

Social Support

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[To appear in: A. Kaptein & J. Weinman (Eds.). (2003). *Introduction to health psychology*. Oxford, England: Blackwell.]

Outline

The chapter deals with social factors and how they might exert an influence on health and longevity. First, a distinction is made between the concepts of social integration and social support. Following this, a more fine-grained differentiation of various social support phenomena is offered, and different approaches to their measurement are described. Moreover, individual differences in support provision and receipt are addressed. In a second section, the importance of social network characteristics along with their possible influence on longevity is discussed. Studies are described that provide evidence for the association of social factors with life expectancy, severe medical conditions, and bereavement. A third section examines the role of social factors in the onset and course of severe health conditions, such as myocardial infarction and cancer. Additionally, evidence is reviewed concerning support mobilization as a form of coping with taxing life events and circumstances.

Key Concepts

- social integration, social networks, and social ties
- social support
- perceived versus received social support
- instrumental, informational, tangible, and emotional support
- support mobilization
- longevity
- survival
- measures of social network
- measures of social support
- stress: daily hassles versus critical life events
- bereavement and loss
- gender differences
- onset and course of chronic illness

Social Support

1. Social Integration and Social Support: Conceptual and Measurement Issues

More than a century ago, the French sociologist Durkheim (1897) observed that suicide occurred more frequently among individuals who had weak connections to other people. Today, it is common knowledge that poor mental health is more prevalent among people with low social integration. Moreover, physical health and longevity appear to depend in part on social factors. What exactly these social factors are, and how they operate, continue to be difficult questions. Bowlby's (1969) Attachment Theory was a theoretical advancement. According to this theory, emotional attachment in early life promotes a sense of security and self-esteem that ultimately provides the basis on which individuals develop lasting, secure, and loving relationships in adult life. Subsequent research has established a pattern of psychosocial variables that are connected to diverse health outcomes in a complicated and seemingly inconsistent manner.

This chapter presents an introduction to the relationship between social support and illness and death. Health is determined not only by biological, but also by social and psychological factors. Epidemiological studies have linked mortality rates to social networks, thus indicating that social factors have a beneficial effect on longevity. Moreover, studies on patients attribute increased survival rates to existing close social bonds. In the case of conjugal loss, for example, widowers are particularly at risk of illness and premature death if they lack a compensating network of support providers. Health psychology is searching for the mechanisms that help explain such associations. Conceptually, it is important to distinguish between social integration and social support. Both constructs, although closely related, will be treated separately in the present chapter.

Besides social support and social integration, further differentiation has to be made in order to understand the quality and function of interaction processes that result in favourable health outcomes. People can be predisposed to illness by long-term social isolation, neglect, loneliness, and social stress. Before discussing current issues in the relationship between social factors (as predictors) and illness and death (as outcomes), the conceptual background of the former needs to be clarified.

1.1 Social Networks, Social Ties, and Social Integration: Structure and Quantity of Social Relationships

The term “social support” is often used in a broad sense, including social networks and social integration. However, these three notions should be clearly distinguished from one another. *Social networks* represent the objective basis for social integration and social support because social networks are the number of people or possible support providers in an individual's environment. Social integration and social support, however, are theoretical constructs that refer to the degree to which individuals are socially embedded and have a sense of belonging, obligation, and intimacy. *Social integration* refers to the structure and quantity of social relationships, such as the size and density of networks and the frequency of interaction, but also sometimes to the subjective perception of embeddedness. *Social support*, in contrast, refers to the function and quality of social relationships, such as perceived availability of help or support actually received. It occurs through an interactive process and can be related to altruism, a sense of obligation, and the perception of reciprocity (Schwarzer & Leppin, 1991; see also 1.2).

Social networks and social integration can be assessed in a sophisticated manner, but researchers usually choose a straightforward approach: The most common demo-

graphic indicator is considered marital status in order to establish relationships between social integration and health or mortality. It makes a difference whether individuals are single, married, divorced, etc. Based on this information only, one can conclude that, on average, married couples live longer than individuals in the other groups. A more comprehensive way to assess these constructs is a social network index that also includes the number of roles one assumes in the family and in organizations, such as church, as well as the frequency of contact to other members of such groups. Duration of contacts and degree of reciprocity are also important. A social network represents a web of relationships that encircles an individual together with network characteristics, such as range or size (number of members), density (degree of interconnection), boundedness (extent of closeness such as kin, workplace, neighbourhood), and homogeneity (similarity of members). There are various ways to assess these aspects (for an overview, see Cohen, Underwood, & Gottlieb, 2000; Laireiter & Baumann, 1992).

1.2 Social Support: Function and Quality of Social Relationships

Social support in the narrow sense has been defined in various ways. For example, it may be regarded as resources provided by others, as coping assistance or as an exchange of resources. Several types of social support have been investigated, such as instrumental (e.g., assist with a problem), tangible (e.g., donate goods), informational (e.g., give advice), and emotional (e.g., give reassurance), among others. Rook (1990) contends that health and well-being are not merely the result of actual support provision, but are the consequence of participation in a meaningful social context. Receiving support gives meaning to individuals' lives by virtue of motivating them to give in return, to feel obligated, and to be attached to their ties. Rook uses the term companionship to refer to such a harmonious network of mutual support and obligation. Being embedded in a positive social world might be more powerful than receiving help.

The most common distinction made is the one between perceived available support and support actually received. The former may pertain to anticipating help in time of need, and the latter to help provided within a given time period. The former is often prospective, the latter always retrospective. This is an essential distinction because these two constructs need not necessarily have much in common. They can be closely related in some studies, but in others they may be unrelated, depending on wording and context (Newcomb, 1990). Expecting support in the future appears to be a stable personality trait (Sarason, Levine, Basham, & Sarason, 1983) that is intertwined with optimism, whereas support provided in the past is based on actual circumstances. To which degree this distinction emerges empirically also depends on the amount of specificity in the item wordings. The more diffuse and general the questions are, the more the responses may be influenced by the respondents' personality characteristics.

The Assessment of Social Support

There are a multitude of psychometric tools available to assess support (for an overview, see Cohen et al., 2000). Items from the Berlin Social Support Scales (BSSS; Schwarzer & Schulz, 2000) serve to illustrate the multiple dimensions of social support (the complete inventory is available at www.coping.de).

