Chapter 1: Social Support: The Concept and a Review of the Early Literature.

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Aims of the Chapter

This chapter describes the development and history of social support, drawing on literature from social relationships in early life and animal studies. Today, social support is a complex, often poorly defined term that encompasses many conceptualisations and approaches to investigation. A description of the main definitions and measurements, along with their relative merits and shortcomings, will be provided.

The present approach to the study of social support will be discussed comprehensively, and a detailed account of the measurement instrument used in many studies (the Interpersonal Support Evaluation List [ISEL]; Cohen and Hoberman, 1983), including its reliability and validity, will be provided. The application of this scale will also be discussed, and the rationale for its use will be made. Furthermore, two models of social support will be addressed: the buffering and main-effect models. Another section will examine some of the reasons for inconsistencies in the application of social support in health research. Finally, the approach to studying social support in research will be summarised.

History of the Concept

Some of the earliest references to social support can be traced back to the sociologist Durkheim in the Nineteenth Century (1951), who highlighted the importance of diminished social ties to family, community and church and the consequent dissolution of clear social roles and norms, leading to anomie and suicide. Durkheim found social-epidemiological data taken from several sources in countries where those groups that had the weakest ties had the highest suicide prevalence rates.

The psychological literature

The seeds for studying social support in psychology came from several sources. Three will be reviewed: early social relationships, animal studies, and clinical and epidemiological observations. Their relevance to our research will be made.

Early social relationships

Social relationships in early life are essential and constitute a significant area of study in developmental psychology. Bowlby's (1969) work highlights the significance of attachment to the primary caregiver in children, and Ainsworth (1979) further elaborated on this. At its most extreme, monkeys raised in isolation

exhibit difficulties with social interaction, mating, and parenting (Harlow, 1965). In humans, those who have been reared in institutions, in the absence of a primary caregiver, can show difficulty in forming regular attachments in later life, have poorer academic performance, and delinquency both as children and adults (Bowlby, 1969; Lamb, 1987).

Psychodynamic theories often attest to the view that psychological problems are the consequence of the social relationships of early childhood (primarily, but not exclusively, with parents and siblings). While Freudian and Neo-Freudian scholars would not contend that their work constitutes 'social support research', it is argued here that this interest in interpersonal relationships, although not explicitly termed social support, has helped shape the development of the concept.

Animal studies

Studies examining animal social relationships have been performed or cited as evidence of the importance of social support in humans for several reasons. First, experiments that are not possible, ethically or practically, with humans, such as total social isolation or severe overcrowding, may be performed using animals. Secondly, the animal researcher is allowed greater control over the subject's environment. It is possible to control for genetic properties. Especially in rats and mice, one would want to control genetic susceptibility to illness. Thirdly, outcome measures, such as parenting behaviours, sociability, disease progression, and mortality, can be more easily controlled, observed, and recorded relatively quickly. Indeed, animal models alone allow the controlled examination of disease susceptibility, progression, or mortality, as such studies would not be feasible or ethical in humans.

Animal studies have yielded mixed results when animals are isolated (Sklar & Anisman, 1981). While some evidence suggests that maternal deprivation accelerates tumour growth in an induced tumour (Ader & Friedman, 1965; Levine & Cohen, 1959), other studies show that tumour growth is inhibited (LaBara & White, 1971). In addition to evidence from studies on early rearing experiences, Sklar & Anisman (1980) reported that animals housed individually, with no contact with conspecifics, exhibit enhanced disease progression.

Despite the popularity of animal studies cited as evidence for the role of social relationships in health, such work has several shortcomings. When crude attempts are made to manipulate the natural environment through either early experience or social isolation, there is no way to establish this. Increases in disease susceptibility, where demonstrated, stem from the reaction to the disruption. An alternative hypothesis is that it occurs because of behavioural changes accompanying disruption, such as increased or decreased activity, alteration to regular feeding and drinking patterns, and changes in mating behaviour. Amkraut and Solomon (1972) report that when animals reared in isolation are transferred to communal living, there is an increase in fighting and resistance to the Moloney-murine sarcoma virus. It has been suggested (Stolk, Conner, Levine, and

Barhas, 1974) that some of the neurochemical and ulcerogenic consequences of 'stress' may be prevented by fighting. Therefore, these behavioural factors may directly affect susceptibility to illness, thereby overriding any 'distress' component of susceptibility.

However, a significant limitation of citing animal studies is that, to demonstrate the importance of social support in humans, it is necessary to assume that animals have cognitive and emotional processes similar to those of humans. Lazarus (1966) highlights the importance of such processes in the appraisal of environmental demands (stress) and the organism's resources for meeting them. Indeed, stress occurs when current environmental demands exceed current coping resources. It is difficult to suggest that these processes occur in animals. While we do not argue that this is the case, the animal work is interesting in that it provides a dramatic example of how disruption to social relationships can influence disease susceptibility and offers a limited model in which to test a hypothesis that would not be ethical or indeed feasible in human subjects.

Human work

The work of Cassel (1976) and Cobb (1976) launched the multidisciplinary interest in the newly coined term 'social support'. From an epidemiological perspective, Cassel emphasised the social environment in general and the "presence of other members of the same species" as crucial in the host's susceptibility to environmental disease. His comprehensive review of the human and animal literature underscored the buffering effects of social support on stress, meaning that during periods of stress, social support reduces the distress associated with the stressor. Additionally, he recognised the need to strengthen the person's social support rather than attempting to reduce stress to prevent disease. Many community-based support programs, such as the Community Helpers Project (D'Augelli et al., 1981), have sought to do this at the neighbourhood level.

Cobb's (1976) interest in social support came from a clinical investigation into the role of life stress on disease outcomes. Cobb described social support as information that leads to one of three outcomes: the feeling that one is cared for, the belief that one is loved, esteemed, and valued, and the sense that one belongs to a reciprocal network. This work is essential as it suggests that social support may have different dimensions. Hence, these functions may not be equally necessary in reducing distress.

Life events: an example of disruption to social networks

Life events have been a significant focus of research among psychologists interested in health. The work of Holmes and Rahe (1967) implicated life events as a source of stress that could affect health. Subsequently, there has been considerable interest in their effect on health. Life events can, for the most part, be explained by disruptions to social support and support networks. According to Holmes and Rahe (1967), the most stressful event is the death of a spouse, scoring 100 (the maximum) Life Change Units (LCU). This is the most obvious example of network disruption, and other life events can likewise be explained in terms of

disruption to the social network. For example, when someone moves to another neighbourhood, there is likely to be a loss of support from neighbours and possibly from family. Other examples of disruption to the social network and social support functions include changes in employment and illness within the family. Events such as holidays and Christmas can be considered adverse life events if they lead to unresolved or underlying family conflicts. Several studies have used life event inventories to examine social support disruption (Cohen, Tyrell, and Smith, 1992; Williamson and Schultz, 1991).

The status of social support today

Social support is now a genuinely multidisciplinary subject. The area spans many disciplines, including anthropology, architecture, education, environmental studies, gerontology, social work, social policy and sociology. The focus will be on the psychological contribution to social support research. A literature review using Psychological Abstracts from 1974 to 1991 shows an increase in references to social support. There was a steady increase in the number of papers until 1981, followed by a substantial leap and subsequent significant increases during 1983 - 1988. However, it is notable that from 1989 to 1991, the number of publications declined. The next few years will indicate whether the decline in publications is a long-term or short-term trend. Social support has been shown to have a positive effect on a wide range of illnesses and mortality, and to promote positive and adaptive behaviours (Cohen and Syme 1985; Sarason et al. 1990). Yet a careful examination of the literature demonstrates a very loose definition and highly disparate conceptualisations, ranging from the existence of a primary partner to complex, multidimensional models.

Problems of Definition and Measurement of Social Support Approaches

One feature of the social support literature has been the growth and diversity of measurement instruments. This diversity in tools primarily reflects approaches to measuring social support, namely objective versus subjective support and sphere-specific (e.g., work environment) versus general support. However, Vaux (1988) reports that many early studies did not report the reliability or validity of the measures. In addition, many were developed "without the prerequisite theoretical and conceptual analysis, resulting in a plethora of idiosyncratic measures (often post hoc) exhibiting dubious relevance to unclear concepts" (Vaux & Harrison, 1985). Hence, any measure of social support must demonstrate adequate psychometric properties

Many measures have been developed for specific populations, so it isn't easy to determine whether they can be used with other groups or community samples. Similarly, instruments designed for student populations, often for convenience and cost considerations, may not apply to other healthy communities (e.g., middle-aged adults) or clinical populations. Most scales have originated in the Developed world. It is, in theory, problematic to suggest the extent to which they can be applied to the Developing World, or even from one developed country to another, for example, from the USA to a European country. Cross-cultural studies are needed to address these issues.

