A THEORETICAL AND METHODOLOGICAL

ANALYSIS OF SOCIAL SUPPORT,

LIFE EVENTS AND

SUBJECTIVE WELL-BEING.

A thesis presented in partial fulfillment of
the requirements for the degree of
Master of Arts in Psychology
at Massey University

Jocelyn Grainger

1985

ABSTRACT.

This thesis presents a theoretical and methodological analysis of social support, life events and subjective well-being. Theoretical developments and conceptualizations are presented for each area along with an examination of the various measures available, many of which are found to be confounded with outcome measures. Particular attention is paid to the controversial 'buffering hypothesis' of social support. A life-span perspective for viewing life events and social support is highlighted. Methodology is discussed in terms of direct effects, additive effects and interactions. Among the studies examined problems which emerged as particularly relevant included confusing theoretical conceptualizations, confounded and inadequate measures and incomplete reporting of results. Strategies for future research methodology are recommended. These include the need for longitudinal studies and consensus as to appropriate analysis with more use being made of subjective well-being as an outcome measure. Studies would be improved by using both objective and subjective scales to measure all variables while clearly indentifying each as such. It is suggested that life events and social support should be examined in a life-span developmental context. The need for theoretical and conceptual clarity is emphasised, particularly in the area of social support where a new definition is presented. It is recommended that social support be further examined as a variable in its own right rather than as a buffer.

ACKNOWLEDGEMENTS.

TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

This thesis will examine theoretical and methodological issues in the areas of subjective well-being, life events and life event stress and social support. In recent years a large body of research has accumulated but findings have been mixed due largely to inadequate conceptualizations of theoretical issues and varied and often inappropriate methodological approaches. I will attempt to clarify some of these theoretical issues and highlight methodological shortcomings.

I began with an interest in subjective well-being and would have liked to have devoted more time and space to studies using this as an outcome variable. Unfortunately most research dealing with life event stress and social support used some form of depression or psychological distress measure as a dependent variable making a focus on subjective well-being impractical. In well-being terminology these studies can be said to have negative affect as a dependent variable - negative affect and depression are significantly correlated - about .70. Rather than discard subjective well-being from consideration because it was not often used, it is included because its utility as an outcome measure should become more obvious in the future as researchers realise the value of being to able to ascertain the positive as well as negative aspects of people's mental health. Positive and negative affect behave in different ways and each is differentially correlated to other variables.

Throughout this thesis the importance of the individual's subjective evaluations is emphasised. This stance is consistent with the trend of current thinking, particularly in the areas of life events and hassles and their resultant stress. Recent examinations of social support are also tending towards more subjective evaluations. This enables improved explanations of processes involved such as how the individual perceives and uses available social support.

Methodological issues will be dealt with in some detail with relevant studies and their measures being evaluated. Competing models, particularly in the social support area, will be discussed. Social support is at present a fashionable (if controversial) subject for research. There is good cause for this. Current emphasis on community psychology and preventitive measures have led to a search for factors which may be providing an individual with protection and defenses against stress. Social support research, no matter what the model adopted, is continually demonstrating the protective nature of social support in our society.

When looking at variables which play a part in determining an individual's well-being the possibilities are endless. Time and space necessitated choosing only a few but it must be acknowledged that others are equally influential. Personality variables such as hardiness, locus of control and meaning in life make a significant contribution as do factors such as physical health.

Often studied along with life events and social support is coping. Coping can be defined as something which the individual does on a cognitive and behavioural level to ameliorate the impact of stressful life events. Such a definition would seemingly make it logical to examine coping in this thesis. However I have chosen not to do so because of reasons such as that given by Folkman and Lazarus [1980] who warn against premature attempts to explore relationships between coping and adaptational outcomes, pointing out that it is all too easy to confound the process and the outcome. As will be seen later this potential confounding is not restricted to coping alone - it also occurs with other variables.

Coping processes can be seen as intertwined with other variables to the extent that it may be unnecessary to examine them separately. An individual's unique style of coping with life will, in part, incorporate his/her perception of and use of available social support. It will also influence perceptions and impact of life events.

Implicit in this thesis then is the idea that when life events, stress and social support are being discussed coping is an integral part of these variables. Dependent variables such as subjective well-being will in part reflect the success of the individual's coping processes.

****

CHAPTER TWO

SUBJECTIVE WELLBEING

History and Definitions.

The theory and measurement of subjective well-being had its
impetus from two sources. One was the broader social indicators
movement which originally focused on objective indicators - such
measurable units as housing conditions, cars, television sets owned and
income levels. In the late 1960's and early 1970's this movement
developed sideways as researchers began to examine not only how people
lived but how satisfied they were with their lives.It became clear that
quality of life is not only defined by physical variables but how
people perceive their lives and conditions. From there it was a short
step to the concentration on measurement of perceptions of well-being
that define the quality of people's lives. [Andrews & Withey, 1976].

The other source was the age-old question of what Bradburn [1969]
calls the "happiness problem." Since Aristotle people have known that
happiness is a desirable state but have had difficulty with the
definition and measurement of the concept. Happiness has been examined
and debated as a religious, political and economic problem but only
really in the 20th century has happiness been viewed as a concern for
research. In the past happiness has been defined in terms of a
normative framework such as a person possessing or fulfilling desirable
qualities. However, Bradburn [1969] sees happiness as affect balance -
or as experiencing more positive than negative affect. His definition
of psychological well-being incorporates the emotional components more

than do definitions arising from the life satisfaction literature. Researchers of subjective well-being have therefore concentrated on two components - life satisfaction and affect balance.

Rather than actually defining subjective well-being, Deiner [1984] talks of the three hallmarks of the area. The first is its subjective nature - it is well-being as perceived by the indivivdual and not as measured by some external criteria. The second hall-mark is the fact that subjective well-being includes positive as well as negative measures. The third is that the measures usually include a global assessment of a person's life.

Subjective well-being then is an individual's perception of how he or she feels about life - as separate and distinct from the objective circumstances which may or may not influence these perceptions.

Measures and Dimensions of Subjective Well-being.

The influence of the methods used to measure well-being on the dimensions which emerge requires that these two issues be dealt with together.

Scales designed to measure subjective well-being fall into two categories - single-item measures and multi-item scales.

Single-item measures are most often used along with other measures
that may or may not be related to well-being. A good example is
Andrews and Withey's [1976] Delighted/Terrible scale which asks people:
"How do you feel about how happy you are?" and requires a response on
a seven-point scale from Delighted to Terrible. Andrews and Withey,
Deiner [1984] and others report evidence for good reliability and
validity of this measure despite highlighting a number of problems with
single-item measures. For example these measures tend to skew towards
the positive and they may not be sensitive enough to variations in
well-being. They are however influenced by satisfaction, positive
affect and negative affect, - although no separate information on these
components can be obtained from a single item scale. Deiner concludes
that the good reliability and validity of these scales makes them an
adequate, if brief, measure of global well-being.

Diener's [1984] review of the area includes information on several
multi-item scales available, most of which have not had sufficient
empirical examination. Two scales which have already been subjected to
close scrutiny are Bradburn's [1969] Affect Balance Scale and the
Affectometer 2 [Kammann & Flett, 1983]. Bradburn's large-scale
research on the Affect Balance Scale found that it was the best
predictor of an individual's current level of well-being. In addition
it correlated well with other measures of life satisfaction and
happiness. Other studies such as Harding's [1982] evaluation of the
scale in Britain, have found support for Bradburn's claims.

Kammann and Flett's [1983] Affectometer 2 is a 40-item scale which, like the Affect Balance Scale, uses the time-frame of "the last few weeks." Also in common with Bradburn's scale the Affectometer 2 measures positive and negative affect separately and obtains what is called a net score by subtracting negative from positive affect. Like the Affect Balance Scale, the validity of the Affectometer 2 is high, yielding correlations in the range of .68 to .75 with other measures. Kammann and Flett [1983] also claim high correlations with daily mood scores.

These two scales, Bradburn's Affect Balance Scale and Kammann and Flett's Affectometer 2 are at the heart of a controversy surrounding the relationship between positive and negative affect.

There has been considerable debate in the last few years over the components and dimensions of subjective well-being. Bradburn [1969] saw well-being as being the difference between positive and negative affect. His Affect Balance Scale therefore is made up of 10 items - five measuring positive affect and five measuring negative affect. Bradburn views positive and negative affect as independent components of well-being e.g. high positive affect does not necessarily accompany low negative affect. Research showed that positive and negative affect were differentially correlated with other variables. Positive affect was correlated significantly with such things as social participation, income and education while negative affect correlated significantly with physical symptoms of ill-health, depression and anxiety [Bradburn, 1969]. These last findings have been well-supported [Harding, 1982; Andrews and Withey, 1976; Warr, Barter & Brownbridge, 1983].

However, other research has found results which support the notion that positive and negative affect are correlated, rather than being independent. Kammann, Christie, Irwin and Dixon, [1979]; Kammann, Farry and Herbison, [1982] and Kammann and Flett [1983] consistently found positive and negative affect to be inversely correlated - as high as -.66.

Attempts to explain these discrepant findings have included an examination of:

[1] Response formats e.g. yes/no versus graded responses.

[2] Time span e.g. whether respondents reflect over the last few weeks or over a longer period of time.

[3] Distinctions between frequency and intensity of positive and negative affect.

These three issues are inter-related and make it difficult to come to any clear-cut conclusions.

The format of Bradburn's [1969] measure has been cited as a possible reason for the findings of statistical independence. Respondents are asked whether,in the last few weeks, they have experienced a feeling and must reply 'yes' or 'no'. Kammann and Flett [1983] and Kammann, Farry and Herbison [1984] contend that this response mode may be the reason statistical independence is found.

Independence disappears using Kammann and Flett's [1983] Affectometer 2 which requires responses using a graded format. It asks respondents to indicate how often over the last few weeks a feeling was present - not at all / occasionally / some of the time / often / all of the time.

Warr, Barter and Brownbridge [1983] used Bradburn's response mode with new sets of items and found negative and positive affect to be statistically independent. However when using a format requiring graded responses they found results similar to those of Kammann, that is the two scales were now found to be inter-correlated -.54.

Deiner [1984] examined the problem from a slightly different perspective. It is proposed that at particular moments in time positive and negative affect are related - each type of affect tends to suppress the other. This suppression is less likely with graded responses, suggesting that the inverse relationships found are an artifact of the frequency-type measures.

Deiner,Larsen,Levine and Emmons [1983] suggest that studies using a longer time span confuse or blur frequency of positive affect (the amount of time in which positive affect dominates over negative affect) and the intensity with which affect is experienced. The correlations across persons between the intensities of positive and negative affect were found to be positive - at least .70 and were reliable over time. Deiner et al. demonstrated that with intensity partialled out (i.e.frequency left in) strong inverse correlations were found between positive and negative affect. These authors suggest no correlation between frequency and intensity of affective experience, and it follows (they say) that the resulting influence of the two, over time, is to make positive and negative affect independent. Scales measuring frequency will find correlations and scales measuring mean levels of affect (both frequency and intensity) will find independence.

It is unclear which of the formulations in the preceeding section is the most appropriate. What does emerge strongly is the inter-related nature of methodological and theoretical issues. The structure of well-being appears related to the methods used to measure it. In the light of this it does not seem reasonable to accept or reject a theoretical argument about the dimensions of well-being without being aware of the methodological premise on which it is based. On the other hand the methodology should be appropriate for the model of well-being in question.

Despite Kammann et al.'s [1984] argument for a uni-dimensional bipolar construct of well-being, factor analysis of the Affectometer [McFarland, 1984] has shown that it actually measures three bipolar dimensions of well-being. These dimensions are positive affect, negative affect and a less important factor called social-loving feelings.

The question of the dimensions of subjective well-being was also examined by Viet and Ware [1983]. They developed the Mental Health Inventory, based on Dupay's General Well-being Schedule. Partly as a result of their psychometric evaluation of it they present evidence in favour of a single mental health factor which can be sub-divided into psychological distress and psychological well-being. "These are in fact, positive and negative affect with new names" [Chamberlain, 1984].

One of the interesting features of Viet and Ware's [1983] Mental Health Inventory is the breaking down into lower order factors. Of special relevance to this thesis is the inclusion of the social support (emotional ties) component in psychological well-being. Viet and Ware state that the hierarchical model derived from their psychometric

evaluation provides confirmation for the distinct and separate nature of psychological well-being and psychological distress (positive and negative affect).

Tanuka and Huba [1984] took Viet and Ware's analysis a step further and using confirmatory factor analysis, examined whether or not the data supported separable distress and positive well-being factors as indicators of a general third order Mental Health construct. They found that Viet and Ware's theoretical formulation was indeed consistent with the data.

Viet and Ware's [1983] measure and model have been soundly criticised by Kammann [1983] who feels that their 'mental health' concept is merely 'subjective well-being' with its component dimensions of positive and negative affect. Kammann points to likely faults in their methodology, including their choice of items from Dupay's original scale. Given the significance mentioned earlier of the time-frame in well-being studies it is important to evaluate the questionnaire format of Viet and Ware's scale. An examination of the actual items shows that they asked respondents to look back over the last month and that they did in fact use a graded response format thereby failing to separate frequency and intensity data.