Table 1 presents sample items for perceived available emotional support. We have chosen a wording that refers to the present, not the future, in order to reduce the confounding of perceived support and optimism. It represents a general subjective

assessment without specifying a particular time period. Examples for perceived available instrumental support are given in Table 2. Again, there is low specificity, such as running errands, lending money, taking the dog out for a walk, etc. Depending on the extent of discriminant validity desired, one can create more specific scales for emotional and instrumental support; however, this prevents the production of a joint sum score of both scales.

Table 1. *Perceived Available Support (Emotional)*

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1. There are some people who truly like me.
 2. Whenever I am not feeling well, other people show me that they are fond of me.
 3. Whenever I am sad, there are people who cheer me up.
 4. There is always someone there for me when I need comforting.
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Table 2. *Perceived Available Support (Instrumental)*

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1. I know some people upon whom I can always rely.
 2. When I am worried, there is someone who helps me.
 3. There are people who offer me help when I need it.
 4. When everything becomes too much for me to handle, others are there to help me.
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The main feature of the scale for support actually received (see Table 3) lies in the specification of a past time period. In this particular case, the instrument was used with cancer surgery patients, and the time window was defined as one week. Moreover, in this scale emotional, instrumental, and informational support are distinguished. Intercorrelations among the three subscales typically range between .30 and .60, depending on the context. Correlations of these three subscales with the two perceived support scales range between .15 and .49 in the cancer surgery research project. These relationships attest to the convergent and discriminant validity of the inventories.

Table 3. *Support Actually Received*

Think about the person who is closest to you, such as your spouse, partner, child, friend, and so on. How did this person react to you **during the last week**?

1. This person showed me that he/she loves and accepts me. (EMO)

2. This person suggested activities that might distract me. (INF)
3. This person comforted me when I was feeling bad. (EMO)
4. This person took care of many things for me. (INST)

Note: EMO = emotional support, INST = instrumental support, INF = informational support

Some measures of received support also consider the particular *source* that has provided help in a specific situation, such as spouse, friend, or colleague. In a study on the multidimensional nature of received social support in gay men (Schwarzer, Dunkel-Schetter, & Kemeny, 1994), the UCLA Social Support Inventory was used to examine to what degree partners, friends, family, and organizations provided assistance, gave advice, were reassuring, or listened empathically. The design of such an instrument is displayed in Figure 1. The four sources were incorporated within each kind of support. There were 16 items, four of which measured giving advice, tangible assistance, reassurance, and listening. Thus, each individual statement referred to one source and one kind of support. However, it is not necessary to design instruments in a source-specific manner. One can simply spell out in the instructions preceding a scale which source the respondent should have in mind.

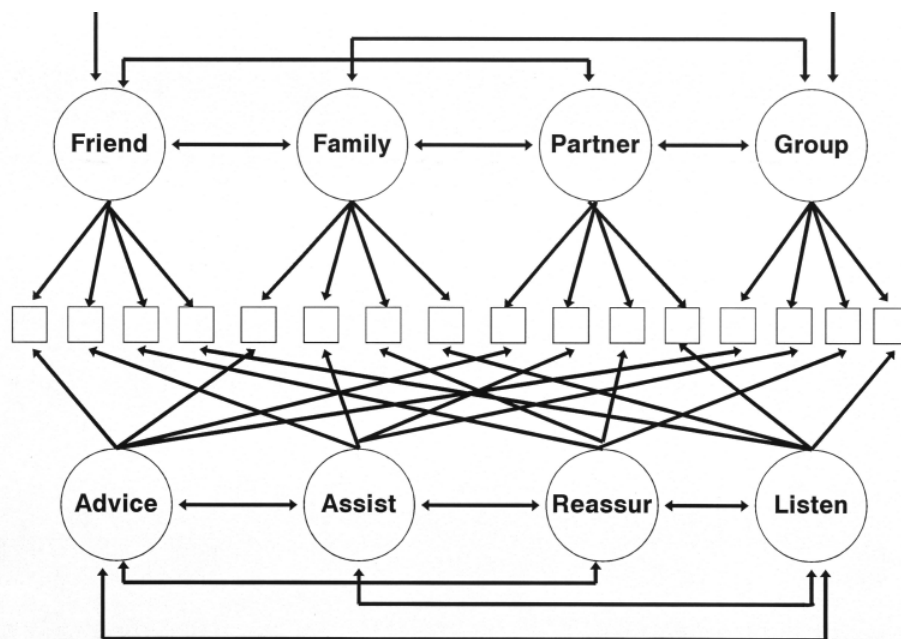


Figure 1. Sources and kinds of support (Schwarzer, Dunkel-Schetter, & Kemeny, 1994). (Advice = Giving Advice, Assist = Tangible Assistance, Reassur = Reassurance, Listen = Listening).

To get the full picture of how an individual's social situation is characterized, it is valuable to know about one's *need for support*. Some people feel better when they can master challenges alone, without help from others, and resort to outside assistance only in the worst case. Others feel more dependent and express a stronger need for support (see Table 4). Need is positively associated with received support (about .30).

Table 4. *Need for Support*

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1. When I am down, I need someone who boosts my spirits.
 2. It is important for me always to have someone who listens to me.
 3. Before making any important decisions, I absolutely need a second opinion.
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1.3 Who Receives How Much Social Support?

The need for support, its mobilization, perception, and receipt, differ systematically between populations. In addition to characteristics of life circumstances and stress situations, there are differences in gender, marital status, and age. Gender differences in social networks and social support have been discussed by various authors (e.g., Greenglass, 1982). Throughout the life cycle, women generally have more close friends than men. Commencing in childhood, girls tend to develop more intimate interpersonal relationships than boys, although boys tend to gang together in larger groups. Adult women still have a greater number of close relationships and also seemingly more extensive social networks than men (Laireiter & Baumann, 1992). Additionally, women provide more emotional support to both men and women, and they get more help in return (Klauer & Winkeler, 2002). Explanations for such discrepancies typically focus on gender differences in emotionality and emotional expressiveness. Women emphasize intimacy and self-disclosure in their friendships, and they are generally more empathetic, expressive, and disclosing than men. In short, women seem to devote more of themselves to their family and friends than men do.

