. It revealed that a sequence of one-to-one support from a veteran widow followed by participation in a group composed of widows hastened the participants' emotional and social adjustment (Vachon, Lyall, Rogers, Freedman-Letofsky, & Freeman, 1980). Other early examples include groups for new parents (McGuire & Gottlieb, 1979), for the parents of premature infants (Minde et al., 1980), and for women diagnosed with metastatic breast cancer (Spiegel, Bloom, & Yalom, 1981).

③ The third approach to mobilizing support involved the creation of one-to-one mentoring and coaching programs, in which a key supporter was drawn either from the beneficiary's existing social network or grafted onto it. A familiar example of a program involving mentors drawn from the general community is Big Brothers and Big Sisters. This organization attempts to compensate for the absence of one parent by recruiting and matching volunteers who provide companionship, guidance, and emotional support to children in single-parent households. An example of a widely known coaching initiative offered by public health

departments is the encouragement of a spouse or partner's participation in birth and parenting preparation classes (Wideman & Singer, 1984). The idea is that the coach's presence will not only communicate caring and solidarity with the expectant mother but also serve an analgesic function during labor and delivery. In fact, one of the most widely cited pioneering support interventions was conducted in the maternity unit of the Social Security Hospital in Guatemala City. A female companion was randomly assigned to accompany and render support to half the expectant mothers who were admitted for their first delivery (Sosa, Kennell, Klaus, Robertson, & Urrutia, 1980). The untrained companion soothed and encouraged the mothers and made them more physically comfortable. Compared with mothers who received the maternity unit's routine medical care, those mothers assigned a birth companion experienced fewer serious complications during labor and delivery and required less than half the time from admission to delivery. In addition, during the hour after the baby's birth, these mothers stayed awake longer and stroked, talked to, and smiled at their infants more than the control group.

The chapters in the intervention section of this volume testify to the fact that these early initiatives have spurred much experimentation with support groups (see chapter 7) and one-to-one strategies of marshaling support (see chapter 8). This is not to say that interventions in the natural network have been neglected, compared with strategies of marshaling new social ties. Rather, as chapter 9 reveals, such interventions have shifted from teaching helping skills to effecting changes in the social network's overall structure or in patterns of interaction between certain members in order to optimize the expression of support or to reduce the likelihood that it will miscarry.

HOW SOCIAL RELATIONSHIPS INFLUENCE HEALTH

In general, social support is thought to affect mental and physical health through its influence on emotions, cognitions, and behaviors (S. Cohen, 1988). In the case of mental health, social support is thought to maintain regulation of these response systems and prevent extreme responses associated with dysfunction. This regulation occurs through communication of what is expected, of appropriate norms, of rewards and punishments, and through the provision of coping assistance (Caplan, 1974; Cassel, 1976; Thoits, 1986). Social support is also thought to play a role in the risk for, progression of, and recovery from physical illness. In this case, the hypothesis is that social relationships influence behaviors with implications for health such as diet, exercise, smoking, alcohol intake, sleep, and adherence to medical regimens. Moreover, the failure to regulate emotional responses also contributes to psychological problems and can trigger health-relevant changes in the responses of the neuroendocrine, immune, and cardiovascular systems (S. Cohen, 1988; S. Cohen, Kaplan, & Manuck, 1994; Uchino, Cacioppo, & Kiecolt-Glaser, 1996).

Two models that identify the conditions under which different kinds of social support influence health have evolved (S. Cohen & Wills, 1985; House, 1981).

The stress-buffering model proposes that support is related to well-being only (or primarily) for persons under stress. The main (or direct) effect model proposes that social resources have a beneficial effect irrespective of whether persons are under stress. In correlational studies, perceived availability of social resources is most often found to act as a stress buffer, whereas social integration generally does not interact with stress but instead acts independently of stress levels (reviews by S. Cohen & Wills, 1985; Schwarzer & Leppin, 1989). Even so, there are many examples of main effects of perceived support and occasional examples of stress-by-social-integration buffering interactions (e.g., Bolger & Eckenrode, 1991; Falk, Hanson, Isacson, & Ostergren, 1992). Reports of main effects of perceived support may be wholly or partly attributable to the use of poor or inadequate measures of stressful events. In such cases, even though support was acting as a buffer, only a main effect of support would be found (Cassel, 1976). Conditions under which social integration or other network measures result in stress-buffering still need to be identified (see chapter 3).

