USE OF THESES

STRESS, COPING, AND ADAPTATION

IN MARRIED COUPLES

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Except where otherwise acknowledged,
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ABSTRACT

This study was undertaken to determine the utility of
a proposed model of family stress. For individual family
members it was proposed that the level of strain (or
subjective stress) in response to an event is related to
(a) person variables, including importance of the event,
beliefs about internal or external control, anticipated
difficulty of the event, and familiarity with the event;
(b) situational variables including ambiguity and timing
of the event; and (c) accumulation of recent and
concurrent stressors. It was also proposed that
adaptation to the event depends on the level of strain,
the type of coping behaviours utilised, and the extent of
the person's coping resources--individual, marital, and
social. For couples, it was proposed that their mean
scores on the predictors and also the discrepancy between
their scores on these same predictors affect their mean
collective scores on the dependent variables (strain and
adaptation).

A longitudinal study of 123 couples during the
transition to parenthood was undertaken to examine the
utility of the proposed model of family stress. When the
individual marital partner was considered as the unit of
analysis, the distinctive predictors of strain were the
importance attributed to the event, its anticipated

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difficulty, the extent of role ambiguity, and the experience of recent and concurrent stressors. Also, as expected, high levels of strain and emotion-focussed coping emerged as distinctive predictors of poor adaptation. There was, however, little support for the hypothesis that problem-focussed coping facilitates adaptation to new parenthood. The data provided mixed support for the hypothesis that an individual's coping resources would produce a high level of adaptation. This support was largely evident in relation to the individual resources of self-esteem and morale and tended to support the additive model that, irrespective of the level of stress, coping resources have direct effects on well-being, rather than an interactive effect of buffering the individual against stress.

When the couple was considered as the unit of analysis, the data provided general support for the expectation that mean couple scores influence collective scores on the measures of strain and adaptation. These results largely replicated those obtained when the individual was the unit of analysis. But there was little evidence for the effect of discrepancy scores; that is, the levels of strain and adaptation were generally not affected by discrepancies between characteristics of the spouses.

An additional study of heart attack patients and their spouses was undertaken to determine the extent to which the results obtained from the new parents would generalise to the effects of another stressor. The data obtained from the two studies were comparable when either the individual or the couple was used as the unit of analysis.

CONTENTS

CHAPTER ONE

LITERATURE REVEIW

In recent years there has been increased attention paid to the question of why some families cope well in response to stressful events and why other families fail to cope effectively. The upsurge in interest in this area has been reflected in both the clinical and theoretical literatures, and has largely been in response to an awareness that the impact of a stressful event on the family unit will have repercussions both for the stability of the unit and for the well-being of its members.

The purpose of the present study was to develop a model of family stress which will enable one to predict how effectively a given family member, as well as the family unit as a collective, will cope with a particular stressful event. The efficacy of the model was examined in relation to the transition to parenthood, and the results of this study were considered in terms of the extent to which they could be replicated in a sample of couples where one member had suffered a myocardial infarction.

Previous Research on Family Stress

In the current literature on family stress, events that are potentially stressful for the family are commonly classified into two groups: normative and non-normative

events (McCubbin & Figley, 1983; McCubbin, Joy et al., 1980; Mederer & Hill, 1983). Normative events are relatively predictable and generally anticipated, for instance, the transition to parenthood. These are the events that have been previously discussed under the rubric of family development or family career research (e.g., Aldous, 1978; Duvall, 1971; Hill & Rodgers, 1964; McGoldrick & Carter, 1982). They are ubiquitous events that reflect the developmental stage of the family (Mederer & Hill, 1983). On the other hand, non-normative events are unpredictable and unanticipated events, for example, unemployment or hospitalisation of a family member.

Stress From Non-normative Events

Researchers have traditionally focussed on the effects of non-normative events. For instance, Angell (1936) and Cavan and Ranck (1938) documented the effects of the Depression on the family, while Hill (1949) and Boulding (1950) conducted their studies on the effects of war-induced separation and reunion. Recent investigators have continued this type of research. McCubbin and his colleagues (Boss, 1977, 1980b; McCubbin, Boss, Wilson, & Lester, 1980; McCubbin, Dahl, Lester, Benson, & Robertson, 1976) have investigated the effects of military separation and reunion, whereas Lowenstein (1984) has examined familial adaptation to the imprisonment of a family

member. In a similar vein, Moen (1979, 1982) has considered the effects of unemployment on the family.

Another large body of research has focussed on health stressors. Such studies have investigated the effects of different medical conditions on the family, for instance, cystic fibrosis (e.g., Johnson, Muyskens, Bryce, Palmer, & Rodman, 1985; McCubbin, McCubbin et al., 1983; McCubbin, Patterson, McCubbin, & Wilson, 1983; McCollum & Gibson, 1970; Meyerowitz & Kaplan, 1967; Patterson & McCubbin, 1983a, 1983b), childhood cancer (e.g., Barbarin, Hughes, & Chesler, 1985; Morrow, Hoagland, & Carnrike, 1981), heart attacks (e.g., Croog & Fitzgerald, 1979; Dhooper, 1983; Mayou, Foster, & Williams, 1978; Waltz, 1986), Alzheimer's disease (Famighetti, 1986), traumatic spinal cord injuries (Cleveland, 1980), cerebral palsy (McCubbin et al., 1982), and child hyperactivity (Balkwell & Halverson, 1980). There has also been an emphasis on studies of families with a mentally handicapped child (e.g., Beavers, Hampson, Hulgus, & Beavers, 1986; Beckman, 1983; Cole, 1986; Faerstein, 1981; Farber, 1960; Friedrich, 1979; Friedrich & Friedrich, 1981; Goldberg, Marovitch, MacGregor, & Lojkasek, 1986; Holroyd & McArthur, 1976; Levinson, 1976; Nihira, Meyers, & Mink, 1980; Wilker, 1981).

Stress From Normative Events

In contrast to this concern with non-normative events, the impact of normative stress on the family has

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only recently become an area of interest (Bell, Johnson, McGillicuddy-Delisi, & Sigel, 1980; Boss, 1980a). Notable exceptions are Rapoport's (1963) investigation of the formation of the marital dyad. In this study, she also considered other predictable transition points in the family life cycle, emphasising their relevance both for the mental health of the family members and for the stability of the family unit. Another exception to the apparent lack of research on normative events is the large body of literature pertaining to the transition to parenthood. Since the late 1950s, researchers have been debating whether or not this transition should be regarded as a crisis in family development (Dyer, 1963; Hobbs, 1965, 1968; Jacoby, 1969; Le Masters, 1957; Meyerowitz & Feldman, 1966; Rossi, 1968).

Since the recognition of the relevance of normative events to family stress, studies of such phenomena have become more numerous. The transition to parenthood has continued to be one of the main areas of concern. A number of studies have maintained interest in the debate over whether or not this event is a crisis (Hobbs & Cole, 1976; Hobbs & Wimbish, 1977; Russell, 1974), while other researchers have examined the types of changes that occur during the transition to new parenthood (e.g., Belsky, Lang, & Rovine, 1985; Belsky, Spanier, & Rovine, 1985; Ryder, 1973; Waldron & Routh, 1981). Researchers have

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also focussed on the factors that influence couples'
experience of new parenthood (e.g., McHale & Huston, 1985;
Ventura & Boss, 1983; Wandersman, Wandersman, & Kahn,
1980; Wilkie & Ames, 1986) and on the delineation of
particular stresses that characterise this period (e.g.,
Miller & Myers-Walls, 1983; Miller & Sollie, 1980;
Weinberg & Richardson, 1981). Other transition points that
have attracted interest in the family stress literature
are the child's transition to adolesence (Kidwell,
Fischer, Dunham, & Baranowski, 1983), the child launching
phase (Boss & Whitaker, 1979; Lowenthal & Chiriboga,
1972), old age (Cavan, 1969; George, 1980), and widowhood
(Lopata, 1978). Finally, divorce, owing to its increasing
prevalence, has come to be regarded as a normative
stressor (Ahrons, 1980, 1983; Berman & Turk, 1981; Bloom,
Asher, & White, 1978; McLanahan, 1983; White & Mika,
1983).

Attention has also been directed towards the effects
of occupational stress on the family: for instance,
studies have been conducted on corporation families (Boss,
McCubbin, & Lester, 1979; Voydanoff, 1980), dual-career
families (Skinner, 1980, 1982), families of police
officers (Maynard, Maynard, McCubbin & Shao, 1980), and
families of military personnel (Lavee, McCubbin, &
Patterson, 1985).

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Predictors of Family Adaptation to Stress

Much of this previous research has been concerned with a description of the extent to which such stressors have deleterious effects both for the individual family members and for the family unit as a whole. However, the utility of such research is limited to the extent that the effects of stress on the family do not appear to be uniform. Instead, there appears to be a wide range of variation in the extent to which families are able to respond effectively to stress (Beckman, 1983; Crnic, Friedrich, & Greenberg, 1983; Friedrich, 1979; Nihira et al., 1980). Given such variation, it is more informative to seek factors which distinguish families that adapt well from those that adapt poorly.

Demographic Predictors

Studies that have attempted to isolate predictors of familial adaptation to stress have examined the relevance of a number of different classes of variables. For socio-demographic variables, such as age, education, and socio-economic status, results are mixed. Some studies have found little or no support for the relevance of these variables (e.g., Beckman, 1983; Berman & Turk, 1981; Friedrich, 1979; McCubbin, Patterson, McCubbin, & Wilson, 1983); however, Levinson (1975) found that parents with high educational qualifications and high incomes reported less stress from severely disabled children than did parents of lower socio-economic status. Gath (1972) and

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Nihira et al. (1980) have also documented the positive effects of socio-economic status on adaptation in such families, while Lowenstein (1984) found a significant positive relationship between wives' level of educational attainment and adaptation to their husbands' imprisonment. In relation to age, McCubbin and his colleagues (McCubbin, Patterson, McCubbin, & Wilson, 1983) observed that, among children with cystic fibrosis, those with younger fathers had better pulmonary functioning (a measure relevant to the state of health of a patient with cystic fibrosis) than did those children with older fathers. An inverse relationship has also been found between age and the number of transition difficulties experienced by new fathers (Hobbs & Cole, 1976; Russell, 1974), and by both new parents (Hobbs & Wimbish, 1977; Wylie, 1979). Attention has also been directed towards the effects of household composition on measures of adaptation. Holroyd (1974) and Beckman (1983) have reported more stress in single-parent homes of handicapped children than in two-parent homes.

Effect of Events

Event-related variables have also been examined for their relevance to families' adaptation to stress. Holroyd and Guthrie (1979) and Nihira et al. (1980), for example, found that severity of their child's handicap was postively related to parental problems, although

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Friedrich (1979) failed to find evidence of such a relationship. Using more specific measures of severity, Beckman (1983) observed that the child's responsiveness, temperament, number of repetitive behavioural patterns, and presence of additional or unusual care-giving demands were all associated with the level of stress reported by parents of handicapped children. In the literature on transition to parenthood, such variables as ease of delivery (Russell, 1974), ease of pregnancy (Russell, 1974), healthiness of baby (Hobbs & Cole, 1976), demandingness of baby (Heincke, Diskin, Ramsey-Klee, & Given, 1983; Russell, 1974), baby's crying (Wilkie & Ames, 1986), and deliberateness of pregnancy (Steffensmeier, 1982) have been associated with the number of transition difficulties experienced by new parents. Adaptation of heart attack patients and their partners has also been examined in relation to the severity of the heart attack; for patients, the variables do not appear to be related (Cay, Vetter, Phillip, & Dugard, 1973; Stern, Pascale, & McLoone, 1976; Winefield & Martin, 1981), although spouses' level of adaptation has been related to the severity of their partner's heart attack (Croog & Fitzgerald, 1979).

McCubbin and Patterson's (1982, 1983a, 1983b) notion of 'pile-up' refers to the fact that in reality families may be facing two or more stressors simultaneously, or they may still be recovering from a prior event when they

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are required to face a new event. The relevance of this notion to the family stress process has also been proposed by Mederer and Hill (1983) and by Barbarin (1983). Empirical data in support of it has been provided by a number of studies. For instance, Patterson and McCubbin (1983b) found that a decline in the pulmonary functioning of a child with cystic fibrosis was associated with the number of life events experienced by the family in the preceding six months. The number of recent life events has also been related to the level of strain experienced by families in the context of military relocation (Lavee et al., 1985) and during the transition to new parenthood (Crnic, Greenberg, Ragozin, Robinson, & Bashan, 1983). Similarly, Imig (1981) found that the amount of family life change experienced in the past year correlated negatively with husbands' ratings of their family's ability to function effectively. However, Beckman (1983), in a study of handicapped children and their mothers, failed to find the expected relationship between amount of strain associated with the handicapped child and number of life events recently experienced.

Marital Satisfaction

Other studies have been concerned with whether the quality of the marital relationship influences familial adaptation to stress. The relevance of marital satisfaction to measures of adaptation was noted by the early family stress researchers (Angell, 1936; Cavan &

Ranck, 1938; Hill, 1949; Koos, 1946). In a more recent study, Levinson (1975) failed to find the expected relationship between marital satisfaction and adaptation in his sample of parents of mentally handicapped children, although both Friedrich (1979) and Nihira et al. (1980) have reported that marital satisfaction is a strong predictor of adaptation in parents of such children. Marital quality has also been found to facilitate the adaptation of heart attack patients and their spouses (Mayou et al., 1978; Waltz, 1986) and the adaptation of new parents (Crnic, Greenberg, Ragozin, Robinson, & Bashan, 1983; Goldberg, Michaels, & Lamb, 1985; Oates & Heinicke, 1985; Paykel, Emms, Fletcher, & Rassaby, 1980; Russell, 1974; Stemp, Turner, & Noh, 1986; Wandersman et al., 1980; Wente & Crockenberg, 1976).

Family Relations

Previous studies have also suggested the relevance of family characteristics to measures of adaptation. Two family characteristics, in particular, have been implicated in such studies. These are the cohesiveness and adaptability of the family. The latter concept refers to the family's ability to respond to change and is manifest in the flexibility of its role and power relations (Olson, Russell, & Sprenkle, 1983). In relation to such variables, Angell (1936) noted that familial adaptation to the Depression was facilitated if the family was

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characterised by high levels of cohesion and adaptability. Similarly, Hill (1949) found that family cohesion was related to ease of familial adaptation to post-war reunion, whereas family adaptability was related to success of both war separation and post-war reunion. In more recent studies, Lavee et al. (1985) reported that families with high levels of system resources--of which cohesion and adaptability are components--were better able to adjust to military relocation, while Lowenstein (1984) found that the more cohesive and egalitarian the family, the better did wives succeed in coping with their husband's imprisonment. The beneficial effect of family cohesion has also been noted in families with mentally handicapped children (Nihira et al., 1980), and in families with children suffering from cystic fibrosis (Johnson et al., 1985; McCubbin, Patterson, McCubbin, & Wilson, 1983). In the study conducted by Johnson et al. (1985), a positive relationship was also found between parents' adaptation and the level of egalitarianism in their relationship.

Other family characteristics, although receiving less attention in the literature, have also been studied in the context of family adaptation to stress. For instance, the degree of conflict between parents of children with cystic fibrosis has been found to be negatively associated with their scores on measures of adaptation (Johnson et al., 1985; McCubbin, Patterson, McCubbin, & Wilson, 1983).

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This finding has also been reported for parents of handicapped children (Nihira et al., 1980) and wives of heart attack patients (Mayou et al., 1978). Other family characteristics that have been related to measures of adaptation include emphasis placed on family organisation (Farber & Ryckman, 1965; Johnson et al., 1985; Nihira et al., 1980), the degree of independence of its members (Johnson et al., 1985), the recreational orientation of the family (McCubbin, Patterson, McCubbin, & Wilson, 1983), the supportiveness of its communication channels (Lavee et al., 1985), and its level of control (McCubbin, Patterson, McCubbin, & Wilson, 1983).

Social Support

As in the individual stress literature, social support has been identified as a possible predictor of familial adaptation to stress (Pilisuk & Parks, 1983; Unger & Powell, 1980). A number of studies on the mentally handicapped and their families have reported that poor scores on social network measures, such as number of friends, neighbours, and church assistance, characterise families who choose to institutionalise their children (Appel & Tisdall, 1968; Eyman, Dingman, & Sabagh, 1966; German & Maisho, 1982). The positive effects of kin and community support have also been reported in studies on family adaptation to the Depression (Koos, 1946), to war separation and reunion (Hill, 1949), and to the aftermath of a tornado (Drabeck, Kay, Erickson, & Kaplan, 1975).

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Although Stemp et al. (1986) found no relation between social network measures and adaptation in new mothers, they did find that measures of perceived social support were significantly related to maternal adaptation to new parenthood; the latter finding has been reported by a number of other researchers (Crnic, Greenberg, Ragozin, Robinson, & Bashan, 1983; Cutrona, 1984; Turner & Avison, 1985; Wandersman et al., 1980). Among parents of children with cancer, Morrow et al. (1981) also found that perceived social support correlated positively with measures of adaptation, while Lavee et al. (1985) found that perceived social support from community and friends was directly related to the level of stress experienced in military relocation and indirectly related to adaptation in this situation.

Individual Resources

Family stress theorists have also proposed that individual psychological resources are relevant to a family's response to stress (Hansen & Johnson, 1979; McCubbin & Patterson, 1983a, 1983b; Walker, 1985). For instance, a number of researchers have investigated the relation between marital partners' sex-role orientation (androgynous, masculine, or feminine) and adaptation to family stress (Boss, 1980b; Patterson & McCubbin, 1984; Waldron & Routh, 1981). Waldron and Routh (1981) found no relationship between the variables during the transition

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to parenthood. Patterson and McCubbin (1984) and Boss
(1980b), in their studies of wives' adaptation to long-
term military separation from their husbands, also failed
to find an association between androgyny and measures of
adaptation. In terms of the effects of other
psychological resources, Pearlin and Schooler (1978) found
that the psychological resources of self-esteem and
mastery helped people to cope effectively with marital and
family strains, while Cowan and Cowan (1983) observed that
high self-esteem was associated with low stress during the
transition to parenthood.

Coping Strategies

More recently, investigators, in particular, McCubbin
and his colleagues, have directed their attention towards
the identification of particular coping strategies that
facilitate familial adaptation to stress. Early studies
isolated a number of different coping strategies--
behaviours used to manage the stressful event--that wives
reported as helpful when dealing with their partner's
absence from home (Boss et al., 1979; Maynard et al.,
1980; McCubbin, 1979; McCubbin, Boss, Wilson, & Lester,
1980; McCubbin et al., 1976). Such strategies include
establishing independence and self-sufficiency, reducing
anxiety, maintaining family independence, seeking social
support, and accepting the demands of their partners'
professions. The coping strategies were, to a certain
extent, specific to the type of separation--military,

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police, or corporate--and to its length--one week to unknown--although the strategy of establishing independence and self-sufficiency was considered helpful across all situations.

In their later studies, these investigators have examined family members' coping strategies in contexts apart from family separation (McCubbin, McCubbin et al., 1983; McCubbin, Patterson, McCubbin, & Wilson, 1983; Olson, McCubbin et al., 1983; Ventura & Boss, 1983). In their large nationwide study of families, Olson, McCubbin et al. (1983) found that family members tended to use different coping strategies at different stages of the family life cycle, and that the use of these strategies differed among family members. Concerning a specific stage of the life cycle--the transition to parenthood-- Ventura and Boss (1983) reported that the coping stategies used by new parents were similar to those strategies used by wives when their husbands were absent from home. In their study of parents of children with cystic fibrosis, McCubbin and his colleagues (McCubbin, McCubbin et al., 1983; McCubbin, Patterson, McCubbin, & Wilson, 1983) presented data relating different coping strategies to dimensions of healthy family functioning. They found that mothers' ratings of the helpfulness of the coping strategies of maintaining own well-being, maintaining family integration, and understanding the medical situation related to their ratings of the family's level

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of cohesiveness and expressiveness. Concomitantly, fathers' use of these same strategies was related to their ratings of the family's cohesiveness, conflict, organisation, and control. These investigators also found that the extent of mothers' efforts to maintain family integration and their own well-being were positively related to indices of the children's health, while fathers' efforts to maintain their own well-being were also related to their children's health.