Individuals who are socially well-integrated receive more support than others. Having an intimate partner is regarded as the best source of support. However, various circumstances can qualify such effects. In our cancer surgery study, living without a partner was associated with receiving less emotional support, but this outcome was observed in “younger” patients only (below 59 years of age). Figure 2 displays emotional support received by 153 patients one month (T3) after surgery. Being single, divorced, or widowed is particularly unfortunate for younger patients who, as a consequence, do not receive as much support as the older patients. Younger cancer patients without an intimate partner lack emotional support, whereas older ones seem to be able to compensate for the absence of an intimate partner. If a younger (i.e., middle-aged) patient experiences divorce or widowhood, or was single in the first place, a social deficiency may emerge that is harder to compensate. Older individuals, in contrast, may have developed other social bonds that provide emotional support.

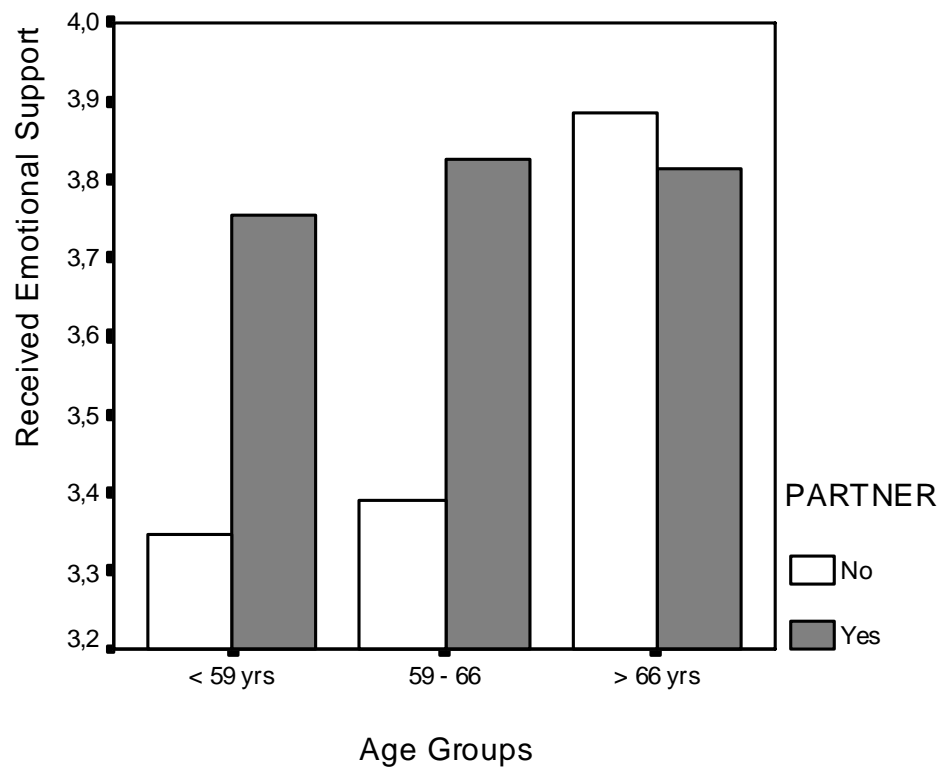


Figure 2. Younger cancer patients lack emotional support when they do not have an intimate partner (Schwarzer, Förster, Schulz, & Taubert, 2001).

2. Social Integration, Social Support, and Longevity: Who Dies Prematurely?

Community-based prospective epidemiological studies have documented a link between lack of social integration on the one hand and morbidity/mortality on the other. Socially isolated people are at the highest risk for a variety of diseases and fatal health outcomes. Social integration, or the lack of it, can influence the onset, progression, and recovery from illness. This relationship has been shown for diverse physical health problems, such as the common cold, cancer, HIV infection, cardiovascular diseases, and cardiovascular reactivity (Glynn, Christenfeld, & Gerin, 1999; Hemingway & Marmot, 1999; Weidner & Messina, 1995). Studies have found a link between social embeddedness and survival rate of patients who had experienced a myocardial infarct (MI). Male survivors of an acute MI who were socially isolated were more than twice as likely to die over a three-year period than those who were socially integrated. Diagnosis of coronary artery disease and subsequent death was also linked to marital status. Those who were single or without a confidant were more than three times as likely to die within five years, compared to those who had a close confidant or who were married.

Numerous investigations have documented that social relationships constitute a buffer against premature death. A distinction can be made between large-scale epidemiological studies and life-event studies. *Life-event research* on social support and mortality comes primarily from two sources: after severe medical occurrences or procedures, and after conjugal loss. In *epidemiological studies* in which indicators of

social integration (e.g., marital status) were correlated with longevity, it was repeatedly found that the relative risk of dying within a given time period is higher for socially isolated than for socially integrated individuals (Berkman, Leo-Summers, & Horwitz, 1992). In the classic Alameda County Study, for example, the mortality risk of people with weak social integration is about twice as high than of those who are socially well-integrated (Berkman & Syme, 1979). Although the relative risk ratios sometimes appear to be impressive, the effect sizes of these findings are usually very small. In a meta-analysis on this topic, Schwarzer and Leppin (1989) estimated an effect size of $r = -.07$ between mortality and social integration. This estimate is a weighted average from 18 data sets based on a total of 10,735 individuals. Decomposing this parameter by gender yields $r = -.06$ for women and $r = -.08$ for men. Only the latter value is homogeneous enough to be interpreted as a reliable meta-analytic result (Schwarzer & Leppin, 1992).

Hemingway and Marmot (1999) distinguish between two kinds of epidemiological studies: prospective etiological investigations in healthy samples and prognostic studies in patient samples. In a review, they found that five out of eight prospective studies documented an effect of social integration on coronary heart disease. Moreover, they found that nine out of ten prognostic studies confirmed evidence for a link between social integration and coronary heart disease.

Studies including age differences and cohort differences also account for the fact that the evolution of most diseases involves long-term pathological processes, and that the provision or lack of social support can have both short-term and long-term consequences. Changes in the availability and the subjective importance of presence or absence of different social ties (e.g., partnership, kinship, organizational embeddedness) over the life-span may go along with changes in their potential protective or detrimental effects. People have a history of social integration and embeddedness and support experience. Loss of intimate partners may be followed by new relationships, social networks may change in size and composition, in meaning and support potential, depending on the specific life context of a person (for example, see Tucker, Schwartz, Clark, & Friedman, 1999).