Main Effect Model

Figure 1.1 depicts the mechanisms through which social relationships can have main effects on psychological and physical health. Those who participate in a social network are subject to social controls and peer pressures that influence normative health behaviors. For example, their networks might influence whether they exercise, eat low-fat diets, or smoke. Integration in a social network is also presumed to provide a source of generalized positive affect; senses of predictability and stability, of purpose, of belonging and security; and recognition of self-worth because of demonstrated ability to meet normative role expectations (Cassel, 1976; Hammer, 1981; Thoits, 1983; Wills, 1985). These positive psychological states are presumed to be beneficial because they reduce psychological despair (Thoits, 1985), result in greater motivation to care for oneself (e.g., S. Cohen & Syme, 1985), or result in suppressed neuroendocrine response and enhanced immune function (Bovard, 1959; Cassel, 1976; S. Cohen, 1988; Uchino et al., 1996). Having a wide range of network ties also provides multiple sources of information and thereby increases the probability of having access to an appropriate information source. Information could influence health-relevant behaviors or help one to avoid or minimize stressful or other high-risk situations. For example, network members could provide information regarding access to medical services or regarding the benefits of behaviors that positively influence health and well-being. A network may operate to prevent disease by providing tangible and economic services that result in better health and better health care for network members. For example, network members could provide food, clothing, and housing that operate to prevent disease and limit exposure to risk factors. Networks may also provide informal health care that prevents minor illnesses from developing into more serious disease.

It is also possible that isolation causes disease rather than social integration protecting or enhancing health. This approach assumes that isolation increases negative affect and a sense of alienation and decreases feelings of control and

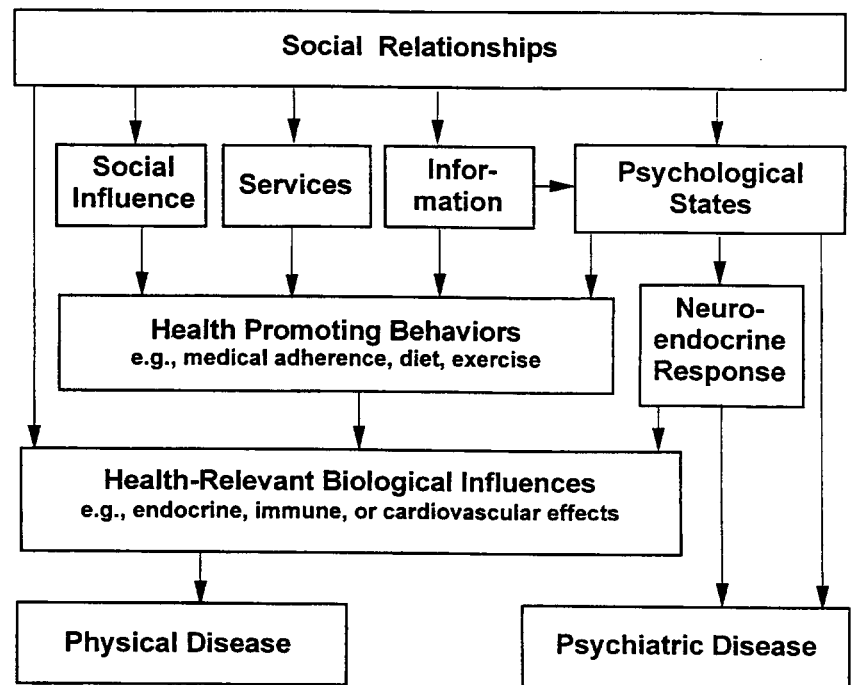


Figure 1.1. Pathways through which social relationships can have direct (main) effects on psychological and physical health. Paths are all drawn in one direction for simplicity but feedback loops are possible.

self-esteem. Alternatively, one can merely view isolation as a stressor. In any case, as noted earlier, these negative psychological states could induce increases in neuroendocrine response, suppress immune function, and interfere with performance of health behaviors.