Other researchers have examined the effects of different coping strategies on adaptation to family stress. In the context of divorce, Berman and Turk (1981) found that involvement in social activities and development of autonomy were associated with a positive mood state, whereas the expression of feelings was associated negatively with such a mood state. When the measure of adaptation was post-divorce life satisfaction, the results were similar with the exception that an emphasis on home and family activities was negatively associated with life satisfaction. Moen (1982) has provided evidence for the utility of different coping strategies in families of the unemployed. She found that such strategies as receiving unemployment benefits, having a second member of the family employed, and lowering one's financial expectations had positive effects on familial adaptation to unemployment. In the context of marital and family role strains, Pearlin and

Schooler (1978) and Menaghan (1982, 1983a) found that
making optimistic comparisons reduced the distress
associated with both marital and parental problems;
however, such strategies as direct action and lowering of
expectations increased the distress associated with
parenting problems, while selective ignoring and discharge
of emotional feelings increased marital distress.

More recently, Barbarin et al. (1985) conducted a
study which allows further insight into the relevance of
coping strategies for familial adaptation to stress.
Among parents of children with cancer, these researchers
found that assessments of marital functioning by both
partners were more favourable if partners used
complementary levels--one partner adopting a high and the
other a low level--of problem-focussed coping (coping
directed towards management of the problem) and similar
levels of emotion-focussed coping (coping directed towards
reducing the emotional distress). Data such as these
highlight the importance of assessing the interaction
among family members' coping strategies and measures of
adaptation.

Theoretical Models of Family Stress
In addition to the increasing amount of research on
family stress, there have also been significant
developments in theoretical models of the process.

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Hill's Family Stress Framework

The major theoretical bases for research on family stress have been the ABCX (crisis) model and the 'roller-coaster' description of post-crisis adaptation, both proposed by Hill (1949) in his study of war-induced separation and reunion, and modified slightly in later papers (Hansen & Hill, 1964; Hill, 1958). The first part of Hill's ABCX model states that the amount of crisis experienced in a family system (X) is influenced by the interaction of the event (A) with the family's resources for meeting crises (B) and the meaning that the family attributes to the event (C). The second part of Hill's framework, the roller-coaster analogy, which he adapted from Koos (1946), describes the process of family adjustment after a crisis as involving, first, an initial period of disorganisation, followed by gradual recovery and, finally, a new level of organisation.

Burr's Revision of Hill's Family Stress Framework

Hill's (1949) framework has been modified extensively by Burr (1973). The major additions that Burr made to Hill's work were the inclusion of the concepts of vulnerability and regenerative power, both terms that he borrowed from Hansen (1965). The family's vulnerability, or the variation in its ability to prevent a stressor from causing a crisis in the family unit is, in fact, a renaming of Hill's B variable. However, the treatment that Burr gave to this variable is somewhat different from

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that given by Hill in his ABCX model. Burr proposed that the relations among the A, B, C, and X variables are more complex than the simple interaction proposed by Hill. He proposed, instead, that the stressor event (A) influences the amount of crisis in the system (X) and that this relationship is in turn influenced by the family's vulnerability to stress (B). He then posited that the family's definition of the event (C) influences the family's vulnerability to stress.

As well as reformulating the relations among the variables in the ABCX model, Burr (1973) followed Hansen's (1965) example and considered the family's vulnerability to stress as a dependent variable in addition to Hill's (1949) X variable (amount of crisis experienced). Burr then reviewed the relevant literature and proposed a number of predictors of vulnerability. Following Hansen (1965), he proposed that a family's vulnerability to stress would be influenced by the personal and instrumental relations among the family members, the family's integration or cohesiveness and adaptability, the amount of anticipatory socialisation for the event, the suddenness of the event, the family's definition of the seriousness of the event, and whether or not they attributed responsibility for the event to a family member or to factors operating outside of the family.

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In addition to modifying the ABCX model, Burr (1973) also sought to improve the explanatory utility of Hill's (1949) 'roller-coaster' model of post-crisis adaptation. To facilitate this, he utilised as the outcome variable Hill's concept of the level of reorganisation of the family, and proposed that this variable is influenced by the family's regenerative power. Regenerative power refers to the ability of a family to recover from a crisis. Burr then utilised previous literature to propose a set of antecedents of this variable. These include the support available from extended family, similarity of sentiment in the family, the marital adjustment of the couple, and the amount of consultation between the marital partners. Other antecedents of regenerative power proposed by Burr are a number of those that he also delineated as predictors of a family's vulnerability to stress: personal and instrumental relations among family members, the family's integration and adaptability, and the amount of anticipatory socialisation for the event.

McCubbin and Patterson's Double ABCX Model

Recently, McCubbin and Patterson (1982, 1983a, 1983b) have attempted to add some clarity to the linkage between the two phases of family stress and to describe in more detail the nature of these two phases. Their Double ABCX model of family stress is based on the notion that each of the factors relevant before the crisis continues

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to be relevant afterwards. The Double ABCX model utilises Hill's (1949) original ABCX model to describe the pre-crisis variables, that is, those variables that will determine whether or not the event constitutes a crisis for the family. McCubbin and Patterson then proposed a second ABCX model, with elements identified by combinations of lower and upper case letters, to account for variation in post-crisis adaptation.

The first of these post-crisis predictors is labelled 'pile-up' (the aA factor). As mentioned previously, this variable refers to the possibility that families may be facing more than one stressor at a time, or may have recently faced other stressors. The relevance of pile-up for family stress has been demonstrated by Patterson and McCubbin (1983b) and by Lavee et al. (1985).

As a second post-crisis predictor, McCubbin and Patterson (1982, 1983a, 1983b) proposed that the family's resources (the bB factor) will influence the extent to which the family will adapt to a given stressful event. These authors identified three types of resources: (a) family members' personal resources, e.g., health and self-esteem, (b) the family system's internal resources, e.g., the level of family cohesion, and (c) social support. These resources are considered by McCubbin and Patterson to be already available to the family and, thus, are the same as those encompassed by Hill's (1949) pre-crisis B factor. As mentioned previously, Lavee et al. (1985)

found that the family resources of cohesion, adaptability, and supportive communication had a direct effect on post-crisis adaptation, whereas social support was only indirectly related to adaptation, but directly related to the perceived stressfulness of the event. McCubbin and Patterson also proposed that this bB factor comprises changes that occur in family resources in response to the event. For instance, families may develop new social ties in their attempt to deal with the event.

The final post-crisis predictor identified by McCubbin and Patterson (1982, 1983a, 1983b) is family perception of the event (the cC factor). This encompasses the meaning that the family initially gives to the event (the C factor), and also its changing definitions of the event and its attempts to endow the event with meaning over time. In their study of relocated military families, Lavee et al. (1985) defined this variable as the degree to which the event 'makes sense' or is coherent to the respondent. They operationalised the variable as the degree to which respondents felt a part of army life, were committed to the life style, and their perception of the predictability of the event. Assessed in this manner, coherence was reported by Lavee et al. (1985) to facilitate adaptation to military relocation.

The dependent variable in the Double ABCX model is family adaptation (the xX factor). This describes the outcome of family efforts to cope with the stressful event. Adaptation is defined by McCubbin and Patterson (1982) as:

> "the degree to which the family system alters its internal functions (behaviors, rules, roles, perceptions, and/or external reality to arrive at a system (individual and family) -environment 'fit'" (p. 40).

McCubbin and Patterson (1982, 1983a, 1983b) advocated the use of this concept as the outcome variable of interest as opposed to the simple notion of the degree to which there has been a reduction in the family crisis. This accords with the view of systems theorists that systems are constantly evolving and, therefore, can never be expected to return to their former states (e.g., von Bertalanffy, 1968). McCubbin and Patterson conceptualised adaptation as a continuum ranging from maladaptation to bonadaptation. Maladaptation is defined as a lack of 'fit', or an imbalance between the situation demands and the family's response to them, whereas bonadaptation is defined as a balance between these two factors. Lavee et al. (1985) operationalised this variable as a composite of family members' well-being, the degree of family distress, and satisfaction with family life in the army since the relocation.

McCubbin and Patterson (1982, 1983a, 1983b) have expanded their Double ABCX model in order to identify and

describe the long-term process of family adaptation to a
stressful event. This process is termed the Family
Adjustment and Adaptation Response (FAAR). When they
examined longitudinal data from families that had faced a
war-induced separation, McCubbin and Patterson found that
the families appeared to go through a pre-crisis stage
(the adjustment phase) and then, not one, but two stages
of post-crisis adaptation, namely, restructuring and
consolidation. They also described a number of coping
strategies that characterised each stage of the process.

Firstly, the pre-crisis phase, as described
previously, is characterised by Hill's (1949) original A,
B, and C variables. McCubbin and Patterson (1982, 1983a,
1983b) claimed that after the impact of the stressor, the
family attempts to adjust to it without making any major
changes to the family's structure or patterns of
interaction. To bring about family adjustment, families
use one of three coping strategies: avoidance (ignore the
stressor), elimination (remove or reduce the impact of the
stressor or change family's definition of it), and
assimilation (accept the changes associated with the
stressor). According to McCubbin and Patterson, the
degree to which families experience crisis in response to
the stressor will depend upon the adequacy of these coping
strategies.

Families in crisis then enter a restructuring phase as they realise that they must make changes to their existing family structure and patterns of interaction if they are to return to a stable state. After this restructuring phase, there is a phase during which the changes are consolidated. Both of the post-crisis stages are characterised by the variables comprising the Double ABCX model, although McCubbin and Patterson (1982, 1983a, 1983b) described slight differences in the definitions of these variables at each of the stages.

In terms of coping strategies, the restructuring phase is characterised by the coping strategy of system maintenance. This strategy is designed to maintain the integration of the family system, its morale, and members' esteem. The coping strategies of synergising (family efforts to coordinate and pull together as a unit), interfacing (to achieve a new 'fit' with the community), and compromising (willingness of family to accept that perfect solutions do not exist) characterise the consolidation phase.

A final point made by McCubbin and Patterson (1982, 1983a, 1983b) is that families do not have to move through these stages in a linear fashion. Their progress may be circuitous; for example, a family may go back to a previous stage before proceeding to the next stage.

Barbarin's Psychosocial Model

Recently, Barbarin (1983) has proposed a psychosocial model of family stress, using insights from both the family stress literature and individual stress theory.

Firstly, in reference to the event, Barbarin (1983) claimed that the stressor should be seen as comprising not one event, but multiple components. For instance, the family with a child who has a life-threatening disease may be facing, as well as the stress of the illness, instrumental stressors, such as financial difficulties associated with the event, interpersonal stressors within and outside the family, and institutional stressors, such as problems dealing with medical staff (Barbarin, 1983). This notion is similar to McCubbin and Patterson's (1982, 1983a, 1983b) concept of pile-up. Barbarin proposed that the effects of these multiple stressors will be mediated by the appraisal or meaning attached to them, the family resources, and the coping behaviours that the family adopts.

The first of these mediating processes, appraisal, is defined by Barbarin (1983) in a manner similar to that of other individual and family stress theorists. Appraisal is the subjective interpretation given to the event by the family. In contrast to other family stress theorists, however, Barbarin discussed the antecedents of this appraisal, an inclusion that has also characterised the

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individual stress theory of Lazarus and his colleagues
(Coyne & Lazarus, 1980; Folkman, 1984; Lazarus, 1966;
Lazarus & Folkman, 1984). The antecedent variables
included in Barbarin's model are paradigms that reflect
the family's beliefs about causality and the way in which
the world operates. Barbarin used 'paradigm' in the sense
of Reiss and Oliveri (1980; see also Reiss, 1981) to
reflect their view that families develop shared cognitive
appraisals of themselves and their environment.

The second mediating process discussed by Barbarin
(1983) is coping styles. These are the behaviours
employed by the family to cope with the event. In
accordance with the view of many theorists regarding
individual stress (e.g., Billings & Moos, 1981; Folkman &
Lazarus, 1980; Lazarus & Folkman, 1984; Mechanic, 1962),
Barbarin distinguished between problem- and emotion-
focussed coping. As mentioned previously, problem-
focussed coping is directed at the source of the stress,
while emotion-focussed coping is directed towards the
amelioration of emotional distress associated with the
event. Barbarin considered that style of coping should be
conceptualised at both an individual and a family level.
In fact, as discussed previously, Barbarin and his
colleagues (Barbarin et al., 1985) have empirically
explored the relationships between different combinations
of spouses' coping strategies and measures of post-event
adaptation.

Barbarin's (1983) final mediating variable is coping resources, defined in a manner similar to that of McCubbin and Patterson (1982, 1983a, 1983b). He did not describe general classes of resources that presumably would be useful in any stress situation, but referred only to those resources that would be useful in the context of a sick child. These resources are availability of income, adequate health care, and a supportive social network.

The outcome variable in this family stress model is coping effectiveness, which in the short term means the degree to which the crisis is resolved and the family returns to its concern with pre-crisis problems. The long-term outcome consists of changes that occur in the family system in response to the event.

Critique of Current Work on Family Stress

Despite the large amount of empirical and theoretical interest in the family stress field, there still appears to be little data to indicate why some families cope well in response to stressful events while others cope poorly. This lack probably stems from the current paucity of theory to guide research in the area, from methodological shortcomings in many studies on family stress, and from a confusion as to the appropriate unit of analysis for this type of research.

Theoretical Issues

Few of the studies described above have been designed to test a theoretical model of family stress, most of them having simply reported correlates of family adaptation to stress. Understanding of variation in familial adaptation would be greatly improved if it were possible to integrate into a theoretical framework the large amount of data currently available on family stress. Unfortunately, there is no such framework; although extensive, much of the current theorising on family stress lacks sufficient specificity to allow for the derivation of testable hypotheses.

There are two difficulties with Hill's (1949) family stress framework, for example. Firstly, as Klein (1983) has pointed out, it is questionable whether the ABCX model can be regarded as a causal model. Klein argued that, as it does not appear to be possible to measure a crisis independently of the conditions claimed to be its antecedents, the ABCX model should be thought of as a definitional, rather than a causal, model. In these terms, the explanatory utility of Hill's ABCX model is limited.

A further difficulty with Hill's (1949) family stress framework is that his 'roller-coaster' description of post-crisis adaptation is simply a metaphor. The model allows for no prediction of which families will organise well after a crisis and which families will remain in a

state of disorganisation. In other words, the model allows for no variation in a family's adjustment to a stressful event and so, like the ABCX model, lacks explanatory utility.

Burr's (1973) concepts of vulnerability and regenerative power, and his treatment of them, are important additions to Hill's (1949) original framework. The concept of vulnerability allows one to predict which families will have low vulnerability to stress, while the inclusion of regenerative power as a post-crisis variable allows for variation in the adaptation of families to a given event, a dimension lacking in Hill's original framework.

However, despite the apparent utility of these concepts, they have stimulated little direct research (exceptions include Imig, 1981 and Lowenstein, 1984). This may be attributed to the nature of the concepts themselves. As Hansen and Johnson (1979) have pointed out, the concepts are ambiguous and difficult to operationalise. However, more problematic may be the fact that a number of variables in Burr's (1973) model are proposed as predictors both of a family's vulnerability to stress and of its regenerative power (Klein, 1983). In effect this suggests that all families will fall into one of two categories: the invulnerable families with high regenerative power and the vulnerable families with low

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regenerative power. This dichotomy of family types, however, may not fit with the empirical covariance of vulnerability and regenerative power (Klein, 1983). As Klein (1983) has further pointed out, given that the pre- and post-crisis stages of family stress are distinguished both conceptually and temporally, it seems reasonable to continue to suppose, until data are available that suggest otherwise, that they also require different sets of antecedent variables.

McCubbin and Patterson (1982, 1983a, 1983b) have added considerably to the amount of theorising about family stress. However, despite their clearer articulation of the pre- and post-crisis phases, their work has stimulated little direct empirical research. Attention has been directed instead towards the development of operational definitions and measures of the key variables, or towards testing of elements of the overall model (e.g., McCubbin, McCubbin et al., 1983; Patterson & McCubbin, 1983b, 1984; Olson, McCubbin et al., 1983). Alternatively, the model has been theoretically applied to particular stressful situations without empirical substantiation of its utility (Cole, 1986; Famighetti, 1986).

Lavee et al. (1985) are the only researchers to have attempted any extensive empirical testing of the model. These researchers operationalised the post-crisis variables of pile-up (aA), adaptive resources (bB),

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perception (cC), and adaptation (xX), and then used a
structural equation analysis (LISREL IV) to assess the
relationship of the variables with post-event adaptation.
The model's overall fit with the data was not particularly
good, although, as mentioned previously, significant
direct and indirect effects were found between the
predictors and the outcome.

Although Lavee et al. (1985) have made a significant
empirical test, they did not begin to test the full model
comprising a pre-crisis stage and two post-crisis stages.
In fact, as Lavee et al. have pointed out themselves, they
did not test the full set of variables even at the single
post-crisis stage (it is not clear whether this is the
restructuring or the consolidation phase) to which their
study applies. Neglected were the variables of personal
resources and coping strategies.

The lack of more extensive data pertaining to the
Double ABCX model may be due to its lack of specificity
and largely descriptive nature. For instance, the model
does not enable one to predict which families will adopt
which coping behaviours. The theory simply states, for
example, at the pre-crisis stage, that the couple may
utilise the coping strategies of avoidance, elimination,
or assimilation, and that the stressor, the family's
resources, and their definition of the event will interact
to determine which coping strategies will be adopted by

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the family. The exact predictions that a researcher would
make in this context are unclear. Similarly, in terms of
crisis and adaptation, it is not possible to derive
propositions to predict how much crisis a given family
will experience, or how well it will adapt to the event.
The hypothesised relationships among the predictors,
coping strategies, and outcomes were not articulated by
McCubbin and Patterson (1982, 1983a, 1983b). In fact,
these authors' discussion of the family stress process, as
involving adjustment, restructuring, and consolidation
phases, with the possibility that a family's passage
through the stages may be circular rather than linear, is
a descriptive, rather than a predictive, framework.

The model proposed by Barbarin (1983) is less general
than that of McCubbin and Patterson (1982, 1983a, 1983b),
yet there is still a lack of specificity. As with that of
McCubbin and Patterson, this model does not appear to
allow for the prediction of which families will adopt
which coping behaviours. It is apparent that appraisal
and resources (specific to the situation) are pertinent
variables, but their exact mode of influence is unclear.
This lack of specificity is also apparent in relation to
Barbarin's outcome variable of coping effectiveness. The
predictions that one would make as to which combinations
of antecedent variables would facilitate optimal post-
event adaptation are unclear. Barbarin's use of the
short-term outcome variable of coping effectiveness is,

however, noteworthy. This is more specific than McCubbin and Patterson's notion of adaptation, and its utility as an outcome variable in the stress process has been suggested by a number of researchers on family and individual stress (Berman & Turk, 1981; Lazarus, DeLongis, Folkman, & Gruen, 1985; Lazarus & Folkman, 1984; McCubbin et al., 1976; McCubbin, Joy et al., 1980; Meneghan, 1982, 1983, 1984).

In summary, there does not appear to be a theoretical framework pertaining to family stress that would allow for the prediction of which families will, and which families will not, cope effectively. Hence, much of the research on family stress has lacked a theoretical basis, making it very difficult to integrate the current findings.

Methodological Problems

A number of methodological shortcomings have also characterised research on family stress. In the first instance, the majority of studies have used small samples. These preclude multivariate statistical analyses to examine the contribution of a number of independent variables simultaneously. Such studies have, therefore, reported the relevance of only one or two variables, which, in fact, may have little utilty in the explanation of adaptation to stress in the context of other variables.

Small samples also preclude the use of multivariate statistical techniques to determine the presence of

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interaction effects. It is important to be able to examine such effects because, although some predictors may not have direct relationships with the dependent variable, they may affect the relationship between another predictor and the outcome. A number of variables, such as social support and personal resources, have been hypothesised to have this type of relationship with outcomes in stressful situations (e.g., Kobasa, Maddi, & Kahn, 1982; Wheaton, 1985); thus, it is important to have a large enough sample size to detect the interaction. This is not to gainsay the difficulty involved in recruiting large samples of subjects, particularly when exploring the effects of non-normative stress. However, where possible, larger samples clearly have advantages over smaller samples.

A second methodological shortcoming of current research on family stress is that very few studies, except for a number on the transition to parenthood, have used longitudinal or panel designs. This is in spite of the fact that researchers in the individual stress field have consistently advocated the use of panel designs for the reason that such studies will allow examination of the variables that mediate the effect of a stressor on the recipient (Folkman & Lazarus, 1985; Menaghan, 1983b, 1983c; Paykel, 1978; Silver & Wortman, 1980). An examination of the temporal sequencing of variables cannot be undertaken with a cross-sectional design; instead, it

is necessary to employ a multi-wave panel design (Biddle, Salvings, & Anderson, 1985).