In the Terman Life-Cycle Study, Tucker et al. (1999) examined the relationship between social ties and mortality in 697 men and 544 women at four assessment points over a period of 51 years (1940–1991). They found that men who were married the whole time had a significantly lower mortality risk compared to those who were separated, divorced, or widowed, or who had remarried (see Figure 3). For women, no such effect of marital status emerged. Instead, their mortality risk was lower when they had a greater number of children and belonged to more organizations. However, when conducting separate analyses for two different age groups, namely those younger than 70 years versus those 70 and older, the authors found a protective effect of organizational memberships for the younger group of men, but not for the older group. Also, as they passed the age of 70, remarried men no longer had a higher risk of dying than those who were consistently married. For women, the beneficial effects of having more children was found only for those 70 years and older, but not for the younger ones. With respect to organizational memberships, women showed an opposite age-related change compared to men: For women, these particular social ties exerted their beneficial influence only in the later life period. In sum, these results suggest that lack of social ties other than marriage becomes a stronger predictor of mortality as people age, and that effects are different for men and women. One possible explanation is that age differences and gender differences are due to changing social roles and norms.

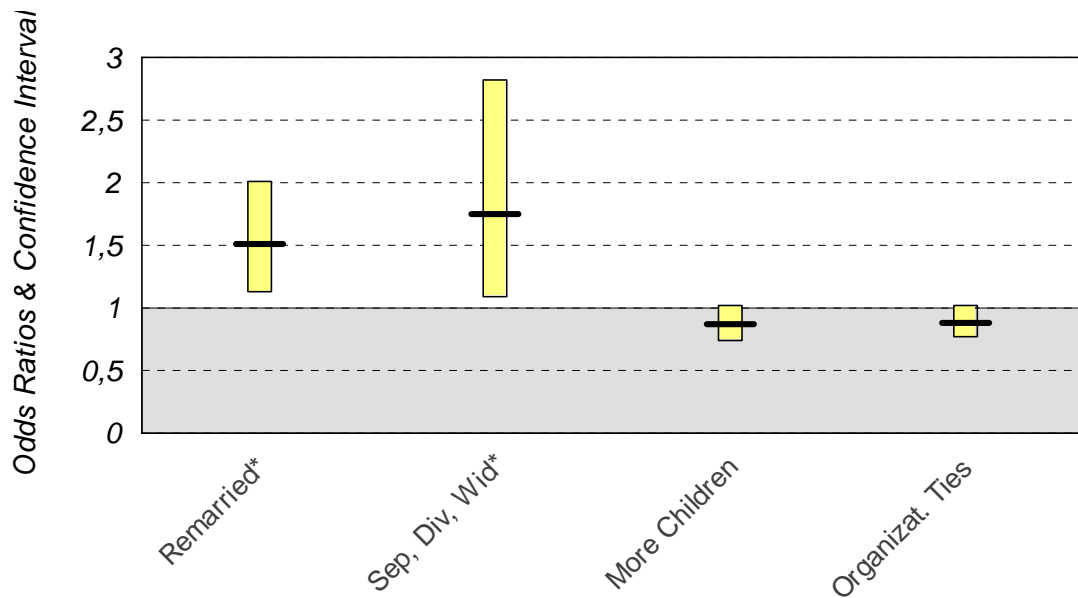


Figure 3. Men who were separated or divorced and widowers are at risk of premature death, even after remarriage (Tucker et al., 1999). The horizontal line represents the mortality risk of married men, set to the value of 1. The first bar on the left represents the remarried men with a mortality risk of 1.5, the second bar that of separated, divorced, or widowed men (1.75), and the third and fourth bars men with more children or organizational ties that seemingly decrease the mortality risk (but not significantly). All four odds ratios are surrounded by their confidence intervals. (Sep = Separated, Div = Divorced, Wid = Widowed, Organizat. Ties = Organizational Ties) (* Confidence interval excludes 1, i.e., the difference is significant, $p < .05$).

In another longitudinal study examining the impact of social integration on mortality in a 15-year follow-up design, Shye, Mullooly, Freeborn, and Pope (1995) found that among the elderly (aged 70-90), network size was more predictive of mortality than marriage. Interestingly, in this sample men seemed to gain direct protection through smaller networks than women. Here, also, it remains unclear which internal processes mediate this protective effect. Men might derive a stronger sense of social integration and belonging even from few social ties, whereas, in this age group, women's costs and investments in close ties are higher, thus leading to a greater need for more external support. Whatever the mediating links may be, these results provide strong evidence for the notion that embeddedness in social networks and social participation means something different for older men compared to older women.

2.1 Survival Rates in Sick Populations

Having a close confidant has an effect on life or death of patients. Williams et al. (1992) examined 1,965 patients following an angioplasty. The presence or absence of a confidant or spouse appeared to be the best predictor of time until death, after controlling for other factors, such as family history of heart disease and cigarette smoking. Berkman et al. (1992) found that myocardial infarction (MI) patients with low levels of social support were more likely to die than those with high support, even after accounting for other factors, such as severity of disease. A ten-year follow-up study of MI patients found lower survival rates in unmarried patients. This positive effect of social integra-

tion seems to be stronger for men than for women (Chandra, Szklo, Goldberg, & Tonascia, 1983). Poor social integration is associated with an increased risk for myocardial infarction. Also, women with few confidants have been found to be at an even greater risk for myocardial infarcts than men (Collijn, Appels, & Nijhuis, 1995).

Several major studies have found a link between social integration and survival rate of patients who had experienced MI. Ruberman, Weinblatt, Goldberg, and Chaudhary (1984) studied men who had survived an acute MI and found that cardiac patients who were socially isolated were more than twice as likely to die over a three-year period than those who were socially integrated. A Swedish study of cardiac patients revealed that those who were socially isolated had a three times higher ten-year mortality rate than those who were socially integrated (Orth-Gomér, Undén, & Edwards, 1988). Diagnosis of coronary artery disease and subsequent death was linked to marital status. Patients who were single or without a confidant were more than three times as likely to die within five years compared to those who had a close confidant or who were married. Another study of 40,820 patients investigated the effect of marital status on patient outcome (Gordon & Rosenthal, 1995). Here, unmarried surgical patients had a higher risk of dying while in the hospital than those who were married, even after controlling for other factors, such as severity of illness. The risk was even higher for patients who had never been married, compared to patients who were widowed, separated, or divorced.

In another prospective study on MI patients, it was found that mortality rates within a six-month period were related to the social support these patients reported (Berkman et al., 1992). The authors identified the number of persons providing major sources of emotional support, distinguishing between patients with one, two, and more from those with two such sources. There was a consistent pattern of death rates, the highest of which was associated with social isolation, and the lowest of which pertained to two or more sources of emotional support, independent of age, gender, comorbidity, and severity of MI.