Another question is how social support questionnaires developed from community samples apply to subpopulations. Gay men and lesbians have different sources of social support, and it may be that traditional social networks and functional measures are not sensitive to these differences. Similarly, rural populations, older adults, low-income individuals, and ethnic minorities may have distinct support networks and needs. It may also be the case that the mechanisms by which social support influences health differ across these populations. For example, people in poverty may have a greater need for tangible or economic aid, which will help protect them from ill health. In contrast, students estranged from family and adolescent friendship networks may require social support to maintain health and psychological well-being.

Most measures are self-reports, provided via questionnaires or structured interviews, although other methods of measuring social support include observation and experimental designs. However, questionnaire or interview data are more cost-effective and administratively more straightforward to collect, allowing the researcher to focus on the cognitive aspects of social support rather than on behavioural observation, which is the focus of these alternative methodologies. Qualitative methods must be applied to the relationship between social support and well-being, and the relationship must be evaluated appropriately.

Many questions can be addressed in social support research. Tardy (1985) has outlined five main areas:

1. Direction: This issue concerns the support flow, whether given or received. Social support researchers will focus on the receipt of social support while providing aid, a domain of interest to psychologists studying prosocial behaviour.
2. Disposition: This issue concerns whether support is enacted or is available, whether it has been provided or is available when required.
3. Description: This refers to whether social support is described or evaluated in terms of the act or satisfaction.
4. Content refers to the nature of the supportive behaviour, such as tangible or emotional support.
5. Network refers to the social identity of the person providing or receiving the supportive behaviour.

There is considerable debate on the conceptualisation and measurement of social support, reflecting the diversity and multiplexity of the paths that research in this area has taken. The literature falls broadly into five main areas: social integration, social networks, intimate relationships, received/enacted support, and perceived support. This section will aim to define and describe the history of each approach. The measurement and limitations of each approach will be discussed.

Social Integration

Definition and history of social integration

Several attempts have examined the degree of social integration in terms of membership in particular organisations (church, charities, voluntary associations), marital status, and contact with friends and relatives.

Durkheim (1951) reported that the unmarried were at higher risk of suicide than the married, and this has since been replicated in numerous cross-sectional, retrospective and longitudinal studies (see House and Kahn 1985). There is also evidence that membership in voluntary organisations and in churches positively affects well-being (Berkman & Syme, 1979; Greenberg, 1976; House & Kahn, 1985).

Measurement of social integration

Some studies have indexed or summed social integration. In a series of studies, Berkman and Syme (1979) examined mortality rates among residents of Alameda County, California, using a stratified random sample. They found that mortality rates were higher among individuals with lower levels of social integration (a measure of marital status, contact with friends and relatives, participation in formal and informal organisations, and church membership, such as the number of connections or relationships). The Berkman and Syme results are impressive because they were observed in both males and females across all age groups and across all disease categories. Two other extensive, community-based studies (Blazer 1982; House, Robins and Metzner 1982) have also found that individuals with low levels of integration had at least twice the risk of mortality than those with high levels of integration. All three studies found that individuals with few or no social relationships were at high risk; however, increases beyond a moderate level of integration did not significantly improve life expectancy, suggesting that the absence of social relationships may have detrimental effects. The benefit of social support is not linear.

This application assesses whether sources of support are available to the individual; in many respects, it can be regarded as an 'objective' assessment. These instruments have good face validity and robust test-retest reliability (Donald & Ware, 1982). Because participants are required to respond to questions concerning objective measures of their social network, for example, marital status, belonging to a community group, or church membership, there is less likely to be difficulty in answering them, as they should be easy to understand, and not influenced by memory, mood or psychopathology, which is the chief criticism levelled at the subjective measurement of social support (see below).

From a theoretical perspective, the study of social integration is an important area of examination because, as House and Kahn (1985) point out, "relationships must exist in some quantity before they can have structure and a supportive content or function."

Limitations of the social integration perspective

One of the significant failings of the social integration approach is that it tells us little about the relative importance of the components of social integration, for example, friends, relatives, marital (or primary) partner, religious involvement or affiliation to organisations. It is unclear whether all components carry equal weight and whether certain combinations of social ties confer the same protective effects as others. For example, can alleviating social isolation be achieved by becoming involved in church activities and voluntary

organisations to the same extent as acquiring a primary partner? This question is essential for two reasons: first, because more sophisticated models of social integration may be constructed, and second, from a clinical perspective, so that more effective interventions may be developed. The social integration approach provides little insight into the quality of relationships. Marital status says little about the nature of the union and what functions the primary partner performs. Gove, Hughes, and Style (1983) suggest that the quality of the union is an essential predictor of well-being, not its simple presence.

Examining the existence of social relationships tells us nothing about the motivation for social integration. For example, people may attend religious organisations out of a sense of social obligation or status, or view membership of a trade organisation as primarily for employment rather than social purposes. While this approach indicates whether the individual belongs to an organisation and the number of meetings attended, it does not provide information on the content of conferences or the individual's relationships with other organisational members.

Some scales (Social Network Questionnaire; SNQ: Hirsch 1979; SSQ, Sarason, Levine, Basham, and Sarason 1983) place an upper limit (fifteen and nine, respectively) on the number of significant others that the individual may choose and also assume that social support networks consist of those people who the focal person has been in contact with during a set period, for example, during a two - three week period (SNO: Hirsch 1979). Yet this may not reflect what happens when somebody needs to enlist supportive behaviour; for example, a serious financial problem may require a loan from relatives who have not been contacted for several months. Similarly, advice may be sought for a specific problem from someone who has not been contacted for some time but has experienced a similar situation. Thus, those listed as being in the network and essential to the focal person may not be the primary sources of support; instead, they may be individuals with whom they are in frequent contact or with whom they are socially connected.

While social network scales claim to be more objective, they rely upon subjective factors; for example, some scales {SNI: Berkman and Syme 1979; SSQ, Sarason, Levine, Basham, and Sarason 1983) require the individual to respond to several questions on their friends, for example, how many friends they have and how many are seen at least once a month. However, the definition of a friend is not always made explicit so that definitions may vary across individuals, cultures, or subcultures. What one individual would call a friend, another may call an acquaintance. In addition, the SNI (Berkman & Syme, 1979) asks about friends and relatives as though the two are bipolar opposites. How can the respondent reply if they feel a relative is also a friend? It isn't easy to know what response criteria are used. It is plausible that friends with whom the focal person spends the most time, or with whom the focal person provides social companionship, are more easily identified than those who offer other functions, such as instrumental aid. As mentioned above, there is little relationship between social companionship and well-being (Cohen & Wills, 1985). Another subjective aspect

of the SNI (Berkman & Syme, 1979) is that respondents must indicate how many relatives they consider 'close'. Again, no definition is made of 'close, ' so respondents may work on very different cognitive models regarding what constitutes 'close. 'Clear instructions can overcome the problems highlighted above. Explicitly defining what the researchers delineate as the characteristics of a friend (or other categories of social network membership). This addition to measurement instruments would address participants' difficulties in using different cognitive schemata for response categories.

Given the conceptual problems with this approach, primarily due to the unsophisticated nature and crudeness of the measuring instruments, the robustness of the findings is remarkable. What is impressive is that from relatively simple, easy-to-administer assessments, three independent, prospective, large-scale community studies have indicated that levels of social integration are significant predictors of mortality across all disease groups.

Social Networks

Definition and history of social network approaches

This approach is, in many ways, systemic (focusing on the entire social network) and examines a broad range of social interactions. The examination of social networks is done on an individual basis. There are no a priori assumptions about which members are essential or which activities indicate high levels of connectedness, in contrast to the social integration method. The focus is on the social network, suggesting that the entire network should be examined rather than predefined individuals or groups. The relationships and interactions among all members of the social network are equally important to the focal person's role within it. This approach has its origins in anthropology and sociology. Although it remains widely used, it has not been extensively applied in psychology, except by Hirsch (1979) and Tolsadorf (1976). Israel (1982) and House and Kahn (1985) suggest that several network characteristics can be examined: 1. Size or range; 2. Density is the extent to which members are linked to each other; 3. Content (uniplexity against multiplexity or the extent to which relationships involve more than one type of content or interaction); 4. Directedness or reciprocity; 5. Durability: 6. Intensity or emotional closeness; 7. Frequency: 8. Dispersion: 9. Homogeneity is defined by sex, age, class, educational level, and ethnic origin. Not all of these characteristics are examined, and considerable debate exists over which are the most important determinants of well-being (Berkman, 1985).