Thirdly, as Klein (1983) has pointed out, there has been little research on family stress that has examined the relationships between predictors and outcomes in the context of more than one stressor; this problem has also been noted in the literature on individual stress (Silver & Wortman, 1980). It is, therefore, unclear whether the findings of one particular study would apply to other stressful situations, or whether these findings are totally or partially specific to the context under examination. The possible specificity of results to particular contexts could be examined if the same model, or set of variables, was applied to more than one situation.

Unit of Analysis

In the literature on family stress, there has also been a failure to adhere to the appropriate unit of analysis, the family rather than the individual. As Lazarus and Folkman (1984) have pointed out, the concepts of stress and coping do not have the same meaning at one level of analysis as they do at another. More specifically, in relation to the concept of stress, Barbarin (1983) has argued that the main criterion on which family stress can be distinguished from individual stress is that family stress is shared and, thus, has a

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direct effect on all family members, although the affects
of the stress may not be the same for all (Barbarin, 1983;
Hansen & Hill, 1964). The critical difference between
family coping and individual coping is that family
members' coping strategies do not occur independently; the
interrelationships among them should be considered
(Barbarin, 1983; Menaghan, 1983b; Olson, McCubbin et al.,
1983). It may be that the effectiveness of family coping
is enhanced if members adopt complementary or,
alternatively, similar styles of coping (Barbarin, 1983).
The area of family stress also differs from that of
individual stress to the extent that other relevant
variables, such as resources, have to be operationalised
at the family level (Klein, 1983; Walker, 1985).

Although students of family stress have acknowledged
the necessity to focus on the family level of interest and
have studied family stress (that is, stress that directly
effects all family members) rather than individual stress,
few studies have focussed on family coping. They have
been more likely to focus on the way individual members
cope with stress, rather than the way families, as
interacting networks, cope. For instance, a number of
studies examining family stress have restricted
consideration of the coping process to the strategies
utilised by one family member, in many cases, the wife
(Berman & Turk, 1981; Boss et al., 1979; Friedrich &
Friedrich, 1981; Lowenstein, 1984; McCubbin, 1979;

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McCubbin, Boss, Wilson, & Lester, 1980; McCubbin et al.,
1976; Menaghan, 1982, 1983a, 1983d; Patterson & McCubbin,
1984; Pearlin & Schooler, 1978). Even if researchers have
used more than one family member as a respondent, the
efficacy of different interrelationships among family
members' coping styles has not been examined (McCubbin et
al., 1982, McCubbin, McCubbin et al., 1983; McCubbin,
Patterson, McCubbin, & Wilson, 1983; Moen, 1982; Olson,
McCubbin et al., 1983; Ventura & Boss, 1983). An
exception to this practice is the study conducted by
Barbarin et al. (1985); as discussed previously, this
study examined the interrelationships between spouses'
coping strategies and the effects of these
interrelationships on post-event adaptation.

In regard to other predictors--such as family members'
psychological resources and their subjective ratings or
views of family functioning--there has also been a neglect
of the family unit (Costa & McCrae, 1983; Crnic,
Friedrich, & Greenberg, 1983; Klein, 1983). The large
proportion of studies has analysed the relationship
between predictors and outcomes at the level of the
individual family member, rather than attempting to
analyse the data at the family level (e.g., McCubbin,
McCubbin et al., 1983; McCubbin, Patterson, McCubbin, &
Wilson, 1983; Waldron & Routh, 1981; Wandersman et al.,
1980). To maintain the family level of analysis, it would
be necessary to represent in a single score the different

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characteristics and views of the family members (Olson, McCubbin et al., 1983). Such a procedure has been adhered to by Lavee et al. (1985). These researchers utilised mean husband and wife scores on the variables considered in their study of military relocation.

In summary, although the family unit has been the focus of attention for researchers and theorists in so far as they have studied family stress, there has been little concern with family coping. More often than not the emphasis has been on how individual family members coped with stress, rather than how the family as an interacting network, coped. Additionally, other variables pertaining to the stress process have rarely been operationalised at the family level.

A final point to be made in relation to the unit of analysis issue concerns the theoretical models of family stress. As Klein (1983) has pointed out, there is a tendency for theorists to assume that families have the same properties as individuals, an assumption that Klein has termed 'group fallacy.' An example in family stress theory is the notion of the 'family's definition of the event,' a concept proposed by Hill (1949), Burr (1973), and McCubbin and his colleagues (McCubbin & Patterson, 1982, 1983a, 1983b) as a critical component of the process. This variable is obviously conceptualised at the family level, but has not been adequately operationalised and assessed at this level (Klein, 1983; Walker, 1985).

This is presumably because it is rare for all family members to share the same appraisal of an event (Lazarus, 1966; Lazarus & Folkman, 1984; Menaghan, 1983b; Walker, 1985). An additional example of the situation where families are assumed to have the same properties as individuals is Barbarin's (1983) use of the notion of family paradigms. As mentioned previously, family paradigms are presumed to reflect a family's beliefs about the way in which the world operates; however, as Klein (1983) has argued, it may be premature to employ the notion of family paradigms without empirical verification of their degree of sharing in the family. More promising conceptualisations of these family level variables are based on the premise that relations among individual family members' appraisals should be taken into account.

Conclusion

There has recently been an upsurge of empirical interest in family stress, coping, and adaptation. However, this research has not satisfactorily addressed the question of why some families cope effectively with stress while others cope poorly. It has been proposed that this lacuna is due to the absence of sufficiently detailed models of family stress, to neglect of the appropriate unit of analysis, and to the use of samples too small for multivariate analysis, in cross-sectional studies pertaining to a single stressful situation.

CHAPTER TWO

A MODEL OF FAMILY STRESS

This chapter will focus on a model of family stress
which was developed with the aim of accounting both for
variation in family members' adaptation to stress and the
adaptation of families as collective entities. To
facilitate a discussion of the development of this model,
first, a description of each stage of the model is
provided in terms of the individual family member.
Second, consideration is given to the application of the
model at the collective level. Empirical propositions are
derived both for the individual family member and for the
family as a whole.

Theoretical Treatment of the Family Level of Interest

Because of the neglect of the family level of concern
in previous research, it is necessary to briefly discuss
the theoretical consideration of family level propositions
in the proposed model of family stress. Two different
dimensions are considered relevant to such a
consideration. First, families can be described in terms
of the relative levels of their scores on the predictor
variables (Olson, McCubbin et al., 1983). It seems
reasonable to suggest, for instance, that the adaptation
of the family unit, as a whole, will be dependent upon the
family's relative position on the identified predictors of

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adaptation. In the ensuing theoretical discussion, the relative level of the family on a particular variable will be loosely termed their collective score.

Secondly, when one is dealing with data obtained from more than one family member there is a necessity to acknowledge the added dimension of the relationship between members' scores (Fisher, Kokes, Ransom, Phillips, & Rudd, 1985), a dimension which is masked by collective family scores (Fisher et al., 1985; Olson, McCubbin et al., 1983). There are a number of studies in the literature that have revealed that there is typically a low level of agreement between family members on particular variables, even when members are supposedly reporting on common domains such as dimensions of family functioning (Barnes & Olson, 1985; Jessop, 1981; Larson, 1974; Olson, McCubbin et al., 1983). Moreover, the deleterious effects of discrepancy between family members' judgements and characteristics have been noted in the context of marital quality (Billings, 1979; Birchler & Webb, 1977). Such findings concur with Klein and Hill's (1979) notion of distributive effects, namely, that in the context of family problem-solving, effective outcomes are facilitated if members' characteristics are similar rather than different. Bandura (1982) has similarly noted the deleterious effects of person differences on collective efficacy.

In summary, the theoretical development of family level propositions will be based on the notion that the two salient dimensions on which family functioning can be described are the family's collective score on the variables of interest and the degree of similarity between members' scores.

Proposed Model of Family Stress

The proposed model of family stress incorporates two stages (see Fig. 2-1). The first stage of the model is concerned with predicting the level of strain associated with the event (that is, a family member's subjective reaction to the event), whereas the second stage pertains to the prediction of adaptation.

Level of Strain

A great deal of research on stress has been based on a tradition that has emerged from the biological sciences (Fleming, Baum, & Singer, 1984). Selye (1982), as an advocate of this approach, defined stress in the physiological sense as "the nonspecific (that is, common) result of a demand on the body, be the effect mental or somatic" (p. 14). Stressors are then defined as "the agents or demands that evoke the patterned response" (p. 14). From the biological perspective, objective experiences or stressors are events that evoke stress responses in individuals. Furthermore, the strength of

Person variables   Situational variables

Importance of the event
Generalised control beliefs   Ambiguity of the event
Situational control beliefs   Timing of the event
Anticipated difficulty
 of the event   Experience of recent
Familiarity with event   and concurrent
                                         stressors

            stage 1 outcome:
                STRAIN
                                            stage 2 outcome:
            COPING STRATEGIES   ─────────>   ADAPTATION

            (problem- or emotion-focussed)

            COPING RESOURCES

                Personal

                Generalised control beliefs
                Self-esteem
                Morale

                Family

                Cohesion
                Flexibility
                Communication
                Consensus
                Marital quality

                Social support

Fig. 2-1. Proposed Model of Family Stress.

such responses is considered to be a function of the

objective dimensions on which the event can be described

(Monroe, Imhoff, Wise, & Harris, 1983).

An additional body of stress research has been based

on the psychosocial perspective (Fleming et al., 1984).

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This perspective espouses a relational or interactional approach to stress considering both the state of the environment and the response of the individual (see Folkman, 1984; French, Rodgers, & Cobb, 1974; Lazarus, 1966; Lazarus & Folkman, 1984). From this perspective, stress is defined not as a property of the person or the environment, but as a particular relationship between the two entities (Folkman, 1984). In terms of such a view of stress, stressors are defined as those events that are appraised by individuals as threats to their present sense of well-being (Folkman, 1984). Thus, in obvious contrast to the biological perspective, no events are considered to be stressful in their own right (Fleming et al., 1984); an event becomes stressful only when an individual defines it as such (Lazarus, Averill, & Opton, 1974).

The consideration of stress in the present model is based on the psychosocial perspective. This is because it seems unreasonable to presume that all individuals will respond to an event in the same way. For instance, an event such as pregnancy may be a joyous and welcome event for one individual and an unwelcome and disruptive event for another. The fact that there is wide variation in individuals' ratings of the amount of life change caused by different life events has been verified by Redfield and Stone (1979). The biological approach to the conceptualisation of stress, however, ignores the presence

of such variation and, thus, fails to reflect accurately a particular person's experience of an event (Sarason, Johnson, & Siegel, 1978).

In the present model, a stressor will be considered as an event that simply has the potential to provoke a reaction in the individual. Following Mechanic (1962), the term 'strain' will be used to reflect the person's subjective reaction to the event. A similar distinction has been made by other researchers in the field (Cohen, Kamarck, & Mermelstein, 1983; Folkman, 1984; Lazarus & Folkman, 1984; Pearlin & Schooler, 1978; Sarason et al., 1978). In the family stress literature, the major theorists--Hill (1949), Burr (1973), McCubbin and Patterson (1982, 1983a, 1983b), and Barbarin (1983)--have also distinguished between the objective stressor and the family's reaction to it.

Predictors of Strain

It is proposed that the level of strain associated with a given event will be influenced by a number of person and situational variables, as well as by the accumulation of recent and concurrent stressors (Folkman, 1984; Lazarus & Folkman, 1984). The inclusion of person and situational variables as predictors of strain concurs with the psychosocial perspective of stress, namely, that stress is a property both of the person and the situation (Cohen et al., 1983; Folkman, 1984; Monroe et al., 1983).

Person variables

In terms of person variables, a review of the theoretical and research literatures suggested the relevance of a number of different variables.

Importance of the event. Firstly, the importance attributed to the event is proposed as a predictor of strain. Specifically, if an event is considered to be important, then it is more likely to be associated with a high level of strain for the reason that the outcome of the event may threaten the attainment of a goal which is judged to be important (Folkman, 1984; Lazarus & DeLongis, 1983; Lazarus & Folkman, 1984; Wrubel, Benner, & Lazarus, 1981). Although this proposal has not been examined empirically, it seems reasonable if consideration is given to a specific event, such as the transition to parenthood. Family members (or spouses in this case) who view this as an important family transition are likely to regard this event as stressful because the possibility of not coping with it will threaten attainment of a goal that they regard as important.

Generalised control beliefs. Beliefs are also proposed to influence strain. Although there are many different categories of beliefs, the most important of these to the stress process are generalised beliefs about control (Folkman, 1984; Lazarus & Folkman, 1984). These are the beliefs that an individual has with regard to the

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commonly used concept for describing such beliefs is Rotter's (1966) internal-vs-external locus of control. An internal orientation attributes control of life events to the self, whereas an external orientation attributes control of these same events to forces external to the self.

In terms of the predictions that relate to the influence of generalised control beliefs on level of strain, it can be proposed that the more family members perceive that they have control over life events, the less likely they are to experience strain (Folkman, 1984; Lazarus & Folkman, 1984). Although such a proposal is intuitively appealing--to the extent that if one feels that one can mitigate the outcome of an event, then it seems plausible that strain will be reduced--support for it has been somewhat equivocal.

In support of the proposal, Anderson (1977) found that 'internals' perceived less stress following the effects of a major disaster than did their 'external' counterparts and, similarly, Lowery, Jacobsen, and Keane (1975) found that internals experienced less pre-operative anxiety than did externals. However, contrary to these results are Houston's (1972) data on anxiety in stressful situations. Houston found no difference between internal-control and external-control subjects on anxiety and, in fact, subjects with an internal locus of control exhibited more physiological arousal than externals.

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As Folkman (1984) has pointed out, it can be proposed that the ambiguity of the situation moderates the relationship between the person's generalised control beliefs and appraisal of the stressfulness of the event. Folkman cited Rotter (1966, 1975) in support of this proposition. Rotter has claimed that the effects of control beliefs are greatest under conditions of situational ambiguity. Shalit (1977) and Klein and Hill (1979) have similarly suggested that enduring behaviour patterns have their greatest influence on the stress process in ambiguous, rather than clearly defined, situations. In ambiguous situations a person is presumably more likely to rely on general beliefs about the world because of the lack of appropriate cues from the environment (Folkman, 1984).

Examination of the data linking generalised control beliefs to strain supports the view that the ambiguity of the situation moderates the relationship between the variables. The studies undertaken by Anderson (1977) and Lowery et al. (1976) both reported support for the proposed influence of control beliefs on strain and were both conducted in situations that can be described as ambiguous. Presumably, after flooding due to a hurricane (the context of Anderson's study), there is a degree of ambiguity as to the extent of the damage and in the pre-operative period (the context of the study conducted by Lowery et al.) there is also a degree of ambiguity

concerning the outcome of the surgery. In contrast to
these studies, Houston's (1972) data were collected in a
non-ambiguous situation, namely, a laboratory setting
where subjects were given clear instructions as to the
nature and possible outcomes of the situation. It may be
for this reason that Houston failed to detect the expected
relationship between control beliefs and strain.

In summary, it is proposed that family members will
be more likely to experience strain in relation to an
event if they have an external, rather than an internal,
locus of control. However, it is expected that this
relationship will only be evident under conditions of
situational ambiguity.

Situational control beliefs. As proposed by Lazarus
and his colleagues (Folkman, 1984; Lazarus & Folkman,
1984), situational control beliefs are also considered as
predictors of strain. A number of studies have revealed
that the stressfulness of a particular situation is
lessened when subjects believe that they can reduce the
aversiveness of the stressor (Holmes & Houston, 1974;
Holroyd & Andrask, 1978; Langer, Janis, & Wolfer, 1975), or
when they believe that there is something that they can do
to reduce the likelihood that the stressor will occur
(Houston, 1972). However, other studies have failed to
find the expected relationship between situational control
beliefs and stress (Bowers, 1968; Glass, Reim, & Singer,

1971), while still others have found that the belief that the situation has the potential for control may actually induce stress (Averill & Rosenn, 1972; Epstein, 1973; Mills & Krantz, 1979). Averill (1973) suggested that the equivocal nature of the data linking situational control beliefs and stress could be attributed to the situational context; however, he was unable to reach any specific conclusions concerning the effects of different contexts.

The study conducted by Mills and Krantz (1979) adds some further insight into the relationship between situational control beliefs and strain. These researchers found that blood donors who were given both high information (technical information about the procedure) and high control (choice of which arm was to be used) were more distressed by the procedure than those who were either given high information or high control alone. Mills and Krantz attributed these data to the medical context suggesting that in such a context the combination of high information and high control may give subjects more control than they desire, thus heightening, rather than reducing, the experienced stress. Other researchers have similarly suggested that in medical contexts patients would prefer to leave control in the hands of the professionals and, for this reason, the belief that the situation has the potential for control may heighten strain (Miller, 1979; Rodin & Langer, 1977; Thompson, 1981). Because few empirical studies have explored the

relation between situational control beliefs and strain in
naturalistic settings, the current research literature
does not allow for the specification of other contexts in
which such beliefs may fail to lessen strain.

On the basis of this evidence it is, therefore,
proposed that, in general, situational control beliefs
will lessen the strain associated with a particular event.
However, in certain circumstances this relationship will
not be apparent. At present, the most specific hypothesis
that can be made with regard to these contexts is that in
medical settings situational control beliefs will heighten
strain.

Anticipated difficulty of the event. It is also
proposed that the greater the anticipated difficulty of
dealing with the event, the greater the associated strain.
This concept is related to the notion of situational
control beliefs, however, as Folkman (1984) has pointed
out, the concepts are theoretically distinguishable. On
the one hand, individuals appraise the demands of the
situation in terms of its controllability--situational
appraisals of control--and, on the other hand, they
appraise the degree to which the actions necessary to deal
with the event will be difficult to perform.

The notion of the anticipated difficulty of the event
accords with Bandura's notion of perceived self-efficacy

(Bandura, 1982; Bandura & Adams, 1977; Bandura, Adams, & Beyer, 1977; Bandura, Adams, Hardy, & Howells, 1980). For Bandura, self-efficacy pertains to a person's judgement of how well he or she can perform the behaviours necessary to deal with a given event. Such a notion is related to the anticipated difficulty of the event, to the extent that a person who perceives low efficacy to cope with an event will tend to anticipate it as an event which will be difficult to manage (Bandura, 1982).

In terms of empirical data in support of the proposed relationship between strain and the anticipated difficulty of the event, Folkman and Lazarus (1985) found that students' expectations of the difficulty of an exam emerged as a strong predictor of strain. Similarly, in a series of studies on severe phobics, Bandura and his colleagues (Bandura & Adams, 1977; Bandura et al., 1977; Bandura et al., 1980) reported that fear arousal was heightened when subjects perceived low self-efficacy. The less subjects judged that they could deal with the event, the more stress they experienced in both the anticipatory and performance stages of the task. Moreover, Bandura, Reese, and Adams (1982) found that low self-efficacy not only heightened subjective stress, but also increased physiological arousal. On the basis of this evidence, the proposal will be tested in the present research that anticipated difficulty of dealing with an event will heighten the associated strain.

Familiarity. Finally, in accordance with the work of Lazarus and his colleagues (Folkman, 1984; Lazarus & Folkman, 1984), familiarity will be considered as a predictor of strain. Presumably, if persons are familiar with an event, then they will experience less strain than if it is an event with which they are unfamiliar. Burr (1973), in his theoretical analysis of family stress, has, similarly, proposed that anticipatory socialisation--the learning of norms about a role prior to being in the situation--will be important in determining the experienced stressfulness of an event. Steffensmeier's data (1982) confirm this proposal. He found that, in his study of new parents, familiarity with babies--from both informal and formal sources--had a significant negative relationship with transition difficulty. However, Russell (1974) and Wente and Crockenberg (1976) failed to find the expected relationship between familiarity with new parenthood and post-natal strain. Despite the lack of substantial data to support or refute the proposed relationship between the variables, the proposal that familiarity with an event lessens the associated strain will be incorporated into the present model of family stress.

Situational Variables

Considering the situation, a number of different variables are proposed as predictors of strain. The severity of the event per se is not considered as a

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predictor variable, given that it is on this dimension--or a related dimension, such as difficulty or desirability-- that subjective appraisals of stress are obtained (Monroe et al., 1983; Sarason et al., 1978; Vinokur & Selzer, 1975). However, other characteristics of the situation will presumably influence the level of associated strain (Lazarus & Folkman, 1984).