It is not surprising therefore, that Viet and Ware's hierarchical model highlights and confirms distinct and separate positive and negative components of well-being, although these dimensions are correlated. The model is also consistent with the high correlations obtained (as stated earlier) between negative effect and depression, anxiety and other symptoms of psychological distress.

The Cognitive Dimension of Well-being.

The previous section only dealt with the affective dimensions of subjective well-being, but current evidence supports a cognitive evaluative dimension as well [Chamberlain, 1984]. This cognitive component may be what Andrews and Withey [1976] identified as life satisfaction. It involves an individual's appraisal of his or her life and situation judged relative to some standard or situation which the individual may have expected, hoped for or seen in other's lives. McKennell and Andrews [1983] point out that affect, unlike the cognitive dimension is an immediate feeling state that is not anchored to the same extent to cognitive frames of reference.

There is little available research looking specifically at the cognitive dimension and its relationship to the affective dimensions of well-being. However a number of studies provide indirect support for the existence of this dimension.

In 1974 Beiser factor analysed the measures used in his study and found three main factors - negative affect, pleasureable involvement (which he said was similar to positive affect) and a third factor which he called long term satisfaction. He labelled this factor an affective dimension and states that it is related to emotional and family ties. Judged in the light of more recent research this factor is probably closer to a cognitive evaluation rather than an affective dimension.

Bryant and Veroff [1982] examined the structure of psychological well-being using data gathered from large surveys 19 years apart. They found a stable three-factor structure - stable across sex and time. As well as the positive and negative affect dimensions they found a distinct factor of perceived competence in handling one's life.

McKennell and Andrews [1980] examined models to ascertain how cognition and affect operate in perceptions of well-being. They evaluated models that included cognition and models that did not. They found that models that contained the cognition factor fitted the data better than the models that did not. McKennell and Andrews [1983] conclude that in making global assessments of life quality "respondents weigh directly both affective and cognitive considerations, so that the final assessment is a compound of the two."

Subjective Well-Being and Other Variables

A distinction is often and necessarily made in the literature between objective life conditions (such as income, housing, employment, education, sex and intelligence) and subjective satisfaction judgements with the various domains.

Deiner [1984] points out that satisfaction judgements tend to correlate more highly with subjective well-being than do objective conditions. However this can be seen in part as a result of method variance shared with subjective judgements and subjective well-being and because objective conditions are usually mediated by subjective processes.

Subjective well-being appears to be unrelated to psychological maturity [McCrae & Costa, 1983], to sex [Andrews & Withey, 1976], or to intelligence [Deiner,1984]. However differences in subjective well-being can be predicted by some personality factors e.g. extroversion and neuroticism, locus of control and self-esteem [Costa & McCrae, 1980]. Although personality factors, as such, are beyond the bounds of this report, it should be kept in mind that they can and do influence other areas such as social support and coping.

Deiner's [1984] summary of the literature reports that most studies find positive relationships between income and subjective well-being, but the data is confusing. For example although wealthier people tend to be happier than poorer people, as the overall level of income within a country rises the overall level of happiness does not show a corressponding rise. Deiner [1984] posits a number of possible reasons for this and concludes that, "it is not the purchasing power or mean levels of income that are important, but the overall distribution of income, including the range,that influences subjective well-being" [p.31]. The cognitive dimension may be important here as individuals cognitively appraise their situation relative to that of others.

An important predictor of lowered subjective well-being is unemployment. Even beyond financial factors, being unemployed has a devastating effect on well-being [Campbell, Converse & Rogers, 1976; Bradburn, 1969; Warr, 1984]. Unemployment is to some extent a proxy variable which cannot completely account for relationships in its own right. Along with it go other factors such as financial strains, loss of status, lack of time structure and reduced social contacts which are all contributing to the overall effect of unemployment on well-being.

Marital status is a particularly good predictor of subjective well-being. A recent article by Kammann [1983] found that the higher levels of well-being reported by married people as opposed to any other group are consistent between N.Z. and U.S. samples. Tied in to marital status are other variables, such as social support, which are too important to be ignored. Marital status, like unemployment, is a proxy variable. It is not merely the fact of being married which is accounting for well-being levels.

Deiner [1984] reports positive effects on well-being for social contacts and friendship. As will be discussed in some detail later these variables, as well as marital status, can be said to fall under the general umbrella of social support and will reflect similar positive benefits.

Also to be examined in more detail in this thesis are overall life events which show a small relationship to subjective well-being [Deiner,1984]. Events seen as beneficial relate to positive affect and bad events relate to negative affect [Zautra & Reich,1980]. The work of Lazarus and his colleagues has demonstrated the relevance of examining life events within a shorter time-frame - daily hassles. Hassles have been shown to have a more significant relationship with health than do life events on a larger scale [Delongis, Coyne, Dakoff, Folkman & Lazarus, 1982].

Subjective well-being is probably determined by a large number of factors, and may equally well be a causal variable. For example it may be difficult to know if social contact is the result of or the cause of well-being. The difficulty is often exaggerated when components of subjective well-being are used as independent variables as well as

being built into the dependent variable. This confounding is reasonably common in the literature. Deiner [1984] pointed out the difficulties involved in attempting to separate out the effects of variables which are themselves inter-correlated: "One can examine the unique variance predicted by each variable, but the common variance is often the largest portion of variance accounted for" [p.49].

Deiner [1984] discussed the need for more adequate theorizing and methodology in the area. There are adequate instruments available to enable subjective well-being to be used as a dependent variable. What remains unclear is how to be sure that measures of subjective well-being are not measuring aspects of the independent variable as well. Just as important are attempts to devise ways to properly measure and interpret the effects of other variables on subjective well-being.

It can be seen then that subjective well-being is a useful outcome measure which has been theoretically well-defined. The positive and negative dimensions correlate differentially to other variables and research has supported the reliability and validity of these dimensions. The cognitive dimension plays an important part in global assessments of life satisfaction. Available measures of subjective well-being are sound and should be more extensively used as outcome measures in the future because of their ability to provide information about positive affect as well as negative affect.

****

CHAPTER THREE.

LIFE EVENTS

Life events and stress.

Research in the area of life events can be traced back to the work of psychiatrist Adolf Meyer who, in 1948, demonstrated the relationship of biological, psychological and sociological factors to health and disease processes. He pointed out the importance of many life events such as changes in employment, relationships and habitat. Work in the area has proceeded ever since and it is now a well-accepted fact that factors other than disease agents are important in the development of illness.

Interest was accelerated when Holmes and Rahe [1967] proposed that it was the readjustment required by major life events or changes that increased the risk of physical illness and/or psychological impairment.

The assumption behind their work and that of others is that life events and life changes are stressful to the individual because they demand adaptation. This approach to life events research has become a common one - life events are found to have one theme in common: "The occurrence of each event usually evoked or was associated with some adaptive or coping behaviour on the part of the involved individual" [Holmes & Masada, in Dohrenwend & Dohrenwend, 1974, p.46].

Life events can be positive or negative in the sense that they are desirable or undesirable. Life events then can be such things as changing schools or jobs, getting promoted or fired, getting married or divorced, the birth of a child or the death of a loved one. All these events constitute change in the life of the person concerned and require some kind of adaptation.

It is difficult to discuss stress in the form of life events without attempting to examine what is meant by a stressor - what is there about a particular stimulus or event that makes it a stressor. Antonovsky [1980] states that a routine stimulus can be seen as one to which the organism need make no special effort to adjust. A stressor however demands adaptive responses which are not immediately available. Antonovsky [1980] quotes Lazarus [1977] and sees Lazarus' view of the stressor concept as becoming a fairly generally held one - that of a transactional phenomenon based on the meaning of the stimulus to the receiver, i.e. does the individual have readily available adaptive responses? In a fascinating discussion Antonovsky himself broadens the concept of stressors and his thesis is that while individual differences cannot be ignored, " what is common to us all is far more important" (p73). Antonovsky [1980] claims that there are certain stressors "inherent in the human condition" (p90). He feels that although there is a differential distribution of stressors from one historical period to another, from country to country and from individual to individual, no one is exempt: "I have insisted that even the most fortunate of people and groups know life as stressful to a certain degree" (p. 89).

Antonovsky discusses 11 of these psychosocial stressors:

[1] accidents and the survivors - here he includes any kind of accident which brings physical and psychological stress for victims and survivors.

[2] The untoward experiences of others in our social networks.

[3] The horrors of history in which we are involved.

[4] Intra-psychic, unconscious conflicts and anxieties.

[5] The fear of aggression, mutilation and destruction.

[6] The events of history brought into our living-rooms.

[7] The changes in the narrower world in which we live.

[8] Phase-specific psychosocial crises.

[9] Other normative life crises - role entries and exits, inadequate socialization, underload and overload.

[10] The inherent conflicts in all social relations.

[11] The gap between culturally inculcated goals and socially structured means.

The terminology used in the above points is Antonovsky's [1980]. Intuitively the reader feels that what is being said is correct - these are the life events and changes that produce stress. It would be valuable to operationalize Antonovsky's list into some kind of life events scale and compare it with other scales and stress measures. Unfortunately there is little or no research which expands on or tests Antonovsky's ideas.

More relevant because it is more representative of current thinking in the area is the synthesis presented by Pearlin, Menaghan, Lieberman and Mullan [1981]. They discuss what they call the stress process which they see as comprising three major domains - the sources of stress, the mediators of stress and the manifestations of stress. They

highlight the fact that present research in the area reflects the perspective that: "adverse consequences, at least those involving psychological stress, depend not only on the number of events and the magnitude of the changes they entail, but on the quality of eventful change as well" [p.339].

This highlights the fact that not all life events are necessarily stressful. Much depends on how an event is perceived, also the life-span approach to developmental psychology presents a perspective which should be kept in mind. This is that life events and change which come at an unexpected stage in life are more likely to require more adaptation and therefore to be more stressful than events which occur at expected times. The individual is usually prepared for events such as retirement or getting married - these are normative and socially prescribed changes which happen to everyone at about the same stage in life. Unexpected life events such as a major illness, winning a lottery or being made redundant will usually require more adaptation. Studies such as those by Fiske, [1978] and Chiriboga, [1978] and Brickman, Coates and Janus-Bulman, [1978] have shown that these unexpected life events have relatively more impact on the individual.

Pearlin et al. [1981], emphasise the importance of recognizing that adverse consequences for the individual depend not only on the timing and number of life events and the magnitude of adaptation required but also on the quality of the change as perceived by the individual. This fact is reflected in research that seeks to clarify types of life events e.g. whether the individual sees them as positive or negative [Zautra & Reich, 1980; Zautra & Reich, 1981; Vinokur & Seltzer, 1975]. Also relevant is whether or not the individual perceives some personal control over the situation [Reich & Zautra,

1981].

Differences in quality and types of events   as   well   as   in   the individual's reactions   to   these events may produce different effects.

MEASURING LIFE EVENTS.

Life events research has two main problems associated with it. One is the   problem of objective versus subjective measurement and the other is the problem of confounding due to items on the scales overlapping with dependent measure items.

When measuring life events a problem arises in terms of whether an objective measure can be taken or whether; " what is stressful for one person may be of little consequence to another" [Hudgens, in Dohrenwend & Dohrenwend, 1974, p.318]. This issue is crucial in exploring not only the effects of life events themselves but the inter-relationships between life events, stressors, stress and coping.

Tied up with this issue is the question of which life events or changes the reseacher considers may be stressful to the individual. Initial research on life events saw researchers making their own subjective judgements and the content validity of the resulting scales is therefore questionable. One way of making these judgements was to look at clusters of life events that seemed to precede illness onset [Dohrenwend & Dohrenwend,1974]. Dohrenwend and Dohrenwend point out

that these lists may confound process because they may be biased towards physical or psychological disorder. In some cases life events questions concerning such things as ' changes in sleep patterns' or 'changes in eating habits' may in themselves be part of a disorder such as depression. Holmes and Rahe's [1967] original Social Readjustment Rating Scale, on which much of the other research is based, is of this type. The investigators chose items representing events which, it was thought, produced stress leading to illness. They then asked 394 subjects to rate each event according to the amount of readjustment needed. The scale was developed with a weighted value for each item.

Kimball [1982] points out what he calls a "glaring and grievious" discrepancy in Holmes and Rahe's [1967] research. All the life events scores were decided on the basis of people's estimates before an event occurred. Kimball says there is only a hypothetical correlation between the necessary adjustment for an anticipated event and any necessary adjustment for an actual event. In addition the Holmes and Rahe scale does not take into account the respondent's subjective interpretation of the event.

Sarason, Johnson & Siegel [1978] offer a different, but related, criticism of the Holmes and Rahe [1967] Social Readjustment Rating Scale. They question the value of combining both desirable and undesirable events to determine the life stress score. Vinokur and Selzer [1975] provide evidence to show that it might be advisable to separate out desirable and undesirable items. They contend that only undesirable items produce stress. Defining a life event as desirable or otherwise is dependent on the individual's subjective perception of the event. The subjective evaluation should not be ignored.