Measurement of social networks

The significant advantage of this approach is that it focuses on the entire network rather than only the focal person's relationship to the structure. In addition, it attaches importance to the interconnectedness of other members of the network, that is, to who the friends and relatives of the friends and relatives are. The most frequently used methodology is unstructured interviewing and observation; these have advantages over

questionnaire-based approaches in terms of the range of questions that can be asked and the quality of the data collected. It isn't easy to imagine how questionnaires would elicit the rich data available to the interviewer or observer, thus allowing the individual's network to be mapped. Although many studies have examined the relationship between health and social relationships and have used the term social network (e.g., Berkman and Syme [1979]), they have reported social integration rather than social networks. The psychological literature has focused on the relationship between individuals and their social network members, while ignoring links between individuals within a single social unit (e.g., family, work groups, social organisations) or relationships between social units, as in other disciplines. This is mainly due to the cost and complexity of mapping social networks, which makes large-scale epidemiological or psychological studies examining the relationship between social network measures and health unlikely. As House and Kahn (1985) report, it isn't easy to establish the effects of social networks on health because samples used across studies and assessment measures vary considerably.

There are advantages to this approach, and one possible application of it within the context of HIV infection is the examination of the effects of the disease on social networks. AIDS has community-wide effects (Martin, Dean, Garcia, and Hall, 1989; Martin and Dean, 1990). Klovdahl (1985) has applied social network analysis to the question of sexual behaviour and the transmission of HIV infection. This approach is particularly applicable to natural or technological disasters affecting communities, e.g., the Amsterdam plane crash (September 1992). Social network analysis will enable an investigation of the disruption of social networks at a truly community-wide scale.

Limitations of social network analysis

One significant limitation of this approach is that, while it provides an excellent and effective way to describe the social network, it does not necessarily capture the supportive network. Although the social network literature often implies that these relationships are supportive, this is not always made clear or empirically tested. Indeed, without examining the functions of relationships, it isn't easy to see why social support plays a vital role in health maintenance. A problem with studying social ties is that they are often assumed to be supportive; however, the existence of a social tie tells us nothing about the quality of the relationship. For example, someone may be in a primary relationship, but we do not know its nature. In many ways, the social network, or positivist approach, tells us about social networks, not support networks.

Intimate Relationships

Definition and history of intimate relationship research

Reis (1990) defines intimate relationships as involving one person expressing personally revealing feelings or information to another. It continues when the listener responds empathetically or supportively. For an interaction to be intimate, the discloser must feel understood, validated and cared for by the listener. Lefcourt

(1985) suggests that intimate relationships serve as a stress buffer. Friends may "provide moral support in the face of challenge, with nurturance when needed, and with the opportunity to share feelings or information that may facilitate coping behaviour".

Measurement of intimate relationships

There is compelling evidence that intimate relationships are essential. The death of a spouse or primary partner (the most obvious example of an intimate relationship) is one of the most stressful events to occur to an individual (Holmes and Rahe, 1967), resulting in increased symptomatology and increased risk of mortality (Parkes 1964, Parkes et al., 1969) and decreases in immune system functioning (Bartrop et al., 1977). Having an intimate relationship leads to (self-reported) greater life satisfaction (Argyle 1987, Campbell, Converse, and Rodgers 1976) and psychological health (Veroff, Douvan, and Kulka 1981). Pinsker, Nepps, Redfield and Rodgers (1985) interviewed 312 applicants for brief psychotherapy; 31% reported that their reason for consulting was because of troubled relationships, 17% because of avoiding relationships, and 10% because they were unable to establish one. This study indicates that interpersonal problems, particularly the absence of intimacy, are significant determinants of help-seeking.

Limitations to intimate relationship research

While intimate relationships play an essential role in health and well-being, it is unlikely that an individual with a confidant, or a confidant with a confidant, will receive all the beneficial effects of social support through this necessarily limited number of contacts. Additionally, during periods of disruption and loss of intimate relationships, for example, marital disruption, separation or bereavement, there is not only a loss of support from the key person but also from other members of the social network, e.g. the partners' relatives and mutual friends. It is therefore unlikely that examining intimate relationships in isolation will shed much light on the beneficial function of social support. An additional problem is that they do not explain why they should be helpful. Undoubtedly, intimate relationships are meaningful (as Lefcourt 1985 suggests). Still, it may also be essential for the individual to have others who can meet additional needs, such as providing advice on personal matters, helping repair the car, moving the flat, looking after pets when the focal person is away, or sharing common interests and activities. While intimate relationships are essential, and social support clearly has an intimate component, additional factors may be involved. The relative contribution of intimate relationships (and functions of social support) is unclear compared to other types of relationships.

While there is a convincing argument for people with intimate relationships having better health and psychological well-being, it may be that this observation is a result of other factors; for example, people who are not in an intimate relationship may have problems in forming them {due to poor social skills or undesirable personality traits), and that the observed distress and mortality are functions, not of the absence of the social relationship but that aspects of their personality or environment have led to both the lack of

intimate relationship and susceptibility to disease or psychopathology. For example, Type A individuals have an increased risk of coronary heart disease (Rosenman, Brand and Jenkins 1975) and, in addition, show reduced levels of social support (Mathews, 1982). It may then be the case that it is the Type A behaviour or other abrasive personality measures, such as hostility, that may cause both a lack of social support and increased disease.

Theoretically, many of the constituents of intimate relationships are also components of more general social support measures, namely self-esteem, social companionship, and belonging. Reis (1984, 1990), in a review of the literature, finds very few studies that discriminate between intimacy and social support. However, Hobfell, Nadler, and Leiberman (1986) found that intimacy was positively related to satisfaction with support. Avis (1989) found that intimacy interaction, as measured by a two-week diary of social interactions, was the best predictor of social support. Intimate relationships are likely components of multidimensional social support measures, and there are theoretical, methodological, and statistical difficulties in distinguishing between them.

Received Support

Definition and history of received support

One problem with the perceived social support approach is that reporting of social support may be influenced by several personality traits, including introversion/extroversion, neuroticism, cognitive styles, affect, and psychopathology. A focus on received support may tackle this (the reaction and belief of the recipient as to what was helpful or a hindrance in the supportive act: Henderson, Byrne and Duncan-Jones 1981; Shafer, Coyne and Lazarus 1981) or enacted support (the specific acts of other people towards the focal person, where the providers of support are asked what they did to aid another person: Tardy 1985).

Measurement of received social support

The relationship between accounts from the two approaches (received and enacted support) has been found to agree only moderately, about 50-60 per cent (Antonucci and Israel 1986; Shulman 1976). Typically, the giver believes they provided more support than the receiver thinks they received. Statistically, received support as measured by the Inventory of Socially Supportive Behaviours (ISSB; Barrera, Sandler, and Ramsey, 1981) and perceived support as measured by the Social Support Questionnaire (SSQ: Sarason, Levine, Basham, and Sarason, 1983) differ in terms of their factor structure. Receiving support differs from what people believe is available.

Limitations of the received support approach

The enacted/received support approach has several pitfalls. There is often much circularity in questioning, for example, in asking the respondent what was helpful to the focal person. The definition of 'supportive' behaviour is subjective and may reflect only what the person felt they had done rather than what they actually

did. The focus on 'behaviour' may overlook other important aspects of social support; for example, the knowledge that someone could help if the situation worsens may be beneficial, even if the person does nothing or is unaware of their role.

If one focuses on enacted support, what is reported as supportive behaviour (and may have face validity) may not be experienced as helpful by the focal person (Coyne, Wortman, and Lehman 1984; Dakof and Taylor 1990). As Sarason, Sarason, and Pierce (1990) point out, studies examining enacted support often ask recipients about the giver's reaction, thereby reflecting received support. In addition, studies that focus upon received (and also enacted) support during past (presumably life) events may be subject to mood and memory distortions.

If one argues that support is essential in the absence of stress (see below for an account of this approach), then adopting this perspective (focusing on what occurs during events) is unlikely to capture the main effects of social support; instead, it will concentrate on the stress-buffering model. Received support is a function not only of the focal person (the one in need) but also of the appraisal of the focal person's need, distress, and coping abilities by other members of the support network. Support from others may be provided for several reasons: individuals in the social network may be aware that an adverse event has occurred, respond to the person's distress, or be explicitly asked for help by the focal person. These, in turn, are likely to be influenced by several factors; for example, awareness of distress may depend on the ability to recognise and respond to it. Personality traits and cognitive styles may affect how an event is reported, including distress and willingness to seek help. Therefore, examining received social support tells us little about its beneficial effects, as it may reflect other phenomena, such as others' prosocial behaviour and the focal person's willingness to communicate distress and seek assistance.

Perceived Support

Definition and history of perceived support

The study of perceived support has become the dominant concept in social support research (Barrera, 1986). This approach focuses on the cognitive appraisal of social connectedness. and on the social resources available from others. As Cohen and Syme (1985) note, this definition allows for a conceptualisation of support that is both positive and negative. This method is consistent with Cobb's (1976) hypothesis that social support is information from others and with Cassel's (1976) assertion that the conveyance of positive regard influenced effect.