It is possible that the effects of our social environment on pathways that influence health are not cognitively or behaviorally mediated but instead are "hard-wired" responses to our social environment (Bovard, 1959). A hard-wiring hypothesis receiving some recent attention as a basis for intervention derives from work on the synchronization of human biological clocks (Frank et al., 1994). Regularly occurring social interaction is thought to play an important role in entraining and synchronizing our biological clocks (Moore-Ede, Sulzman, & Fuller, 1982). Desynchronization is thought to be harmful to homeostatic and adaptive functioning. Hence, isolated individuals or those who are removed from or lose members of their social network might be at risk for illness because of the loss of social controls over their biological rhythms (Hofer, 1984).

Although we have focused on the main effects associated with an integrated network, perceptions of support availability have also been associated with main (as well as buffering) effects. Such associations may be due to positive affective

and cognitive states associated with the knowledge and security provided by the availability of others in times of need. Perceived availability may also buffer minor and daily stressors often not assessed in studies that focus on major stressful life events. Hence, what appears to be a main effect may actually be buffering of unassessed stressful situations. Stress-buffering mechanisms are described next.

Stress-Buffering Model

Figure 1.2 depicts the roles of social support in determining individual responses to potentially stressful events. In this case, support presumably operates by preventing responses to stressful events that are inimical to health. Support may play a role at several different points in the causal chain linking stressors to illness (cf. S. Cohen & McKay, 1984; Gore, 1981; House, 1981; also see the discussion of