Most serious of these criticisms of Holmes and Rahe's Social Readjustment Rating Scale is the fact that a number of the life events on the scale could be symptoms of psychological disturbance. This would seriously confound the life events measure with any dependent measure of psychological symptoms. Dohrenwend, Dohrenwend, Dodson and Shrout, [1984] addressed this issue by asking 371 clinical psychologists to assess items on four scales in terms of whether or not the items were symptoms of psychological disorder. Holmes & Rahe's scale was one of those assessed. It was found that the Holmes and Rahe scale does contain a substantial proportion (at least 20%) of items judged as probable symptoms, thus confounding the life events with the outcome measures. The undesirable items such as 'you served a jail term recently' were most usually judged as symptoms. The authors point out that as undesirable life events show the strongest positive correlations with psychological distress this confounding is a serious problem.

Holmes and Rahe's research using this scale showed that the greater the magnitude of life change the greater the probability of disease onset. However in addition to the problems with the scale Rabkin and Streuning, [1976] point out that the unsophisticated techniques of data analysis in these early studies often showed significant results where none really existed. For example between group results were often only reported in percentages. Also, with the large sample sizes in some of these studies even very small correlations of no practical utility may pass tests of statistical significance. Reports of obtained correlation co-efficients are often conspicuously missing. In practical terms life events scores have not been shown to be good predictors of the probability of actual future illnesses.

Another potential problem with life events scales of the Holmes & Rahe type is that these scales are uni-dimensional and ignore the fact that life events and their resultant stressfulness are multi-dimensional variables [Hyman & Woog, 1982]. Not only should events be distinguished as to their positive/negative characteristics but also important are such things as the scheduled/unscheduled aspects; controllable/uncontrollable and chronic/short-term aspects. These factors are going to influence the way the individual perceives the particular event. It is worth acknowledging that a lack of life change or life events may be very boring and therefore stress-producing for some people.

An assessment of different methods of measuring life events was attempted by Faravelli and Ambonetti, [1983]. They used three measures - a normative measure similar to the Social Readjustment Rating Scale; a subjective rating by each individual as to the amount of adjustment required for events; and a contextual method derived from Brown and Harris [1978]. This last combines a structured interview approach with ratings made by people other than the interviewers. This measurement is believed to retain the individuality of meaning and yet to avoid the risk of circularity between events and consequences [Favarelli & Ambonetti,1983]. They present their comparisons between the three methods in terms of reliability, validity and sensitivity over depressives and control subjects. It was found that none of the methods were particularly reliable. The authors reported high correlations between all three measures in total, although for depressives the correlations were not nearly as high as those for the control subjects. Only the normative and contextual methods showed significant differences between depressives and controls. It was concluded that the normative and contextual measures were equally

valid. This study is unclearly written and the exact method difficult to interpret. It is useful because it is one of a very few of its kind and its inadequacies may inspire more satisfactory comparisons.

Hassles.

A more promising alternative to the study of major stressful life events has been the work of Richard Lazarus and his colleagues who have focused on relatively minor negative life events which they term 'hassles' These are the - "irritating, frustrating, distressing demands and troubled relationships that plague us day in and day out" [Lazarus & Delongis, 1983, p.247].

These researchers felt that life events as such were the wrong approach to the measurement of life stress. They criticised the life events approach for a number of reasons, including the lack of representativeness of its items. They say that these scales pay no attention to whether or not the events measured were personally significant to the respondent. Lazarus and Delongis, [1983] state : "We must abandon the simplistic notion that stress is adequately described by life events." It is felt that the focus on hassles rather than on major life events enables the gathering of more sensitive data on daily events which affect health and gives us a better picture of psychosocial experiences and stressors.

Delongis et al.'s 1982 study hypothesised that daily hassles would have a stronger relationship to health than would life events because hassles are proximal variables (to do with individual's immediate perceptions) rather than distal variables (to do with the environment). This hypothesis was supported - the relationship between hassles and health was stronger than that between life events and health. Both intensity and frequency of hassles were found to be significantly correlated with health status. Higher hassles scores are associated with poorer health. No relationship was found between life events during the study and health status, but pre-study life events (10-36 months prior to the study,) correlated significantly with health status at the time of the study. Multiple regression analysis showed hassles accounting for 13% of the variance in health status, to which life events did not add significantly. When life events scores were entered first they accounted for 7% of the variance with hassles adding a significant 9%. The authors felt that an important consideration partly accounting for these results is that when subjects check a hassle they are indicating not just the fact that something happened but also how they felt about it - it is a more subjective measure.

These results confirm that of an earlier study (Kanner, Coyne, Schaefer & Lazarus, 1981), which had also found daily hassles to be better predictors of concurrent and follow-up psychological symptoms than were the traditional life events scores.

One major problem with these studies is the possible confounding of hassles (or their positive counterpart, uplifts) with either psychological disorder and/or life events.

Monroe [1983] attempted to address this issue in a study employing measures of major life events, minor life events and psychological symptoms. The measure of minor life events was not that of Kanner et al. [1981] but it did provide hassles and uplifts scores. As expected hassles were found to be highly (r = .65 p <.001) correlated with psychological symptoms. The multiple regression analyses showed hassles to significantly predict symptoms but unfortunately Monroe does not report results for direct effects of major life events scores on symptoms. None of the event categories was significant once hassles were entered into the equation. Monroe [1983] does not present enough figures to enable an independent judgement to be made but he does (tentatively) conclude that daily hassles, in general, may be better predictors than major life events. The author states that none of the hassles by events interactions (no figures supplied) was significantly associated with follow-up psychological symptoms and suggests that this shows hassles to be independent predictors and important in their own right.

Although one of Monroe's [1983] stated intentions was to examine the issue of confounding between hassles items and symptoms the results presented do not appear to be related directly to that question. In the discussion section Monroe states: "While the present results indicate that the hassles-symptoms associations cannot be attributed solely to the item overlap and confounds between the dependent and independent variables, it would appear wise in future work to avoid item redundancies and to examine hassles sub-groups according to their independence from psychological influences" [p.202].

One can only assume from this that the study did find some confounding. It would have been useful if this had been dealt with in more detail.

Kanner et al.'s [1981] Hassles Scale is one of those investigated by Dohrenwend et al. [1984] in their previously mentioned study on confounded measures. It was found that almost one third, 37 out of 117, of the items on the Hassles Scale were more likely than not to be symptoms. A further 53 items were considered just as likely to be symptoms as not. These figures were higher than those found for the Holmes and Rahe [1967] Social Readjustment Rating Scale.

Dohrenwend et al. [1984] state that it is premature of Kanner and his colleagues to claim superiority for hassles measures over life events measures. If the Hassles Scale is confounded with outcome measures its use adds little to our understanding of the role of environmentally induced stress in psychological distress, because of the almost certain correlations to be found.

The problem of confounding will be a difficult one to resolve. I feel that while the life events scales are useful measures of more objective life events the value of the Hassles Scale lies in its ability to evaluate day to day stress and to tap the subjective aspect of events. The Hassles Scale proponents claim (and rightfully so) advantages for their scale in terms of its relevance and immediancy to the individual respondent. It would be counter-productive to remove all items overlapping with outcome measures from the scales. However it would be useful if such items were easily identifiable. In this way they could be included or not depending on the nature of the study. A way must be found to minimize confounding and at the same time retain

the benefits of the scales.

Perceived Stress.

Cohen, Kamarack and Mermelstein [1983] also take the view that the response to an 'event' is dependent, not just on the event itself, but also on personal and contextual factors. They say that perceived stress must be measured as opposed to or in addition to objective stress. An additional benefit of this approach is that perceived stress can then be treated as an outcome variable measured as a function of objective stress, coping behaviours, personality factors etc. Cohen et al. [1983] developed a Perceived Stress Scale which they report, not surprisingly, as being a better predictor of health and health-related outcomes than a life events scale. Based on their data this appears to be a promising scale and it will be interesting to follow further research on it. However it, in common with other scales such as the Social Readjustment Rating Scale, makes no attempt to assess independently the available resistance resources of the respondents. There is also no way of telling from the scale alone, how much objective stress the individual has had to cope with. Perhaps a combination of this and a life events scale would be most useful?

Pearlin et al. [1981] examine a slightly different dimension. They suggest that events do not necessarily have a direct impact but rather make themselves felt through the wider context of life strains. Life events, they say, can "lead to stress by adversely altering the meaning of persistent life strains." Life events can also create new strains to be dealt with. It is the combination of the life events and the resultant strains that lead to the stress.

Because of the differences in models of life stress - the objective life events model vs. the perceived stress (strains and hassles type models) there are diverging views as to how stress should be measured.

Criticisms of the life events approach have been mentioned earlier and are also detailed by Lazarus and Delongis [1983]. They say that one of the "striking features of modern stress research is its preoccupations with dramatic events and severely taxing situations." They cite the failure to consider mediators of stress and the personal significance of events. Their research on elderly subjects showed that although the age group of the respondents meant that they were not experiencing major life changes such as those found on traditional life events scales, it was unwarranted to assume that they were not experiencing life stress. This highlights the problems mentioned earlier where there is often a failure to take into account life stage and normative changes for life stage.

Factors Affecting Subjective Perceptions of Life Events.

It becomes essential to find out why there are these differing qualities of change. As will be discussed later the mediators of stress such as social support are relevant but it is also necessary to acknowledge that different people experience the same effect in different ways.

This phenomonological view has been supported by the work of such as Dohrenwend and Dohrenwend [1974] and others. It is often found that people who experience what could objectively be viewed as stressful lives do not necessarily experience negative consequences. Kimball [1982] in his discussion of stress and psychosomatic illness points out that the relationship between the two is not necessarily a linear or causal one. There is a need to look further into the difficult area of adaptational processes such as coping.

To avoid the reasoning becoming circular, it is essential then to define stress independently of the individual and his/her coping behaviours, styles or processes, and also independently of well-being. Along with other mediating factors this coping may be the most important factor in deciding whether or not an event will be perceived as stressful or not. It is possible that this perception of an event as stressful or not is strongly related to an outcome such as subjective well-being.

Antonovsky [1980] spoke of the "resistance resources" that can neutralize stress. These resistance resources encompass what he calls a "sense of coherence" which is the best of the resistances against stress. Resistance resources include mediating factors (e.g. coping and social support) and personality dispositions. Kobasa's [1979] conceptualization of hardiness goes a long towards synthesizing the variables in the area. The hardiness concept which has developed out of existential personality theory suggests that the person who can be described as hardy will most successfully utilize available stress resistors and mediators and will be of a personality type which includes or produces adequate coping behaviours.

Ideally then life events measures should account for objective and subjective stress and the aim must be to assess both. Traditional life events measures are more suited to the more distal sorts of stressors encountered in life. These can most effectively be measured with objective scales. The value of the hassles-type measures is in their ability to account for more proximal variables and to encompass the subjective component which is too valuable to be ignored. Both approaches are necessary to enable a full picture to be obtained.

General resistance resources differ so much within and between subjects and across situations. I feel that the concept of hardiness will prove valuable to help provide some way to draw together these aspects of stress and coping. Personality variables play a large part in determining individual responses in this area and hardiness may provide some clues as to the reasons for the differing reactions of individuals to the same stressors. More research in this area would surely provide useful data to strengthen the concept even further.

Antonovsky's sense of coherence is similar to hardiness in that a person who has this sense of coherence will cope well with life's stressors - both major life events and daily hassles. Unfortunately this concept has not yet been studied empirically. One can only hope that this too will be the subject of further research.

****

CHAPTER FOUR.

SOCIAL SUPPORT.

Definitions.

Be they in tribes, families, work or leisure groups, people rarely exist in complete isolation. Initially this served the purpose of survival - people simply could not exist alone. This is probably still the case but it was not until recent times that the precise nature and function of the support obtained from fellow humans became an object of study.

Definitions, conceptualizations and theories of social support are many and varied but all have a common emphasis on the helping properties of the social aspects of the individual's environment. All assume that social bonds and the support gained from them are important to an individual's health and well-being.

One group of definitions can be called network-type definitions. These define social support in terms of the amount and type of a person's social contacts and available social resources. [Hirsch, 1980; Williams, Ware & Donald, 1981]. It is presumed that by knowing that individuals have a certain number of relevant others in their social network these contacts will be beneficial. Often the presence of a marriage partner is cited as evidence of social support.

It has become increasingly evident that this type of definition of social support is too limiting and leads to measurements which merely tell us amounts - nothing about how social support is used or how it benefits the individual. Criticisms of the network-type definition e.g. Dean and Lin, [1977]; Cohen and Hoberman, [1983]; Jackson, [1983], include such points as the fact that being married does not necessarily imply support and in fact can be stressful. It is also important to note that an individual may have many social contacts but does not necessarily use them to provide support.

A more useful set of definitions treat social support as a multi-dimensional variable and address concepts such as the types of social support available to the individual. Included here are instrumental (or practical) support - such things as the availability of child-care in an emergency or a ride to work if your car breaks down. This is contrasted with emotional support - including someone to talk to about personal problems. Dean and Lin [1977] describe instrumental support as task-related and expressive support as needs related.

Jackson [1983] points out that this broadening of the definition is more likely to account for qualitative as well as quantitative factors and to allow room for acknowledgement of social support as a dynamic variable. This conceptualization of social support as a multi-dimensional variable recognises the importance of the individual's degree of social integration as well as the affective dimensions of such things as close emotional relationships [Thoits,1982a].

Thoits [1982b] discusses the problems of the conceptualization of social support. This article highlights the various dimensions of social support which should be made explicit in any definition. Thoits also touches on, but fails to elaborate fully, one of the aspects that I consider to be the most important - the individual's satisfaction with available social support. Any conceptualization of social support must include the need for social support, the types of support available, how the individual perceives these factors and whether or not they are satisfied with their available support.