This approach differs significantly from theoretical positions on social integration, social networks, and intimate relationships in that it is indifferent to the number of friends or other target constituents a person has. or factors such as the duration, durability, and intensity of relationships. Instead, the area of examination is the judgment of relationships and the extent to which the individual feels integrated into their social network.

The focus is on subjective experience and is distinct from more objective measures of social support, as outlined above.

This approach has several advantages over the positivist stance. From a methodological standpoint, it is challenging to study networks that are often extensive and disparate, and hence costly and arduous to examine. Most intimate behaviours occur privately, and attempting to appraise them may result in an unacceptable level of experimenter intervention. Alternatively, measuring perceived social support can be done using questionnaires or structured interviews. As Vaux (1988) suggests, acceptance of perceived social support has become prevalent for pragmatic reasons. However, it can also be argued that it has become popular owing to the growing influence of cognitive psychology in health and illness. Furthermore, the perception of stressful events and the appraisal of psychological resources for coping with them are essential determinants of well-being (Lazarus, 1966).

Antonucci and Israel (1986) demonstrated a discrepancy between reported received support and the account of given support. In addition, the study of perceptions of support is essential, as it has been consistently found to be more closely related to health outcomes than other measures (Antonucci and Israel, 1986). The focus on perceived social support has gained popularity because the positivist stance assumes that relationships are supportive and that these acts have a beneficial effect on the focal person. In contrast, the examination of perceived support informs us that, however well-intentioned, it is not always helpful to the individual coping with life's adversities: Ph. D. stress (Mechanic, 1962); cancer (Darkof & Taylor, 1990; Meyerowitz, 1980; Wortman & Dunkel-Schetter, 1980); chronic pain {(Maruta, Osbourne, Swanson and Halling 1981); disability (Ferngler & Goodrich, 1979), chronic illness (Malmquist & Hagberg, 1974; Ware & Carper, 1982), and rheumatoid arthritis (Revenson, Sciaffino, Majerovitz and Gibofsky 1991)}. Therefore, the assumption that all supportive behaviours positively affect well-being may be inappropriate and, hence, must influence the definition and measurement of social support.

When it is accepted that interpersonal resources are multidimensional (Cohen & Syme, 1985), their form or function requires study. There has been an explosion of research on perceived support, and numerous functions have been proposed. As Vaux (1988) suggests, this growth has led to an escalation in terminology and an overlap in topologies, which, while fostering more sophisticated definitions and constructions of social support and detailed models, have resulted in confusion and duplication.

Methodological issues in perceived support research

Undoubtedly, there has been an acknowledgement that social support is not the objective measure that positivists would present it as. Attempts to measure the objective aspects of support often rely on cognitive schemata (e.g., what constitutes a friend, closeness, or a problem). There are logistical problems in qualitative methods, although they may produce rich data. It is often difficult to quantify or generalise results. The

postulation that social support is multidimensional makes objective assessment even more difficult. Measurements of received or enacted support have limitations, but the major problem is that, as Vaux (1988) comments, they are, in fact, measures of perceived support. In addition, while focusing on received support may tell us what happens during a period of stress and thus tests the buffering hypothesis, it will tell us little about the main effects of support. High interpersonal resources may help individuals avoid life events (Thoits, 1982). So, the main effects are not being evaluated. Indeed, the importance of social support may lie not in the presence of people who help, but in the presence of people who would assist if the need arose. This is why focusing on what someone does (enacted support) is less important than focusing on what interpersonal resources they believe are available. This is to Lazarus' (1966) model of psychosocial stress.

With the realisation that social support is multidimensional, the perceived social support approach can be used to measure it across multiple dimensions. However, there is no general agreement on what these dimensions should be. In addition, the approach, through questionnaires and structured interviews, will enable the study of behaviours that observational methods cannot measure. Self-esteem support is one such example; it would be difficult to observe or measure, through other means, the extent to which someone feels valued by members of their social network. While experimental and observational designs are preferred as they will not be subject to response biases, as outlined above, they (questionnaires) are an acceptable methodology, as numerous other facets of human behaviour, including coping strategies, personality traits, and attitudes, are collected in this manner. The questionnaire is also justified by its cost-effectiveness, ease of administration, and ease of data manipulation for statistical analysis. One advantage of questionnaire methodologies is that much larger numbers of participants can be included in investigations, and that groups that are difficult to interview or observe, for reasons of confidentiality or ethics, may be surveyed.

Conceptualisations in Social Support Research

A significant issue in perceived support is that if it is a multidimensional construct, what should these various dimensions be? There is much confusion in the literature, with four (ISEL; Cohen & Hoberman, 1983) and six dimensions (Social Provisions Scale; Russell & Cutrona, 1984) being proposed. Despite differing and often overlapping terms that broadly measure the same construct, social support can be conceptualised as serving the following functions: esteem, information, instrumental and social companionship (Cohen & Hoberman, 1983; Flannery, 1990; House, 1981; Wills, 1985).

Esteem support

Wills (1985) defines it as "an interpersonal resource with a substantial effect for counteracting self-esteem threats and having somebody available to talk about problems. Other names for this function include emotional support, ventilation, reassurance of worth, self-evaluative information, and confidant relationships.

Esteem support is also likely to occur in other ways, as Wills (1985) described. The individual may feel valued by various network members and gain status from them, possibly through social comparison.

Informational support

If problems cannot be resolved quickly, the search will begin for information and supportive, nonjudgmental perspectives to help resolve them. For example, in the case of unhappiness at work, people in the social network may provide advice on the source of the problem, help evaluate possible ways to resolve the conflict, and support any decision made by the focal person to resolve the situation. Information and advice can be sought for several practical and personal issues. Wills (1983) reported that social networks are an essential source of referrals for medical and psychological treatments.

The relationship between self-esteem support and informational support is highly correlated statistically (Barker & Lemel, 1984; Cohen et al., 1985), and the two concepts are theoretically related. It is not implausible that when an individual asks for advice on how to solve a complicated and serious problem, they are likely to consult those people who have helped them in the past in a way that did not damage their self-esteem or those who they believe would help in such a way, to resolve the present ego threat. Thus, individuals who provide self-esteem support will likely be approached with an informational problem. Secondly, there may be an element of esteem support in informational support. The individual may interpret the supply of information and advice as indicating that their well-being is essential and that the provision of data also expresses concern and attention from support network members.

Instrumental support

Certain types of problems are practical and require instrumental support (also known as Tangible, Economic or Material aid). Such activities may include helping somebody move house, looking after pets and house plants while the owner is on holiday, doing a single shopping trip, helping to mend the car, lending money, or giving a lift to the airport or station. The relationship between instrumental support and well-being is clear: people have an evident need (which may be a source of stress), and others can meet that need, thereby reducing the detrimental effects of the stressor. This may improve quality of life; for example, having someone take care of your pets and houseplants may mean you can go on a much-needed holiday. It may reduce daily hassles, such as receiving a lift to work with a friend and helping out in a particular crisis, e.g., a short-term loan. Instrumental assistance may be invaluable when a significant event occurs, such as unemployment or temporary homelessness.

Wills (1985) suggests that when people are rating instrumental aid, they may not be responding to specific acts but rather to their belief in the dependability and the reliability of network members so that the dimension is one of predictability, and the belief that if there were to be an absolute disaster in their life, then there would be somebody who could be relied upon to help. Indeed, social support questionnaires that include an

instrumental aid dimension seem to require respondents to rate the extent to which someone would be available to help if a major life event occurred {ISEL, Cohen and Hoberman 1983; SSQ, Sarason, Levine, Basham, and Sarason 1983}.

One significant problem with the concept of instrumental support is that it is too broad, and that subdivisions may be possible within the idea. For example, an individual may help the focal person move house (a form of practical assistance) at no cost to themselves, or lend money (a form of financial aid). In addition, the activity may involve no inconvenience to the helper, for example, when they are already going to the shops to purchase something for the focal person (no disruption), as opposed to feeding the focal person's pet every day for two weeks while they are on holiday and hence inconveniencing themselves (disruption). While a few scales have differentiated between practical assistance and financial aid (Barrera et al., 1981; Vaux, 1982), no scale examines the disruption experienced by the helper.

Social companionship

An essential function of social relationships is to provide companionship: the pursuit of pleasurable activities with network members, such as holidays, visits to the theatre and opera, and outdoor and sporting activities. Social companionship is likely vital as it is (conceptually) the opposite of loneliness, which has been shown to have detrimental effects on health and well-being (Peplau 1985). Social companionship is a component of pleasurable daily activities associated with a positive mood state (Lewinsohn and Amenson, 1978). However, Cohen and Wills (1984) found no relationship between positive events and symptomatology. The measure of social companionship is likely contaminated because those who receive more esteem aid are more likely to have social companionship and to rate it positively.