Timing of the event. Firstly, the timing of stressful life events will be considered as a predictor of strain. In terms of normative life events, Neugarten (1977, 1979) has pointed out that such events are less likely to be appraised as stressful if they are appropriately timed in their occurrence. For instance, in the context of new parenthood, Steffensmeier (1982) found that there was less stress associated with planned than with unplanned pregnancies. Moreover, as Lazarus and Folkman (1984) have pointed out, it is important to examine the timing of non-normative events. In support of this suggestion, they cited Elder's (1974) finding that older middle-class men experienced less stress during the depression than did their younger counterparts. Thus, the timing of both normative and non-normative events may be an additional characteristic of events that influences the level of associated strain.

Ambiguity. In addition to the proposed interactive effect of ambiguity on the relationship between

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generalised control beliefs and strain, the ambiguity of
an event is also proposed to have a direct effect on
strain. If ambiguity is present, then there is a degree
of uncertainty as to the nature and outcome of the event
(Lazarus & Folkman, 1984). The stress-inducing effects of
ambiguity in illness have been noted by Moos and Tsu
(1977). The number of ambiguous events recently
experienced has also been significantly associated with
psychological distress, although the magnitude of the
correlation is not high (Thoits, 1983). Despite the lack
of strong support for the proposal, the possible link
between the event's ambiguity and strain will be
incorporated into the present model of family stress.

Experience of recent and concurrent stressors

Finally, the experience of recent and concurrent
stressors will be considered as a predictor of strain.
Presumably if a person has recently experienced other
potentially stressful events, or is concurrently
experiencing more than one stressor, then an additional
stressor will be associated with more strain than had it
occurred in isolation. McCubbin and Patterson (1982,
1983a, 1983b) have presented a similar proposal with their
concept of 'pile-up', as have Lazarus and Folkman (1984).
In terms of empirical data, the number of recent life
events experienced has been positively related to the

strain of military relocation (Lavee et al., 1985) and the stress of new parenthood (Crnic, Greenberg, Ragozin, Robinson, & Bashan, 1983). However, Beckman (1983) failed to find the expected relationship between number of recent life events and the amount of strain associated with a handicapped child. The basis for these contradictory conclusions may be related to Beckman's small sample size. The evidence, therefore, supports the proposal that the accumulation of recent and concurrent stressors will influence the level of strain associated with a particular stressor.

Strain as a Family Level Construct

Prior to discussing the next stage of the model, it is necessary to discuss strain and its antecedents at the family level. Firstly, it can be proposed that collective family strain will be higher if the collective level of the family on any of the identified antecedents of strain is high.

Secondly, discrepancy between family members on any of these variables will presumably increase collective family strain. This proposal is based on the notion that if family members are dissimilar on the predictors of strain then, because of the awareness that other family members are approaching the event differently, this dissimilarity will heighten individual family members' strain and, hence, collective strain.

Adaptation

The second stage of the model pertains to the prediction of family members' adaptation to the event. There is a lack of agreement amongst researchers and theorists as to an adequate conceptualisation of the outcome variable in stress and coping research (Haan, 1982; Kessler, Price, & Wortman, 1985; Silver & Wortman, 1980). In the present model, the variable will be conceptualised as coping effectiveness, because, as Menaghan (1983b, 1983c) has pointed out, this notion is implicit in the concept of adaptation. If people fail to adapt to a stressful event, then they fail to cope effectively. Indicators of coping effectiveness include the extent to which coping behaviours minimise the emotional distress associated with an event (e.g., Cronkite & Moos, 1984; Felton & Revenson, 1984; Pearlin & Schooler, 1978), the degree to which role performance is disturbed by the impact of a stressor (Lazarus & Folkman, 1984), and people's evaluation of their own coping behaviour (e.g., Berman & Turk, 1981; Maynard et al., 1980; McCubbin et al., 1976).

Predictors of Adaptation

The basic hypothesis of the present model of family stress is that an understanding of how family members adapt to stress depends on knowledge of the amount of strain that they experience in relation to the event, the

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type of coping strategies that they adopt, and the extent of their coping resources.

Level of Strain

The level of strain is proposed to have a negative association with family members' adaptation to the event. Variation in the subjective experience of single life events has not often been considered as a predictor of adaptation (Kessler et al., 1985). However, Folkman, Lazarus, Gruen, and DeLongis (1986) found that the more individuals appraised recent life events as being significant to their level of well-being, the more psychological symptoms they were likely to suffer. In a study conceptualising strain in a manner similar to the present model, Pearlin and Schooler (1978), similarly, reported that the intensity of problems experienced in a number of role areas (marriage, parenting, household economics, and occupation) was a strong predictor of emotional distress. On the basis of this evidence, it is proposed that strain will have a negative influence on family members' adaptation to stress.

In relation to this proposal, it is necessary to point out that the causal element in the model is not the event itself but the person's subjective experience of the event (Cohen et al., 1983; Monroe et al., 1983). Researchers should be cognizant of the fact that the observed relationships between strain and illness--as a

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measure of adaptation--are not reducible to event-illness relationships. As the strain score is a reflection of the individual's subjective appraisal of the event, any relationship between strain and adaptation is attributable to both person and event characteristics.

Strain and Adaptation at the Family Level

Firstly, at the family level, it is proposed that the collective, or average, level of strain experienced by family members will influence the collective adaptation of the family. In accordance with the proposal discussed at the individual level, the higher the collective level of strain experienced by the family, the less satisfactory will be its collective adaptation to the event. Secondly, it is proposed that dissimilarity between the levels of strain experienced by family members will impair collective adaptation. More specifically, it is proposed that if family members subjectively experience an event differently--for instance, if one family member experiences a great deal of strain and another experiences little strain--then this disparity will act as an additional source of stress for family members and, hence, have a negative influence on collective adaptation.

Data collected by Moos and his colleagues (Billings & Moos, 1984; Cronkite & Moos, 1984; Finney, Moos, Cronkite, & Gamble, 1983) provide indirect support for this proposal. These researchers found that stress experienced

by other family members constituted an additional source of stress for self. For instance, using longitudinal data, these studies found that partner's symptoms--taken as a measure of stress at Time 1--were a source of stress for self at Time 2, to the extent that they influenced subsequent levels of own psychological well-being (Cronkite & Moos, 1984; Finney et al., 1983). Similar data were obtained in a cross-sectional study, although the relationship between partner symptoms and own functioning was significant only for males (Billings & Moos, 1984). The fact that partner's stress appears to influence own adaptation is taken as evidence for the proposal that the presence of dissimilarities between family members' levels of strain will consitute an additional source of stress for family members and, for this reason, impair collective adaptation.

Type of Coping

The second major prediction that the model makes is that the coping strategies family members utilise to manage the event will influence adaptation.

Three main approaches to the conceptualisation of coping are apparent in the literature (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984; Menaghan, 1983b). The first of these approaches conceptualises coping in terms of ego processes so that coping is considered as a possible defense process in addition to other such

processes that operate to reduce tension (e.g., Haan, 1977). This approach has received little support in the literature for the reason that advocates of it tend to confound outcome with coping process--coping is usually evaluated as a preferable style to other defense processes such as denial (Folkman & Lazarus, 1980). Other researchers have conceptualised coping in trait terms--coping in these terms is considered as a stable personality trait that is consistent across situations (e.g., Goldstein, 1973; Lazarus et al., 1974; Moos, 1974). Again this approach has received little support in the literature, basically for the reason that the existence of relatively stable coping processes has seldom been verified empirically (Menaghan, 1983b, 1983c).

Most individual and family stress researchers presently define coping as a response that is intended somehow to reduce the effects of stress (Fleming et al., 1984; Lazarus & Folkman, 1984; McCubbin, 1979; Menaghan, 1983b, 1983c). Furthermore, this response is considered to be situation-specific (Folkman & Lazarus, 1980; Menaghan, 1983b, 1983c; Moos & Billings, 1982) and independent of the outcome that is expected to ensue (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). In relation to this latter point, coping strategies are commonly defined in terms of their function; however, this function does not imply outcome. Outcome, instead, refers to the efficacy of a strategy (Lazarus & Folkman, 1984).

Two main functions of coping have been described by Lazarus and his colleagues (Folkman, 1984; Lazarus & Folkman, 1984). As mentioned in Chapter 1, these researchers distinguished between problem- and emotion-focussed coping. Problem-focussed coping strategies are directed towards the management of the problem, whereas emotion-focussed strategies are directed towards amelioration of the emotional distress associated with the problem. This dichotomy of coping strategies is similar to the distinction that Moos and his colleagues (Billings & Moos, 1981; Cronkite & Moos, 1984; Holahan & Moos, 1985, 1987) have made between approach and avoidance coping strategies. Approach strategies are conceptualised as active behavioural and cognitive efforts to mitigate the effects of a problem. On the other hand, avoidance strategies involve a failure to face the problem, but instead deal with the associated level of emotional distress. Other researchers have made a similar distinction between these two different functions of coping strategies (Mechanic, 1962; Murphy, 1974).

In several different studies, problem-focussed or approach coping strategies have been reported to have positive associations with measures of adaptation. For instance, Lazarus and his colleagues (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986) found that planful problem-solving was associated with low levels of

psychological symptoms and satisfactory encounter
outcomes. The positive effects of problem-focussed coping
strategies have also been reported in samples of alcoholic
patients and community residents (Billing & Moos, 1981),
adolescent mothers (Colletta & Gregg, 1981), adults with
unipolar depression (Billings & Moos, 1984), and
chronically ill adults (Felton & Revenson, 1984; Felton,
Revenson, & Hinrichsen, 1984).

In several of these studies emotion-focussed or
avoidance coping strategies have also been observed to
have a negative association with measures of adaptation
(Billings & Moos, 1981, 1984; Colletta & Gregg, 1981;
Felton & Revenson, 1984; Felton et al., 1984). Moreover,
the relationship between emotion-focussed coping and
adaptation appears to be stronger than the comparable
relationship between problem-focussed coping and
adaptation. For instance, Moos and his colleagues
(Cronkite & Moos, 1984; Holahan & Moos, 1985) found that
avoidance coping was related to psychological distress,
whereas approach coping was not. Similarly, Bachrach and
Zautra (1985) found that demoralisation in community
residents faced with the threat of a hazardous waste
facility was related to their level of emotion-focussed
coping, but not to their level of problem-focussed coping.

Lazarus and his colleagues (Folkman, Lazarus, Gruen,
& DeLongis, 1986) have cautioned against the conclusion

that problem-focussed coping strategies are more adaptive than emotion-focussed strategies. These researchers argued that the situation must be taken into account before such a conclusion can be drawn. They cited the example of cancer as an instance that may be more responsive to emotion-focussed, rather than problem-focussed coping. The basis for their argument is that this is a situation with little potential for control and, for this reason, will not be amenable to efforts directed towards the management of the problem itself. The relevance of the situation to the question of the relative utility of emotion- and problem-focussed coping strategies has been noted by other theorists (Mechanic, 1974; White, 1974).

Data pertaining to this point are complex. Felton and Revenson (1984) distinguished, on the basis of subjects' self-reports of controllability, illnesses with little potential for control--rheumatoid arthritis and cancer--and those amenable to some control--hypertension and diabetes. Although the researchers hypothesised that a problem-focussed coping strategy--information-seeking-- would be more adaptive in the controllable illness situation, and that an emotion-focussed coping strategy-- wish-fulfilling fantasy or avoidance behaviours--would be most adaptive in the uncontrollable conditions, their hypothesis was not supported. Instead, irrespective of the controllability of the illnesses, information-seeking

facilitated adaptation and wish-fulfilling fantasy had deleterious effects on adaptation. As Felton and Revenson have pointed out, even in uncontrollable circumstances a problem-focussed coping strategy, such as information-seeking, may direct a person's attention from the negative aspects of the illness to issues that may not involve changing the illness, but may be useful in coping with it.

Data reported by Collins, Baum, and Singer (1983) are relevant at this point of the discussion. These researchers found in their study of residents of Three-Mile Island--presumably an uncontrollable situation--that efforts to redefine the problem (in terms of attribution of blame) facilitated adaptation, whereas efforts to change the situation and avoidance/denial strategies impaired adaptation. The distinction between cognitive and behavioural strategies that are directed towards management of the problem may facilitate an understanding of these data. More specifically, it can be suggested that problem-focussed coping strategies that are behavioural--that is, efforts to change the situation--are maladaptive in uncontrollable circumstances. However, problem-focussed strategies that are cognitive--that is, efforts to redefine the problem--appear to be adaptive in both uncontrollable and controllable circumstances. Felton and Revenson's (1984) data concur with this conclusion, to the extent that information-seeking can be considered as a cognitive effort to manage a problem.

One final point concerns the nature of the relationship between coping strategies and adaptation. A number of researchers have proposed that these behaviours moderate the relationship between stress and adaptation (e.g., Pearlin & Schooler, 1978; Pearlin, Lieberman, Menaghan, & Mullan, 1981; Billings & Moos, 1984). In this context, the presence of a moderator implies that there is some risk factor, or relatively stable characteristic of the person or environment, which will buffer the individual against the deleterious effects of stress. However, coping strategies are situation-specific (Menaghan, 1983b, 1983c; Folkman & Lazarus, 1980) and, for this reason, cannot be regarded as potential moderators. Because coping strategies are adopted in response to a particular stressor, their effects on post-event adaptation are better considered to be direct rather than interactive.

In conclusion, it is proposed that, in general, problem-focussed coping strategies will facilitate adaptation to stress, whereas emotion-focussed strategies will impair adaptation. The prediction concerning problem-focussed strategies will, however, be valid only if the situation has some potential for control: In immutable circumstances, the effects of problem-focussed strategies are presumably dependent upon the type of strategy--behavioural or cognitive--under consideration. In terms of the nature of the effects of coping strategies

on adaptation, it is proposed that these effects are direct rather than interactive.

Coping and Adaptation at the Family Level

At the family level, it is proposed that, in general, familial adaptation will be enhanced if the collective levels of family members' problem-focussed and emotion-focussed coping are high and low, respectively. However, in uncontrollable situations, the effects of collective levels of problem-focussed coping will be dependent upon whether or not the strategies are cognitive or behavioural in nature. There are no available data in the literature that pertain to these proposals; however, it seems reasonable to expect that these effects will be apparent, given the evidence that is available at the individual level linking different coping styles to adaptation.

In terms of the relationship of similarity in family members' coping styles to adaptation, it is proposed that, for emotion-focussed coping, similarity will be more adaptive than dissimilarity. This proposal is based on the assumption that collective adaptation will be enhanced if family members respond similarly to stress. Data reported by Barbarin et al. (1985) concur with this proposal. These researchers found that if both parents of a child with cancer utilised similar amounts of emotion-focussed coping, scores on the measure of adaptation--

partners' ratings of the quality of the marriage--were higher.

Although it would seem reasonable to propose that similarity in family members' levels of problem-focussed coping will also be adaptive, the data reported by Barbarin et al. (1985) do not support this proposal. These researchers found that it was adaptive if one partner utilised a great deal of problem-focussed coping while the other partner utilised low levels of this type of coping. These data should, however, be interpreted with caution, given that they were obtained from interviews conducted on a sample of only 32 couples. For this reason, it is not possible to make an explicit proposal concerning the issue of whether similarity or complementarity of family members' levels of problem-focussed coping is adaptive. The validity of the competing hypotheses will have to be examined at an empirical level.

Coping Resources

The third major prediction of the model is that family members' coping resources will influence their level of adaptation to an event. Coping resources are relatively stable characteristics of the person's disposition and environment, and refer to what is available to people when they develop their coping

strategies (Moos & Billings, 1982; Pearlin & Schooler, 1978).

Main-vs-buffering effects. Prior to a discussion of the different resources that will be incorporated in this model, it is necessary to discuss the nature of the hypothesised relationship between coping resources and adaptation. Much of the recent research in the area has sought to identify those factors that will help mitigate the effects of stress. Such research has, therefore, hypothesised that stress moderates the relationship between coping resources and adaptation. This is an interactive model--generally termed the buffering model-- which proposes that resources serve to buffer the individual against the negative consequences of stress and, hence, the effect is evident only at high levels of stress (Finney, Mitchell, Cronkite, & Moos, 1984). Despite the inherent attractiveness of such a model, the empirical data have not always supported its utility. Instead there is some support for an alternative model linking coping resources to adaptation. This is an additive model--often termed the main effects model--which proposes that, regardless of the level of stress, resources have main or direct effects on adaptation (Cohen & Wills, 1985). Resources, in the additive model, are considered to be beneficial to well-being in both non-stressful and stressful situations.

The inconclusiveness of the empirical data pertaining to the relationship between coping resources and adaptation is demonstrated in the social support literature. As Wheaton (1985) has pointed out, of seven recent reviews of the social support literature, three of the reviewers have concluded that there is support for the buffering model (House, 1981; Kessler, 1982; Thoits, 1982), three have concluded that there is support for the additive model (Aneshensel & Stone, 1983; Gore, 1981; Lin, Simeone, Ensel, & Kuo, 1979), and one has stated that the evidence in support of either model is inconclusive (Turner, 1983). Two, more recent, reviews of this literature have concluded that the data are consistent with both models (Cohen & Wills, 1985; Kessler & McLeod, 1984). In terms of other coping resources, the empirical data are similarly unclear as to whether the variables influence adaptation directly or via their stress-buffering effects.

Given the lack of conclusive support for either the additive or the buffering models, Berkman's (1985) suggestion will be followed in the present research, namely, that the applicability of both models should be examined empirically. However, discussion of each of the different resources to be considered will summarise the evidence to date and attempt, if possible, to make tentative proposals concerning the relative predominance of main and interactive effects.

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Personal resources. Individual family members have personal resources that may assist them in coping with potentially stressful life events. A review of the literature suggested three main variables--generalised control beliefs, self-esteem, and morale--that can be considered under the rubric of personal resources.

Generalised control beliefs. Firstly, a number of researchers have suggested that generalised control beliefs will buffer the deleterious effects of stress (Huisani, Neff, Newbrough, & Moore, 1982; Johnson & Sarason, 1978; Kobasa, 1979; Wheaton, 1983). Wheaton (1983), for instance, claimed that control beliefs are relevant to the stress process for the reason that such beliefs will influence the development of coping behaviours. If beliefs about control are external to the self, then the utility of coping behaviours will be held in doubt; thus, less effort will be devoted to the development of coping behaviours and adaptation to stress will be limited. The reverse process is envisaged for persons with internal control beliefs.

A number of studies have reported evidence for the stress-buffering effect of internality (Huisani et al., 1982; Johnson & Sarason, 1978; Lefcourt, Miller, Ware, & Sherk, 1981; Sandler & Lakey, 1982; Wheaton, 1983) and hardiness--one componet of which is personal control (Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Kobasa &

Pucetti, 1983). However, a number of other researchers have reported that, irrespective of the level of stress, internal control beliefs are associated with psychological well-being (Cohen et al., 1982; Holahan & Moos, 1986, 1987; Kobasa, Maddi, & Courington, 1981; Lefcourt, Martin, & Saleh, 1984; Nelson & Cohen, 1983).

As Nelson and Cohen (1983) have pointed out, the equivocal nature of these data appears to be dependent upon the design of the study. Cross-sectional studies have tended to provide support for the stress-buffering effect of control beliefs, while longitudinal studies have tended to support an additive model. This trend in the data is possibly attributable to a source of confounding between measures which may, in cross-sectional studies, bias results in favour of the buffering model. A number of events on a life-event scale (such as unemployment) reflect a loss of control over one's life and, for this reason, individuals who have experienced such events may be more likely than others to report external control beliefs. These same events are also presumed to be associated with psychological distress. Individuals having experienced events that reflect a loss of control will, therefore, have high distress, high strain, and low internality in comparison with those who have not experienced these type of events and, hence, there will be a bias in support of the buffering hypothesis. However, when there is less possibility for a confounding between

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measures--as in a longitudinal design, the bias will presumably not occur and the data will support the main effects model. On this basis it is, therefore, proposed that control beliefs appear to have a direct, rather than a buffering, effect on adaptation.