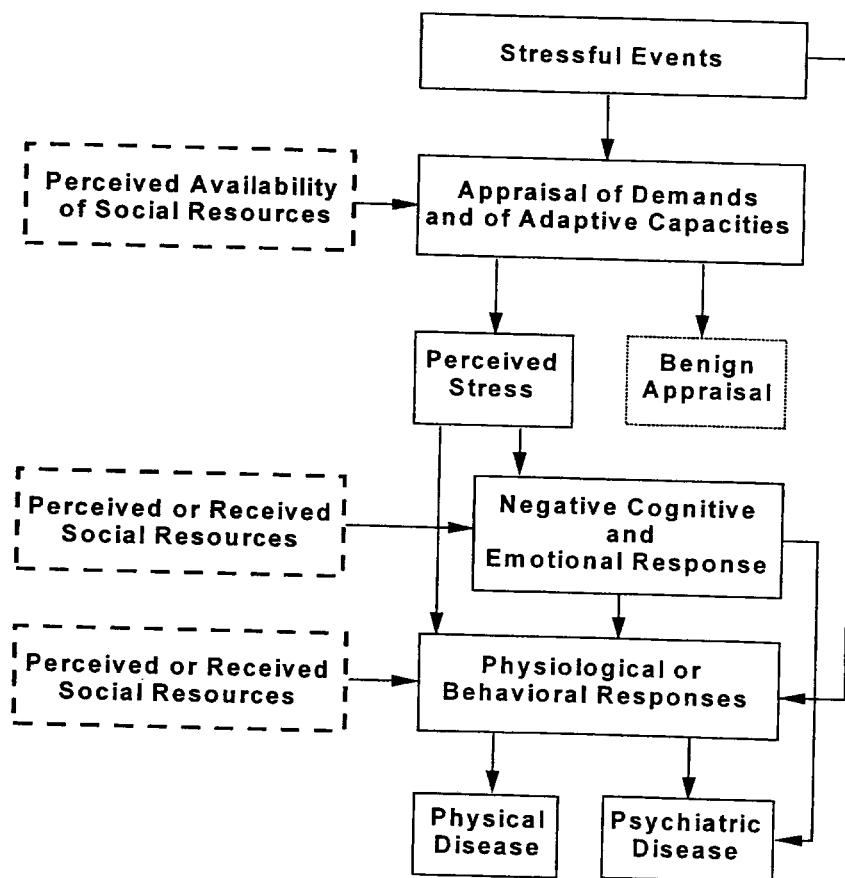


Figure 1.2. Pathways through which social support influences responses to stressful life events. Paths are all drawn in one direction for simplicity but feedback loops are possible.

coping and the appraisal process in Lazarus & Folkman, 1984). First, the belief that others will provide necessary resources may redefine the potential for harm posed by a situation and bolster one's perceived ability to cope with imposed demands, thereby preventing a particular situation from being appraised as highly stressful (Thoits, 1986). Second, support beliefs may reduce or eliminate the affective reaction to a stressful event, dampen physiologic responses to the event, or prevent or alter maladaptive behavioral responses. The availability of persons to talk to about problems has also been found to reduce the intrusive thoughts that act to maintain chronic maladaptive responses to stressful events (Lepore, Silver, Wortman, & Wayment, 1996).

The actual receipt of support could also play a role here. Support may alleviate the impact of stress appraisal by providing a solution to the problem, by reducing the perceived importance of the problem, or by providing a distraction from the problem. It might also tranquilize the neuroendocrine system so that people are less reactive to perceived stress or facilitate healthful behaviors such as exercise, personal hygiene, proper nutrition, and rest (cf. S. Cohen & Wills, 1985; House, 1981).

Threshold or Gradient?

To understand how social support works and how support interventions should be designed, it is necessary to assess the relative effect of increasing amounts of support. Perhaps there is a minimum amount of support required, and after that threshold is reached additional support does not provide greater benefits. It is also conceivable that increasing support is associated in a graded-like (dose-response) relation with increased health benefits. What makes it difficult to resolve this issue is that the answer is probably different for different conceptions (e.g., social integration versus available resources) or types (e.g., emotional versus tangible) of support. Greater progress will be made with the development and use of measurement instruments that have the sensitivity to reliably assess grades of support.

RESEARCH DIRECTIONS

Support Measures

This book underscores the importance of a theoretical perspective and clarity of concepts in research on the role of social relationships in health. There is convincing evidence that social networks and support influence our health. What we need to know now is which network structures and support functions, under what conditions, and for what reasons? This is the level of knowledge that can provide a deeper understanding of how social relationships influence our health and give us the necessary guideposts for the development of successful models of intervention. Taking a theoretical perspective means using a measurement strategy that is tailored to specific research aims and contexts.

In this section of the chapter, we give examples of a number of important questions about the connection between social relationships and health that can be addressed through the creative use of existing measures and the development of new ones. We start with questions about the importance of the structure of social networks. Some of the most provocative evidence in regard to the relations between our social environment and health derives from research on social integration. Those who actively participate in their community and society live longer and are less likely to develop both physical and mental health problems. However, we have little direct evidence for why social participation promotes health. Let us consider three hypotheses: (1) socially integrated people have more diverse self-concepts (parent, friend, worker, and member of a church), and this diversity makes stressful events in any one social domain (e.g., at work) less important; (2) socially integrated people have a more diverse resource pool to call on when under stress; and (3) socially integrated people have a better quality and greater quantity of social interactions, resulting in increased positive affect and decreased negative affect. The relative viability of these competing explanations can be tested by existing measurement techniques. For example, daily diary techniques (chapter 5) can be used to assess the quality and quantity of social interaction, as well as the associated affect, and social integration measures that assess participation in social activities can be compared with those that assess role diversity per se (chapter 3).