There have been three major attempts to provide a comprehensive definition of social support.

Barrera and Ainlay [1983] discuss six categories of social support. They devised these categories after a review of the literature with specific focus on articles dealing with social support and its functions. The categories were selected because they reflected concepts repeatedly endorsed in the articles reviewed. The six categories are:-

[1] Material aid - the provision of tangible support such as money and other physical objects.

[2] Behavioural assistance - the sharing of tasks.

[3] Intimate interaction - the expression and reception of such things as listening, understanding, caring and esteem.

[4] Guidance - advice or information.

[5] Feedback - about behaviour, thoughts and feelings.

[6] Positive social interaction - engaging in social interaction for fun and relaxation.

Barrera and Ainlay see these six aspects as embodying and reflecting concepts most often discussed and measured in the literature and point out that most definitions and studies do not embody all of the above categories. Their list is reasonably comprehensive but also lacks the satisfaction angle.

Cobb [1976] conceives of social support as information which leads the individual to believe that:

[1] He or she is cared for and loved.

[2] He or she is esteemed and valued.

[3] He or she belongs to a network of communication and mutual obligation.

This definition is intuitively appealing as it embodies satisfaction, but as Thoits [1982b] points out it lacks the practical dimension, things such as material aid and information.

Thoits prefers the definition of Kaplan, Cassel and Gore, [1977] who define social support as the degree to which a person's basic social needs are gratified through interactions with others. These needs can be expressive or instrumental, can come from a variety of sources and by implication one assumes that if needs are being met then the individual is satisfied with his/her social support. Thoits [1982b] feels that Kaplan et al.'s [1977] definition allows for adequate operationalization of the concept and its dimensions.

The three definitions discussed above all lack at least one of the important aspects of social support. It would be useful to have a more explicit definition embodying all important aspects and I have formulated the following which I feel more adequately expresses the relevant dimensions.

Social support cannot be said to be functional unless the individual in question feels a need for support, (both practical and emotional) feels that resources are available and feels satisfied that these needs are being met. Social support is a multidimensional concept unique to each individual. It is a dynamic concept which changes with circumstances and with life stage. Social support involves four aspects:

[1] It includes the individual's need to feel cared for, loved, esteemed and valued (emotional support).

[2] It also includes the individual's need for material, informational and practical assistance available at all times (practical support).

[3] Social support involves having ready access to relevant others who fulfill these needs.

[4] The individual must be satisfied with his/her social support in both spheres.

Social Support From A Life-Span Perspective.

With the odd exception it is too rarely recognised that social support is a dynamic variable, changing with circumstances and with life stage. The situational aspects will be discussed later but here it is essential to stress the fact that social support is important

throughout life. It is not merely a 'thing' that is mustered in times of emergency.

Some studies of social support have been specific to certain ages such as puberty or old age. Some have been specific to events or transitions that are characteristic of certain stages of life e.g. retirement, parenthood or widowhood. What are missing are empirical examinations of the changing patterns of social support across the life span [Kahn & Antonucci, in Baltes & Brim, 1980].

People's need for and use of social support, in all its dimensions, changes with age and life stage. Circumstances and roles change and although a person will always need to feel that social support is available if needed, its use will depend to some extent on situational and life stage factors. As Kahn and Antonucci [1980] put it: " There is no single life-long recipe " [p.256].

Also important are cohort differences which can effect the need for and use of social support. Children of today are much more likely than their parents or grandparents to be raised in a home where both parents work, to be accustomed to some sort of day care outside the home or to be raised in a single parent family. Factors such as these will influence the nature and use of social support, as will gradual attitudinal changes in society. It is increasingly accepted nowadays that everyone may occassionally have the need to seek support or help from a source apart from a close family member. These supports are readily available in most communities.

With social support as with everything else past experience cannot be overlooked. Individual differences in adulthood will to a degree be dependent on past experience .

Bowlby [1973] believes that when an infant is cared for and comes to rely on social support in the form of an attachment figure early in life, the child will learn to become appropriately self-reliant and reliant on others and will learn to function as support for others. Bowlby concluded that this early attachment helps in the developement of a capacity to withstand and overcome frustration later in life. Other research has supported this view e.g. Hirsch, [1980] and Sandler, [1980]. Sarason, Levine, Bacham and Sarason [1983] quote considerable research with similar findings and conclude that : "the availability of childhood social support is related to personality development and adult behaviour patterns" [p.127].

Social Learning theory [Rotter, 1975] views personality not so much as a trait but as a set of potentials for responding to situations. Behaviour is modified and changes with life experiences. Behaviour in the present is therefore shaped by past experience. Social Learning theory states that a person will respond in a given situation with behaviours that have been learned (through past reinforcement) which will lead to the greatest satisfaction - i.e. behaviours that are perceived as being most likely to satisfy needs. These expectations of need satisfaction will cover as broad a range as the needs and will include factors such as social support. Early positive experiences with available and actual social support will give rise to expectancies that future situations, if handled in a similar fashion, will also result in need satisfaction. For example a child who takes some difficult homework to a parent and receives constructive

help on one occasion will be more likely to expect a similar need to be met on a subsequent occassion. A rebuff when support is needed could lead to expectancies of low availability of support. Across the life span needs for social support will differ and expectancies at each particular stage will depend to some extent on past experiences of need satisfaction or dissatisfaction. A series of unsatisfying experiences could produce an adult who has few available social resources, no confidants and little expectancy of obtaining support from other people.

Social support has been seen and studied as playing a part in and aiding a person through a variety of life circumstances and situations. The degree to which social support is a relevant factor and the way it is seen as operating depends on a number of things including the way social support is conceptualized, measured and on the way the data are analysed.

Social Support and Other Variables.

Social support is often used as one explanation for the situation where stressful life events do not produce detrimental effects. Whether or not social support has direct effects or acts as a buffer will be discussed in some detail later. Suffice it to say at this point that a large amount of research shows social support to play a part in reducing the amount of stress in life events. An almost equally large body of research can be interpreted as showing that high levels of social support are associated with a lower occurrence of stressful life events. The form and direction of these relationships is controversial. As Thoits [1982b] states it is difficult to sort out

the relationships when many life events (of the sort that are measured by such scales as that of Holmes and Rahe) can be interpreted as losses or gains of supportive relationships e.g. marriage, death of a spouse, divorce. On the one hand life events may be or may embody social support change and on the other hand the same life events may produce additional changes in the social support system. Another reason for uncertainty and potential confounding in this area is the fact that, to date, most of the research has been cross-sectional.

A similar dilemma arises when discussing the relationship of social support and variables such as stress, well-being and psychological disorders. That there is a relationship can be stated with some certainty. The nature of these relationships is still in question.

Social support has been given credit for such things as increasing the efficiency of socialization in schools, [Cobb, 1976]; enhancing psychological well-being, [Turner, 1981]; having a positive value at all levels of life events, [Williams et al., 1981]; and having a beneficial effect only at high levels of stressful life events, [Nuckolls, Cassel and Kaplan, 1972]. High levels of social support have also been shown to correlate positively with more liberal accepting attitudes towards mental illness, [Sarason & Sarason, 1982]; aid recovery from various physical illnesses [Cobb, 1976]; and modify the severity of psychological and health-related responses to unemployment, [Gore, 1978]. Higher levels of social support are also associated with higher levels of socio-econeconomic status, [Thoits, 1982a]. The confusion apparent in the area is directly related to and best discussed in terms of measurement and methodology.

Measurement of Social Support.

A closer examination of the methods used in past research to measure social support is necessary for two reasons. The first is that the methods used are of course dependent on how the researchers have conceptualized and defined social support. Some studies, as will be seen, have a very indefinite conceptualization of the variable resulting in an inadequate operationalization. As a result it is questionable whether or not they are actually measuring social support. The second reason is that these definitions, operationalizations and resulting measures will influence any results found in the studies.

Social support networks, as previously mentioned, are often used to assess social support. Studies such as those of Wilcox [1981] and Hirsch [1980] looked at networks. This method of measurement does not measure actual social support, only potential support and for this reason and others mentioned earlier, I feel that these measures are incomplete.

Studies such as those by Aneshensel and Stone [1982] and Cohen and Hoberman [1983] improve on basic network measures by using both objective and subjective measures of support. Both these studies asked subjects about the amount of support they thought was available to them and the amount of support they had actually used in the recent past. However even this does not take into account whether or not the individuals were satisfied with their support.

A close examination of some studies reveals that it is questionable whether or not it was social support that was actually being measured. For example Williams, Ware and Donald, [1981] claim to have to have found a positive value for social supports at all levels of life events. However they measured social support with five single item measures which merely asked subjects to report numbers of friends, relatives, and telephone contacts, amount of religious participation and what they called 'getting along'. Two multi-item scales (unspecified) asked about group participation and social contacts. It would appear that they have measured only the number of people in different categories that the subject was in contact with.

Lin, Dean and Ensel's [1981] Instrumental-Expressive Social Support Scale does, as the title suggests, examine both practical and emotional aspects. This 26-item scale however does not tap the respondent's satisfaction with support level.

Caldwell and Bloom [1982] conducted research on social support in marital disruption. Their conceptualization of social support was an improvement over many in that they identified six aspects. These were source, size of network, geographic accessibility, frequency, type and perceived adequacy of social support. These six aspects come quite close to fulfilling requirements for a good definition. Unfortunately it is not possible to make an adequate assessment of the 40-item measure designed to tap these six aspects because only a sample of items was included in the article. Caldwell and Bloom analysed the 40 items using a cluster analysis and derived seven clusters of items which they say represent the revelant dimensions of social support. These include 'satisfaction with single status.' An example of an item in this cluster is: "What is your current attitude toward

re-marriage?" The authors state a presumption that people scoring high on this dimension seek less additional social support because they have no desire to involve themselves in a marriage-type relationship. Another cluster entitled ' High Social activity ' is represented by questions such as: "Have you been closely involved with a person of the opposite sex since your separation?" High scorers on this dimension were presumed to have made new friends and therefore to not be lonely. Such inferential leaps are not convincing evidence that the items are measuring social support in a full sense.

Frydman's [1981] research studied parents of chronically-ill children. Social support was measured using three five-item scales concerned with support available in time of crisis, interaction within the neighbourhood and recent participation in social organisations. These are in fact no more than an objective count of respondents social contacts. Nowhere does it mention or appear to measure whether or not subjects would ever or had ever used any of these contacts for support nor how satisfied they were with them.

Parry and Shapiro's [1983] study examined social support and life events. They did distinguish between and have separate measures for perceived available instrumental and expressive social support. However in the expressive social support measure women were assigned to a 'high', 'medium' or 'low' support category on the basis of the total number of their social contacts, how much recent time spent with confidants and whether there was evidence of marital disharmony. All this does not necessarily mean that the women were using this available support for expressive support. It is quite possible to spend a lot of time with a 'confidant' (the authors do not give their definition of the term) without actually talking about things that are really on your

mind. Parry and Shapiro also made no attempt to measure whether or not their subjects were satisfied with their actual or perceived support levels.

There are even less satisfactory examples of social support measures. One such is that used by McLanahan [1983] who assessed it by four indicators - the number of neighbours known; whether or not relatives were within walking distance; the household head's participation in social clubs and the amount of free household help received. It is difficult to see how even a brief reading of the available literature would convince a researcher that these measures were tapping social support.

Lin, Simeone, Ensel and Kuo [1979], although stating that social support was the crucial variable in their study, merely measured it with nine items tapping respondents interaction with friends, neighbours and the community, as well as social adjustment components to do with people's feelings about the neighbourhood, community and workplace.

All of the above measures are inadequate in one way or another usually because the authors have erronously defined social support or have ommitted one or more of its important aspects.

Better Measures of Social Support.

Better measures tend to result from a more adequate conceptualization of the dimensions of the social support variable and come closer to fulfilling the necessary components of my definition. This included the unique practical and emotional needs of the individual, access to sources of fulfillment of these needs as well as whether or not individuals are satisfied with their available support.

Gore [1978] used a 13-item index covering the respondents perceptions of family and friends as supportive (eight items); frequency of activity outside the home with the above people (three items); and two items covering subjects perceived opportunities for engaging in social activities which are satisfying and which allow him/her to talk about problems. I like this measure because it includes the respondents perceptions and touches on the satisfaction aspect.

Barrera and Ainlay's [1983] six categories of social support described earlier resulted in the development of a scale called the Inventory of Socially Supportive Behaviours,(I.S.S.B.) This 40-item scale contains examples of socially supportive behaviours and asks respondents to rate each item for its frequency of occurence on a 5-point scale. However it does neglect to include questions about respondents satisfaction with their available support.

Sarason and Sarason [1982] and Sarason et al. [1983] developed a Social Support Questionnaire consisting of 27 items each of which requires a two-part answer. Each item asks subjects to indicate the people whom they can turn to and rely on in a given set of circumstances and to indicate how satisfied they are with their level of social support. Items include such questions as: "With whom can

you totally be yourself?" "Whom can you really count on to be dependable when you need help?" After listing persons who provide social support for each item the subject rates his or her level of satisfaction on a scale of 'very satisfied' to 'very dissatisfied'. This is probably the best available measure as the items cover both practical and emotional aspects and the vital satisfaction ingredient is highlighted.