Self-esteem. Self-esteem is considered as a second personal resource that may have relevance to the stress process. High self-esteem is characterised by positive feelings and liking for oneself (Rosenberg, 1979). Self-esteem has been suggested as a factor that may buffer an individual against the deleterious effects of stress (Chan, 1977; Pearlin & Schooler, 1978). More specifically, Chan (1977) suggested that individuals with high self-esteem are likely to have a past history of effective coping with stressors and, therefore, are more likely to cope effectively with additional stress.

Empirically, Cronkite and Moos (1984) and Hobfoll and Lieberman (1987) examined their data for a possible stress-buffering effect of self-esteem. However, neither of these researchers found evidence for such an effect; self-esteem was related to depression--as a measure of poor adaptation--irrespective of the level of stress. Although other researchers have not examined their data for the possible buffering effect of this resource, they have reported evidence of a direct effect of self-esteem, or

related variables,[1] on measures of adaptation (Bachrach &
Zautra, 1985; Colletta & Gregg, 1981; Cronkite & Moos,
1984; Folkman, Lazarus, Gruen, & DeLongis, 1986; Hobfall &
Lieberman, 1986). Previous research, thus, suggests that
self-esteem has a direct, rather than a buffering, effect
on adaptation.

Morale. Finally, morale is a personal resource that
may affect family members' adaptation to stress. For the
purposes of the present research, morale is defined as a
person's feelings of interest and involvement in life.
This notion is conceptually similar to the commitment
component of Kobasa's notion of hardiness (Kobasa, 1979;
Kobasa et al., 1981; Kobasa et al., 1982). Kobasa defined
commitment as an active involvement in one's life and
proposed that the 'hardy' personality (the other
components of which are personal control and challenge)
will buffer individuals against the deleterious effects of

[1]Folkman, Lazarus, Gruen, and DeLongis (1986) and
Bachrach and Zautra (1985) used Pearlin and Schooler's
(1978) mastery scale in their research. This scale was
found to correlate highly with Rosenberg's (1965) self-
esteem scale (i.e., r = .65 (Folkman, Lazarus, Gruen, &
DeLongis, 1986); r = .60 (Bachrach & Zautra, 1985)).
Examination of the items of the mastery scale (e.g., There is
really no way I can solve some of the problems I have)
indicated that they were related more to feelings of worth
about self--self-esteem--than the supposed content of the
mastery scale--the extent to which one believes that one's
life is under one's own control, rather than external
forces. For this reason, data pertaining to this mastery
scale are discussed with other studies that have utilised
self-esteem scales.

stress. Antonovsky (1979) similarly posited that a 'sense of coherence' or purpose will be helpful in times of stress.

Using the overall concept of hardiness, Kobasa and her colleagues (Kobasa, 1979; Kobasa et al., 1981; Kobasa et al., 1982) have reported evidence for both main and buffering effects of this trait. Because morale (or commitment in Kobasa's terms) is only one component of the hardiness scale, it is, however, not possible to reach any conclusions concerning the likely nature of the relation of morale to adaptation.

Family resources. In addition to personal resources, resources of the family unit are included in this model as predictors of family members' adaptation to stress. Other researchers have noted the relevance of this type of resources to the family stress process (Angell, 1936; Burr, 1973; Cavan & Ranck, 1938; Hill, 1949; McCubbin & Patterson, 1983a, 1983b; Montgomery, 1982; Olson, McCubbin et al., 1983; Walker, 1985). A review of the relevant literature identified family cohesion, flexibility, communication, consensus, and marital quality as the pertinent family resources.

Family cohesion. Firstly, family cohesion may affect family members' adaptation to stress. Olson and his colleagues (Olson, McCubbin et al., 1983) have defined

cohesion as "the emotional bonding that family members have toward each other" (p. 70). This concept is similar to Angell's (1936) notion of family integration as "the bonds of coherence and unity running through family life" (p. 15), and concurs with small group definitions of group cohesiveness (Shaw, 1981). The salient component of the concept of family cohesion is the notion of the degree of emotional bonding or unity in the group; it is an affective dimension, and is, therefore, distinct from any structural properties of the unit (Beavers & Voeller, 1983; Bilbro & Dreyer, 1981; Kog, Vandereycken, & Vertommen, 1985).

Family adaptation to stress has been proposed by Olson and his colleagues (Olson, McCubbin et al., 1983; Olson, Russell, & Sprenkle, 1983; Russell & Olson, 1983), and also by Beavers and Voeller (1985) and Epstein, Bishop, and Levin (1978), to be characterised by mid-level, rather than extreme, levels of cohesion. A number of studies have explored this hypothesis; most of them have utilised indices of family functioning (e.g., family and marital satisfaction, quality of parent-adolescent communication) as outcome variables. For instance, Olson and his colleagues (Olson, McCubbin et al., 1983), in their nationwide study of families, found a linear, rather than a curvilinear, relationship between cohesion and family functioning, as did Barnes and Olson (1985) and Miller, Bishop, Epstein, and Keitner (1985). The data

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collected by Green, Kolevzon, and Vosler (1985) were also largely supportive of a linear relationship between the two variables.

Despite this apparent lack of support for Olson's curvilinear hypothesis, there is some support for it in studies of clinical populations (Garbarino, Sebes, & Schellenbach, 1984; Rodick, Heneggeler, & Hanson, 1986). On the basis of these results, Olson (1986) claimed that 'normal' families, as represented in his nationwide sample (Olson, McCubbin et al., 1983), and in the study he conducted with Barnes (Barnes & Olson, 1985), are mainly characterised by mid-level cohesion and, hence, do not constitute an adequate sample on which to test the model. The data reported by Green et al. (1985), however, were collected from a sample of families with children under the care of the juvenile authorities; still, as mentioned previously, they failed to find support for the curvilinear hypothesis. Green et al. attributed this finding to the fact that, in spite of the clinical nature of the population, there were few families scoring at the enmeshed extreme of the cohesion scale. In summary, it would appear that family cohesion is linearly related to optimal family functioning, although in clinical samples there is some support for the curvilinear hypothesis.

Using more specific measures of adaptation, a number of studies in the family stress literature have found that cohesion facilitates family members' adaptation to stress

(e.g., Angell, 1936; Hill, 1949; Lowenstein, 1984). Lavee et al. (1985) reported similar data using a composite measure of family resources--one component of which was cohesion. These studies have reported little support for a curvilinear relationship between family cohesion and adaptation, although Hill (1949) found some evidence to suggest that families with moderate levels of cohesion were better able to adapt to war separation and reunion. Additionally, these studies have provided evidence only for a direct effect of cohesion on adaptation; the possible stress-buffering (interactive) effect of family cohesion has not been examined.

Moos and his colleagues (Billings & Moos, 1981; Cronkite & Moos, 1984; Holahan & Moos, 1982, 1985; Mitchell, Cronkite, & Moos, 1983) have also recognised the potential relevance of the quality of family relationships to the stress process. These researchers conceptualised this variable as family support and assessed it with three subscales--cohesion, expressiveness, and conflict--of their Family Environment Scale (FES). As these scales pertain to the quality of family relationships, it can be claimed that they are, in effect, assessing the same dimension that is assessed in other studies with the single construct of cohesion.

Using this composite scale, Moos and his colleagues have found mixed results for the relevance of family

support to the stress process. Early studies did not examine the possible stress-buffering effect of family support, but did report a significant direct effect between this variable and measures of well-being (Billings & Moos, 1981; Holahan & Moos, 1982). Later studies have analysed the data for both buffering and main effects and have generally reported support only for the latter effect (Cronkite & Moos, 1984; Holahan & Moos, 1986; 1987; Mitchell et al., 1983). Holahan and Moos (1985) did, however, find support for the stress-buffering effect of family support, but among females only. Atkinson, Liem, and Liem (1986) used the cohesion subscale of the FES in their study of the unemployed. They found support for stress-buffering and main effects of cohesion in their cross-sectional analyses; however, using longitudinal data, they found support only for a main effect. The main effects isolated in these studies have not been reported to be anything but linear in nature.

Finally, Kobasa and Pucetti (1983) used the subscales of family cohesiveness and expressiveness in their study of male executives and failed to find evidence of direct or buffering effects of family support. This may be due to the low-power analysis procedure used by the researchers--analysis of variance with continuous data.

In summary, therefore, there is a reasonable amount of evidence in support of the relevance of family cohesion

to measures of adaptation. This evidence, however, seems to point to the presence of a main effect, rather than a stress-buffering effect. Further, in non-clinical samples, there is no evidence to suggest that these effects are curvilinear.

Family Flexibility. A number of researchers have suggested that the flexibility of the family unit will facilitate family members' adaptation to stress (Angell, 1936; Hill, 1949; McCubbin & Patterson, 1983a, 1983b; Olson, McCubbin et al., 1983). Flexibility is called 'adaptability' by Olson and his colleagues, meaning "the ability of a marital/family system to change its power structure, role relationships, relationship rules in response to situational and developmental stress" (Olson, McCubbin et al., 1983, p. 62).[2] Similarly, Hill (1949) defined 'adaptability' in terms of the flexibility of family members to shift their roles, share responsibilities, and make collective decisions. The essence of 'adaptability', as defined by these theorists, can, therefore, be summarised in terms of the flexibility of a family's patterns of interaction.

As was the case with family cohesion, Olson and his colleagues (Olson, McCubbin et al., 1983; Olson, Russell,

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[2]To avoid a confusion between 'adaptability' as an independent variable and 'adaptation' as the dependent variable, the concept of 'adaptability' is termed 'flexibility' in the present research.

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& Sprenkle, 1983; Russell & Olson, 1983) have hypothesised a curvilinear relationship between flexibility and indicators of family adaptation to stress. The premise behind this hypothesis is that families will be 'chaotic' if they exhibit high extremes of flexibility and 'rigid' at the low extremes of flexibility and that these two states will impair adaptation to stress.

Using non-clinical samples, empirical studies have reported a linear relationship between flexibility and indices of family functioning (Anderson, 1986; Barnes & Olson, 1985; Miller et al., 1985; Olson, Russell, & Sprenkle, 1983), while clinical samples have supported the curvilinear hypothesis (Garbarino et al., 1985; Rodick et al., 1986). However, the clinical study conducted by Green et al. (1985) failed to find support for the curvilinear hypothesis, a finding that these researchers again attributed to the small numbers of families falling at the extremes of the flexibility subscale. The data linking flexibility to family functioning are, therefore, comparable to those involving cohesion. Adaptability and family functioning appear to be linearly related except in clinical samples, where there is some evidence in support of the curvilinear hypothesis.

In terms of studies that have utilised more specific measures of adaptation as outcome variables, the positive effects of flexibility on family members' adaptation to

stress have been documented (e.g., Angell, 1936; Hill, 1949, Lowenstein, 1984). In their study of military relocation, Lavee et al. (1985) yielded similar data with a composite measure of family resources--a component of which was flexibility. The only one of these studies to examine the data for support of the curvilinear hypothesis found that, contrary to expectations, the data were consistent with a linear relationship between family flexibility and members' adaptation to stress (Hill, 1949). Furthermore, as none of the studies has examined the data for the possible stress-buffering effect of flexibility, the evidence is wholly in support of the additive model.

Family communication. The quality of family communication may also affect family members' adaptation to stress. Communication is a general term that refers to the manner in which individuals exchange thoughts, feelings, and information, and encompasses the many different dimensions on which non-verbal and verbal communication can be described (Bienvenu, 1970). Such dimensions include clarity of communication, empathy, presence or absence of negative communication patterns, and problem-solving skills (Olson, McCubbin et al., 1983).

The relationship of family communication to familial adaptation to stress has not received a great deal of empirical attention, although Lavee et al. (1985) reported

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that supportive communication--a component of a family resources composite scale--predicted families' adaptation to military relocation. As Lavee et al. did not examine their data for the presence of stress-buffering effects, the available evidence suggests that the quality of family communication has a main effect on familial adaptation to stress.

Family consensus. Family consensus--or the degree of family agreement on issues such as role expectations, values, and goals (Spanier, 1976)--is also incorporated as a family resource in the present model of family stress. This concept has been isolated by a number of theorists as a variable that is relevant to the family problem-solving process (Aldous, 1971; Klein & Hill, 1979; Weick, 1971). Klein and Hill (1979) claimed that a high degree of consensus between family members will facilitate agreement as to how they should deal with a problem and, in this manner, enhance problem-solving effectiveness.

Presuming that situations which constitute problems for families are qualitatively the same as those that function as potential stressors (Klein, 1983), it can be proposed that family consensus will facilitate familial adaptation to stress. As there are no empirical data pertaining to this hypothesis in either the problem-solving or stress literatures, it is not possible to examine the validity of this proposal. Nor is it possible

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to make any specific predictions concerning the nature of the relationship--buffering or main effect--between consensus and adaptation.

Marital quality. Finally, marital quality is included in this model as a family resource. This is in contrast to a number of other studies that have utilised marital quality--or a related concept, such as marital satisfaction, marital support, or marital intimacy--as a complete or partial index of social support (e.g., Brown, Bhrolchan, & Harris, 1975; Huisani et al., 1982; Paykel et al., 1980; Stemp et al., 1986; Wandersman et al., 1980). The traditional procedure stems from the inclusion of marital status (married, single, etc.) in indices of social support (e.g., Beckman & Syme, 1973; Eaton, 1978; Kessler & Essex, 1982; Myers, Lindenthal, & Pepper, 1975). The premise for the inclusion of marital quality, rather than marital status, in an index of social support is that the former measure provides more information about the marital relationship than the latter and, hence, is presumed to constitute a more valid measure of social support (Stemp et al., 1986).

The problem with this state of affairs is that, as Coyne and DeLongis (1986) have pointed out, if a measure of marital quality is included in an index of social support, and this index subsequently emerges as a significant predictor of adaptation, the conclusion that

social support is a relevant predictor of adaptation may be inaccurate. There may be, in fact, a relationship between marital quality and adaptation, but no relationship between social support and adaptation. For this reason, marital quality is regarded as a family resource in this model in order to separate it, both conceptually and operationally, from the notion of social support.

Issues of conceptualisation aside, a number of studies have reported a significant direct effect of marital satisfaction on measures of adaptation (e.g., Atkinson et al., 1986; Crnic, Greenberg, Ragozin, Robinson, & Bashan, 1983; Friedrich & Friedrich, 1979; Huisani et al., 1982; Nihira et al., 1980; Paykel et al., 1980). Of those that have examined the data for a stress-buffering effect of marital satisfaction, some have found evidence for this effect (Brown et al., 1975; Crnic, Greenberg, Ragozin, Robinson, & Bashan, 1983; Paykel et al., 1980), while others have either found only weak (Huisani et al., 1982) or no support for it (Atkinson et al., 1986). The evidence linking marital quality to adaptation is, therefore, mixed. While there is support for the main effects model, there are also some data to suggest that marital quality may buffer the deleterious effects of stress.

Social support. Finally, social support is considered as a coping resource that will influence family members' adaptation to stress. The concept of social support and its relation to measures of adaptation has received a great deal of theoretical and empirical interest in the literature. Lin et al. (1979) have defined social support as support which is "accessible to an individual through social ties to other individuals, groups and the larger community" (p. 109). This definition is similar to a number of the other available definitions of social support (Turner, 1983) and, for this reason, will be utilised in the present research.

As mentioned previously, there is a great deal of uncertainty as to the process by which social support is linked to adaptation. There are a number of proponents of the view that social support influences well-being by buffering the effects of stress (Antonovsky, 1979; Cassell, 1976; Cobb, 1976) and there is substantial evidence in support of this view (e.g., Brown & Harris, 1978; Dean & Lin, 1977; Eaton, 1978; Gore, 1978; Kessler & Essex, 1982; La Rocca, House, & French, 1980; Nuckolls, Cassell, & Kaplan, 1972). A large number of studies, however, have reported data consistent with the view that, irrespective of the level of stress, social support exerts a positive effect on well-being (e.g., Andrews, Tennant, Hewson, & Vaillant, 1978; Aneshensel & Stone, 1983; Henderson, Byrne, & Duncan-Jones, 1978; Lin et al., 1979;

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Pearlin et al., 1981; Turner, 1981; Williams, Ware, &
Donald, 1981).

The equivocal nature of the data linking social
support to adaptation has been a source of concern for
many researchers (e.g., Cohen & Wills, 1985; Kessler &
McLeod, 1984; Thoits, 1982; Turner, 1983). The most
extensive, and recent, review of the literature has been
conducted by Cohen and Wills (1985). These researchers
concluded that, if attention is paid to the particular
aspect of social support being assessed, there is support
for both the buffering and additive models. Kessler and
McLeod (1984) reached a similar conclusion on the basis of
their less extensive review of the literature.

Central to Cohen and Wills' (1985) thesis is the
differentiation between quantitative and qualitative
social support. A number of other researchers have
recognised the distinction between these two aspects of
social support (Bruhn & Philips, 1983; Henderson et al.,
1981; Holahan & Moos, 1982; McFarlane, Neale, Norman, Roy,
& Streiner, 1981; Schaefer, Coyne, & Lazarus, 1981;
Thoits, 1982; Turner, 1983). The quantitative or
structural aspect refers to the extent of a person's
social network (Cohen & Wills, 1985); indicators of this
variable include size, accessibility, and frequency of
contact. In contrast, qualitative--or functional--social
support refers to the supportiveness or quality of a

person's social network (Schaefer et al., 1981; Thoits, 1982). Indicators of qualitative support generally reflect the perceived adequacy or availability of social support.

As a number of researchers have pointed out, the differentiation of quantitative and qualitative components of social support is conceptually valid, given that the presence of a large social network does not necessarily imply that it is a supportive network (Cohen & Wills, 1985; Henderson et al., 1981; Holahan & Moos, 1982; Pearlin et al., 1981; Schaefer et al., 1981). Empirically, the differentiation between these two aspects of support has been validated, to the extent that low correlations have been reported between the two types of measures (Barrera, 1981; Schaefer et al., 1981). Moreover, different patterns of correlates have been observed between these measures and outcome variables (Billings & Moos, 1981, 1984; Carveth & Gottlieb, 1979).

On the basis of this distinction between quantitative and qualitative support, Cohen and Wills (1985) and Kessler and McLeod (1984) have been able to add some clarity to the plethora of divergent data relating social support to adaptation. These researchers presented evidence to suggest that it is the dimension of quantitative support that has a direct relationship with psychological well-being, whereas qualitative support appears to buffer the deleterious effects of stress on

well-being. As Cohen and Wills (1985) have pointed out, these findings are not uninterpretable. First, it is to be expected that the presence of a large social network will be related to well-being, irrespective of the level of stress, because it provides the person with a sense of belongingness and integration. On the other hand, it is also reasonable to expect that qualitative support will buffer the deleterious effects of stress, given that it is presumably the quality of social relationships, rather than their magnitude, that will be beneficial in times of stress (Cohen & Wills, 1985).

In conclusion, therefore, it seems that social support will have differential effects on adaptation depending on which aspect of support is considered. Irrespective of the level of stress, quantitative aspects of social support can be proposed to have direct effects on adaptation, whereas qualitative support--and, more specifically, perceived social support--can be proposed to have a buffering effect on adaptation.

Coping Resources and Adaptation at the Family Level
In terms of the family level treatment of coping resources, it is necessary to consider the collective effects of different combinations of family members' resources. This is for the reason that it is not possible to presume that family members will share the same individual characteristics--such as control beliefs and

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self-esteem--or the same judgements of the quality of marital, family, and social relationships.

Firstly, it is proposed that the higher the family's collective score on a particular resource, the better will be their collective adaptation to the event. For instance, it can be proposed that high collective self-esteem will facilitate familial adaptation to stress. Secondly, it is proposed that the degree of discrepancy between family members' characteristics or judgements will have a negative influence on their adaptation to stress. This proposal is based on Klein and Hill's notion of distributive effects, namely, that congruency of family members' characteristics will be advantageous to family problem-solving.

Research Hypotheses

The predictions derived from the foregoing discussion will serve as working hypotheses for the present research. These hypotheses will be presented, first, for the individual family member and, second, for the family, as a collective.

Unit of Analysis: Individual Family Member

Strain

1. The more that family members regard an event as important, the more likely they are to experience high strain in facing it.

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2. Under conditions of situational ambiguity, family members with internal control beliefs will experience less strain than their external counterparts.

3. In general, the more that family members believe they have control over the specific event, the less likely they are to experience strain. This is with the exception of medical contexts, in which it is expected that situational control beliefs will heighten strain.

4. The more that family members anticipate that the event will be difficult to manage, the more likely they are to experience strain.