Problems in the Perceived Support Approach

A limitation of the perceived support approach is that there is no examination of the social network: who provides support, how many people are in the social network, and the relationship between network members. This perspective takes no account of these objective measures and relies solely on the individual's perception. Indeed, it is not always clear to what extent such beliefs in available interpersonal resources exist and can be drawn on when needed; a related question is which measure of actual or perceived support is essential for maintaining well-being. Perceptions of social support may be influenced by personality and cognitive factors. An example of TASP has already been given; other personality measures could include cynicism and optimism. It must also be stated that psychopathology and mood state also affect the reporting of perceived support (Cohen, Towbes, and Flocco, 1988).

While there is general agreement that a multifactorial approach to perceived support is needed, there is disagreement about the number of functions that should be measured and their nature. Indeed, as Vaux (1988) illustrates, there is some diversity among existing measurement instruments. There is also the possibility that

the general conceptualisation of support functions may be too broad. The example of tangible support has already been given; if one takes another example, appraisal support, there are at least four components: listening to the focal person's problem; reflecting on and clarifying the problem; providing information or accounts of one's own experience; and providing advice.

A study by Gottlieb (1978) examined empirically derived helping behaviours available to young mothers. A content analysis was performed, and three judges identified twenty-six assisting categories. They were grouped into four classes: emotionally sustaining behaviour, problem-solving behaviours, indirect personal influence, and environmental action. Within each class, sub-classes were identified. In the case of emotionally sustaining behaviour, twelve sub-classes of behaviours were identified, including listening, reflecting, understanding, trust, concern, respect, 'being there through difficult periods', and providing reassurance and encouragement. There are advantages in the approach taken by Gottlieb (1978) in empirically generating measures of social support: the ability to identify event I disease-specific helping behaviours and to examine models of social support for different event I diseases. A weakness of this approach is that it is population-specific and may be limited in studying social support and health in other groups and in developing models to explain these relationships. Developing models for each event and illness would be costly and time-consuming, whereas a standard model or series of functions could be identified. Conversely, if this approach is adopted with several well-matched disease groups, general helping and disease-specific behaviours may be identified. This is an issue to be tackled in this thesis: the extent to which models of social support in healthy populations apply to those with a chronic illness, and to what extent social support effects in one illness generalise to another.

Statistically, it is essential to examine the correlations between empirically derived support measures and existing multidimensional measures to determine which are better predictors of health. Additionally, the correlation between various subgroups of behaviours, for example, listening and advice, may determine if the distinction between the concepts is statistical or theoretical. It is concluded that although perceived social support has several theoretical and methodological limitations, many of which are shared by other approaches, it is the method used throughout this thesis. The development of models explaining psychological distress as the belief that environmental demands outstrip personal resources leads to examining the functional properties of and the perception of support.

Measurement Issues Specific to Perceived Support

Availability versus satisfaction

One issue that needs to be addressed in the literature on perceived social support is whether the focus should be on the availability of social support or on satisfaction with it. Sarason, Sarason, and Pierce (1990) point out that the two are not well correlated, even when measured with the same instrument. The SSQ, which has

both an availability and a satisfaction component, shows low correlations (r = .30- .40) between the two measures. The authors suggest that availability may be related to social skills, whereas satisfaction may be linked to personality measures such as neuroticism.

Potential support versus current support

Should social support be measured as an everyday status (for example, how often do you do things with friends) or potential availability (for example, if you wanted to go to the country, how easy would it be to find somebody to go with)? An examination of social support scales (ISEL, Cohen and Hoberman 1983; SSQ, Sarason, Levine, Basham, and Sarason 1983) indicate that both types of questions are asked. It is unclear which of these question types is of more importance, and indeed, while there is a theoretical distinction, there is likely a strong correlation between the two.

Unidimensional versus multidimensional support

A third issue in measurement is whether a general feeling of social support should be measured, or whether social support can be conceptualised as multidimensional. If this is the case, the question arises as to which dimensions are measured and how many. Even within one category, several subgroups can be studied (see below). The advantage of a multidimensional approach is that it is straightforward to explain, at a theoretical level, how social support may influence well-being.

Stressors are unlikely to have a uniform effect on the individual. In the short term, unemployment will reduce the individual's economic resources. To match this need, the focal person will require practical assistance. Other sources of support, such as informational or companionship assistance, may be redundant in this example. As unemployment persists, feelings of self-worth may decline, and hopelessness may set in. Support may be adequate, thereby enhancing self-worth and optimism. Similarly, social support may vary by life stage: for example, young people may require more tangible support because they often have fewer financial resources than older adults, who may need more social companionship. It is possible that, depending on the stage of life and life situation (sex, ethnic origin, social class, sexual orientation), social support may require different functions to be effective (see Cohen and Syme 1985; Schultz and Rau, 1985 for comprehensive reviews).

The contention that social support has selective effects can be empirically tested by examining the nature of the stressor, the demands it places on the person, and the form of social support that most effectively moderates its detrimental effects. In effect, it searches for optimal matching of social support (Cohen and Syme 1985). This is an essential issue in this thesis. While it will not be possible to perform an analysis of the types of stressors which occur and the matching of support to them, the attempt to address issues of whether selective effects of social support are found and if they hold up when confounding measures of support are statistically controlled needs to be made.

Limitations to the Perceived Support Approach

The theoretical naivety of the approach

First, it is perhaps too simplistic to suggest that coping with a life stressor or being in a particular developmental stage requires more of one type of support than another; for example, a stressor such as a disability may have several demands that are difficult to separate; these may be loss of income, difficulty in carrying out usual social activities, loss of self-confidence, greater need for social companionship, and feelings of inadequacy. These demands would require optimal matching across tangible, belonging, and esteem support. As noted above, it is difficult to determine which is more important at any given time. Often, one component of social support has elements of other forms. Therefore, while there is an appeal to the notion that stressors exert specific demands and that the matching of these demands by the corresponding source of social support will alleviate the distress generated by the stressor, it may be that the ability to theoretically or statistically separate the components of any one stressor is impossible.

Statistical limitations

Social support sub-scales tend to correlate. For example, ISEL has been administered to several student and community populations (Cohen, Mermelstein, Kamarck, Hoberman 1985). The student version shows a fair degree of independence among the subscales; however, ISEL for the General populations, except for the Appraisal-Tangible subscales, shows relatively high subscale intercorrelations, more so than with the student populations. These levels of correlations are not unexpected, as the focal person receives different types of social support from the same people (Cohen, Mermelstein, Kamarck, Hoberman 1985; House and Kahn 1985); however, this may suggest that social support is not as theoretically compartmentalised as has been proposed. The question of why stronger intercorrelations occur in the general population version of the scale than in the student version is intriguing. It may be that this measure exhibits better sub-scale discriminant validity. An alternative explanation is that students have wider social networks and that the various functions of social support are genuinely provided by different people, for example, Tangible support from their parents and Belonging support from college friends.

An examination of other multidimensional scales, including the Social Provisions Scale (SPS: Russell and Cutrona 1984), which comprises six dimensions, found associations in the range of (r = .50 - .56), and Vaux (1988) found sub-scale dependence in the range of between (r= .48- .75) for his scales. So, the problem of subscale intercorrelation is an issue for other perceived support scales, not just ISEL. It is partly because of the strong correlations between social support sub-scales that authors (Sarason, Sarason, and Pierce 1990) have suggested that general support measures may be more appropriate. Although there are substantial sub-

scale intercorrelations, this does not mean that a multidimensional approach must be abandoned, as it remains theoretically appealing and allows selective effects to be tested empirically.

The Interpersonal Support Evaluation List (ISEL)

The General Population form of ISEL has been used extensively with adult and student populations. This next section will describe the psychometric properties of ISEL and report on its associations with health.

Psychometric Properties of ISEL

ISEL is a 40-item (self-administered) questionnaire. Participants must respond to a statement on a four-point Likert scale: 1-definitely false, 2-probably false, 3- probably true, 4-definitely true. There are four sub-scales of ISEL: appraisal, belonging, self-esteem, and tangible support. These fit very closely with the functions outlined above.