Problems of Confounded Measures.

In a similar way to that discussed in the areas of life events and hassles the area of social support is also plagued with problems of confounding. Dohrenwend et al.'s [1984] article addresses this problem, pointing out that a large body of evidence suggests that measures of social support may be confounded with outcome measures such as indices of psychological distress. The social support scale they examine is the Instrumental-Expressive Support Scale [Lin, Dean & Ensel,1981]. They found that two-thirds of the items in this scale were rated as more likely than not to be symptoms of psychological distress. The assumption made was that other similar scales will also be contaminated. The measurement of social support must embody the sort of definition presented earlier. Ideally it would also contain some more objective (e.g.network) measures. Although not enough on their own these objective items would provide the balance needed for empirical study. This idea is not new. It has been addressed by Thoits [1982b] and Barrera and Ainlay [1983]. Dohrenwend et al. [1984] provide empirical support for the contention that social support must be more adequately conceptualized before it can be more adequately measured independent of other measures.

Social support is of value to epidemiology and conceptual clarity will enable the development of improved measures. The life-span perspective must always be taken into account to allow for realistic hypotheses and interpretation of results. The problem of confounded measures adds further confusion to an already controversial view of social support acting as a buffer against the impact of life events. This controversy will be introduced in the next chapter.

****

CHAPTER FIVE.

THE 'BUFFERING HYPOTHESIS' OF SOCIAL SUPPORT.

Definitions.

Over the last few years a large body of research has accumulated which has attempted to support the contention that social support in some way protects an individual against the detrimental effects of life stress. This issue has been so controversial that I feel it warrants a separate chapter to introduce the pros and cons.

The beneficial effects of social support are unquestioned. What remains to be answered is the question of the way in which social support provides these benefits. Is psychological well-being or mental health benefitted in a direct manner i.e. does more social support result in less psychological distress, regardless of the level of stressful life events. Or does social support interact with stress, modifying the effects of stress and thus serving a protective function? The latter (buffering) view sees social support as having little or no influence in the absence of stress but when stress is present an individual with social support will experience less psychological distress than an unsupported individual. This stress-buffering hypothesis states that: "The impact of stress on health is reduced more or less continuously, certainly monotonically, as the level of social support increases" [La Rocco, House & French, 1980, p.208].

Schaefer [1982] comments that social support as a buffer is often described - "as if it were an invisible sheild, like flouride for teeth, except applied to those areas of the psyche and soma otherwise vulnerable to stress" [p.98].

As Ekenrode and Gore, in Gottleib [1981] point out the stress-buffering approach to the investigation of social support ignores contextual factors. It assumes that: "stressors come from 'out there' and that social support resources, if present, buffer those stressors in ways that are left largely unspecified" [p.51].

Social support is seen as incompatible with stress and the statistical finding that the correlation between stress and illness is reduced in the presence of support is taken as evidence that stress-buffering has occurred. Technical aspects of this subject will be dealt with in more detail in the next chapter.

More Recent Views.

Critical examinations of the conceptualization, methodology and analysis of the stress-buffering role of social support has thrown doubt on earlier conclusions. One of the better-known studies that found evidence of buffering is that of La Rocco et al. [1980]. These authors concluded that support is mobilized at higher levels of stress but not at lower levels and that when it is mobilized it buffers the effects of job stress and strain on mental health. However these results have been criticised [Schaefer, 1982] for weaknesses in statistical methodology. Schaefer points out that La Rocco et al. used a significance level of .10 for each individual test instead of the more usual .05. On top of this the scales were not independent -

in fact the average correlation between the outcome measures was .39. This means that the probability of a Type 1 error was over 35%. La Rocco et al. [1982] defended their results and in fact continue to defend the buffering hypothesis [1983] in response to some fundamental questions posed by Thoits [1982b].

Problems With The Buffering Hypothesis.

Thoits [1982b] highlights three the major issues throwing doubt on the buffering hypothesis.

[1] Inadequate conceptualization of social support is a major barrier to progress.

[2] Life events and social support measures are confounded. Thoits states: "Not only may life events themselves be conceptually and operationally identical to social support change but events may produce additional alterations in the social support system as well" [p.148]. This confounding may bias results in favour of the buffering hypothesis.

[3] Most of the literature in the area ignores theoretically sound evidence pointing to a direct effect of social support on stress. Thoits points out that the studies which have looked at direct effects have found positive relationships.

Thoits [1983] most recent statement in the area argues strongly for an examination of direct effects first and then one should ask whether support offers protection when stress is present over and above the protection it offers when stress is absent. Thoits [1983] presents ~nvincing statement that regardless of whether or not stress is

a good deal of our self-concept, self-evaluation and health

and at least partially on social relationships, and

concludes that we do not yet know whether or not social support offers additional protection under stressful circumstances.

Thoits [1983] conclusions are supported by studies such as that by Aneshensel and Stone [1982] whose results showed that after considering main effects the effects of stress on depression did not appear to alter at varying levels of social support i.e. the effect of stress on depression was not significantly influenced by the level of support. These authors propose what they feel is a more tenable alternative to the buffering model - "the presence of support is beneficial in and of itself, and its absence is itself a source of stress" [p.1395].

Williams, Ware and Donald, [1981], using data obtained from over 2000 subjects, set out to find a model of mental health, life events and social support. Data for half of the sample was analysed to evaluate different approaches. The remaining half of the data was used to cross-validate results. They found in favour of an additive model which included a positive value of social supports for persons at all levels of life events. The interaction (or buffering hypothesis) was rejected.

Zautra [1983] studied social resources and the quality of life and included analyses of correlations between the two as well as tests of interactions (using multivariate analysis of variance, MANOVA.) The measure that was closest in meaning to social support showed "no ameliatorative influence on negative affect or distress that would have been evidence for a buffer effect" [p.285]. Zautra [1983] concludes that: "Social support per se is the wrong place to look for stress buffers" [p.288]. and states that while the lack of social support can hurt its presence itself does little to help.

Bell, LeRoy and Stephenson [1982] also used analysis of variance. They found significant main effects of social support and life events and although citing evidence for the effect of social support upon depressive symptoms across stressful life events they could not find significant interactions.

Ganellen and Blaney [1984] examined the relationships between social support, life event stress and the personality variables involved in the hardiness concept. They found significant direct effects for social support and life events on depression. A three-way ANOVA analysis found no significant interactions. These authors make a case for a strong relationship between social support and hardiness.

Parry and Shapiro [1983] sum the controversy up most effectively when they conclude that: "the interpretation of differences between studies should be undertaken with extreme caution, bearing in mind that differences in method and analysis could account for them" [p. 17].

As stated earlier, the result obtained will depend to a large extent on the way in which social support is conceptualized and defined; on the form of the dependent variable and the model of interaction adopted. Add to this list theoretical, measurement and analysis problems and the result is a murky haze.

This need not be the case if the search for buffering effects was not singled out as a major focus at the expense of treating social support as a variable worthy of study in its own right. Reasearchers need not feel any compulsion to search for buffering effects in order to justify their studies. Much will be added to knowledge of epidemiology in general and subjective well-being in particular by

allowing social support to stand on its own merits. Of course this cannot happen until the already-mentioned theoretical clarity is achieved and more adequate measures are developed.

This section has dealt almost exclusively with the buffering hypothesis. It deserves this attention because of the heated controversy associated with it. Buffering effects are of course involved with issues about the inter-relationships between variables which are covered in the next chapter.

****

CHAPTER SIX.

INTER-RELATIONSHIPS BETWEEN VARIABLES

Having discussed subjective well-being, life events and social support as separate entities it is now time to examine the various ways in which the three are inter-related. As previously discussed it has become common to look at social support in terms of its alleged 'buffering' action. However the literature does contain studies demonstrating other effects. As will be shown results found depend to some extent on models adopted and analysis used.

It is acknowledged that other variables, especially those which come under the general umbrella of 'personality' variables (things such as locus of control, meaning in life, coping, hardiness etc.) are also important but are beyond the scope of the present discussion. Demographic factors e.g. income, education, social class, gender and physical health are similarly influential but will not be examined here.

This section will deal with the ways in which recent research has found the relevant variables to be inter-related. Results sections of some important studies will be examined in detail in the text, while all studies reviewed are summarized in Table 1.

DEFINITIONS Of TERMS.

The area which Cleary and Kessler [1982] refer to as social epidemiology, (that broad area which examines relationships between risk factors and illness onset) employs a set of terms which can be confused and confusing. Concepts such as direct, additive, conditional and interactive effects need to be clearly defined and some kind of consensus reached as to their appropriate usage. This is particularly important since the analysis of data and descriptions of results obtained varies from study to study.

In the literature in question the independent variables are most often social support, stressful life events (or life event stress) and sometimes coping style. Dependent variables are some kind of mental health measure, operationalized in terms of psychological or depressive symptoms or well-being. It will be useful first to briefly discuss what is meant by some relevant terms used in these studies.

[1] Direct Effects.

A direct effect is generally taken to mean the significant effect of an independent variable e.g. social support or life events, on a dependent variable e.g. well-being or symptomatology, independently of the presence, absence or levels of other independent variables.

In the literature reviewed these were most commonly presented as correlations with significance stated, (e.g. Cohen & Hoberman 1983; Lin et al 1979; Turner 1981). Some studies present direct effects results as chi squares, (e.g. Frydman 1981; Parry & Shapiro 1983; Andrews,Tennant, Hewson and Valliant 1978). Other studies failed to

report statistics for direct effects, (e.g. Wilcox 1981; La Rocco et al. 1980,) or report direct effects results for only one of their independent variables, (e.g. Eaton 1978, Thoits 1982a). In some cases such as Wilcox,[1981], direct effects can be inferred from other results presented. In other cases, such as that of La Rocco et al. [1980], the ommision of statistics for direct effects can make interpretation of results difficult.

Even in cases where significant interactions are found, it is essential to be able to evaluate direct effects also. As discussed in earlier sections, conceptual problems exist in the area and there is a continuing controversy over the relative merits of examining social support as a moderating variable or as a variable with important direct influences. This makes it essential to present these direct effects results as well as interaction statistics.

Advantages of this approach can be seen in information gained from studies such as Parry and Shapiro, [1983]; Lin et al., [1979]; and Schaefer, Coyne and Lazarus, [1981]. These studies present direct effects results for both social support variables and life events measures and a consistent picture emerges of significant effects for both, but with social support in all cases having a stronger effect upon the dependent variable than life events.

[2] Additive Effects.

These can be seen in studies where the two variables (e.g. social support or life events) together explain more variance in well-being than either social support or life events on its own. Such an effect may be found even though the multiplicative interaction between them is not significant. Studies such as those of Andrews et al. [1978], Williams et al., [1981]; Parry and Shapiro [1983], and Schaefer et al. [1981] found effects to support an additive model.

These results show that while the interaction between e.g. life events and social support may not be statistically significant, the addition of a life event or the removal of social support does have an effect on distress. With a high level of social support the total level of psychological distress following a stressful life event is less than the total level of distress following the same event with low levels of social support. The removal of a life event further ameliorates distress.

[3] Interactions.

An interaction occurs when the relationship between two variables is influenced by the level of a third variable [Zedek,1971]. This term is a statistical one and testing for significant interactions can be done in various ways. In the literature in question ANOVA, multiple regression, partitioned chi square analyses and logistic regression are most popular.

When significant interactions are found between the variables this effect usually means (in theoretical terms,) that the occurence of life events or stressors in the presence of social support will have a smaller impact than would the occurence of the same stressful life events in the absence of or at lower levels of social support. In other words the presence of social support is moderating or buffering the effects of the life event stress on mental health - social support is somehow acting as a protection against stress. This action of the moderating or buffering variable means that the effect of the life event for example is conditional on the levels of social support.

Again this is a theoretical interpretation of a statistical result. It is important to note that the statistical results do not, in themselves, demonstrate which of the variables is the conditional one and which the buffer. These interpretations are based on theoretical considerations.

AUTHORS	INDEPENDENT VARIABLES	DEPENDENT VARIABLES	SUBJECTS	ANALYSIS	RESULTS	COMMENT
* Andrews, Tennant, Hewson and Valliant 1978	Life Event Stress Social Support Coping Style	Psychological Impairment	Australian Study N=863 adults	Results reported as percentages and partitioned chi-squares	Direct effects found for social support, life event stress and coping style. No significant interactions	Cross-sectional Part of a larger study.
Aneshensel and Stone. 1982	Life Event Stress Social Support	Depressive Symptoms	N=1000 adults	Log-linear models Chi-squares	Direct effects found for stress and social support. No significant interactions.	Cross-sectional
* Bell, Le Roy and Stephenson 1982	Social Support Stressful Life Events Socio-economic Status	Depressive Symptoms	N=2029	One-way ANOVA to assess direct effects. Three-way ANOVA to test for interactions.	Direct effects found for social support, stressful life events and socio-economic status. No significant interactions found.	Cross-sectional Part of a larger study.
* Caldwell and Bloom 1982	Social Support	Separation stress Psychological adjustment to separation	153 newly-separated males and females. Analysis based on 50 persons who served as a no-treatment control group.	Multiple regression analysis used but no R^2 figure reported.	No direct effects for social support on adjust-ment. Support buffering model with nine significant interaction effects.	Longitudinal study over six months, focussing on marital disruption.
* Cohen and Hoberman 1983	Social Support Positive and negative life events	Depressive and physical symptomatology	N=70 College students	t-test to compare magnitude of correlations Stepwise regression analysis to test for interaction effects.	Direct effects found for social support and life events (negative) on depressive symptoms. Report significant inter-actions supporting buffering hypothesis.	Cross-sectional
Eaton 1978	Life Events Social Support	Psychiatric Symptoms	Based on data from 720 subjects adults from New Haven sample	Reports standardized partial regression co-efficients.	Direct effects found for life events. Significant interactions found which support buffering hypothesis.	Longitudinal study based on data from Myers et al. (1974).
* Fryman 1981	Social Support Life Event Stress Coping style	Psychiatric symptomatology	N=220 Parents of children with cystic fibrosis and leukemia	correlations t-tests multiple regression	Direct effects found for social support and stress-ful life events. Inconclusive results on buffering but report no strong support found.	Cross-sectional

* These studies are discussed in more detail in the text.