5. The more familiar family members are with the particular event, the less likely they are to experience strain.

6. The more ambiguous the event, the more likely family members are to experience strain.

7. The more that the event is appropriately timed in its occurrence, the less likely family members are to experience strain.

8. If family members have recently experienced other stressors, or are currently experiencing more than one stressor, then an additional stressor

will be associated with more strain than had it
occurred in isolation.

Adaptation

  9. The level of strain experienced by family
      members will have a negative influence on their
      adaptation to the event.

  10. In general, problem-focussed coping strategies--
       both behavioural and cognitive--will facilitate
       adaptation, while emotion-focussed strategies
       will impair adaptation. However, in situations
       with no potential for control, the effects of
       problem-focussed coping will be dependent upon
       whether the strategies are cognitive or
       behavioural in nature. Specifically, the former
       will facilitate adaptation, while the latter
       will impair it.

  11. Personal resources (control beliefs, self-
       esteem, and morale), family resources (cohesion,
       flexibility, communication, consensus, and
       marital quality), and social support (both
       quantitative and qualitative) will affect family
       members' adaptation to stress. It is possible
       that these resources may either buffer the
       deleterious effects of high stress, or they may

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directly facilitate adaptation regardless of the stress level.

Unit of Analysis: Family

Strain

12. Collective family strain will be higher if the collective level of the family on any of the predictors of strain is high, or if there is a discrepancy between members' scores on any of these variables.

Adaptation

13. Collective adaptation will be impaired if collective strain is high, or if there is a discrepancy between members' strain levels.

14. In general, collective adaptation will be facilitated if collective levels of problem-focussed and emotion-focussed coping strategies are high and low, respectively. However, if the event has no potential for control, the effects of collective problem-focussed coping will be dependent on whether the strategies are cognitively or behaviourally based. Additionally, similarity of members' use of emotion-focussed coping will be more adaptive than dissimilarity. For problem-focussed strategies, it is possible that similarity

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will also be adaptive, or it is possible that a
complementary pattern--with one partner using a
high level and the other partner using a low
level of this type of coping--will be adaptive.

15. High collective levels of members' resources
    will facilitate collective adaptation, whereas a
    discrepancy between members' resources will impair
    collective adaptation.

CHAPTER THREE

METHOD

Design

To test the hypotheses developed in Chapter 2, a study of a normative--expected and generally anticipated--stressor was undertaken. This study was concerned with the transition to parenthood. In an attempt to replicate the results obtained for the new parents, a study of a non-normative event involving heart attack patients and their spouses was also undertaken. In both of these studies, the collective level of interest was confined to the couple. This was necessitated by the new parenthood study and adopted in the heart attack study to facilitate comparison between the two studies.

In order to ascertain temporal relations among the variables, both studies were prospective (longitudinal) in design. Evidence of a relationship between two variables in a cross-sectional design does not necessarily imply a causal relationship between the predictor and the outcome; the outcome variable could just as easily influence the person's score on the predictor variable as vice versa. This point is particularly pertinent to research on the consequences of stress: The main criticism of the use of subjective measures is their potential for confounding strain and well-being (Costa & McCrae, 1983; McCubbin, Joy

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et al., 1980; Thoits, 1983). There is less potential for confounding between predictors and outcomes in prospective studies (Monroe, 1982).

There were three waves of data collection in the new parenthood study--during the last trimester of pregnancy (Time 1) and twice after the birth of the baby (Times 2 and 3). Predictors of strain and coping resources were assessed at Time 1, coping and strain were assessed at Time 2 (4 weeks after the birth), and adaptation at Time 3 (18 weeks after the birth).[3] Measures of adaptation were also obtained at Times 1 and 2. In the heart attack study, because of a lack of pre-event data, predictors of strain, coping resources, and coping strategies were assessed at Time 1--approximately two weeks after the heart attack--and adaptation at Time 2 (10 weeks after the heart attack). Measures of adaptation were also obtained at Time 1.

It was necessary to control for initial levels of well-being, because an association between a predictor assessed at Time 1 and an outcome assessed at Time 2 may simply be a function of an association between the measures of distress at two time points (Holahan & Moos,

[3]The time frames for the two studies were decided upon in consultation with the relevant hospital staff. These persons were asked to indicate the likely period of maximum stress after the event in question (arrival of a first baby or heart attack), and the time at which a return to pre-event functioning could be expected.

1986; Kobasa et al., 1982; Monroe, 1982, 1983).

A recent study conducted by Holahan and Moos (1986)
importance of controlling for initial well-being. These
researchers reported a number of significant relationships
between personal and family characteristics--as assessed
at Time 1--and well-being assessed at Time 2. However,
when initial well-being was statistically controlled, the
utility of the predictors diminished considerably,
accounting for just 4%, rather than 29%, of the variance
in outcome at Time 2. To ensure that predictors were
independent of outcomes, initial well-being was assessed
and statistically controlled in the present research.

Sample

Selection Procedures

New parenthood study. Participants in the study were
123 couples expecting their first baby. Ninety-six per
cent of the original sample were followed up at Time 2 and
97% at Time 3 (93% of the sample completed all three
stages of the study--the remaining 7% had one data point
missing). Couples, recruited from pre-parenting classes
in Canberra, volunteered to participate in the study.
Approximately 80% were recruited from hospital-based
classes, the remainder were from classes privately
conducted by the Childbirth Education Association.
Because estimates from local obstetric staff suggested
that in excess of 90% of primiparous mothers in Canberra
attend such classes, this was considered a suitable

sampling frame for the research. On average, between 25%
and 50% of the couples in each class volunteered to
participate in the present research.

Heart attack study. Forty patients and their
partners initially participated in this study, and follow-
up data were obtained on 90% of them. The sampling frame
consisted of married patients admitted to the Coronary
Care Units of two public hospitals, Royal Canberra and
Woden Valley (Canberra) hospitals, who had suffered their
first myocardial infarction.[4] Of the subjects suitable
for inclusion in the study--married, first infarct, fluent
in English--approximately 90% agreed to participate.
Thus, the sample was considered to be representative of
the population from which it was drawn.

Procedure

New Parenthood Study

As mentioned previously, volunteers for this study
were recruited from pre-natal classes. At the classes,
descriptions of the study's aims and procedures were
provided. Potential respondents were informed that their
confidentiality would be protected with the use of code

[4]In addition to the patients recruited from Royal Canberra
and Woden Valley hospitals, two patients were recruited
from St. Vincent's (Sydney) Hospital. Recruitment of
patients from St. Vincent's Hospital was discontinued
because of the large number of single and migrant infarct
patients comprising the pool of patients admitted to this
hospital.

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numbers to collect data. They were assured that names and addresses would be kept separate from the data and would be used only to facilitate the collection of follow-up data. Provision of feedback was also assured to all potential respondents.

Time 1 data were collected during the last trimester of pregnancy. Because most pregnant women begin maternity leave four to six weeks before the expected date of confinement, the first phase of data collection generally took place during this time (mean gestational age = 37.20 weeks). The questionnaires were explained to one or both partners at the time of the first contact; participants were given the choice of completing the materials in the presence of the investigator or returning them completed by mail. Time 2 data were collected when the baby was four weeks old, and the Time 3 data when the baby was 18 weeks old. Depending on the wishes of the participants, the Time 2 and Time 3 questionnaires were either completed in the presence of the researcher or returned by mail.

When data were to be returned by mail, questionnaires were given to couples in separate stamped envelopes. At the time of distribution, a strong plea was made to couples not to collaborate when completing the questionnaires. On return, questionnaire sets were initially examined for response and writing differences. There was no set of questionnaires on which there appeared

to have been complete collaboration or that appeared to have been completed by one partner alone.

Heart Attack Study

Contact with potential participants in the heart attack study was made through the cardiology staff at the Royal Canberra and Woden Valley Hospitals. The staff provided the names of all patients that met the criteria for participation in the study--first infarct, married, and English-speaking. Consent was then obtained from the patient's attending physician, or member of the physician's team, for a particular patient's participation in the study (see Appendix B). Contact was made with these patients towards the end of their hospital stay. At the first contact, the patient, and his or her partner (if available) were given an explanation of the study. If the couple was interested in participating, the patient's consent was obtained before proceeding any further.

Having obtained this consent, arrangements were made to administer the questionnaires to the couple. The patient generally completed his or her questionnaire in the presence of the researcher. (The mean of Time 1 data collection was 15 days post-infarct.) Because of the additional length of the partners' questionnaire, they were given the choice of completing it at the same time or returning it, as soon as possible, by mail. Follow-up data were obtained 10 weeks after the heart attack.

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Couples were given the choice of returning these questionnaires by mail or completing them in the presence of the researcher. Checks were performed on the questionnaires returned by mail to ascertain whether there was evidence to suggest that the couple had collaborated when responding to the questionnaires, or whether both questionnaires had been completed by one partner alone. There was no evidence for either of these occurrences.

Participants in the study were assured of confidentiality. As with the new parenthood study, questionnaires were coded numerically. Names and addresses were only used to collect follow-up data. Participants were also assured of the feedback of results, as were the contributing hospitals.

Subject Characteristics

New parents. The male participants in this study ranged in age from 20 to 47 ($M = 30.45$; $S.D. = 5.29$), and the range of females' ages was from 20 to 43 ($M = 27.89$; $S.D. = 4.23$). To provide an estimate of the representativeness of the age of the participants, comparable data were obtained from the Australian Bureau of Statistics. In 1985, the average age of primiparous mothers in Australia was 26.9, which suggests a similarity between the age distribution of the present sample and the total population of new mothers. The majority of couples in the sample were married and the mean length of

relationship was 3.89 years ($\underline{S}.\underline{D}.$ = 3.11), with a range from one to 15 years.

All of the male participants and 98% of the females were employed at the first wave of data collection. Occupational status was coded using the 6-point version of the Australian Occupational Scale developed by Broom, Jones, and Zubrzycki (see Broom & Jones, 1969; Jones & Jones, 1972). The distribution of occupational status in the present sample was compared with the distribution obtained for Canberra in the 1986 Australian census. Inspection of Table 3-1 reveals that the occupational status distribution in the present sample was similar to that of the Canberra population. However, there was clearly a middle-class bias to the extent that, in the present sample, professionals and clerical workers were over-represented. This bias may be attributed to the fact that the sample was voluntary rather than random; individuals with higher occupational status are presumably more likely to volunteer for a survey than other persons. Despite the middle-class bias of the sample, it included couples from the full range of occupational categories.

Heart attack sample. The majority of the patients were male (87.5%), they ranged in age from 34 to 69 ($\underline{M}$ = 54.23; $\underline{S}.\underline{D}.$ = 9.76). Their partners ranged in age from 30 to 67 ($\underline{M}$ = 50.49; $\underline{S}.\underline{D}.$ = 9.70). The age distribution of this sample was considered to be representative of the

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Table 3-1

Percentage Distribution of Occupational Status of New

Parent and Heart Attack Samples in Comparison with 1986

Census Data (Canberra)

Census category	Census	New parents	Heart attack sample
$\underline{n}$		243	51
Professional/semi-professional	27	36	25
Managers/administrators	12	12	8
Clerical	27	42	41
Tradespersons	11	4	14
Sales/plant & machinery workers	15	4	8
Labourers	8	2	4
Total	100	100	100

population of patients suffering their first infarct.

Winefield (1982) reported a mean age of 53.13 ($\underline{S}.\underline{D}.$ = 8.18)

in her study of similar patients admitted to the Coronary

Care Unit of a large Australian teaching hospital.   The

mean length of marriage for the present subjects was 24.87

years ($\underline{S}.\underline{D}.$ = 11.43), and the mean number of children was

3.25 ($\underline{S}.\underline{D}.$ = 1.71).

Eighty-five percent of patients and 43% of their

partners were employed at the time of the heart attack.

The distribution of occupational status of the 51 employed participants is compared with the census data in Table 3-1. As can be seen from this table, the sample appears to be more representative of the Canberra population than the new parent sample. However, consistent with the new parent sample, there was an over-representation of clerical workers in the heart attack sample. It is not possible to interpret definitively this over-representation, given the small sample size; however, it may be related to the type of people at risk for coronary heart disease. The greater representativeness of the heart attack sample, in comparison with the new parent sample, is attributed to the fact that the patients were more completely selected, from the eligible pool, than the parents.

Comparison of new parent and heart attack samples. As would be expected, participants in the heart attack sample were significantly older ($t(321) = 27.56$; $p < .01$) and had been married longer ($t(318) = 25.99$; $p < .01$) than the new parents. Occupational status also differed between the two samples. New parents had significantly higher occupational status than the participants in the heart attack sample ($t(292) = 2.06$; $p < .05$). This finding reflects the middle-class bias noted in the new parent sample.

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Measures of Variables

Most variables in the present research were measured
with multiple-item scales (see Appendix A). Some of these
scales--particularly those in the Time 1 questionnaires--
consisted of only a few items or a single item. This was
unavoidable given the scope of variables considered and
the necessity, particularly in the heart attack study, to
make sure that the Time 1 questionnaire--administered
while the patient was still in hospital--was not too
lengthy.

A number of steps were taken to ensure adequate
measures of the constructs. First, a set of items that
appeared, on the face of it, to measure the concept in
question, was constructed; where possible existing scales
and items were used.

Secondly, to limit the effects of response-sets, a
number of scales comprised items with varying response
formats. For this reason, standard deviations of the
items of each scale were examined to ensure that all items
in a scale were weighted equally in the calculation of
scale scores. If the standard deviations within a scale
were disparate--i.e., if the highest item standard
deviation was more than double the lowest item standard
deviation--then the raw item scores were converted to z-
scores before combining them into a scale. In instances
where the scale items were identical for the two samples,

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standardisation of items was undertaken on data from the combined sample; however, if the wording of items or the timing of data collection (a consideration relevant to the measures of adaptation) differed for the two samples, standardisation was performed within the separate samples.

As a third step, the reliability of the scales was assessed using Cronbach's coefficient alpha (Cronbach, 1951). Where identical scales were used, alpha coefficients were calculated on data from both samples combined, so that the reported statistics were not sample-specific. This was with the exception of the reliability estimates for the measures of adaptation which, because of the different time frames of the two studies, were calculated separately for each sample.

The distributions of scale scores were examined for skewness. Following the procedure suggested by Tabachnick and Fidell (1983), the variables with outlying scores were truncated so as to eliminate gaps in the distribution. An index developed by Pearson (see Kirk, 1978; p. 84) was then used to represent the degree of skewness. Indices of skewness outside the range -2 to +2 were considered to be indicative of marked skew or asymmetry in the data. Such scales were either not used in subsequent data analysis or, where possible, were dichotomised so as to correct for the asymmetry in the distribution of scale scores. These measures were considered preferable to data transformation, given that, as Tabachnick and Fidell

(1983) have noted, there may be little advantage to using transformed variables. Moreover, it can be difficult to interpret analyses incorporating scales that have been transformed.

Finally, the theoretical and conceptual distinction between variables was empirically examined. If correlations between the scales fell within .20 of their mean reliability, then the scales were combined into a single index as their distinction could not be empirically justified.

In addition to these steps undertaken to ensure the adequacy of measures, where possible the distributions of scores were compared with distributions reported in other data sets. This was considered necessary because the samples used in this study were not random and, thus, the distribution of scores could reflect a bias in the sampling procedure, which would limit interpretation of results. In cases where scales were comparable between the two studies, a comparison of data obtained from the new parent and heart attack studies was also undertaken.

Strain

Strain was conceptualised as the person's subjective definition of the stressfulness of the event. In the new parenthood study, this variable was operationalised as the person's appraisal of the event's stressfulness considered in overall terms and the stressfulness of specific aspects

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of the event. Respondents were, firstly, presented with three items designed to assess their overall appraisal of the event, for example, 'Is the arrival of your baby one of the most difficult events that you and your partner have experienced?' Secondly, respondents were presented with a list of difficulties commonly associated with new parenthood and asked to indicate which ones they had experienced and, if they had, how difficult they had found them in the past fortnight.

A two-stage procedure was utilised to generate items for the second part of this scale. Firstly, a pool of items was selected that, on the face of it, appeared to reflect the types of problems commonly experienced by new parents. These items were largely selected from similar scales used by other researchers (Hobbs, 1965; Steffensmeier, 1982; Weinburg & Richardson, 1981), although a number of new items were constructed specifically for the present study.

The second stage of the development of the scales involved the use of external raters who indicated the likelihood--on a 4-point response scale ranging from (1) 'not likely at all' to (4) 'extremely likely'--that each of the difficulties would, in fact, be associated with new parenthood. The raters were six professionals--midwives, psychologists, and health educators--with experience in dealing with new parents. Items were chosen for inclusion

in the scales if at least 75% of the raters agreed that
the problem was either 'fairly likely' or 'extremely
likely' to characterise new parenthood. In this manner, a
32-item scale was constructed. Nine items were
subsequently removed from the scale because of possible
confounding with the dependent variables--e.g., feelings
of depression, feeling 'edgy' or emotionally upset.

Including the three items reflecting the person's
overall assessment of the stressfulness of the event, the
final scale consisted of 26 items. It was utilised at the
second wave of data collection--four weeks after the
baby's birth. Because of variation in the standard
deviations of the items, scale scores were computed as the
average response to the standardised items. The mean
scale score was 0.00 with $\underline{S}.\underline{D}.$ = 0.51, and the measure of
skewness was 0.37. The scale was reliable; it had an
alpha coefficient of .86.

In the heart attack study, strain was assessed at
Time 1--approximately two weeks after the heart attack--
with three items only. These items were similar to those
constructed to assess the person's overall appraisal of
the stressfulness of the event in the new parenthood
study. This shortened measure of strain was adopted in
the heart attack sample, firstly, for the sake of brevity
and, secondly, because it was difficult to conceptualise a
heart attack--particularly while the patient was still in

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hospital--as involving discrete aspects that are potentially stressful. Instead, it was presumed that patients' and their partners' level of strain would depend on their appraisal of the event as a totality.

Scale scores were the average of the sum of the three standardised items. The mean scale score was 0.00 ($\underline{S}.\underline{D}.$ = 0.78) and the scores were not grossly skewed (skewness = -0.90). Cronbach's alpha for the scale was .68.

Predictors of Strain

Importance. In the new parenthood study, a single item, at the pre-natal wave of data collection, was used to assess the appraised importance of the event. Respondents were required to rate the importance of the arrival of their first child on a response scale ranging from (1) 'not an important event at all' to (5) 'the most important event in my life'. The majority of the respondents rated the event as important ($\underline{M}$ = 4.02; $\underline{S}.\underline{D}.$ = 0.41); however, the item was not skewed (skewness = 0.13).

In the heart attack study, the concept of importance was not assessed. If one, or one's partner, has suffered a serious illness, such as a myocardial infarction, it seemed improbable that there would be sufficient variation in the notion of importance of health to require measurement.

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Generalised control beliefs. In both studies, this variable was assessed with 10 items from a modified version of Rotter's (1966) Internal-External Scale--five internal and five external. For each, the respondent was required to respond with either 'generally true' or 'generally false'. This response format was chosen in preference to Rotter's forced-choice format, which has been criticised in terms of the difficulties it creates for respondents (MacDonald, 1973).

Given that the 'generally false' vs 'generally true' response scale was used, there was a necessity to adapt the items so as to avoid the situation where there was a qualifier in both the item stem and the item response. For instance, 'I have often found that what is going to happen will happen' was changed to 'I find that what is going to happen will happen' to avoid the logical inconsistency caused by the use of the qualifier 'often' in the stem and the qualifier 'generally' in the response.

In both the new parent and heart attack samples, generalised control beliefs were assessed at the first wave of data collection. Items were scored so that high numbers represented internal control; scale scores were the average of the sum of the items. The mean score (for all respondents) was 1.71 with $\underline{S}.\underline{D} = 0.19$. This mean score is in the direction of mean scores typically reported for Rotter's $\underline{I}-\underline{E}$ scale, that is, towards the

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internal end of the continuum (Rotter, 1975). Scale scores were not markedly skewed; the measure of skewness was -0.37.

The alpha coefficent for the scale (computed for the combined sample) was .57. It was concluded that the scale displayed reasonable evidence of reliability, given that alpha coefficients previously reported for the longer (20-item) version of the $\underline{I}.\underline{E}.$ scale have clustered around .70 (Anastasi, 1982).

New parents were more internal than heart attack patients and partners (new parents: $\underline{M}$ = 1.73; $\underline{S}.\underline{D}$ = 0.19; heart attack sample: $\underline{M}$ = 1.64; $\underline{S}.\underline{D}.$ = 0.17; $\underline{t}(314)$ = 3.59; $\underline{p}$ < .05. The experience of a heart attack, for both the patient and their spouse, may heighten externality as as a consequence of the amount of control which lies with persons external to the patient (for instance, medical staff).