There are also many theoretically important questions facing those interested in measurement of support resources (see chapter 4). For example, what is the most useful typology of resources? What are the conditions under which selective resources become effective? Are network members substitutable with respect to the resources they provide? Answering these questions requires further theoretical development of resource typologies and the development of measures to accurately assess resource availability and receipt. This is also an area where the use of daily diary techniques can be helpful in learning about how often support is given and received in day-to-day interactions, the kinds of support that are provided, and their effectiveness.

A critical area of research that has received little attention is the effects of stress on support networks and on perceived and received support. This is a particularly important question for persons with chronic illnesses and their caregivers. Does social participation (integration) deteriorate with illness? Does the quantity, quality, or type of social support change? Do persons under chronic stress stop providing support, thereby creating an imbalance with network members? In this area, simultaneous measurement of network structure (see chapter 3) and function (see chapter 4) may elucidate underlying processes. For example, is support availability more robust among those with diverse (socially integrated) networks? Many of these questions can be addressed with current measurement technology or by tailoring existing measures.

Finally, there is the question of choosing or designing scales to assess the extent to which a support intervention influences the type of support it was intended or designed to generate. The design of these measures depends on the theoretical model on which the intervention is based. For example, some interventions aim

to increase both the perception and availability of emotional support, some to augment informational support, and others to mobilize tangible support (see chapters 7, 8, and 9). Although there are increasing numbers of evaluations of the effects of these interventions on specified outcomes, few have also evaluated the hypothesized mediating mechanisms (see chapter 6). Such analyses are essential to understanding why interventions succeed or fail.

Although we have identified some of the important questions facing the field, there are numerous other research questions. The critical issue is that questions are posed and addressed in a manner that adds to our theoretical understanding of the role that social relationships play in health. We especially encourage studies that assess as many levels of these theoretical models as possible, including the social network, interpersonal behaviors, perceptions of support, behavioral and biological concomitants, and health outcomes (e.g., S. Cohen, et al., 1997). In the end, these multifaceted studies will provide the answers to how social relationships influence health and well-being.

Support Interventions

During the two decades that followed the pioneering interventions described earlier, advances in theory and measurement have spurred a new generation of studies involving systematic manipulation of social support on behalf of diverse clinical and community samples. In an effort to translate basic research into practice, demonstration projects and clinical trials have been designed to augment, specialize, intensify, or prolong various types and sources of support for people who are at risk by virtue of particular illnesses, life events, developmental transitions, addictions, or chronic stressors. For example, support groups have been widely implemented in medical settings for persons with such chronic diseases as multiple sclerosis and arthritis, as well as for patients with cancer and heart disease (Devins & Binik, 1996; Fawzy, Fawzy, Arndt, & Pasnau, 1995; Helgeson & Cohen 1996). In mental health settings, support groups and peer counseling initiatives have been introduced on behalf of people with affective disorders and members of their families. Programs modeled after the Alcoholic Anonymous 12-step recovery strategy have also gained favor, along with those that deploy home visitors to reach underserved community populations such as teenage mothers (Olds et al., 1997) and family caregivers of persons with Alzheimer's disease (Bourgeois et al., 1996; Lavoie, 1995). In addition, partner support manuals have been developed to assist people who are trying to quit smoking, lose weight, or moderate or control their use of addictive substances (Gottlieb, 1988), and a variety of support initiatives have been launched in workplace health promotion campaigns (R. Y. Cohen, 1988).

Collectively, these group and dyadic interventions are impressive because they reveal the many ways in which it may be possible to engineer support on behalf of people in highly diverse stressful circumstances. However, to date, there is more evidence of the feasibility of marshaling support than of its effectiveness. For example, two reviews of the outcomes of support groups for family caregivers of elderly persons paint a bleak picture with respect to the attainment of desired