2.2 Loss and Bereavement

Conjugal loss has also been studied as a source of premature death. In general, marriage is regarded as beneficial for social functioning. Therefore, the loss of a spouse may signal the loss of one's social network, initiating an array of events with severe health consequences. Can the death of a spouse be so detrimental that it results in the premature death of the survivor? For decades, studies have addressed this question and found, on average, that the mortality risk for widows/widowers is increased, compared to those who do not experience this loss (for reviews, see Stroebe, Stroebe, & Hansson, 2000). The risk seems to be highest for men during the first six months of bereavement. There may be several reasons for this gender difference. Men typically have a smaller social network than women, so their loss has a more profound effect on their social ties (Weidner, 2000). Also, widowhood occurs at an older age for men than for women since men, on average, die earlier than their spouses due to age differences in couples and biological gender differences in longevity. As a result, the death of the spouse leaves a widower who is older and more in need for support than a woman who was just widowed. Moreover, men usually confide in their spouse as their only intimate partner, whereas women cultivate a larger network of family members and friends and find it easier to turn to someone else in time of need. This higher social integration and support may buffer the stressful experience of losing their husbands (Miller & Wortman, 2002).

Traumatic grief has been shown to be a risk factor for mental and physical morbidity (Prigerson et al., 1997). When grieving widowers feel socially isolated, they may develop depression and loneliness, which in turn may lead to more severe consequences. For example, in the weeks and months following conjugal loss, the surviving spouse may be at substantial risk of committing suicide. Suicide following death of a spouse may be five times as likely in widowers compared to widows (Weidner, 2000). In other cases, their immune system or cardiovascular reactivity may be affected in the long run, resulting in illness and eventually in death. The mechanism of pathogenesis needs to be further explored. Not only death from all causes is higher in widowers, but also specific causes of death, such as suicide. Widowed individuals show impaired psychological and social functioning, including depression, and some studies report a significant decline in physical health, mainly for men. Frequency of sick days, use of ambulant physician services, and onset of illness according to medical diagnosis, seem to be about the same for the widowed and for controls (Ferraro, 1989). There is a lack of evidence that the onset of specific diseases such as cancer or coronary heart disease is triggered by conjugal loss or other forms of bereavement, which may be explained by the long time span of pathogenesis. For example, it takes many years to develop chronic degenerative diseases, and numerous additional factors may contribute synergistically to illnesses that emerge during this time period.

3. Social Support and the Onset and Course of Diseases

3.1 Social Support and Ill Health

Does stress cause illness? Individuals are confronted with a great number of taxing situations, for instance living in a noisy neighbourhood, experiencing difficulties at work, time pressure, problems with their partner, or financial constraints. This list might seem to be an arbitrary array of situations. In fact, probably not everyone would consider these situations as being stressful or of great personal importance. However, the cumulative exposure to a number of aggravating minor daily hassles over a long period of time may have detrimental effects on one's health. In contrast, there is no doubt about the significance of major life events and their potential impact on health. Extreme stressors can create both acute and prolonged psychological distress and ill health or even premature death (Schwarzer & Schulz, in press).

Most individuals who experience stress, however, do not become ill. Stressful life changes are usually temporary, whereas other risk factors for disease can be longer-lasting, for example smoking, alcohol consumption, a high-fat, low-fibre diet, and risky lifestyle in general. When comparing a single life event with those long-term behaviours, the latter seem to be more influential in developing illness. Moreover, experiencing a critical life event is related to coping and social support, whereby these two factors may moderate the stress/illness connection. How can we understand the mechanisms of the stress/illness association? The perception, availability, and activation of social support during a life crisis is a major moderator in successfully dealing with stress. A moderator (such as social support) is a variable that statistically interacts with a different factor (such as stress) in producing outcomes (such as illness). Intimate attachment, for example, may buffer the adverse effects of stress. Therefore, this mechanism has been called "buffer effect." In social support research, one always has to be aware of such buffer effects that may emerge instead of or on top of the more

frequent main effects. Main effects refer to the generally positive influence of helpful social interactions on health and well-being.

Evidence for the importance of support as a predictor of negative affect and health complaints after a stressful life event comes from a study on East German migrants (Knoll & Schwarzer, 2002). Women who reported the highest social support also reported the fewest health complaints, an effect that could not be replicated for men in this study.

Social support was examined in relation to gender and age among East German migrants in a two-year follow-up study initiated shortly before the fall of the Berlin Wall. Longitudinal data were collected starting in September 1989. The second and third waves were conducted during the autumn of 1990 and one year later. A total of 126 men and 109 women between the ages of 14 and 66 years participated in all three waves. Young women reported receiving the highest social support, whereas middle-aged and older women indicated relatively low levels of support. Men of all ages reported similar levels of social support. Social support increased for both men and women during the follow-up period. The experience of migration at a time of macrosocial crisis and political ambiguity was clearly stressful for migrants, who needed to draw upon all possible resources, including their social networks (Schwarzer, Jerusalem, & Hahn, 1994; Schwarzer & Leppin, 1992). The nature of this experience makes it likely that study participants would manifest physical symptoms and impaired quality of life.

Social support predicted negative affect (depression and anxiety) and health complaints. Figure 4 displays levels of ill health for women only. Women receiving a small amount of social support had more health complaints than women receiving more support. Within the group of poorly supported women, those who were the oldest (above 45 years of age) were the worst off. Women who reported the most social support (younger women) also had the lowest levels of negative affect and health complaints. Interestingly, for men the level of social support did not seem to affect the amount of health complaints. Men reported comparatively low levels of negative affect, and those who were older than 45 years indicated strikingly low levels of health complaints. Analyses predicting health complaints and depression by gender, age, and social support showed that women reporting low social support had the highest levels of depression and health complaints, whereas the social support levels of men were unrelated to their depression and health complaints.

According to anecdotal information obtained during the interviews, three typical profiles appear to characterize women in this study. One was the prototype of a healthy young woman who left the East, either bringing along or immediately finding new sources of social support. Another prototypical woman was older and arrived in the West without having any support available. The third was the married middle-aged woman who involuntarily moved with her husband to the West. The latter two prototypes appeared to be more at risk for anxiety, depression, and illness.

Only one pattern of results seems to stand out for the men in this study: Regardless of age, they did not seem to be affected by the amount of social support they received, and they appeared to cope fairly well with the situation at hand. Their levels of reported illness, depression, and anxiety remained comparatively low.