Situational control beliefs. Appraisal of the event's controllability was assessed--in both studies--with a single item at the first wave of data collection. The item required respondents to indicate how much influence they thought they had over the event's outcome--(1) 'none at all' to (4) 'a great deal'. To ensure that the item was contextually applicable to the two studies, slight differences in wording were necessary. The mean score for the new parents was 3.12 ($\underline{S}.\underline{D}.$ = 0.62); for the heart attack sample (slightly different wording), the mean

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was 3.63 ($\underline{S}.\underline{D}.$ = 0.51). The scores were not grossly skewed in either sample; the measures of skewness were -0.40 for new parents and -0.84 for the heart attack sample.

Anticipated difficulty of the event was conceptualised as the degree to which a person anticipates that an event will be difficult to manage. For the new parenthood study, this variable was operationalised by asking respondents, before the birth of their baby, to indicate--on a 3-point response scale--how difficult they thought it would be to manage the changes that typically accompany new parenthood--e.g., loss of sleep, changes to their financial situation. Items were chosen in consultation with obstetrics and childbirth education staff.

The mean scale score--average of responses to nine items--was 1.57 with $\underline{S}.\underline{D}.$ = 0.30, and the measure of skewness was 0.21. The scale had a coefficient alpha of .61.

Operationalisation of the anticipated difficulty of the event in the heart attack study was problematic to the extent that pre-event data were not obtained. However, it was considered that the variable could be adequately operationalised as the anticipated difficulty of the recommendations made to help arrest the progress of the

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heart disease. Patients and their spouses were asked how difficult they thought it would be to deal with such lifestyle changes as giving up smoking and changes to diet (if applicable). Data for the scale were obtained at the first wave of data collection--approximately two weeks after the heart attack. The scale items were chosen in consultation with cardiology staff at Royal Canberra Hospital.

Scale scores were computed as the average of responses to the five items; the mean score was 1.63 with $\underline{S}.\underline{D}. = 0.51$. Scores were positively skewed (skewness = 0.74), although not grossly so. The scale had a coefficient alpha of .54. Presumably this estimate of reliability is relatively low because of the heterogeneity of behavioural domains assessed by the scale (Anastasi, 1982). A person may anticipate that giving up smoking will be extremely difficult, yet expect little difficulty in making changes to their dietary and work habits.

Familiarity. In the new parenthood study, familiarity of the event was assessed pre-natally by asking respondents six questions that related to the amount they had read about new parenthood and the amount of contact they had previously had with babies, for example, 'How many books and articles have you read about childcare and parenting?' Similar items have formed the basis for comparable scales in other new parenthood

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studies (e.g., Dyer, 1963; Hobbs, 1965; Le Masters, 1957; Steffensmeier, 1982). Given that pre-natal classes provided the sampling frame for the present research, the amount of participation in such classes was not included as an item in the scale.

As there was a wide range in the standard deviations of items, they were standardised and then summed and averaged into a scale total ($\underline{M}$ = 0.00; $\underline{S}.\underline{D}.$ = 0.56). The variable was not skewed; the measure of skewness was 0.28. The alpha coefficient for the scale was .56. The relatively low level of internal consistency is attributed to the fact that the scale tapped information from a variety of domains (Anastasi, 1982), ranging from childhood to more recent contact with babies.

Information about the heart attack patients' and their spouses' familiarity with heart attacks was elicited, at the first wave of data collection, by asking them to indicate--on a 4-point response scale--how much they knew, prior to the event, about heart attacks. The mean score for the item was 2.08 with $\underline{S}.\underline{D}.$ = 0.66, and the measure of skewness was 0.21.

Ambiguity. Ambiguity was conceptualised as the degree to which there is uncertainty as to the nature and/or outcome of an event. In the context of new parenthood, the degree to which the event lacks a clear

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outcome is not an easy dimension to conceptualise. For
the majority of people, the arrival of a baby has little
ambiguity in terms of the probability of the event's
occurrence, the timing of its occurrence, or its outcome.
However, Le Masters (1974) has espoused the view that the
nature of the parenthood role has ambiguity to the extent
that for some people it lacks clarity and is ill-defined.
On the basis of this work, ambiguity, in the context of
new parenthood, was conceptualised as role ambiguity.

To assess role ambiguity, respondents were presented,
before the baby's birth, with a list of seven parental
responsibilities--e.g., feeding a baby, dealing with an
ill baby--and asked how clear their idea was of what each
of the responsibilities involved. Items were generated in
consultation with two midwives.

Each of the items had a 5-point response scale; they
were scored so that high scores were indicative of low
role clarity. The mean score for the scale was 2.02 with
$\underline{S}.\underline{D}.$ = 0.48, the measure of skewness was -0.20;
Cronbach's alpha was .76.

Ambiguity was assessed in the heart attack study at
the first wave of data collection. Respondents were asked
how disabling they expected their heart attack to be: (1)
'not at all disabling'; (2) 'slightly disabling'; (3)
'can't tell'; (4) 'considerably disabling'; (5)
'completely disabling'. The item was then recoded as a

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dichotomous item: the 'can't tell' response was given a score of 2 and all the other responses were given a score of 1. This was based on the presumption that, if respondents were not aware of the possible effects of their or their partner's illness, then there must be a degree of ambiguity as to the nature and/or outcome of the event.

The mean score for this item was 1.12 with $\underline{S}.\underline{D}$. = 0.33. The measure of skewness was 2.39, which was indicative of marked skew in the item scores; few people considered the event ambiguous. It may have been that ambiguity would have been more prevalent if data had been collected earlier in the patient's hospital stay. Given that the degree of skewness in the data could not be reduced by dichotomising the item, it was not utilised in subsequent analyses of the data.

Timing of the event. For the new parents, the extent to which the event was appropriately timed was assessed pre-natally by ascertaining--on a 3-point response scale-- the degree to which the pregnancy was planned. This was based on the assumption that, if the pregnancy was planned, then it was likely that the event was appropriately timed. The mean response to the item was 2.46 with $\underline{S}.\underline{D}$. = 0.67; the measure of skewness was 0.86.

In the heart attack sample, the age of the patient was used as an indicator of the extent to which the event was appropriately timed. It was presumed that, although a heart attack will obviously never be well-timed, for younger patients the timing of the event may be especially inopportune and unexpected.

Experience of recent and concurrent stressors was assessed at follow-up (Time 3 for new parents; Time 2 in the heart attack study) with an index designed to estimate the number of other life events that had been experienced by the couple in the past year. Items were developed from a review of existing life-event scales (Holmes & Rahe, 1967; Olson, McCubbin et al., 1983). Some of the events chosen differed for the two studies because of the different life stages of the couples in the two samples; for instance, whether or not a son or daughter had married or started living together was relevant to the heart attack sample but irrelevant to the new parents.

The scale consisted of 23 items for new parents and 26 items for the heart attack sample. Scale scores were computed as the number of events that had been experienced in the past year by the respondent. Mean life events experienced in the past year were 4.14 ($\underline{S}.\underline{D}.$ = 2.53) for the new parents and 3.38 ($\underline{S}.\underline{D}.$ = 2.83) (slightly different items) for the heart attack sample. The scale was not skewed in either sample; the measures of skewness were

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0.64 for the new parents and 0.79 for the heart attack sample. Given that covariance between the items would not be expected, alpha coefficients were not computed.

Coping Strategies

Problem-focussed coping. This variable was assessed with seven items reflecting both behavioural and cognitive efforts directed towards management of the stressor.[5] Because both of the events examined in the present research--the transition to parenthood and a heart attack--were considered to have some potential for control, behaviourally and cognitively based problem-focussed strategies were assessed with a single scale. The items comprising the scale were derived from Billings and Moos's (1981) measure of problem-focussed coping. An example item is: 'In the past fortnight, how often have you tried to accept the changes that your baby has made to your lives?' To ensure their contextual applicability, the wording of items differed between the samples,

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[5]The distinction between the a priori coping scales was largely confirmed with factor analysis of the data obtained from the new parents. All of the items were included in the analysis, with the exception of one of the problem-focussed items, which was assessed with a nominal scale (see Appendix A). The remaining problem-focussed items loaded on a single scale, with three of the emotion-focussed items loading on a second factor, and two on a third. Reanalysis of the data with the 6-item problem-focussed scale and the 3-item emotion-focussed coping scale (made attempts to reduce the tension; taken out tension on other people; prayed and/talked to a minister) revealed a pattern of results similar to that obtained with the longer scales. For this reason, the analyses reported are based on the a priori scales, as these measures had higher alpha coefficients.

although they were comparable in content. Measures of coping were obtained for the new parents four weeks after the baby's birth (Time 2) and for the heart attack sample at the first wave of data collection.

The mean scale score--average of the seven standardised items--was 0.00 ($\underline{S}.\underline{D}.$ = 0.63) for the new parents; for the heart attack sample (slightly different items), the mean was -0.01 ($\underline{S}.\underline{D}.$ = 0.68). Scores were not obviously skewed; the measure of skewness was -0.50 for the new parents and 0.20 for the heart attack sample. Alpha coefficients were .75 and .78 for the new parent and heart attack samples, respectively.

Emotion-focussed coping was assessed with five items derived from Billings and Moos's (1981) measure of emotion-focussed coping. These items reflected strategies to ameliorate the emotional distress associated with a stressor--for example, praying, avoiding thinking about the situation. Again, the wording of items differed slightly for the two samples.

Scale scores were computed as the average of responses to the five standardised items. The mean scale score was 0.00 ($\underline{S}.\underline{D}.$ = .55) for the new parents and -0.01 ($\underline{S}.\underline{D}.$ = .58) for the heart attack sample (items for the two samples were not identical). The measure of skewness was 0.34 for the new parents and 0.42 for the heart attack sample.

The alpha coefficents were .41 and .49 for the new

parent and heart attack samples, respectively. Low

reliability estimates of emotion-focussed coping scales

have been reported by other researchers (Billings,

Cronkite, & Moos, 1983; Billings & Moos, 1984; Mitchell et

al., 1983). As Billings and Moos (1984) have pointed out,

this may be attributed, firstly, to the small number of

items in the scales and, secondly, to the fact that the

items are possibly mutually exclusive. As a means to

alleviate emotional distress, a person may pray and find

this useful and, therefore, be unlikely to take

medications to reduce the tension. Covariation between

the items and, hence, the coefficient alpha may be quite

low.

Empirical distinction between coping variables. The

correlations between the problem- and emotion-focussed

coping scales were .43 and .47 for the new parent and

heart attack samples, respectively. Folkman and Lazarus

(1980) similarly reported a mean correlation of .44

between the two scales over three waves of data

collection. This, they argued, is theoretically

reasonable, given that, although a predominance of either

type of coping is hypothesised to have differential

effects on adaptation, both types will characterise any

stressful encounter.

Resources - Individual

Self-esteem. This construct was assessed, in both studies, with five items, a number of which have been utilised in previous research (Andrews & Withey, 1976; Jessor & Jessor, 1979; Terry & Scott, 1987). Items in the scale pertained both to generalised feelings of esteem for oneself--e.g., 'How do you feel about yourself?'--and specific feelings of social adequacy--e.g., 'After a social engagement, such as a party, I feel that I have handled myself well.' Franks and Marolla (1976) have demonstrated that perceived social adequacy is an important dimension of self-esteem. The scale was balanced for direct- and reverse-worded items.

The distribution of responses for the item 'How do you feel about yourself?' was compared with the distribution reported for the same item in other studies. This comparison is presented in Table 3-2. Examination of the table reveals that the proportions of respondents 'delighted' or 'pleased' with themselves were similar to proportions obtained in other studies.

In both studies, responses for the scale were elicited at the first wave of data collection. Scale scores were computed as the average of the five standardised items. The mean scale score (for all respondents) was -0.00 ($\underline{S}.\underline{D}$. = 0.67), with a measure of skewness of -0.82; Cronbach's alpha was .69.

Table 3-2

'How Do You Feel About Yourself?' Proportions of Respondents Who Were 'Delighted' or 'Pleased' with Themselves: Comparison With Other Studies

Sample	Proportion
Present sample[a]	.33
Canberra sample[b]	.24
Canberra & Sydney sample[c]	.24
Melbourne sample[d]	.36
U.S. sample[e]	.38

[a]Data from combined new parent and heart attack sample.

[b]Canberra voluntary sample (Terry & Scott, 1987).

[c]Data from Canberra and Sydney provided by W.A. Scott.

[d]Melbourne random sample (Armstrong, 1980, cited in Scott & Scott, 1985).

[e]U.S. random sample (Campbell, Converse, & Rodgers, 1976, cited in Scott & Scott, 1985).

Heart attack patients and their partners had lower levels of self-esteem than the new parents (heart attack sample: $M = -0.30$; $S.D. = 0.71$; new parents: $M = 0.09$; $S.D = 0.64$; $t(319) = -4.50$, $p < .01$). The basis for this finding is unclear, it may be a reflection of the differing ages of the two samples, with the older sample having less positive feelings for themselves than the younger sample.

Morale. This concept was operationalised as people's feelings of interest and involvement in the things they are doing in their lives. Five items were chosen to assess the variable--e.g., 'How often do you feel fed up or bored with the things you are doing in your life?' The scale was balanced for positively and negatively worded items.

Measures of morale were obtained at Time 1 in both the new parenthood and heart attack studies. Initial item analysis revealed the necessity of removing one of the items from the scale because of low variability. For the combined sample, the mean scale score--average response to the four standardised items--was 0.01 ($\underline{S}.\underline{D}.$ = 0.74), and the measure of skewness was -1.18. The distribution of scale scores was, therefore, skewed, although not grossly so. The alpha coefficient was .72. As was the case for self-esteem, mean scores for the heart attack sample ($\underline{M}$ = -0.23; $\underline{S}.\underline{D}.$ = 0.84) and the new parent sample ($\underline{M}$ = 0.07; $\underline{S}.\underline{D}.$ = 0.68) were significantly different ($\underline{t}$(319) = -3.12; $\underline{p}$ < .01). Again, this may be a reflection of the age difference between the two samples.

Empirical distinction among psychological resources. Intercorrelations among the psychological resources (including internality) for the combined sample are presented in Table 3-3. As is apparent from this table, the concepts of morale and self-esteem were not empirically distinguishable. A composite scale was,

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Table 3-3

Correlations Among Psychological Resources: Combined
Sample

Measure	1	2	3
1. Self-esteem	(.67[a])	.55	.21
2. Morale		(.72)	.19
3. Internality			(.57)

Note. Maximum n = 326; ns varied slightly because of
pairwise deletion of missing data.
[a]Reliabilities (Cronbach's alpha) in parentheses along
diagonal.

therefore, created from the two original scales. Initial
examination of the data revealed two outliers; these
scores were, therefore, recoded so as to be contiguous
with the rest of the distribution. For the combined
sample, the mean scale score--average response to the
nine standardised items--was 0.00 ($S.D.$ = 0.61), with
skewness = -0.90; Cronbach's alpha was .80. There was a
significant difference between the mean scores for the two
samples (heart attack sample: M = -0.26; $S.D.$ = 0.66; new
parents: M = 0.08, $S.D.$ = 0.57; t(319) = -4.35, p < .01).

Resources - Marital

Cohesion. Marital cohesion was conceptualised as the
extent of emotional bonding between partners. At the time

of the design of this study, the scales developed by Olson, Portner, and Lavee (1985) to assess marital cohesion and adaptability were not available. A marital cohesion scale was, therefore, constructed specifically for use in this study.

The emotional bonding between partners was assessed by obtaining participants' responses to six items—generally with 5-point response scales—relating to the degree of closeness between self and partner, and the extent to which they sought companionship and support from each other in preference to other people. An example item is: 'If you have a problem, how often do you discuss it with a friend rather than with your partner?' The scale comprised equal numbers of direct- and reverse-worded items. In both the new parent and heart attack studies, data were obtained at the first wave of data collection. Because of the necessity of keeping the heart attack patients' questionnaire as short as possible, data were obtained only from their partners.

Descriptive and psychometric data for the scale are presented in the first row of Table 3-4. As is apparent from the table, the distribution of scores was not markedly skewed. Examination of this table also reveals sufficient evidence for the reliability of the scale. Heart attack partners reported lower levels of marital cohesion ($\underline{M}$ = 3.52; $\underline{S}.\underline{D}.$ = 0.67) than new parents ($\underline{M}$ = 3.77; $\underline{S}.\underline{D}.$ = 0.39); ($\underline{t}(280)$ = -3.30; $\underline{p}$ < .01). This may

Table 3-4

Descriptive and Psychometric Data for Marital Resources:
Combined Sample

Measure	Mean	S.D.	Skewness	Cronbach's alpha
Cohesion[a]	3.74	0.44	-0.56	.65
Flexibility[ab]	-0.01	0.49	-0.63	.52
Communication[a]	3.84	0.56	-1.37	.80
Consensus[a]	3.95	0.43	-0.52	.69
Satisfaction	4.49	0.54	-2.10	.79

Note. Scale scores are mean item scores.

[a]Data obtained in the heart attack sample from partners only.

[b]Items standardised before scale score computed.

be a reflection of the tendency for young couples to rate, more favourably than older couples, qualitative dimensions of their marriage. Numerous studies have found a negative association between length of marriage and measures of marital quality (e.g., Rollins & Cannon 1974; Rollins & Feldman, 1970).

Flexibility. This variable was conceptualised as the ability of the marital dyad to change its structure in response to stress (Olson, McCubbin et al., 1983). Olson and his colleagues (Olson, McCubbin et al., 1983; Olson,

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Russell, & Sprenkle, 1983; Olson, Sprenkle, & Russell, 1979) have maintained that adaptive relationships have egalitarian power relations, good negotiation and problem-solving skills, flexible role allocation, and a predominance of implicit rather than explicit rules.

As with cohesion, a scale for the assessment of marital flexibility was developed specifically for the present study. This scale was based on the above concepts, with the exception of the number of implicit and explicit rules, because of the difficulty of operationalising this concept at the marital level. An additional concept was also assessed, namely, the couple's past adaptation to new demands. This latter concept was considered relevant, given that presumably a couple's past experience at adapting to new situations will be a valid index of its future capacity for adaptation.

To discuss the operationalisation of each of the aspects of flexibility, firstly, the couple's power relations were assessed with five items. Respondents were required to indicate who made the final decision in a number of different situations, for instance, whether to buy a new house or car. Secondly, role flexibility was measured with a single item tapping the extent to which there was a strict division of labour within the marital relationship. Two items were designed to assess the adequacy of conflict-resolution skills, namely, the ease with which problems and disagreements were resolved and

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the frequency with which the respondent judged that
disagreements went on too long. Finally, the couple's
past adaptation to new demands was assessed with two items
pertaining to their past response to sudden changes in
plans and new routines.

To minimise the time required by patients to complete
the questionnaire, data for this scale were obtained only
from partners in the heart attack sample. In both
studies, assessments of marital flexibility were made at
Time 1. Empirical analysis of the subscales revealed that
items pertaining to the adequacy of conflict resolution
were highly correlated with the marital satisfaction
items; they were, therefore, excluded from the final
flexibility scale. Apparently, ease of conflict
resolution is a strong covariant of the degree of
satisfaction with one's marital relationship.

Because of disparity among the standard deviations of
the items, scale scores were computed as the average
response to the standardised items. Examination of the
second row of Table 3-4 reveals that the distribution of
scale scores was not markedly skewed. The fact that the
scale exhibited only fair reliability is attributed to the
heterogeneity of the behavioural domains assessed. There
was no difference in mean flexibility scores between heart
attack partners and new parents (heart attack sample: $\underline{M}$ =
-0.11; $\underline{S}.\underline{D}.$ = 0.69; new parents: $\underline{M}$ = 0.02; $\underline{S}.\underline{D}.$ = 0.49;
$\underline{t}(280)$ = -1.45 (NS)).

Communication. Five items--generally with 5-point response scales--were chosen to assess this variable. A number of them have been used in previous studies (Bienvenu, 1970; Campbell, Converse, & Rodgers, 1976; Headey, Holstroem, & Wearing, 1982). Respondents, in both the new parent and heart attack studies, were required to rate their marriage in terms of the openness and clarity of communication, extent of difficulties and satisfaction with communication. An example item is: 'How well do you think your partner understands you--your feelings, your likes and dislikes, and any problems you may have?' Three of the items were reverse-scored. Assessments of marital communication were made at the first wave of data collection; data were not obtained for the heart attack patients.