AUTHORS	INDEPENDENT VARIABLES	DEPENDENT VARIABLES	SUBJECTS	ANALYSIS	RESULTS	COMMENT
* Ganellan and Blaney 1984	Social Support Life Event Stress Hardiness	Depressive Symptoms	N=83 Female Undergraduates	Correlations Three-way ANOVA to test for interactions.	Significant direct effects found for stressful life events, social support and two measures of hardiness. No significant inter-actions found.	Cross-sectional
* Gore 1978	Social Support	Depression and physical illness symptoms	100 unemployed males. 74 employed males as a control group	Results reported as mean values. t-tests used to examine differences between means.	Significant direct effects found for social support on depressive symptoms and physical symptoms. Buffering effect found for social support on unemployment.	Longitudinal study (2 years) on the effects of unemploy-ment.
* La Rocco, House and French 1980	Social Support Job-related stress	Mental and physical health	N=636 male adults	Moderated regression analysis. No R² figure reported.	No direct effects results reported. Supports buffering hypothesis. Report significant interactions p .10	Cross-sectional Re-analysis of earlier data.
Lin, Simeone, Ensel and Kuo 1979	Social Support Stressful Life Events	Psychiatric Symptoms	N=170 Chinese-American adults	correlations t-tests multiple regression	Direct effects found for social support and stress-ful life events. Inconclusive results on buffering but report no strong support found.	Cross-sectional Part of a larger study.
* Parry and Shapiro 1983	Social Support Life Events	Psychiatric Symptoms Onset depression	193 females	Multiple regression Logistic regression Analysis performed in terms of two different models (see text).	Significant direct effects found for social support and life events. No significant interactions found. Support on additive model.	Cross-sectional
Schaefer, Coyne and Lazarus 1981	Social Support Life Events	Psychological Symptoms Morale (well-being) Physical health	N=100 adults 45-64 years old	correlations multiple regression	Direct effects found for social support on all dependent measures and for life events on some dependent measures. No significant interactions found.	Longitudinal study (12 months)
* Solomon and Bromet 1982	Social Support Stress	Affective disorders	N=435 mothers (2 groups)	percentages reported log-linear analysis	Direct effects found for social support. Other results inconclusive.	Cross-sectional Part of a larger study.

* These studies are discussed in more detail in the text.

AUTHORS	INDEPENDENT VARIABLE	DEPENDENT VARIABLE	SUBJECTS	ANALYSIS	RESULTS	COMMENT
* Thoits 19S2(a)	Social Support Life Stress Socio-economic Status	Psychological Distress	Based on data from 720 subjects adults from New Haven sample	Correlation co-efficient Multiple regression analysis to test for buffering.	Direct effect found for undesirable life events. No report of direct effects for social support. No significant inter- actions found.	Longitudinal data from Myers et al. (1974)
* Turner 19S1	Social Support	Psychological Well-being	Based on data from four other studies with differing populations. N=293,65,420,100	Correlations Stepwise multiple regression analysis to test for inter- actions.	Direct effects found for social support. Found no significant interactions but were multi-colinearity problems.	Longitudinal and cross-sectional data.
* Wilcox 19S1	Social Support Life Events	Psychological Dis ess	N=329 adults	Multiple regression (see text for procedure used)	Direct effects for social support and life events. Significant interactions found supporting buffering hypothesis.	Cross-sectional
* Williams, Ware and Donald 19S1	Social Support Stressful Life Events	Mental health	N=2234 age range 14-61	Standardized regression co-efficients.	Direct effects found for social support and life events. No significant inter- actions found. Support on additive model.	Longitudinal study Part of a larger study.

*These studies are discussed in more detail in the text.

EVALUATION OF RESULTS.

A selection of studies examining the inter-relationships between life events, social support and subjective well-being are given in Table 1. Some of these studies are discussed more fully in the text, highlighting methodological issues and commenting on data analysis.

Studies finding Direct Effects and No Interaction.

Andrews et al. [1978] examined the effects of life event stress, coping style and social support on psychological impairment. This was an Australian study with 863 subjects. Their results are based on dichotomized data (above and below mean groups) and are reported in terms of percentages and chi-squares with partitioned chi-squares to test the interactions. The authors found significant main effects for all three independent variables. Although none of the interactions tested reached significance, the group with low social support and high stress had a 43% risk of psychological impairment, the high support/high stress group had a 30% risk. The group with low support/low stress had a 23.7% risk of impairment, and the high support/low stress group had a 12.8% risk. These results suggest an additive effect.

Frydman [1981] examined the same three independent variables and their relationships with psychiatric symptoms. A well-being measure was also used. The tables presented in this study are not clear and therefore difficult to interpret. Data on all variables were dichotomised above and below the mean and chi-square analysis and correlations used to test for direct effects. This showed significant

direct effects - each of the independent variables correlated significantly with each dependent measure using a Pearson product-moment correlation. Multiple t-tests were performed on the dichotomised data in order to test for interaction effects. This appears to be an inappropriate way to test for interactions. Although the author states that in some cases the effect of the stressors on the level of psychiatric symptomatology was conditional on the level of social support, there was "almost no evidence of any additional interaction effects." It is further stated that in multiple regression analysis (results not presented in detail) the interaction term made no significant contribution to variance explained. It is concluded in the article that the findings are inconsistent and that although social support is important in its own right no evidence is found for assuming that a multiplicative combination of risk factors "makes a significant contribution to the dependent variable that is distinct from the effects of the risk factors considered separately" [p.77].

In a re-analysis of Myers, Lindenthal and Pepper's [1974] New Haven data, Thoits [1982a] used four measures of social support to test the buffering hypothesis. The main emphasis of the study was on the findings for different sociodemographic groups. This may account for the failure to explicitly report any direct effects for social support. The study concludes that social support does appear to be related to socio-demographic status - the higher the income, educational and occupational status, the less distress and the greater availability of social support. A direct effect was also found for undesirable life events on psychological vulnerability. No figures are shown for these direct effects.

Thoits [1982a] gives a detailed explanation of the regression analysis used to test the buffering hypothesis. These followed the more usual pattern of entering the product term last in a step-wise regression. When the dependent variable in question was health events (physical) only one of the four social support measures consistently and significantly reduced the distressing effects of health events - this was participation in religious activities. The tests for buffering effects of social support against undesirable life events showed no significant interactions in spite of some interesting trends among differing socio-demographic groups.

Parry and Shapiro [1983] analysed their data in terms of both additive and multiplicative definitions of no interaction because of the absence of consensus in the literature as to which model more appropriately represents the function social support is serving. Unlike other studies, Parry and Shapiro introduce a concept of an additive definition of no interaction. This is where: "joint exposure to two or more factors would result in greater number of cases than the sum of the two separate factors" [p.4]. A special type of analysis was performed with the logistic regression which, they claimed, provided a test of the additive definition of no interaction. This is a new approach which requires further validation.

Parry and Shapiro employed both an expressive and instrumental measure of social support. The dependent variable was defined as psychiatric morbidity (caseness) for the logistic regression analysis and measures of psychological distress and well-being were used to provide continuous data for the regression analysis.

Significant direct effects were found for both life events and both measures of social support (except for expressive social support in one dependent variable category) using both logistic regression and ordinary regression. None of the multiplicative interaction analyses reached significance. The multiple regression analyses interaction term accounted for less than 1% of the variance in every analysis. However, using the additive definition of no interaction as defined in their study, over all cases with severe life event, social support was significant.

The main finding of this study was that the analysis showed social support as a significant predictor in all cases in its own right, accounting for a median 5% of all the variance. In all cases expressive social support was a better predictor than instrumental support.

Although this was a cross-sectional study which (as the authors acknowledge) did not address any possible confounding between social support and depression, the use of the alternative forms of analysis lends considerable weight to the argument in favour of the importance of social support as a variable in its own right.

Studies Finding Interactions.

Cohen and Hoberman's [1983] cross-sectional study examined the effects of both positive and negative life events and perceived availibility of social support on depressive and physical symptomatology. The number of negative events was found to be a better predictor of depressive symptoms than the total number of events or positive events.

The buffering hypothesis was tested using step-wise regression analysis. It was found that positive events acted as stress buffers - useful at high levels of stress but not at low levels. Step-wise regression analysis was also used to determine whether perceived availability of social support was protective at high levels of stress. For predicting depressive symptoms the form of the interaction fitted the buffering hypothesis - the interaction between negative events and social support accounted for an additional 6.6% of the variance in depressive symptoms.

Because this study used the number of negative life events as the stress score the authors anticipated criticism based on such things as persons with high levels of depression and low levels of support viewing more of their events as negative. To overcome this they re-analysed the data using a life events score based on the number of events "irrespective of the valence of their impact ratings." They found similar interactions this way and this form of re-analysis would appear to be a useful procedure. However, it could be said that this procedure still did not account for the problem common to most cross-sectional studies in the area. The measures were only taken at one time. Although a measure of past social support was obtained it was retrospective data and cannot cover for the fact that life events may alter the amount and type of social support available and available social support (at high levels) may decrease the likelihood of negative event occurrences. In studies such as this the direct and interactive effects of life events and social support may have been confounded. This ignores or fails to account for the possibility that social support is an important etiological factor in its own right.

Wilcox [1981] conducted a cross-sectional study with 329 subjects. The independent variables were social support (two measures) and a life events scale. The dependent variable was psychological distress. Four interactional hypotheses were tested using a multiple regression analysis which differed from usual procedures in that the interaction term was not the simple product of a life events variable and a social support variable. It is interesting to note that whereas most other studies standardize scores before deriving the product term, this study followed a different procedure. In this study the interaction variable was derived by linearly partialling life events and social support from the product of the two.

Direct effects are not reported specifically although by examining the tables it appears that significant direct effects were found for social support and life events. In all cases the interaction was significant with 3% to 12% of the variance being accounted for by the interaction term. Graphs depicting these interactions were included with the results. The social support measure purporting to tap quality of social support showed more significant buffering effects than did the measure of quantity of social support.

The author acknowledges the limitations of cross-sectional data and, while addressing the possibility of strong influences of competing variables such as self-esteem, does not even touch on the possibility of any confounding between life events and social support. As suggested in the above review of Cohen and Hoberman's [1983] study this confounding may have been a problem with Wilcox' study also. Another factor which may have accounted for results obtained was the already mentioned partialling of life events and social support from the product term. It would be interesting to know if similar results would

be obtained using a more traditional procedure or if this procedure were used on other data whether significant results could be found.

One of the most controversial of the studies supporting the buffering hypothesis is that of La Rocco et al. [1980]. Their independent variables were job-related stress and strain and perceived social support. Their dependent variables were mental and physical health. The authors presented six hypotheses, three predicting buffering effects and three predicting direct effects. However their results do not include data relevant to the direct effects hypotheses, but concentrate solely on the buffering hypotheses. Their results and their interpretations have been criticised in detail elsewhere. Schaeffer [1982] concludes that weaknesses in statistical methodology used by La Rocco et al. cast doubt on their findings in favour of the buffering hypothesis. La Rocco et al. can be criticised on at least three points:-

[1] The significance level chosen was .10. This in itself is not satisfactory and it was compounded because each hypothesis was tested with groups of tests (from 36-60 for each hypothesis).

[2] The outcome measures used by La Rocco et al. [1980] were correlated with one another. The fact that each regression equation was repeated with all four outcomes - in effect versions of the same test were being repeated over and over but were reported as separate outcomes. The strong correlations among variables also makes it difficult to calculate how much of the variance is being explained by each variable.

[3] La Rocco et al. [1980] fail to report the R^2 coefficient for any of their multiple regression analyses.

The support supplied by La Rocco et al. for an interactive model must therefore be interpreted with considerable caution.

Gore [1978] examined relationships between stress resulting from unemployment, social support and physical and mental health. This was a longitudinal study conducted over two years and comparisons were made with a control group in stable employment. The author concludes that social support moderates/buffers (both terms are used in this study) the effects of umemployment stress. However the results are difficult to assess because only mean values are given. It would appear that t-tests were used to assess whether significant differences occurred in the means. Significant differences were reported between the means of the supported and unsupported groups for some illness symptoms and for depression. The supported group do appear to be less depressed over time regardless of unemployment status or economic deprivation. The method of analysis makes it difficult to compare these results with those of similar studies. One can only wonder what a multiple regression or ANOVA analysis would have shown or what results might be obtained using Gore's methodology in other studies.