These results confirm the value of examining the relationships between stress, social support, and health in conjunction with demographic factors, such as gender and age. Because morbidity increases as people get older, age and life stage need to be considered closely in studies on social support.

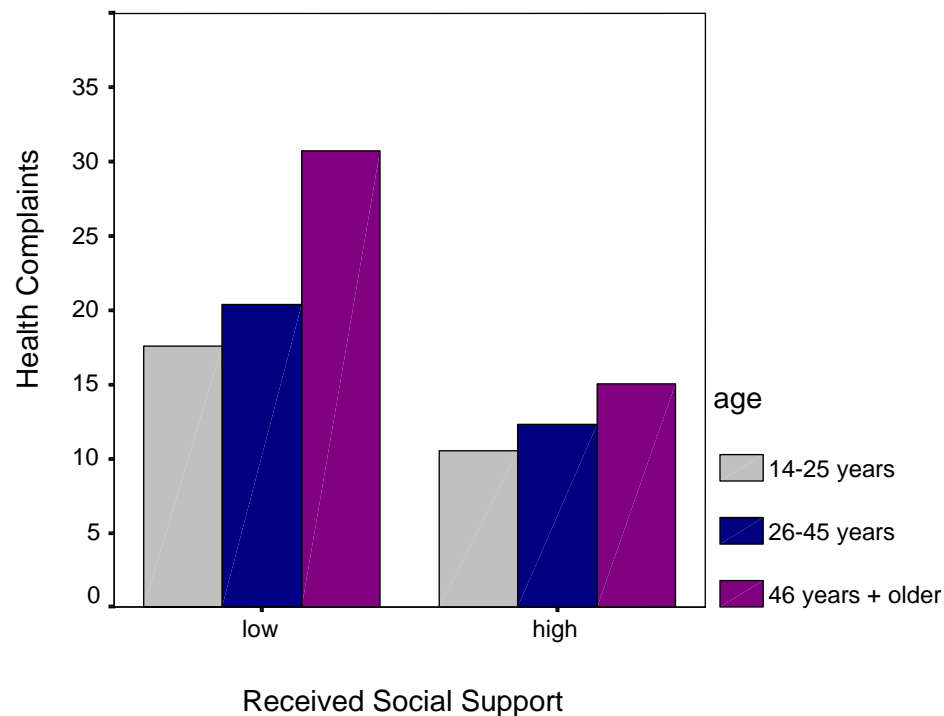


Figure 4. Poorly supported middle-aged women feel ill (Knoll & Schwarzer, 2002).

3.2 Recovery From Myocardial Infarction or Cardiac Surgery

Studies among cardiac patients have found social support to be beneficial for recovery from surgery. Some researchers have focused on the mere existence of social networks, whereas others have examined perceived or actually received social support. Kulik and Mahler (1989), for example, studied men who underwent coronary artery bypass graft surgery. Those whose spouses visited them often in the hospital were, on average, released earlier than those who received few visits. In a longitudinal study, the same authors also found that emotional support from spouses had positive effects on patients after surgery (Kulik & Mahler, 1993). Other researchers obtained similar results (Fontana, Kerns, Rosenberg, & Colonese, 1989). King, Reis, Porter, and Norsen (1993) found that perceived availability of support was associated with emotional and functional outcomes up to a year following coronary artery surgery. In particular, esteem support (that one is respected and valued by others) appeared to be related to improved health outcomes over the follow-up period. Thus, some types of social support are better than others when matched to the situation at hand. Emotional and esteem support, more so if extended from women to men, may be beneficial because it instills optimistic self-beliefs and equips the patient with more hardiness to cope with barriers and setbacks.

Marital status and recurrent cardiac events were linked in a study by Case, Moss, Case, McDermott, and Eberly (1992), who identified a higher risk of cardiac deaths and nonfatal infarctions among people who lived alone.

Close network members of cardiac patients make a difference in how patients adjust to their disease, depending on their interaction with each other (Bodenmann, 1997; Coyne & Smith, 1991). Marital satisfaction was related to patients' well-being in a study by Waltz (1986). Helgeson (1993) found that patients' perceived availability of information support was a good predictor of recovery. Negative marital interaction predicted poor adjustment, and spousal disclosure predicted patients' life satisfaction.

Within a longitudinal design, 174 patients undergoing coronary artery bypass graft surgery were surveyed before the event (Time 1) and were interviewed one week afterwards (Time 2) (Schröder, Schwarzer, & Konertz, 1998). Presurgical social resources were examined together with social and ruminative ways of coping in terms of a variety of recovery outcomes. Worry, emotional states, mental activity, and physical activity were chosen as indicators of recovery. It was found that social resources predicted recovery.

Having a partner was associated with more reading at Day 1 and Day 2 after surgery (Figure 5). Patients also wash themselves earlier, ambulate, do fitness exercises, etc., if they are socially integrated. Moreover, coping mediated presurgery resources and postsurgery readjustment. Seeking social support emerged as an adaptive way of coping. It was positively associated with recovery indicators, whereas rumination was negatively associated with both resources and outcomes.

In addition, 114 social network members, mostly spouses, reported about their own perceived resources at Time 1 (Schröder, Schwarzer, & Endler, 1997). The patient-spouse dyad was chosen as the unit of analysis. It turned out that characteristics of spouses were related to those of patients. Recovery from surgery at Time 2 and readjustment to normal life after half a year (Time 3) could be partly predicted by spouses' social support as measured at Time 1. Resourceful spouses seemed to transfer their resilient personality to the patients as part of a dyadic coping process.