end states (Lavoie, 1995; Toseland & Rossiter, 1989). The same is true in the context of support groups for cancer patients (Fawzy et al., 1995; Helgeson & Cohen, 1996). Although the authors of these reviews offer their own explanations for the null or mixed findings, such as the facts that the goals of the group were not determined by the intended beneficiaries and that the intervention ended prematurely, the arguments they advance are purely speculative. The program planners did not collect information about the interpersonal dynamics that contributed to and detracted from the desired support process, much less about specific mechanisms that were hypothesized to mediate between stress and well-being. These mediators may involve psychological (e.g., self-efficacy or self-concept), behavioral (e.g., coping efforts or role functioning), emotional (e.g., distress or specific psychiatric symptomatology), or physiologic (e.g., endocrine or immune system functioning or markers of disease progression) processes. In sum, to gain a stronger theoretical grasp of the effects of support and to provide a stronger empirical basis for future interventions, it is necessary to elucidate and test alternative mediating processes that have been proposed to account for the impacts of social support on health and well-being (see chapter 2).

In addition, more concerted efforts should be made to identify the characteristics of those who benefit most and least from the support process. For example, variability in the effects of support may be attributable to differences in the participants' initial risk status, social skills, or network relationships. It is conceivable, for example, that only the most socially isolated individuals reap significant benefits from their contact with new sources of support. Alternatively, perhaps those who suffer from the greatest emotional isolation or from the most conflict with their existing associates benefit most from planned opportunities to exchange support with similar peers. Moreover, as discussed in chapter 7, it may be necessary to screen prospective support group members in terms of their coping and information-seeking styles prior to assigning them to a group to ensure an optimal fit between the individual and the group's structure and social climate. In sum, significant advances in our understanding of the people and conditions that are most and least hospitable to the expression and beneficial effects of support depend on the collection of more detailed information about the participants and about the supportive processes hypothesized to affect their health and well-being.

Another challenge that awaits those planning support interventions is the exquisitely delicate task of creating the conditions that are most hospitable to the formation of relationships that, over time, come to have supportive meaning. As Rutter (1987) observed, social support is not a variable; it is a process that arises through interaction between people. Nor is social support a commodity that can be "delivered" or abstracted from its relational context. Indeed, relationships imbue behavior with supportive meaning, and expressions of support, its withdrawal, and its unexpected absence powerfully affect people's relationships with others. Hence, whether a support group, a home visitor, or a telephone confidant is marshaled to provide support, the program designers have to carefully consider how to make the most auspicious matches from a relationship development standpoint. They will need to consider characteristics of the setting, the kinds of in-

formation about the parties to make most and least salient to one another, the kinds of interactions that are most conducive to relationship formation and the expression of support, and how to customize the intervention to each party's particular needs. At the same time, they need to work from a master blueprint that specifies how to enhance coping with the participants' stressful circumstances.

Clues to the important processes involved in relationship development are contained in the literature on close relationships and in some of the better support intervention studies. For example, from the study of the initiation phase of close relationships, we know that attraction and positive affect increase as a function of the parties' perceived similarity, equity in exchanges, and reciprocal disclosure of personal information (Hendrick & Hendrick, 1992). As pointed out in chapter 7, support groups must be carefully composed of people who are likely to view one another as similar with respect to both the nature of their adversity and their demographic characteristics. In addition, group cohesion strongly depends on the expression of mutual aid in response to reciprocal disclosures of experiences and feelings. Hence, as people's supportive requirements begin to be met through these initial perceptions and communications, their interactions begin to take on relationship meaning, setting the stage for greater depth of social penetration and further relationship development. In fact, in their analysis of the outcomes of support groups for the bereaved, Lieberman and Videka-Sherman (1986) found that the greatest benefits accrued to those who formed new friendships characterized by mutual exchanges. For this reason, they state that these groups "are social linkage systems where people form relationships, and in that sense, they provide social support" (p. 442).