Validity Properties

Correlation between ISEL and other social support measures

Cohen, Mermelstein, Kamarck, and Hoberman (1985) report a .30 correlation with the Moos Family Environment Scale (FES, Moos and Moos 1981), ISEL correlates to various subscales of the FES: (r=.21) with Expressiveness, (r= .46) with Cohesiveness. Sarason, Sherin, Pierce, and Sarason (1987) report on the psychometric properties of the ISEL (student version) with the SSQ and the Procidano and Heller (1983) Perceived Social Support scale (PSS: Friends and Family). ISEL Total score correlates with the number of members in the network as measured by the SSQ (r= .33 men, and r= .63 for women); this is also the case for the subscales, for women (range = .51 -.57). For men, the correlations were lower Appraisal, r=.39, Belonging (r= .33), Tangible (r= .16), and Self-esteem (r= .14). In addition, there were correlations between ISEL total (males r= .64; female r=.66) and sub-scales (male range r= .54 to .63, Tangible support was not significant [r= .15], females' range was r= .51 to .61), with support satisfaction as measured by the SSQ. The range of correlations between the PSS-Family for men was (r= .16 to .45) and for women (r= .45 to .59). There are stronger correlations between PSS-Friends and ISEL (range = .22 to .50, for men and r= .56 to .70, for women). This would indicate that ISEL is sensitive to support from the non-biological family and is not a measure of family appraisal. The student version correlates at .46 with the Index of Socially Supportive Behaviours (ISSB; Barrera, Sandler, and Ramsay, 1981), a measure of received social support. However, Lakey and Cassady (1990) found a relatively small correlation (r=.29) between the two measures.

Self-esteem

It is predicted that trait self-esteem will reflect self-esteem and social support and should therefore be highly correlated with them. However, it should show only marginal associations with the other support subscales. Self-esteem, as measured by the Rosenberg Self-esteem Scale (Rosenberg 1965), correlated with the Self-esteem sub-scale ($r = .58$, $p < .001$), with Tangible ($r = .14$, $p < .001$), with Belonging ($r = .32$, $p < .001$), and

with Appraisal ($r = .26$, $p < .01$). So, while self-esteem support is correlated to trait self-esteem, the belonging and appraisal sub-scales are also correlated. Only Tangible support does not correlate significantly. This finding may suggest that appraisal and belonging functions also have an element of self-esteem provision, but that this provision is independent of Tangible support.

Self-disclosure

The ISEL appraisal subscale correlates well with the Colwill and Spinner Privacy measure ($r = .40$, $p < .001$). Cohen, Mermelstein, Kamarck, & Hoberman (1985) suggest that this subscale assesses the availability of interpersonal transactions that allow disclosure. The correlations between the Privacy, Tangible, and Belonging subscales are $r = .08$ ($p >$. OS) and $r = .24$ ($p < .01$), respectively.

Discriminant validity

The General population version of ISEL does not correlate well with social desirability, that is, the attempt to present oneself in a positive light, as measured by the Crowne-Marlowe Social Desirability Scale (Crowne and Marlowe 1964); and in the OR2 study, there was still a significant correlation between ISEL and depression when social anxiety (Social Anxiety and Distress Scale: SADS; Watson and Friend 1969} was partially out. So, ISEL is not contaminated by social anxiety, that is, those who cannot make friends or maintain relationships or by social desirability. Hart, Hittner and Paras (1991) report that ISEL was not correlated either to Sense of Coherence (SOC) {see Antonovsky 1987] or Trait Anxiety, range ($r = .07$ - $.28$) (Spielberger, Gorsuch, and Lusherne 1970). However, Lakey and Cassady (1990) found a more substantial and significant negative correlation ($r = -0.51$, $p < 0.01$) between the two measures.

Reliability Properties

Internal Reliability and Test-Retest Reliability

ISEL demonstrates good internal reliability, as the alpha coefficients for the entire scale range from .88 to .90 (Cohen et al., 1985) and from .91 (Lakey and Cassady, 1990). Ranges for the subscales are (range of .70 0.7 to .82) for Appraisal, (range of .62 to .73) for Self-esteem, (range of .73 to .78) for Belonging, and (range .73 to .81) for Tangible support (Cohen et al. 1985). However, Schonfeld (1991) reported lower alpha coefficients (range = .61 to .83). In confirmatory analyses using maximum likelihood, Brookings and Bolton (1988) found that the student version of ISEL yielded factor structures like those of the original.

The ISEL (General population) reports good reliability over two days: ($r = .87$) for the whole scale, ($r = .84$) for Appraisal, ($r = .67$) for Belonging, $r = .78$) for Tangible, and ($r = .74$) for Self-esteem. At six weeks, reliability is ($r = .70$) for the entire scale, ($r = .63$) for Appraisal, ($r = .65$) for Belonging, ($r = .68$) for Self-esteem, and ($r = .69$) for Tangible support. At six months, ISEL still has good reliability scores: ($r = .74$} for the entire scale, ($r = .49$) Tangible, ($r = .54$) Self-esteem, ($r = .68$} Belonging, and ($r = .60$) Appraisal (Cohen, Mermelstein, Kamarck, Hoberman, 1985). Similarly, data from the student version suggests good reliability

over four weeks and six months. The student sample for the six-month test-retest shows remarkable similarity for two subscales: Tangible support (r = .73) and Self-esteem (r = .66). Glaser, Kiecolt-Glaser, Bonneau, Malarkey, Kennedy and Hughes (1992) report a (r= .87) test-retest reliability of one month in their medical students. This is markedly different from the general population's scores, thus suggesting that, depending on the population, certain types of support are more stable than others. Students may receive most of their tangible support from their parents, which is likely to remain stable at college, but this stability is not found in non-student populations.

ISEL Applications

In addition to the previous studies, ISEL has been used to predict susceptibility to experimentally induced colds and naturally occurring colds. Glaser, Kiecolt-Glaser, Bonneau, Malarkey, Kennedy and Hughes (1992) found that ISEL (Total score), when administered a month before final inoculation, predicted immune response to hepatitis B in medical students. This study is essential as it suggests that ISEL is a predictor of 'objective' health measures. It may be recommended that a pathway through which social support influences physical health and mortality be explained by its effects on immunological functioning.

ISEL has been used to predict smoking reduction (Mermelstein, Cohen and Lichtenstein, 1983). For those who were abstinent at the end of treatment, pretreatment levels of social support predicted six-month follow-up smoking status. Higher levels of support predicted lower smoking percentage rates and the maintenance of abstinence. For those who were still smoking at the end of the treatment, high perceived support was associated with increases in tobacco use over the follow-up. A closer examination finds that this is the result of Appraisal support. Lakey and Cassady (1991) found that participants with higher levels of perceived support (ISEL) had significantly higher levels of trait self-esteem (Rosenberg 1979), dysfunctional attitudes (Weissman and Beck 1978), and personal control (Mirels 1970). These studies are essential as, along with the finding of an effect on immunological functioning, two mechanisms (health-related behaviours and beliefs about the world) through which social support may be beneficial to health (in changing negative behaviour and the prevention of depression, through dysfunctional attitudes and beliefs about personal control) have been identified.

ISEL and mental health

Two pathways through which social support, measured by ISEL, may affect health have been outlined above. A third possibility is that mental health may act as a mechanism through which physical health may be influenced, possibly by immunological functioning. The reader is referred to Bennett and Cohen (1993) and Stein (1989) for reviews of evidence on the role of depression in immune function. However, it should be emphasised that the study of the effects of social support on well-being is a valid exercise, although it may also serve as a prelude to studying the mechanisms linking social support and physical health. ISEL has been

most frequently used as a predictor of mental health measures. A literature review (Psychological Abstracts identified seven studies using ISEL with mental health measures. Those using community-based or student populations will be reviewed first, followed by the studies with clinical populations.

Community and student populations

Kamel and Jain (1988) compared joint (extended) and single (nuclear) families in Jaipur, India. The single families reported more significant stress and less social support than did the joint families, and they also reported poorer psychological morbidity using the GHQ. Although it concludes that joint families provide more social support (as measured by ISEL) and that stress and psychopathology are lower, this study does not present statistical evidence for these relationships. It would have been appropriate to test the relationship between ISEL and GHQ, possibly including family type as an independent variable, thereby allowing interactions between family type and social support on the GHQ score.

Schonfeld (1991), in a study of 125 female college graduates, found that the Belonging scale was predictive (approximately four months later) of depression, as measured by the CES-D, and of self-reported psychophysiological symptoms. When women who were high on depressive symptoms at time one were excluded, the JSEL - depression relationship was even more potent (Beta -0.28, $p<0.01$) compared to when all subjects were included (Beta -0.18, $p<0.05$). This is important as it suggests that support may be critical for those who are relatively healthy, but for those who are already depressed, social support may be of minimal impact.

In a further study, Cohen and Hoberman (1983) found cross-sectionally that Self- esteem and Appraisal support were associated with depression, as measured by the CES-D. Larry Cohen and others (1984) found that ISEL predicted Beck Depression Inventory (BDI) scores cross-sectionally, except for the Tangible Support scale. Longitudinally, only the Self-esteem scale was predictive. Lakey and Cassady (1991) found that ISEL was negatively correlated with the 801 ($r = -0.45$). Regarding perceived physical symptoms, Cohen et al. (1985) found that Self-esteem, Belonging, and Appraisal support were cross-sectionally associated with the Langer Symptom Checklist. Longitudinally, the Self-esteem sub- scale was predictive only of physical symptoms.