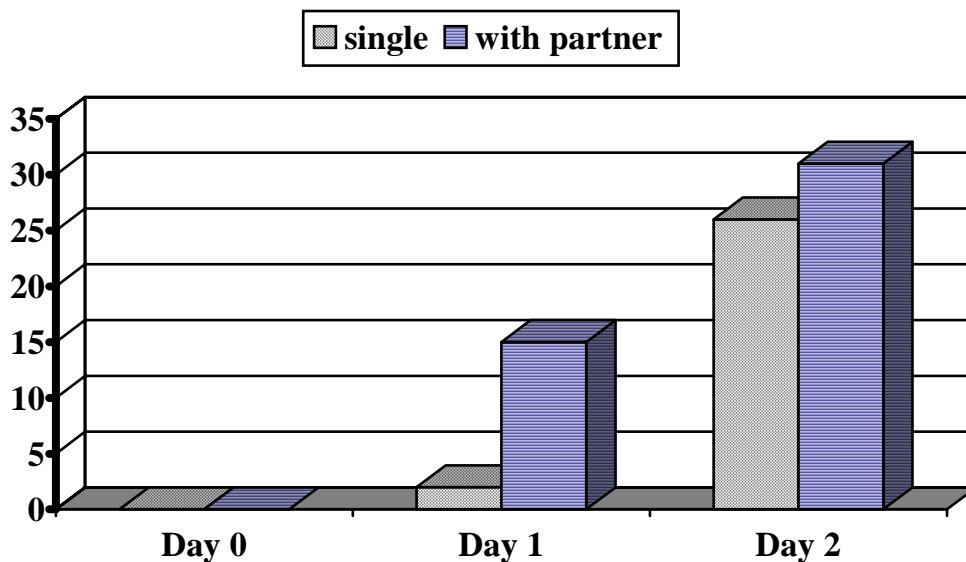


Figure 5. Cardiac patients with a partner recover earlier after surgery (Schröder et al., 1997).

3.3 How Does Social Support Influence the Onset and Progression of Illness?

Although much evidence has demonstrated that psychosocial factors play an important role in the aetiology and prognosis of cardiovascular diseases, comparatively little is known about the actual pathways by which these factors influence the onset or progression of specific pathological mechanisms. It is obviously not the mere presence of social network members that results in better physical functioning. Also, the effect of functional support or lack of it is mediated by internal processes (e.g., emotions, affective states, control beliefs) that follow the individual's perception of supportive acts. In general, associations between social support and health can be due to *direct* or *indirect* effects of social support, and these in turn can be beneficial or detrimental. Direct effects refer to social factors being related to health-related outcomes without being further mediated by other variables. Indirect effects, however, involve a third variable that mediates between the predictor and the health outcome. Consider the following example: Elderly patients are supported by their spouses in taking their medication regularly. The medication, in turn, alleviates the illness. Thus, taking medication represents the mediator, and social support improves health indirectly through this mediator. Also, it has been postulated that social support might reveal its beneficial effect on health only in times of distress, insofar as it serves as a buffer to the negative impact of stressful events that people encounter. This moderating impact is known as the so-called *stress-buffering effect* (Schwarzer & Leppin, 1991). Moreover, physiological, behavioural and psychological mechanisms have been discussed as potential pathways linking both functional and structural support to illness and subsequent mortality.

Among the multiple *physiological pathways* linking social support to health outcomes and the progression of illness, the focus has been on the cardiovascular, immune, and neuroendocrine systems. Loss and bereavement, for instance, are followed by immune depression, which may compromise natural killer cell activity and cellular immunity (Herbert & Cohen, 1993; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). This, in turn, reduces overall host resistance, so that the individual becomes more susceptible to a variety of diseases, including infections and cancer. The quality of social relationships, for example marital quality, has been found to be a predictor of immune functioning. Social stress, in general, tends to suppress immune functioning (Herbert & Cohen, 1993). Acute changes in neuroendocrine secretion may also be linked to increased cardiovascular reactivity and physiological arousal, which are regarded as antecedents of severe cardiac events. In a study by Seeman, Berkman, Blazer, and Rowe (1994), for instance, emotional support was associated with increased urinary levels of epinephrine, norepinephrine, and cortisol in a sample of elderly people. The link with emotional support was stronger than the link with instrumental support or with mere social integration. In a review of 81 studies relating social support to physiological processes, Uchino et al. (1996) concluded that there is reliable evidence for the beneficial effects of social support on aspects of the cardiovascular as well as the neuroendocrine and the immune systems.

The *behavioural pathway* has been suggested by studies showing that social networks stimulated health behaviours that prevented the onset of illness, slowed its progression, or influenced the recovery process. For example, abstinence after smoking cessation was facilitated by social support (Murray, Johnston, Dolce, Lee, & O'Hara, 1995). Alcohol consumption was lower in socially embedded persons (Berkman &

Breslow, 1983), although other studies have found that social reference groups can trigger more risky behaviours, including alcohol consumption (Schwarzer, Jerusalem, & Kleine, 1990). Physical exercise is one of those health behaviours that have a close link to social integration and social support. Perceived support by family and friends can help in developing the intention to exercise, as well as initiating the behaviour (Fuchs, 1997). Long-term participation in exercise programmes or the maintenance of self-directed exercise is probably more strongly determined by actual instrumental support than by perceived and informational support. Duncan and McAuley (1993) have found that social support indirectly influences exercise behaviours by improving one's self-efficacy. The latter might be an important mediator in this process. The reason could be that not only a sense of belonging and intimacy is perceived as supportive, but also the verbal persuasion that one is competent or the social modelling of competent behaviours.

There are also *psychological pathways*. It has been shown that social support is closely linked to a variety of other processes, including feelings of distress, depression, loneliness, and other emotional states. These can operate as protective or risk factors for pathophysiological processes as well as recovery processes in their own right. Moreover, they might mediate the support/health association. So far, not many studies have directly tested the mediating role of these variables. Some find that the effects of social support are independent from other psychological processes. For example, in three of the studies included in the meta-analytic review by Uchino et al. (1996), depression, anxiety, and reported life stress did not mediate the association between social support and immune function.

In sum, our understanding of the processes that mediate the influence of social support on people's physical condition is still limited. There is evidence for direct, indirect, and stress-buffering effects with various facets of the social network and functional support operating through a variety of psychological, physiological and behavioural mechanisms that contribute jointly to the long-term evolution of diseases involving the cardiovascular system as well as to the recovery of patients. Preliminary conclusions suggest that for health behaviour changes and their maintenance over time, instrumental support and social embeddedness are crucial, whereas the impact of emotional support on ill health is mostly mediated by neuroendocrine and immune processes.

4. Mobilization of Support as a Way of Coping With Stress

Social support theories are intertwined with the concepts of *stress and coping*. The cognitive appraisal of stress, for example, depends partly on the perceived availability of social resources. Moreover, the mobilization of support can be understood as a coping strategy. Table 5 contains sample items from the support-seeking subscale of the BSSS (Schwarzer & Schulz, 2000). It pertains to an individual's preference to request help from others in times of need. Such support mobilization is considered an active and mostly adaptive coping strategy. It is not directly part of the set of social support constructs, but it belongs to the conceptual category of coping. Empirically, it is associated with the amount of support receipt at a subsequent stage of a stress episode.