Other social psychological factors have also been found to play a critical role in the development of relationships between home visitors and those they visit and between mentors and their protégés. For interactions to take on supportive meaning, the intended support recipient must be reassured about the provider's motives for helping and should not experience ego-relevant costs, feelings of indebtedness, or threats to autonomy from the interactional process (Gottlieb, 1992). Evidence from the literature on recipient reactions to aid underscores these conclusions. It suggests that the intervention will not be seen as supportive if the helper is perceived to be motivated by ulterior motives or acting involuntarily or if the offer of aid carries pejorative implications about the recipient's competence or constrains his or her freedom of action and decision making (Fisher, Nadler, & Whitcher-Alagna, 1982). Equally important, a social psychological context marked by these features does not offer the conditions necessary for relationship development.

In retrospect, it is not surprising that early interventions which concentrated on teaching helping skills to community gatekeepers and to central figures in social networks were abandoned. Our current appreciation of the complex and delicate nature of the support process militates against such a simplistic intervention strategy because it does not take into account the many contingencies that we now recognize govern the expression and acceptance of social support. However, as the chapters in the second half of this book reveal, the two types of

interventions that continue to draw great interest—namely, support groups and dyads—along with more focused network-centered initiatives, hold far greater promise. These interventions can be more tightly controlled, in terms of the characteristics of the participants, the key maneuvers, and the dosage of support, which, in turn, facilitates evaluation of their outcomes through the use of conventional research designs, such as randomized controlled trials and assessment of alternative mediating processes.

Although we have tried to pose some of the most important issues involved in designing successful interventions, there are numerous other important questions. The critical issue is that interventions are designed in a manner that adds to a broad theoretical understanding of how support can influence health. By focusing on explicit theories of intervention, we will be able to use existing knowledge to maximize effectiveness while adding to our understanding of how, when, and why interventions are successful.

GOALS AND ORGANIZATION

The fundamental goal of this book is to provide a resource for the selection and development of state-of-the-art techniques for social support assessment and intervention in studies of physical and psychiatric illness in human populations.

Subgoals include:

- To provide a broad conceptual framework addressing the role of social relationships in mental and physical health.
- To aid researchers in understanding the conceptual criteria on which measurement and intervention decisions should be made when studying the relations between social support and health.
- To present diverse options for social support measurement, and an analytic framework for decision making in the selection of measures.
- To present diverse options for social support interventions, and an analytic framework for decision making in their selection.

The remainder of the volume is divided into three sections. The first addresses the measurement of social networks and supports. The second addresses support interventions, and the third presents some general comments on the volume and its implications for social support research and intervention.

Outline of Measurement Chapters

Part II of this volume addresses the measurement of social support. The purpose of this section is to aid researchers in making decisions about the appropriate measures to use in specific studies. The overall idea is to provide the conceptual underpinnings of the measure, describe the kinds of studies it is appropriate for, and list the various costs and benefits of using such a measure. We have asked the authors to discuss conceptual or theoretical bases for the measurement techniques they address, questions about the relation between social support and

health that can be answered by using the specific measurement technique, the logistical issues that must be considered in using these measures, possible negative effects of our social relationships as measured by this technique, the psychometrics of each measurement instrument, the population sensitivity of the measures, and priorities for future research.

Outline of Intervention Chapters

Part III of this volume addresses different types of interventions to increase social support in the natural environment. The purpose of this section is to aid researchers in making decisions regarding the design of effective interventions. The overall idea is to provide the conceptual underpinnings of these interventions, describe situations for which they would be appropriate, and outline the various costs and benefits of each type of intervention strategy. In this case, authors were instructed to discuss theories underlying the specific type of intervention they address, the crucial considerations in the intervention's design, exemplars of applications to specific populations or stressors, people for whom this intervention is expected to be more or less successful, indicators of support mechanisms and of miscarried support, short-and long-term indicators of impact and potential unintended side effects, the key guiding principles and recommendations, and priorities for future research on this type of intervention.

CONCLUSION

Evidence on the role social relationships play in health is provocative and exciting. However, only by testing and refining theories that account for the associations between social relationships and health can we make substantial strides in understanding these associations and in designing and implementing effective social interventions. It is our hope that this book will help investigators and clinicians to generate theoretical models and measure appropriate aspects of the social context to test and apply them.

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