In a review of studies using ISEL, Cohen et al. (1985) conclude that there appears to be no relationship between Tangible support and psychological symptoms. In contrast, Self-esteem and Appraisal support consistently demonstrate significant effects. The findings of the Schonfeld (1991) study suggest that Belonging support is also a predictor of depression. Crucially, the measure has been used with middle-aged and elderly chronically ill groups: patients with Non-Insulin Dependent Diabetes Mellitus (IDDM; Connell, 1990) and those with osteoarthritis (Weinberger, Tierney, Soother, and Hiner, 1990). It has been used (in a

modified, six-item version) to predict well-being among caregivers of patients with Alzheimer's disease (Schulz, Williamson, Morycz, and Biegel 1992) and among parents of burned children (Cella et al. 1988).

Connell (1990), in a cross-sectional study of patients, found, using least-squares analysis, that morale (Philadelphia Geriatric Centre Morale Scale; Lawton, 1975) was not predicted by ISEL. However, Weinberger et al. (1990) with arthritis patients found that there were strong effects of Self-esteem support on physical and psychological disability, but only a weak one for pain experienced. Belonging support predicted psychological disability but not pain or physical disability, and Tangible support had a weak association with physical disability but not with any of the other outcome measures. Appraisal support, surprisingly, was not associated with any of the measures.

Schulz and Williamson (1991) found that a composite (6 items) ISEL score, which did not use separate sub-scales, was cross-sectionally associated with CES-D, and it could be predicted longitudinally. Because subscales are collapsed into a single score, it is impossible to determine whether subscale effects exist; this is a similar problem for the Connell (1990) study. Cella et al. (1988) reported that Appraisal support correlated with hopelessness (r= -.53), and belonging correlated with state anxiety (r= -.28), BDI score (r= -.27) and hopelessness (r= -.34). The Tangible scale correlated with anxiety (r= -.29). The Cella et al. (1988) study did not use the self-esteem scale of ISEL, because they felt that it too much conceptual overlapping with depression.

In its application to HIV infection, ISEL has been used to predict psychological distress following HIV notification (Fishman 1989). However, no selective effects of the sub-scales were reported. Donna Lamping and others (1992), in a study with 73 patients with HIV infection, reported at the July 1992 VIII International AIDS conference, Amsterdam, that ISEL was predictive (at two months) of mood disturbance (POMS): depression (CES-D) and a quality-of-life measure. Lamping et al. found that support for self-esteem was critical. This finding is consistent with the work of Weinberger et al. (1990). However, Perry et al. (1992) report no effect of ISEL on any of the four measures of lymphocyte subsets (CD4, CD8, CD4/CD8, and % CD4) or physical symptoms.

The ISEL scale, whilst developed in the United States, has been used in the Netherlands (Vermulst, de Brock, Van Zutphen, 1989), India (Kamel and Ain, 1988), and the United Kingdom. It, therefore, meets an essential criterion of having cultural validity. In conclusion, ISEL demonstrates good reliability and validity (Cohen et al., 1985; Cohen, Sherrod, and Clark, 1986; Cohen, 1991; Sarason et al., 1987). With healthy populations, ISEL is associated cross-sectionally and can predict longitudinally depression and physical symptoms (summarised in Cohen et al. 1985). With ill populations, ISEL is associated cross-sectionally (Weinberger et al. 1991) and longitudinally (Lamping 1992) with depression. A notable exception was Connell (1990), who

found no effect of ISEL on morale among diabetic patients. ISEL is thus a suitable instrument for use in both chronically ill groups and healthy individuals.

The studies by Weinberger et al. (1991) and Lamping et al. (1992) are essential, as they suggest that the pattern of social support effects may differ between patients with illness and non-ill individuals. This makes sense, as one would expect illness to impose different types of stress than those experienced by non-ill persons, requiring various forms of social support to be effective. It is possible that illness influences self-concept and thus requires Self-esteem support to be effective; this is consistently observed in studies of healthy populations. It is important to note that Appraisal support did not affect any of the measures (Weinberger et al. 1991). Interestingly, Tangible support was associated weakly with physical disability in arthritis patients and with anxiety in the parents of burned children (who are experiencing an acute stressor). This thesis examines the question of differing patterns of social support and the possibility of distinct models of social support between healthy and ill populations.

Models of Social Support

Two general models of social support have been postulated, although more specific models exist (see Vaux 1988 for a comprehensive account). The two basic models are the buffering and main-effect models. The following section will present an account of both and an evaluation of the research conducted to test them. Finally, an examination of some of the reasons for the inconsistencies in the data will be discussed.

Buffering model

Cobb (1976) may have been the first to propose the buffering effect. In his 1976 presidential address to the American Psychosomatic Society, he said, "It appears that social support can protect people in a crisis from a wide variety of pathological states: from low birth weight to death, from arthritis through tuberculosis to depression, alcoholism, and the social breakdown syndrome" (reported in Vaux 1988). The model posits that social support protects individuals from the adverse effects of stressful conditions. Social support has a beneficial impact on individuals under stress. At times of low or no stress, social support is ineffective and redundant.

Those who propose a multidimensional approach to social support and stress (Cohen and Syme 1985) argue that buffering effects will be observed only if the type of support available meets the demands of the stressor. That is, optimal matching of support to a stressor is needed; for example, if a stressor threatens self-esteem, self-esteem support is necessary to prevent pathology. Conversely, if the stressor requires economic or instrumental aid, tangible support will reduce distress.

Reviews of the literature indicate considerable confusion regarding positive buffering effects. Several writers (Cohen 1988; Ganster and Victor 1988; Flannery 1990) have suggested that appraisal of stress is primarily responsible for buffering effects. Reviews by Cohen and Wills (1984) and House (1981) are more enthusiastic

concerning the importance of the buffering effect than are others (Alloway and Bebbington 1987; Ganster and Victor 1988). Those who propose a multidimensional approach to social support and stress (Cohen and Syme 1985) argue that buffering effects will be observed only if the type of support available meets the demands of the stressor. That is, optimal matching of support to a stressor is needed; for example, if a stressor threatens self-esteem, self-esteem support is necessary to prevent pathology. Conversely, if the stressor requires economic or instrumental aid, tangible support will reduce distress.

Main effect model

This model was developed, in part, from the buffering model through a theoretical extension and, in part, in response to its inconsistencies. It became apparent that some studies examining the stress × social support interaction found no significant effect. Still, there was a main effect of social support: it was associated with well-being, independent of stress levels. This model suggests that social support has health-promoting functions regardless of stress levels. Because appraisal of social support is a source of stress buffering, it is proposed that social integration is the primary cause of the problem (Cohen, 1988). Alternatively, suppose the appraisal of social support is relatively stable over time, as Sarason et al. (1991) propose. In that case, this may also serve as a main effect, as it could be, or reflect a personality dimension. In this respect, it is interesting to note that ISEL has strong test-retest correlations. A literature review (Cohen and Syme, 1985; Vaux, 1988) finds mixed evidence for the buffering model. Arguably, suggesting that buffering and the main effects are bipolar opposites is too simplistic; they are likely to be linked in several ways. Furthermore, in a comprehensive literature search, Vaux (1988) found that several social support measures report both main and buffering effects; notably, studies using ISEL (e.g., Cohen, Sherrod, and Clark, 1986) report both main and buffering effects. Similarly, it is perhaps naive to suggest that perceived support is linked to the buffering model and that social integration is related to the main-effect models.

Reasons for Inconsistencies

Social support measures

A primary reason for inconsistencies may be the substantial diversity in the selection of social support measures. They vary in the approach taken, for example, functional or structural measures, and in the number of items they contain, from one or two questions to a comprehensive battery. Social support has been conceptualised as a single dimension or as a multidimensional construct. Issues of satisfaction, availability and enacted support have all been studied. As Vaux (1988) has noted, inconsistencies are inevitable given the diversity of tools and authors' failure to report the validity and reliability of measurement instruments. Indeed, Winnubst, Couzijn and Ros (1990) state, "the majority of social support researchers have lost themselves in aspects of the theme which do not touch the crux of the matter. Much attention has been paid to the structural,

quantitative, observable aspects of social networks, to comprehensiveness and diversity." At the same time, several measures of social support exist. The health-protective dimensions are not always precise.