Table 5. *Support Seeking/Mobilization*

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1. In critical situations, I prefer to ask others for their advice.
 2. Whenever I am down, I look for someone to cheer me up again.
 3. When I am worried, I reach out to someone to talk to.
 4. If I do not know how to handle a situation, I ask others what they would do.
 5. Whenever I need help, I ask for it.
-

The study of social relationships requires a conceptual framework that includes activities of the recipient and the provider—although these two common terms are misleading since support is usually not a one-way street. People are embedded in a close network of mutual aid and obligation. These two terms are used for analytic purposes only. Figure 6 assumes that recipients enter a stress episode with a habitual level of perceived support, meaning that they anticipate receiving a certain amount of assistance in times of need. At the beginning of the stress experience, they will feel a need for support. As a result, they start coping, which includes active seeking and mobilization of support by implicitly expressing their need or by explicitly calling friends for help. Then, the provider will comfort the person in need, give advice, or donate goods. This, in turn, will be considered as received support on the part of the recipient. A fine-grained analysis of such processes requires qualitative research and case studies. Notably, support seeking is not always associated with better health outcomes.

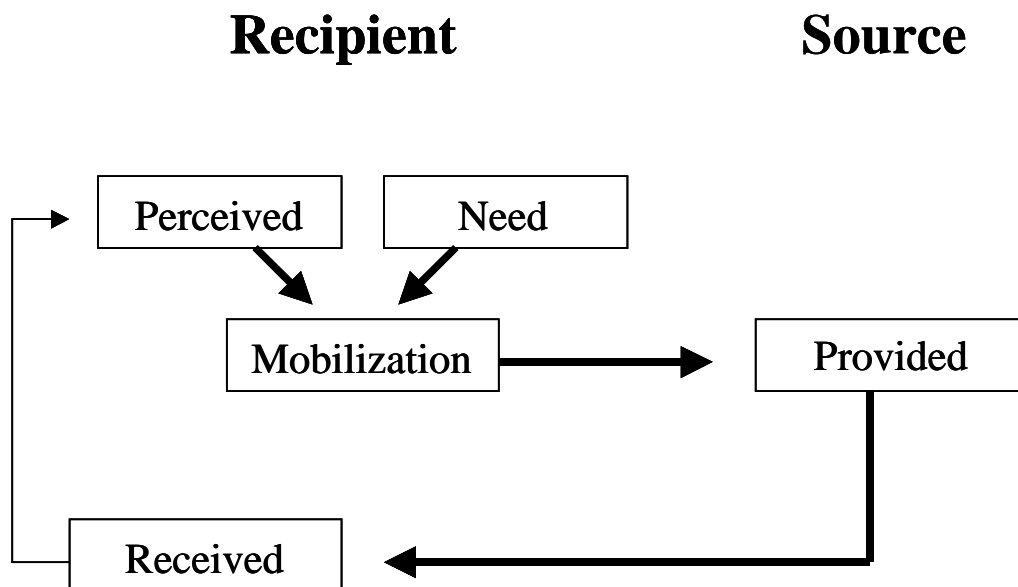


Figure 6. The Support Interaction Process: Recipients enter a stress episode with a habitual level of perceived support. At the beginning of a stress experience, they may feel a need for support and thus might start mobilizing support. Ideally, a provider will then comfort the person in need, give advice, or donate goods. This, in turn, will be considered as received support on the part of the recipient.

Aldwin and Yancura (in press) point out that social support conceptualised as social integration (e.g., Berkman & Syme, 1994) or social disclosure (Smythe, 1998) is almost always associated with better mental and physical outcomes. On the other hand, seeking social support or support utilization, as it is sometimes called, is often associated with poorer outcomes. Monroe and Steiner (1986) maintain that both perception and utilization of support may represent more proximal associations with personality traits than do network size and support quality components. They too mention that measures based on support perception versus support utilization yield discrepant outcomes in relation to psychological symptoms. In that high perceived support is associated with few psychological symptoms, high support utilization predicts greater levels of symptoms. This might be explained by the fact that stress increases both distress and support utilization. Monroe and Steiner (1986) also point to the possibility that support seeking might bring about a host of consequences, ranging from helpful interactions through disappointment to conflict and rejection. They underscore that at this level personality might determine in part under which circumstances the individual requests support (thus the probability of receiving support) or who and how the individual asks for support.

Conclusion

Engaging in social interaction, be it on the providing or receiving end, emerges as a very complex concept that researchers only recently have started to disentangle. A promising first step seems to be the now often-applied differentiation between social network and social support as well as different subcategories of the latter. The mechanisms by which support concepts seem to act on health and ultimately longevity are also manifold. This chapter reviewed work showing that social relationships may both encourage and disrupt a healthy lifestyle. Support concepts were also shown to influence the human immune system in both positive and negative ways. Social support was furthermore related to lower perceived stress levels and thus to the mastery of taxing situations.

The puzzle on how social interactions may help to improve our health or even prolong our life expectancy is likely to remain complex. Various types of support (e.g., emotional, instrumental) may exert their impact on health and lifetime prolonging factors via a number of behavioural and cognitive mediators that are closely linked to immune functions and cardiovascular reactivity.

A close examination of these mediating mechanisms will advance our understanding of desirable and undesirable aspects of support and help explain individual differences in the ability to benefit from it in terms of physical health. The rapid development of research in this field already promises the unearthing of several crucial pieces of this puzzle in the near future.

Discussion Points

1. What is the difference between "social integration" and "social support"?
2. Who receives more support, women or men?
How is this gender difference in network size, support provision, and receipt usually explained?
During which part of the life span does this gender gap in support manifest itself?
3. Are there any "dark sides" to social support and social embeddedness?
4. Which aspect of social embeddedness is associated with
 - surviving a life-threatening illness?
 - longevity following bereavement (especially for men)?
 - How are these associations usually explained?
5. What are the differences between the direct-effect hypothesis and the buffering hypothesis of social support?
What might be ideal study designs to test these hypotheses?
6. Is the differentiation between several aspects of social interaction/support useful?
Which are the costs and benefits of a differentiated approach to measuring social interaction/support?
7. Is being single a health risk? Does this change as people grow older?
8. What are some of the possible health-related consequences of widowhood?
Who seems to be more affected by the loss of a partner, women or men? Why?
9. What is the typical range of intercorrelations between emotional, informational, and instrumental support?
10. What are some major methodological drawbacks in studies on social support and its correlates?

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