Studies With Inconclusive Results.

In 1981 Turner conducted a study looking at the effects of social support on psychological well-being. One of the studies (N=250) also examined the effects of social support and stress on well-being. Data was obtained from this group at two time points six months apart. Factor analysis was reported which showed social support as a distinct dimension of psychological well-being and the two variables were found to be significantly correlated in all groups, [.33 - .48].

Step-wise multiple regression analysis was used to examine interactive effects of stress and social support. Figures are not reported but it is stated that significant independent associations were observed for both variables. When the interaction term was entered the stress variable was no longer significant. The author concludes that the main effect of social support is important but does not completely rule out a buffering effect. The reason for this is multi-collinearity - the correlation between stress and the interaction term is .94. When the data was trichotomized on stress level it was found that the relationship between social support and well-being was significantly higher for the high stress group than for the medium and low stress groups. Such trichotomizing of data is a useful method of gaining more interpretable information from the data.

Solomon and Bromet [1982] attempted to confirm Brown and Harris' [1978] vulnerability model which assumes that the risk of affective disorder is greater in the presence of a provoking agent (stressor) if subjects are vulnerable (i.e. are unemployed, lost their mother before age 11, have three or more children under age 14 and lack a confiding relationship with a husband or boyfriend). Brown and Harris' findings have been previously re-analysed and criticised but Solomon and Bromet felt it was more appropriate to test the model using new data. This was part of a larger study and used survey data gathered from 435 mothers living in the vicinity of the Three Mile Island nuclear accident. This was assumed to be the high stress group and the low stress group lived near a comparison nuclear plant.

Although I consider the mere reporting of a husband as a confidant to be an inadequate measure of social support, I will present Solomon and Bromet's results. Within the high stress group the only significant vulnerability factor (i.e. associated with higher levels of affective disorder) was the confidant/no confidant variable. No such relationship was observed for the non-stressed group. These results are reported as percentages with a chi-square test for significance. The study provided no support for Brown and Harris' vulnerability model, merely some inconclusive evidence for the beneficial effects of social support in a high stress population.

Bell et al. [1982] used cross-sectional data from 2029 subjects to examine relationships among social support, life events and socio-economic status. In one of the clearest and most complete analyses and presentation of results the authors looked at direct, conditional and interaction effects among the variables.

To assess direct effects ANOVA analysis was used. Both social support and life events showed significant (p<.001) direct effects on depression scale scores. It was found that across all levels of social support, as life events increased so did depressive symptoms. Within each group of life events, depression scores decreased as social support increased, thus direct effects were found for both social support and life events. No significant interactions were found in the ANOVA, the study therefore failing to support the buffering hypothesis. A series of regression analyses confirmed that the multiplicative combination of variables explained no significant amount of variance over and above their independent and joint effects. Although there is probably some redundancy in these analyses, the results are nevertheless clear and easy to follow.

As can be seen from the discussion above differing results are found depending on the particular procedures used. Aside from the theoretical and measurement problems previously discussed there are other methodological problems. What is needed is some consensus and consistency about appropriate methods of data analysis and the reporting of results. The search for significant interactions has often led to direct effects results being under-estimated in importance. The next, and concluding chapter will discuss this in more detail.

****

CHAPTER SEVEN.

SUMMARY AND CONCLUSIONS.

Earlier sections have highlighted inadequacies in much of the research in the areas under discussion. It therefore seems appropriate to recommend strategies for future research.

There is a clear need for more longitudinal research, especially in the social support field. Although studies such as those of Williams, Ware and Donald [1981] and Turner [1981] take a longitudinal approach both were done as a small part of some broader work. Ideally a longitudinal study should be set up which concentrates only on relevant data. Longitudinal research would help avoid problems inherent in cross-sectional studies in particular the difficulties with possible confounding between independent variables and with outcome variables. Longitidunal studies would also help to eliminate many of the problems associated with the use of retrospective data. This problem can be seen in the area of life events where a measure may ask a person to reflect back over quite a long period of time.

Social support research would be well-served by longitudinal studies to help sort out, for once and for all, the question of the buffering hypothesis of social support. As Thoits [1982b] points out "results are biased in favour of a strong buffering effect when support level is measured after life events have occurred" [p.148]. Part of the problem here is the cross-sectional nature of the work and part is the probable confounding between life events and social support. In fact no longitudinal studies exist which find clearly in favour of the buffering hypothesis. What are needed are studies measuring social

support before, during and after the occurrence of stressful life events.

An aspect of the research which is often neglected is the theoretical one. The area of social support in particular lacks definitive theoretical conceptualizations. In spite of the valuable work of Thoits [1982b] and Barrera and Ainlay [1983] there is as yet no definition of social support which is generally accepted. I feel that the definition I formulated and presented in an earlier chapter comes closer to fulfilling this requirement than any other.

Research into subjective well-being has been more successful in producing theoretical clarity. Work such as that of Deiner [1984] has been useful for synthesizing earlier literature. One can with considerable certainty define subjective well-being and as a result measures in the area can be evaluated with authority. Some controversy remains over the independence of positive and negative affect although the weight of the evidence seems to be in favour of the independence of the two. What is clear is the fact that there are these two dimensions of subjective well-being and it is reasonable to consider a cognitive dimension as well.

This thesis touched only fleetingly on theories of stress, and then only as they related to life events. However it does appear that theoretical formulations which allow room for individual perceptions are of more use. Even Antonovsky [1980] while presenting his list of psychosocial stressors common to all, states that it is how the individual perceives a stressor which will determine whether or not it is a stressor.

Lack of theoretical clarity will lead to a lack of adequate or appropriate measurement. Here again the area of social support can be cited as problematic. "The lack of consensus concerning the definition of social support is reflected in ambiguities in its measurement" [Ganellen & Blaney 1984, p.157]. The sooner we have a definition of social support which acknowledges its multi-dimensional, dynamic character and includes the subjective component, the sooner we will have measures which reflect all this. Until this is the case social support measures must be regarded with some suspicion. The previously-mentioned measures of Barrera and Ainlay [1983] and Sarason et al. [1983] are among the best available at present.

Studies in the areas under consideration must be analysed appropriately. To gain the most information from the data it would appear that researchers must employ ANOVA or multiple regression analysis and logistic regression for dichotomous outcome measures. If all studies reported results in this way it would enable better comparisons to be made between studies. There appears to be no consensus as to whether or not scores should be transformed (means subtracted from scores) before product terms are derived in order to reduce multi-collinearity. Clarification is needed over this matter and psychological researchers may benefit from the assistance of statisticians.

Related to this is the issue of how results are reported. It is surprising to find so many studies which report only part of their results. Given the importance of social support as a variable in its own right (regardless of whether or not it acts as a 'buffering' variable) it is of considerable value to be able to assess the direct effects of social support. Studies such as Wilcox [1981] and La Rocco

et al. [1980] which omit results of direct effects analysis may have done a disservice to their research by not allowing the reader to assess these results.

It is also important for authors to include as much relevant information as possible in their results section and to present it clearly and concisely. It is difficult to interpret the analysis of such reports as that of Caldwell and Bloom [1982] who did not include an R^2 figure for their multiple regression analysis. By comparison studies such as those by Bell et al. [1982] and Ganellen and Blaney [1984] report all relevant analysis clearly and with enough figures to enable the reader to gain a good appreciation of what was done and what was found.

Measures of subjective well-being are under-utilised as outcome variables. The use of such measures enables researchers to ascertain not only negative affect (which correlates so highly with symptoms of psychological distress) but also positive affect. This evaluation gives a more balanced picture of an individual's state of mental health. Added to this is the fact that subjective well-being contains a cognitive component which indicates a person's overall appraisal of his/her life and situation relative to some subjective standard.

I feel that the reliability and validity of subjective well-being measures such as Kammann and Flett's [1983] Affectometer 2 and Viet and Ware's [1983] Mental Health Inventory is well enough established to justify their use more extensively. The value of single-item measures such as Andrews and Withey's [1976] Delighted/Terrible Scale has also been well-supported and this scale is particularly useful in combination with others. It is better surely to obtain data which

gives a broad picture of an individual's psychological health than to merely concentrate on psychopathology.

Life events and social support measures will probably continue to be a problem to researchers because of the potential confounding with outcome measures. There is a real dilemma in this area. The value of subjective measures is, I feel undoubted, but unfortunately the more subjective the measure the greater the possibility of confounding. This problem must be addressed and solved to enable a clearer direction to be found for future research. A possible solution may be to separate out objective and subjective items when analysing data. In this way the benefits of both would be retained and it would be easier to spot possible sources of confounding.

The other important aspect of the confounding issue is the difficulty posed by the similarity of items being used to assess independent and dependent variables. It is quite common to find the same or very similar questions being asked in social support or life events scales and in well-being measures. In this situation any strong relationships found are spurious. To avoid this scales should be carefully evaluated and altered accordingly. For example if a measure of subjective well-being has a social support component and social support is being used as an independent variable it would be wise to remove the social support component from the well-being measure - if only for analysis purposes. At the very least this confounding should be acknowledged by researchers.

Recognising the above problems I would still have to state a preference for the more subjective-type measures of life events such as the Hassles Scale [Kanner et al.1981]. The scale has a relevancy and immediancy to the respondent - a quality which makes it invaluable. Also this measure does appear to be a better predictor of psychological symptoms than the more traditional and more objective life events measures such as that of Holmes and Rahe [1967].

If any real advance is to be made in understanding theoretical relationships among variables scales and measures need to be as independent from each other as possible. The best way to ensure this is to employ factor analysis on all items in scales being used and to adjust the scales accordingly. The use of scales based on orthogonal factors can go part of the way toward overcoming these problems.

Social support richly deserves the attention and research presently devoted to it. The fragmented society of today accentuates the need to study such variables which can and do help people cope with stress and hassles. The evidence suggests that social support does not actually 'buffer' the effects of stress but it is obvious that with social support a stressful situation has less impact and without social support an individual is more likely to be detrimentally effected by the same stressful situation. It is therefore well worth continuing to attempt to clarify the conceptual and methodological problems associated with the study of social support. Agencies providing specific types of support are already proving to be of undoubted worth. Maybe the next step will be to aid people, from very early on in life, to better develop and utilize their own social support systems.

Social Learning Theory, with its emphasis on the importance of expectancies born of past experience, could play an important part in the implementation of the more personal aspects of social support in our society. Useful longitudinal research might focus on the quality of social support experiencies and the resultant expectations and utilization of social support. People learn not only to use available support but also to provide support for others. Empirical validation of this could lead to more formal learning programmes focusing on the benefits of social support. We already know enough about the value of social support to make this a worthwhile exercise.

The life-span perspective must not be ignored. Researchers should be aware of the age and stage of participants in a study. This will have an effect on life events, hassles and on social support. For example most adolescents find it difficult to function without the support of their peer group and it is to be expected that the effects of social support (or its lack) will be magnified in this age group. It is of little value for research to report merely that a certain number of respondents were involved in a study. Age and life stage will influence results and should therefore be acknowledged.

At the end of a piece of work of this size one is invariably left with a certain regret for the things that time and space did not allow to be included. It therefore seems appropriate at this stage to say that of all the variables not examined the one I feel will be the most influential in the future is Kobasa's [1979] concept of hardiness. This model of individual vulnerability and invulnerability to stress is a promising one as it synthesizes other relevant variables such as locus of control and meaning in life. Research evidence suggests that the hardy personality type may function in some way so as to diminish

the potentially negative effects of life stress. Ganellen and Blaney [1984] provide what may be a useful stepping-stone to future research with their demonstration that hardiness and use of social support are related. Even more interesting is their suggestion that "social support and personality characteristics such as hardiness are two sides of the same coin: the interpersonal and intrapersonal sides of the coin of coping resources" [p.158]. I feel that this is an idea well worth pursuing.

In conclusion then it can be seen that the lack of theoretical clarity and appropriate methodology plays a large part in controversies and confusions in the life events and social support areas. The area of subjective well-being fares better in both respects. The variables discussed in this thesis are important enough to receive continuing attention from researchers. Clarification of problem areas will enable research to move to a more practical dimension particularly in the area of social support.

****

REFERENCES

Andrews, G., Tennant, C., Hewson, D., & Valliant, G.E.   [1978].   Life
    event stress, social support, coping style and risk of
    psychological impairment. Journal of Nervous and Mental Disease,
    166,(5), 307-316.

Andrews, F.M., & Withey, S.B.   [1976].   Social indicators of
    well-being: America's perception of life quality. New York:
    Plenum.

Aneshensel, C.S., & Stone, J.D. [1982]. A test of the buffering model
    of social support. Archives of General Psychiatry, 39, 1392-1396.

Antonovsky, A. [1980]. Health, stress and coping.   San Francisco:
    Jossey-Bass Inc.

Baltes, P.B., & Brim, O.G.,Jr.[Eds.].[1980]. Life-span development and
    behavior Vol.3. New York: Academic Press.

Barrera, M., Jr., & Ainlay, S.L.   [1983].   The structure of social support: A Conceptual and empirical analysis.   Journal of Community Psychology, 11, 133-143.

Beiser, M.[1974].   Components and correlates of mental well-being. Journal of Health and Social Behaviour, 15(4), 320-327.