Cohen and Hoberman (1983) reported that past frequency of support for ISSB was not correlated to depression, whereas ISEL was. Conversely, ISSB was weakly associated with physical symptoms, whereas ISEL was not. There remains the possibility that social support will have selective effects; for example, perceptions of available interpersonal resources may influence mental health measures, whereas psycho-physiological measures may be more sensitive to levels of integration.

Measures of stress

An important question is whether all types of stress can be modified by social support. To date, the literature has assumed that they can do so. Indeed, some of the existing inconsistencies may be explained by conducting a theoretical analysis. Thus, the types of stressors and the effectiveness of buffering or main-effect models are classified. Three variables may be examined: duration, intensity, and the objective-subjective nature of stress. Social support may be practical in single events, such as life events; conversely, if stress is chronic, the interpersonal resources available from others may have diminished over time and, hence, be less effective. The second issue is that intensity is critical. Social support may be practical for stress of a particular intensity, for example, hassles, which are relatively minor, and one-off events may be more susceptible to the positive effects of social support than life events, such as bereavement, which may overwhelm all positive social support effects. The third matter is that of the nature of the event. Should we be measuring 'objective' indices of stress, such as life events and hassles, or should we look at the perception of stress? This is an essential issue, as it suggests that a shift from the existence of events to the perception of stress may be necessary. Cohen, Tyrell and Smith (1992) found that a stress index (negative affect, light events and perceived stress) predicted susceptibility to experimentally induced colds. Further analysis indicated that life events were an independent predictor of increased symptom rates (clinical signs of infection). In contrast, perceived stress and negative affect were associated with an increased risk of infection, independent of life events. The authors conclude that the two measures, adverse life events and the combination of negative affect and perceived stress, are independent and have different effects on the pathogenesis of infection, although they are highly correlated.

An additional matter concerns confounding stressors and support. For example, bereavement is a stressor and one of the most detrimental life events, having effects on psychological well-being, health-related behaviours and immune system functioning. However, an event such as bereavement also results in a loss of social support, not only from the deceased person but also from other sources, such as a confidant, partner, or spouse, and possibly from the deceased person's friends and relatives. The untangling of life events and support loss must be undertaken, and this may be achieved by distinguishing between stressors that alter the social support

network and those that do not. Events or stressors that do not disrupt the social network must be examined to address this. However, it is often challenging to identify life events that lack an element of social support or network disruption. Ideally, prospective designs that can ascertain pre-event levels of social support and well-being should be taken.

Dependent measures and choice of Illness

As with support and stressor measures, the question of which outcome measures to use is critical and may help explain some of the inconsistencies and problems noted in the literature review above. The question remains whether social support benefits all aspects of health, including susceptibility to illness, symptom expression, symptom intensity, symptom duration, recovery from disease, and mortality. What other aspects of human well-being, such as cognitive abilities, quality of life, social and role functioning, and health-related behaviours, influence social support? The diversity of outcome measures for social support and stressor measures has obscured the influence of interpersonal resources.

Are all types of illnesses to be regarded as equal? Could it be that psychosomatic illnesses exhibit more substantial social support effects than illnesses of known aetiology, whether viral, bacterial, or tumoral? Are mental health conditions as disparate as anxiety, depression, obsessive-compulsive and neurotic symptoms all to be influenced by social support in equal measure? May it not be that certain illnesses are more sensitive to interpersonal effects than others?

Design issues

Dooley (1985) notes, "Social support researchers have, in relying heavily on non-experimental methods, accepted the burden of defending their findings from two major rival explanations: spuriousness and reverse causation." Social support encompasses complex and subtle processes that may involve multiple personal and interpersonal variables and do not lend themselves to rigorous experimental investigation without an unacceptable level of experimenter bias. However, attempts have been made (Tanaka, Kojo, and Matsuzaki 1990). Several design factors, such as timing (e.g., at 6 months or 12 months) and the number of participants, thereby limiting the ability to control for 'noise', have complicated the problem.

Additionally, although studies are not always prospective, they should, where possible, be longitudinal and thus assess initial levels of well-being and control for reverse causation. Similarly, designs must control for possible correlated attributes (spurious explanations). Alternative explanations of well-being can likely be postulated, including personality, demographic factors, and illness-related factors such as illness duration or symptom severity. In statistical analysis, illness-related variables and demographics ned to be controlled.

Alternatively, other psychological constructs, such as coping strategies and beliefs about personal control, may account for the effects of stress, social support, and well-being. It is plausible that those who have a particular coping strategy, for example, those who deny, may not seek the help of others when it is needed. It

is also tenable that those who believe they have little personal control or believe events occur by chance will also not seek help from others and manifest higher levels of distress. It is, therefore, important that such psychological factors are considered if one is proposing that social support is crucial in maintaining well-being.

Personality, coping and social support

Although this chapter focuses on the effects of interpersonal resources on health, individuals' attributes may also influence social support and illness. Certain personality traits, such as introversion, hardiness, and self-esteem, may facilitate the formation and maintenance of social relationships. Conversely, hostility, cynicism and distrust may hinder their development. When a stressor arises, and help is needed, hopelessness about the stressor, unwillingness to seek help, and the belief that help-seeking is not beneficial may lead the individual to forgo seeking help to reduce the stressor's impact or manage the distress it causes. Similarly, dispositional styles may be necessary. The individual who has a chance locus of control may experience more significant distress and be less likely to seek help when a stressor occurs. These examples would apply to both healthy and ill populations.

An issue in this research is the relationship between intrapersonal variables and social support indices. What factors are associated with the perception of social support? The effects of intrapersonal resources on the support-distress relationship should be considered through multivariate analysis. This issue is vital because, if social support is conceptualised as an extension of either personality or coping styles, it would diminish the importance of the subject, as no clear distinction between interpersonal and intrapersonal resources could be justified. Therapeutic interventions such as community projects (0'Ageilli et al. 1981) and support groups would not then be encouraged.

Conclusion

This chapter has introduced the concept of social support. Its origins lie in developmental, psychoanalytic, and animal research. Animal research has been popular because it allows the experimenter greater control over the natural environment and because studies that would be either impossible or unethical in humans can be performed. The methodological and theoretical difficulties in their application to humans have been highlighted.

Social support has often been a poorly defined term. An attempt has been made to outline the five major areas of investigation: social integration, social networks, intimate relationships, received support, and perceived support. Each approach was defined and placed in its historical context. The measurement and limitations of each approach have been discussed. It is to be concluded that measures of social integration have been found in large-scale epidemiological investigations to be predictive of mortality, but do not explain why social

support is essential. The existence of a social network member tells us little about what they do or, more importantly, what the focal person feels they do or would do if needed.

The growth of cognitive models in psychology, particularly when applied to health (see Lazarus 1966), has focused on the individual's appraisal of available interpersonal resources. However, while the focus has shifted to perceptions of support, there is little agreement on how to measure it. At its simplest, the individual can be asked how satisfied they are with their level of support. Some conceptions of social support are unidimensional (e.g., SSQ; Sarason et al., 1983), whereas others adopt a multidimensional perspective (Cohen and Hoberman, 1983; Wills, 1985). Even when there is agreement on the need for a multifaceted measure, there is often disagreement about the number of dimensions and what they should encompass.

The approach used in our research

Our research, described in later chapters, employed the Interpersonal Support Evaluation List (ISEL) throughout because of its strong psychometric properties and its widespread use with both healthy and chronically ill populations. Critically, it has been used to measure well-being among patients with HIV (Hedge et al., 1993; Lamping et al., 1992; Perry et al., 1992). Therefore, there is a strong rationale for its use in our research with this group. Although the psychometric properties have been reported elsewhere (Cohen et al., 1985; Cohen and Edwards, 1991), the present study further tested these properties by performing factor analysis and examining the psychosocial correlates of perceived support.

The ISEL has been applied to the HIV and CFS patient groups and a healthy population. The HIV and healthy population studies were cross-sectional, leaving the direction of causality speculative. However, a conservative data analysis approach was used to assess the effect of social support on well-being. The impact of control variables (demographics and illness-related factors) and confounding coping strategies (in healthy individuals) was removed from the support-distress relationship using stepwise regression.

A more detailed investigation was performed with CFS patients; this reflects the relative ease of data collection with this population, whereas this was not possible with the HIV group. Concerning data analysis, the same approach taken with the HIV and healthy controls was applied to CFS patients. A central theme of this research was to assess the role of social support in preventing psychopathology (through main and buffering effects). It was also possible to examine in greater detail the relationships between various conceptualisations of social support (social integration and loneliness) and both perceived support and distress measures. Although this was not possible in healthy HIV patients, this approach can be justified. However, it remains possible that the findings apply only to CFS patients and do not generalise to other ill populations or healthy individuals. Hence, any conclusions and recommendations must be made cautiously. Another chapter discusses in detail the theoretical and methodological issues involved in studying the role of social support among patients with chronic illness.

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