Bell, R.A., LeRoy, J.B., & Stephenson, J.J.   [1982].   Evaluating the mediating effects of social support upon life events and depressive symptoms.   Journal of Community Psychology, 10, 325-340.

Bowlby, J.   [1973].   Separation, attachment and loss.   Vol.2. New York: Basic Books.

Bradburn, N.M.   [1969].   The structure of psychological well-being. Chicago: Aldine.

Brickman, P., Coates, D., & Janoff-Bulman, R.   [1978].   Lottery winners and accident victims: Is happiness relative?   Journal of Personality and Social Psychology, 36, 917-927.

Brown, G.W., & Harris, T. [1978]. Social origins of depression. Great Britain: Tavistock.

Bryant, F.B., & Veroff, J.[1982]. The structure of psychological well-being: A socio-historical analysis. Journal of Personality and social psychology, 43(4), 653-673.

Caldwell, R.A., & Bloom, B.L. [1982]. Social support: Its structure and impact on marital disruption. American Journal of Community Psychology, 10, 647-667.

Campbell, A., Converse, P.E., & Rodgers, W.L. [1976]. The quality of American life. New York: Russell Sage Foundation.

Chamberlain, K. [1984, August]. Theoretical issues in well-being. Paper presented at the annual conference of the New Zealand Psychological Society, Palmerston North, New Zealand.

Chiriboga, D. [1978]. The divorce experience in later life. In Kimmel, D.C. [1980]. Adulthood and aging (2nd ed.). New York: John Wiley & Sons.

Cleary, P.D., & Kessler, R.C. [1982]. The estimation and interpretation of modifier effects. Journal of Health and Social Behaviour, 23(2), 159-169.

Cobb, S. [1976]. Social support as a moderator of life stress. Psychosomatic Medicine, 38, 300-313.

Cohen, S. & Hoberman, H.M. [1983]. Positive events and social supports as buffers of life change stress. Journal of Applied Social Psychology, 13, 99-125.

Cohen, S., Kamarack, T., & Mermelstein, R. [1983]. A global measure of perceived stress. Journal of Health and Social Behaviour, 24, 385-396.

Costa, P.T., Jr., & McCrae, R.R. [1980]. Influence of Extraversion and neuroticism on subjective well-being: Happy and unhappy people. Journal of Personality and Social Psychology, 38(4), 668-678.

Dean, A., & Lin, N. [1977]. The stress-buffering role of social support. Journal of Nervous and Mental Disease, 165, 403-417.

DeLongis, A., Coyne, J.C., Dakof, G., Folkman, S., & Lazarus, R. [1982]. Relationship of daily hassles, uplifts and major life events to health status. Health Psychology, 1(2), 119-136.

Diener, E. [1984]. Subjective well-being. Psychological Bulletin (in press).

Diener, E., Larsen, R.J., Levine, S., & Emmons, R.A. [1983]. Intensity and frequency: Dimensions underlying positive and negative affect. Journal of Personality and Social Psychology, (in press).

Dohrenwend, B.S., & Dohrenwend, B.P.(Eds.).[1974]. Stressful life events: Their nature and effects. New York: John Wiley & Sons.

Dohrenwend, B.S., Dohrenwend, B.P., Dodson, M., & Shrout, P. [1984]. Symptoms, hassles, social supports and life events: Problems of confounded measures. Journal of Abnormal Psychology, 93, 222-230.

Eaton, W.W. [1978]. Life events, social supports and psychiatric symptoms: A re-analysis of the New Haven data. Journal of Health and Social Behaviour, 19, 230-234.

Faravelli, C., & Ambonetti, A. [1983]. Assessment of life events in depressive disorders. Social Psychiatry, 18, 51-56.

Fiske, M. [1978]. Adult transitions: Theory and research from a longitudinal perspective. In Kimmel, D.C. [1980]. Adulthood and Aging.2nd ed. New York: John Wiley & Sons.

Folkman, S., & Lazarus, R.S. [1980]. An analysis of coping in a middle-aged community sample. Journal of Health and Social Behaviour, 21(3), 219-239.

Frydman, M.I. [1981]. Social support, life events and psychiatric symptoms: A study of direct, conditional and interaction effects. Social Psychiatry, 16, 69-78.

Ganellen, R.J., & Blaney, P.H. [1984]. Hardiness and social support as moderators of the effects of life stress. Journal of Personality and Social Psychology, 47(1), 156-163.

Gore, S. [1978]. The effect of social support in moderating the health consequences of unemployment. Journal of Health and Social Behaviour, 19, 157-165.

Gottlieb, B.H.(Ed.).[1981]. Social networks and social support.
    London: Sage Publications.

Harding, S.D.[1982]. Psychological well-being in Great Britain. An
    evaluation of the Bradburn Affect Balance Scale. Personality and
    Individual Differences, 3, 167-175.

Hirsch, B.J.[1980]. Natural support systems and coping with major life
    changes. American Journal of Community Psychology, 8, 159-172.

Holmes, T.H., & Rahe, R.H.[1967]. The Social Readjustment Rating
    Scale. Journal of Psychosomatic Research, 4, 189-194.

Hyman, R.B., & Woog, P.[1982]. Stressful life events and illness
    onset: A review of crucial variables. Research in Nursing and
    Health, 5, 155-163.

Jackson, P.R.[1983]. Social support and unemployment: Towards a model
    and an empirical test. University of Sheffield.

Kammann, R.[1983]. Objective circumstances, life satisfactions and a sense of well-being: Consistencies across time and place. New Zealand Journal of Psychology, 12(1), 14-23.

Kammann, R., Christie, D. Irwin, R., & Dixon, G.[1979]. Properties of an inventory to measure happiness (and psychological health). New Zealand Psychologist, 8, 1-9.

Kammann, R., Farry, M., & Herbison, P.[1984]. The analysis and measurement of happiness as a sense of well-being. Social Indicators Research, (in press).

Kammann, R., & Flett, R.[1983]. Affectometer 2: A scale to measure current level of general happiness. Australian Journal of Psychology, 35(2), 259-265.

Kammann, R., & Flett, R.[1983]. Sourcebook for measuring well-being with Affectometer 2. New Zealand: Why Not Foundation.

Kanner, A.D., Coyne, J.C., Schaefer, C., & Lazarus, R.[1981]. Comparison of two modes of stress measurement: Daily hassles and uplifts vs.major life events. Journal of Behavioural Medicine, 4(1), 1-39.

Kaplan, B.H., Cassel, J.C., & Gore, S.[1977]. Social support and
    health. Medical Care, 15(5), 47-58.

Kimball, C.P.[1982]. Stress and psychosomatic illness. Journal of
    Psychosomatic Research, 26(1), 63-67.

Kobasa, S.C.[1979]. Stressful life events, personality and health: An
    inquiry into hardiness. Journal of Personality and Social
    Psychology, 37(1), 1-12.

LaRocco, J.M., House, J.S., & French, J.R.P., Jr.[1980]. Social
    support, occupational stress and health. Journal of Health and
    Social Behaviour, 21, 202-218.

LaRocco, J.M., House, J.S., & French, J.R.P., Jr.[1982]. Response to
    Schaefer. Journal of Health and Social Behaviour, 23, 98-101.

Lazarus, R.S., & Cohen, J.B.[1977]. Environmental stress. In I.
    Altman & J.F.Wohlwill, (Eds.). Human Behaviour and
    Environment.Vol.2.New York: Plenum.

Lazarus, R., & DeLongis, A.[1983]. Psychological stress and coping in aging. <u>American Psychologist</u>, 245-254.

Lin, N., Dean,A., & Ensel, W.M.[1981]. Social support scales: A methodological note. <u>Schizophrenia Bulletin</u>, <u>7</u>, 73-87.

Lin, N., Simeone, R.S., Ensel, W.M., & Kuo, W.[1979]. Social support, stressful life events and illness: A model and empirical test. <u>Journal of Health and Social Behaviour</u>, <u>20</u>, 108-119.

McCrae, R.R., & Costa, P.T., Jr.[1983]. Psychological maturity and subjective well-being: Toward a new synthesis. <u>Developmental Psychology</u>, <u>19</u>(2), 243-248.

McFarland, K.[1984]. A three-mode factor analytic study of psychological well-being. Manuscript submitted for publication. Massey University.

McKennell, A.C., & Andrews, F.M.[1980]. Models of cognition and affect in perceptions of well-being. <u>Social Indicators Research</u>, <u>8</u>, 257-298.

McKennell, A.C., & Andrews, F.M.[1983]. Components of perceived life quality. Journal of Community Psychology, 11, 98-110.

McLanahan, S.S.[1983]. Family structure and stress: A longitudinal comparison of two-parent and female-headed families. Journal of Marriage and The Family, 347-357.

Monroe, S.M.[1983]. Major and minor life events as predictors of psychological distress: Further issues and findings. Journal of Behavioural Medicine, 6(2), 189-205.

Nuckolls, K.B., Cassel, J., & Kaplan, B.H.[1972]. Psychosocial assets, life crisis and the prognosis of pregnancy. American Journal of Epidemiology, 95, 431-441.

Parry, G., & Shapiro, D.A. [1983]. Social support and life events in working class women: Stress-buffering or independent effects.

Pearlin, L.I., Menaghan, E.G., Leiberman, M.A., & Mullan, J.T.[1981]. The stress process. Journal of Health and Social Behaviour, 22, 337-356.

Rabkin, J.G., & Struening, E.L.[1976]. Life events, stress and illness. Science, 194, 1013-1020.

Reich, J.W., & Zautra,A.[1981]. Life events and presonal causation: Some relationships with satisfaction and distress. Journal of Personality and Social Psychology, 41(5), 1002-1012.

Rotter, J.B., & Hochreich, D.J.[1975]. Personality. Glenview, Ill.: Scott Foresman & Co.

Sandler, I.N.[1980]. Social support resources, stress and maladjustment of poor children. American Journal of Community Psychology, 8, 41-52.

Sarason, I.G., Johnson, J.H., & Seigel, J.M.[1978]. Assessing the impact of life changes: Development of the Life Experiences Survey . Journal of Consulting and Clinical Psychology, 46(5), 932-946.

Sarason, I.G., Levine, H.M., Basham, R.B., & Sarason, B.R.[1983]. Assessing social support: The Social Support Questionnaire. Journal of Personality and Social Psychology, 44, 127-139.

Sarason, I.G., & Sarason, B.R.[1982]. Concomitants of social support: Attitudes, personality characteristics and life experiences. Journal of Personality, 50, 331-344.

Schaefer, C.[1982]. Shoring up the buffer of social support. Journal of Health and Social Behaviour, 32, 96-98.

Schaefer, C., Coyne, J.C., & Lazarus, R.S.[1981]. The health-related functions of social support. Journal of Behavioural Medicine, 4(4), 381-406.

Tanuka, J.S., & Huba, G.J.[1984]. Structures of psychological distress: Testing comfirmatory hierarchical models. Journal of Consulting and Clinical Psychology, 52(4), 719-721.

Thoits, P.A.[1982a]. Life stress, social support and psychological vulnerability: Epidemiological considerations. Journal of Community Psychology, 10, 341-362.

Thoits, P.A.[1982b]. Conceptual, Methodological and theoretical problems in studying social support as a buffer against life stress. Journal of Health and Social Behaviour, 23, 145-159.

Thoits, P.A.[1983]. Main and interactive effects of social support. Journal of Health and Social Behaviour, 24, 92-95.

Turner, R.J.[1981]. Social support as a contingency in psychological well-being. Journal of Health and Social Behaviour, 22, 357-367.

Viet, C.T., & Ware, J.E., Jr.[1983]. The structure of psychological distress and well-being in general populations. Journal of Consulting and Clinical Psychology, 51(5), 730-742.

Vinokur, A., & Selzer, M.L.[1975]. Desirable versus undesirable life events: Their relationship to stress and mental distress. Journal of Personality and Social Psychology, 32(2), 329-337.

Warr, P.[1978]. A study of psychological well-being. British Journal of Psychology, 69, 111-121.

Warr, P.B.[1984]. Economic recession and mental health: A review of research. To appear in Tijdschrift voor Gezondheidzorg.

Warr, P., Barter, J., & Brownbridge, G.[1983]. On the independence of positive and negative affect. _Journal of Personality and Social Psychology_, 44(3), 644-651.

Wilcox, B.L.[1981]. Social support, life stress and psychological adjustment: A test of the buffering hypothesis. _American Journal of Community Psychology_, 9, 371-386.

Williams, A.W., Ware, J.E., Jr., & Donald, C.A.[1981]. A model of mental health, life events and social supports applicable to general populations. _Journal of Health and Social Behaviour_, 22, 324-336.

Zautra, A.J.[1983]. Social resources and the quality of life. _American Journal of Community Psychology_, 11, 275-290.

Zautra, A., & Maio, J.[1981]. Life events and life quality variability. _Journal of Community Psychology_, 9(2), 148-152.

Zautra, A. & Reich, J.[1980]. Positive life events and reports of well-being: Some useful distinctions. _American Journal of Community Psychology_, 8(6), 657-670.

Zautra, A.J., & Reich, J.W.[1981].   Positive events and quality of
    life.   Evaluation and Program Planning, 4, 355-361.

Zedek, S.[1971].   Problems with the use of moderator variables.
    Psychological Bulletin, 76, 295-310.

****