Scale scores were computed as the average response to the five items; descriptive and psychometric data for the scale are presented in the third row of Table 3-4. The distribution of scores was negatively skewed, although not grossly so. The communication scale exhibited high reliability and, consistent with the data obtained for the cohesion scale, the mean score for the heart attack partners (M = 3.49; $S.D.$ = 0.91) was significantly lower than for the new parents (M = 3.80; $S.D.$ = 0.47; $t(280)$ = -4.11, $p < .01$).

Marital consensus was operationalised in a manner similar to Spanier (1976), namely, as the extent of agreement between partners on issues such as role enactments, values, and goals. Respondents were required to indicate--on a 5-point scale--the approximate extent of agreement concerning eight issues, for example, choice of friends and ways of dealing with parents and in-laws. In both the new parent and heart attack studies, the scale was utilised at the first wave of data collection. Again, data were not obtained for the heart attack patients.

Scale scores were computed as the mean of the eight items; the distribution of these scores was not markedly skewed (see fourth row of Table 3-4); Cronbach's alpha was .69. Mean scores for heart attack partners ($\underline{M}$ = 3.88; $\underline{S}.\underline{D}.$ = 0.46) and new parents ($\underline{M}$= 3.96; $\underline{S}.\underline{D}.$ = 0.42) were not significantly different ($\underline{t}$(280) = -1.15(NS)).

Marital satisfaction was operationalised as respondent-judged quality of the marriage. In both studies, five items were chosen to assess the construct-- e.g., 'If you were to marry again, would you want to marry the same person?' Some of the items have been used in previous studies (Bahr, Chappell, & Leigh, 1983; Chadwick, Albrecht, & Kunz, 1976; Terry & Scott, 1987). Each item had five response categories and the scale was balanced for direct- and reverse-scored items. Data for the scale were obtained at the first wave of data collection.

The distribution of the item: 'If you were to marry again, would you want to marry the same person?' was compared with a U.S. random sample of 771 couples (Chadwick et al., 1976). Examination of Table 3-5 reveals that, although the distribution of responses to this item was negatively skewed in the present study, it is comparable to that obtained in the larger U.S. sample.

Table 3-5

'Would you Marry the Same Person Again?' Comparison of Percentage Distribution of Responses with a U.S. Sample

Response	Present sample[a]	U.S. sample[b]
Yes, certainly	74	66
Yes, probably	19	21
Undecided	2	7
No, probably not	1	4
No, certainly not	1	1
Not answered	3	1
$\underline{n}$	326	771

[a]Data from combined new parent and heart attack sample.
[b]Chadwick, Albrecht, & Kunz (1976).

The distribution of total scale scores (see row 5, Table 3-4) reflects the skewness evident for the single item presented in Table 3-5. As Norton (1983) has argued,

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it is probable that the nature of marital relationships contributes to the skewness of marital satisfaction scores: People who stay married tend to report that they are happily married. Social desirability is presumably also a contributing factor. Furthermore, the predominance of young married couples could have served to increase the number of satisfied partners. Because the items of the scale were incorporated into a composite scale (see below), the scale was not dichotomised in an attempt to correct for asymmetry.

Psychometric data for the scale are also presented in Table 3-4. As this table reveals, the scale appears to be reasonably reliable (alpha = .79). There was a significant difference between the mean marital satisfaction scores of the two samples ($\underline{t}$(315) = 1.96; $\underline{p}$ < .01), with new parents ($\underline{M}$ = 4.52; $\underline{S}.\underline{D}$. = 0.47) reporting higher levels of marital satisfaction than the heart attack patients and their partners ($\underline{M}$ = 4.38; $\underline{S}.\underline{D}$. = 0.72). This may be a further demonstration of the relationship between length of marriage and measures of marital quality.

Empirical distinction between marital resources. Intercorrelations among the scales for the combined sample were computed to assess the extent to which the marital resources were empirically, as well as conceptually, distinct. The data presented in Table 3-6 indicate that

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the correlations among the concepts of marital
satisfaction, communication, and cohesion approach the
average of the reliabilities of the respective scales.
Navran (1967) similarly found a moderately high
correlation between a marital communication scale and an
index of marital quality, while Antill and Cotton (1982)
reported a moderately high correlation ($\underline{r}$ = .50) between
the cohesion and satisfaction subscales of Spanier's
(1976) Dyadic Adjustment Scale.

Table 3-6

Correlations among Marital Resources: Combined Sample

Measure	1	2	3	4	5
1. Cohesion[a]	(.65)[b]	.33	.60	.49	.68
2. Flexibility[a]		(.52)	.35	.35	.35
3. Communication[a]			(.80)	.43	.67
4. Consensus[a]				(.69)	.41
5. Satisfaction					(.79)

Note. Maximum $\underline{n}$ = 286; $\underline{n}$s varied slightly because of
pairwise deletion of missing data.

[a]Data obtained in the heart attack sample from the partners
only.

[b]Reliabilities (Cronbach's alpha) in parentheses along
diagonal.

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Given the high intercorrelation among the satisfaction, communication, and cohesion subscales, a composite scale--termed affective marital resources--was created from the subscales. The scale was computed as the average response to the 18 items comprising the three subscales.[6] The mean scale score was 4.00 ($\underline{S}.\underline{D}.$ = 0.44) and, consistent with the data obtained for the communication and satisfaction subscales, the distribution of scale scores was negatively skewed (skewness = -1.78). The scale exhibited high reliability; Cronbach's alpha was .88. The mean scores for the heart attack partners ($\underline{M}$ = 3.71; $\underline{S}.\underline{D}.$ = 0.75) and new parents ($\underline{M}$ = 4.04; $\underline{S}.\underline{D}.$ = 0.35) were significantly different ($\underline{t}(280)$ = -4.32; $\underline{p}$ < .01), with heart attack partners reporting fewer affective marital resources than new parents.

The subscales of marital flexibility and consensus were considered to be empirically distinct from marital communication, cohesion, and satisfaction. Inspection of Table 3-6 reveals that the correlations of flexibility and consensus with the other marital resources were at least .2 below the average of the respective scale reliabilities. Moreover, examination of the external correlates of affective marital resources, flexibility,

[6]In the heart attack study, the affective marital resources scale was based on data from the spouses only. This was because data were not obtained from the patients for the communication and cohesion subscales--both components of the affective marital resources scale.

and consensus revealed differential relationships between these variables and the dependent variables.

Resources - Social Support

Quantitative social support. The extent of a person's social network, or quantitative social support, was operationalised as frequency of contact with other people. Frequency of contact with network members is the main component of social network measures used by other researchers (Beckman & Syme, 1979; Belsky & Rovine, 1984; Billings & Moos, 1984; Holahan & Moos, 1982; Stemp et al., 1986).

To assess quantitative social support, two subscales were utilised. Respondents were, firstly, required to provide information as to the extent of their own and their partner's contact with other family members. Specifically, they were required to indicate--on a 5-point response scale--how often they, or their partner, saw, or had telephone or letter contact with parents, in-laws, children not at home (if applicable), and other relatives. Secondly, a measure of couple contact with non-family members was obtained by asking respondents to indicate how often they, or their partner, saw, or had other contact with their mutual friends, and how often they had contact with their own personal friends. Respondents were also required to indicate how many clubs and organisations they belonged to alone and with their partner. For both the

new parent and heart attack samples, assessments of quantitative social support were made at the first wave of data collection. Because of the necessity of keeping the patients' questionnaire as short as possible, data for the scales were obtained only from their partners.[7]

Descriptive and psychometric data for the social support scales can be examined in Table 3-7. The data are presented separately for the new parent and heart attack samples because of the lack of exact comparability of the members comprising the support networks of the two samples. Examination of Section A of this table reveals that the distribution of scores for the quantitative support scales was largely symmetrical. The scales also exhibited reasonable levels of reliability.

Qualitative social support. Following the approach taken by a number of different researchers, qualitative support was operationalised as the perceived adequacy of social support (Andrews et al., 1978, Gore, 1978; Schaefer et al., 1981; Wethington & Kessler, 1986). Respondents were asked, firstly, to imagine a situation where they and their partner had suffered a misfortune, for instance, damage to their house. They were then required to

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[7]This was with the exception that, for the frequency of contact with non-family scale, patients supplied information about their own contact with personal friends and the number of clubs and organisations they belonged to alone.

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Table 3-7

Descriptive and Psychometric Data for Social Support

Scales

Measure	Mean	S.D.	Skewness	Cronbach's alpha
A. Quantitative social support				
Couple contact with family				
New parents	2.46	0.88	0.53	.72
Heart attack sample[a]	2.67	0.87	0.03	.72
Couple contact with non-family				
New parents	2.31	0.67	-0.02	.67
Heart attack sample[a]	2.34	0.60	0.08	.66
B. Qualitative social support				
New parents	2.64	0.37	-1.58	.56
Heart attack sample[a]	2.76	0.35	-2.15	.63

Note. Scale scores are mean item scores.

[a]Data obtained from partners only.

indicate--on a 3-point response scale--whether they could
rely on network members for help in such a situation. In
both studies, the scale was utilised at the first wave of
data collection. Again, data were not obtained from the
heart attack patients.

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Descriptive data for the scale are presented in Section B of Table 3-7. As is evident from this table, the scale scores were skewed; more people than would be expected in a normal distribution felt that they could rely on their social support network. The basis for this skewness is not immediately obvious, it may be that the middle-class bias in the present sample excluded individuals with support networks of poor quality. Given that the extent of the skewness was not severe in the new parent sample, and it was this sample on which hypothesis testing was to be performed, the scale was not dichotomised.

The qualitative social support scale exhibited only fair reliability (see Table 3-7). This may be attributed to the heterogeneity of the sources of support encompassed by the scale. Simply because a person recognises support from family, for instance, does not necessarily mean that support is judged to be available from other sources.

Empirical distinction among social support scales. The intercorrelations among the social support scales for the two samples are presented in Tables 3-8 and 3-9. Firstly, in both samples, there was sufficient evidence to justify the distinction between the two measures of quantitative social support. Secondly, although the quantitative and qualitative support scales were

Table 3-8

Intercorrelations among Social Support Scales - New
Parents

Measure	1	2	3
1. Couple contact with family	(.72)[a]	.17	.31
2. Couple contact with non-family		(.67)	.24
3. Qualitative social support			(.56)

Note. Maximum n = 246; ns varied slightly because of
pairwise deletion of missing data.
[a]Reliabilities (Cronbach's alpha) in parentheses along
diagonal.

Table 3-9

Intercorrelations among Social Support Scales - Heart
Attack Sample[a]

Measure	1	2	3
1. Couple contact with family	(.72)[b]	.06	.40
2. Couple contact with non-family		(.66)	.44
3. Qualitative social support			(.63)

Note. Maximum n = 40; ns varied slightly because of
pairwise deletion of missing data.
[a]Data for social support scales obtained from partners only.
[b]Reliabilities (Cronbach's alpha) in parentheses along
diagonal.

correlated--particularly in the heart attack sample--the
two concepts could be empirically distinguished.

Adaptation

General Health Questionnaire. Respondents completed,
as one measure of their psychological well-being, 12 items
of the General Health Questionnaire (G.H.Q.) (Goldberg,
1972). Each of the items requires respondents to compare
their current state of well-being with their usual state
of well-being, in terms of such symptoms as loss of sleep
over worry. Although Goldberg's (1972) original scale
consisted of 30 items, Henderson et al. (1981) have
reported that the 12-item scale compares favourably with
the original 30-item scale.

The GHQ appears to be a valid measure of psychiatric
symptomatology. It has been demonstrated to be superior
to other psychiatric screening instruments, such as the
Hopkins Symptom Checklist (Goldberg, Rickels, Downing, &
Hesbacher, 1976), and has been validated against
independent clinical assessment (Goldberg et al., 1976),
the Present State Examination (PSE) (Duncan-Jones &
Henderson, 1978), and the Clinical Interview Schedule
(Goldberg, 1981; Hobbs, Ballinger, & Smith, 1983). The
scale is reliable; split-half reliabilities of between .83
and .96 have been reported for the 30-item GHQ (Goldberg,
1972), and for the 12-item G.H.Q., Scott and Stumpf (1984)
have reported an alpha coefficient of .86.

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GHQ scores were obtained from the new parents pre-
natally and when the baby was both four and 18 weeks old
(Times 2 and 3). For the heart attack sample, the GHQ was
administered 10 weeks after the heart attack (Time 2).
Items were scored so that high numbers reflected low
symptomatology; scale scores were computed as the mean
response to the 12 items. Descriptive and psychometric
data for the scale can be examined in Table 3-10. Because
of the different time frames of the two studies, the data
are presented separately for the heart attack and new
parent samples. Examination of Section A of Table 3-10
reveals that the distributions of scale scores were
skewed, although the extent of the skew was not extreme.
There was sufficient evidence for the reliability of the
scale; in all instances the alpha coefficients were high.

The mean GHQ score obtained at Time 3 in the present
sample was compared with data from other Australian
studies. These data were considered to be the least
subject to the influence of the life events under
consideration, given that they were collected 18 weeks
after the occurrence of the stressor. Inspection of Table
3-11 reveals that, in terms of scores on a measure of
psychological well-being, the present sample was similar
to others in Australia.

If the GHQ is a valid measure of psychological
health, it was presumed that, because a heart attack is a

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Table 3-10

Descriptive and Psychometric Data for Measures of

Psychological Well-being

Measure	Mean	S.D.	Skewness	Cronbach's alpha
A. (Low) GHQ symptoms				
New parents - T1	3.20	0.37	-1.69	.83
- T2	3.18	0.37	-1.42	.83
- T3	3.25	0.37	-1.48	.86
Heart attack sample - T2	3.07	0.37	-0.96	.85
B. (Low) state anxiety				
New parents - T1	3.38	0.39	-0.71	.86
- T2	3.38	0.43	-1.00	.91
- T3	3.44	0.41	-1.15	.91
Heart attack sample - T1	3.12	0.61	-0.70	.94
- T2	3.13	0.50	-0.62	.92

Note. Scale scores are mean item scores.

Note. New parents: T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal. Heart attack sample: T1, approximately two weeks post-infarct; T2, 10 weeks post-infarct.

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Table 3-11

Comparison of GHQ Scores in Present Sample and Other

Australian Samples

Sample	Mean	$\underline{S}.\underline{D}.$
Present sample ($\underline{n}$ = 246)[a]	3.25	0.37
Migrant adults ($\underline{n}$ = 154)[b]	3.26	0.33
Canberra sample ($\underline{n}$ = 756)[c]	3.18	0.37

Note. High scores reflect low symptomatology.

Note. Scale scores are mean item scores.

[a]Time 3 GHQ data - new parent sample.

[b]Data from Scott & Scott (1985).

[c]Data from Henderson, Duncan-Jones, Byrne, Scott & Adcock

(1979) - random sample.

more severe event than the arrival of a new baby, new

parents would show better post-event adaptation than the

patients and their partners. To assess the accuracy of

this presumption, the mean Time 3 GHQ score for the new

parents was compared with the mean Time 2 score for the

heart attack sample. As expected, new parents were better

adjusted than the patients and their partners ($\underline{t}$(304) =

3.58; $\underline{p}$ < .01).

State anxiety. As a second measure of psychological

well-being, respondents completed the State Anxiety Scale

form X-1 (A-state) (Spielberger, Gorsuch, & Lushene,
1970). The scale consists of 20 statements--e.g., I feel
calm, I feel anxious--that require respondents to indicate
on a 4-point response scale how they feel at a particular
point in time. There are an equal number of direct- and
reverse-scored items. The scale has demonstrated
concurrent and discriminant validity (Auerbach, 1973;
Lazarus & Opton, 1966; Spielberger et al., 1970;
Stoudenmire, 1972). Data suggesting that state anxiety
scores fluctuate under conditions of stress also provide
evidence for the construct validity of the scale
(Auerbach, 1973; Hodges & Spielberger, 1966; Johnson &
Spielberger, 1968; Spielberger, Auerbach, Wadsworth, Dunn,
& Taulbee, 1973; Stoudenmire, 1972). Reported alpha
coefficients have ranged from .83 to .90 (Bramwell &
Whall, 1986; Spielberger et al., 1970).

For the new parents, pre-natal (Time 1) and both
immediate (Time 2) and delayed (Time 3) measures of state
anxiety were obtained. In the heart attack sample, state
anxiety was assessed soon after the heart attack (Time 1)
and 10 weeks post-infarct (Time 2).[8] Scale totals were
computed as the average response given to the items, which

[8]Because of the life-threatening nature of a heart attack,
it was considered inappropriate to include a number of
items in the Time 1--soon after the heart attack--
assessment of state anxiety. These items were: 'I am
relaxed', 'I am content', and 'I am joyful'.

were scored so that high numbers reflected low anxiety. As indicated in Section B of Table 3-10, the distributions of scale scores were not markedly skewed and, in all instances, the scale was reliable.

Again, a comparison of the Time 3 new parent and Time 2 heart attack data was undertaken to assess the validity of the scale. As expected, several weeks after the event, new parents exhibited less anxiety than heart attack patients and their partners ($\underline{t}(302) = 5.15$; $\underline{p} < .01$).

<u>Subjective view of own and partner's coping effectiveness</u> was assessed as respondents' judgements concerning how well they and their partner coped with the event. More specifically, respondents were required to indicate how well they thought their partner had coped with the event, how well they thought they had coped, and how well they had coped as a couple.[9] They were also asked to indicate whether there were some things that they could have done better in dealing with the event.

Data for this scale were obtained at Time 3 (18 weeks after the birth of the baby) for the new parent sample and Time 2 (10 weeks post-infarct) for the heart attack sample. Because there was a wide range in the standard

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[9]Because of the asymmetry in the distribution of responses to the item concerning judgement of partner's coping effectiveness, it was dichotomised before being incorporated into the scale score.

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Table 3-12

Descriptive and Psychometric Data for Other Measures of
Adaptation

Measure	Mean	S.D.	Skewness	Cronbach's alpha
A. Subjective view of own & partner's coping effectiveness[a]				
New parents - T3	0.00	0.75	-0.48	.75
Heart attack sample - T2	-0.04	0.67	-0.17	.60
B. Partner's view of subject's coping effectiveness				
New parents - T3	1.67	0.47	-0.73	[b]
Heart attack sample - T2	1.61	0.49	-0.47	[b]
C. Subjective rating of role performance				
New parents - T3	2.79	0.37	-0.57	.74
Heart attack sample - T2	2.95	0.38	-0.88	.77
D. Marital harmony				
New parents - T3	3.26	0.57	-0.86	.83

Note. Scale scores are mean item scores.

Note. New parents: T1, pre-natal; T2, four weeks post-
natal; T3, 18 weeks post-natal. Heart attack sample: T1,
approximately two weeks post-infarct; T2, 10 weeks post-infarct.

[a]Items standardised before scale score computed.

[b]Cronbach's alpha coefficient not obtained for single-item
scale.

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deviations of the items, they were standardised--within each sample--and then summed and averaged into a scale total. Inspection of Table 3-12, Section A, reveals that the distribution of scale scores was not grossly skewed and that the estimated reliabilities of the scale were above .60.

Partner's view of subject's coping effectiveness. An external rating of adaptation was provided by the subject's partner at Time 3 for the new parent sample and Time 2 for the heart attack sample. Partners were required to rate--on a 4-point response scale--how well they thought the subject had dealt with the event under consideration. Because most respondents rated their partner's coping effectiveness favourably (more than 60% of the new parent sample rated their partners as having dealt with the event 'very well'), the scale was dichotomised so as to correct for the asymmetry in the distribution of item scores. As is evident from Table 3-12, Section B, the distribution of responses to the dichotomised item was slightly skewed.

Subjective rating of role performance. This variable was operationalised as the extent to which individuals had returned to their pre-event level of social role performance. Facets of role performance assessed were recreational activities, household routine, emotional

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support to spouse, and contact with and fulfilment of responsibilities to friends and relatives.[10]

In more detail, the scale comprised a number of different subscales. First, there were two subscales concerned, respectively, with recreational activities engaged in alone and those engaged in with one's partner. Four additional single-item subscales pertained to amount of emotional support given to spouse, contact with--both alone and with partner--and fulfilment of responsibilities to friends and relatives. A final subscale was designed to elicit information on household functioning since the event--e.g., preparation of meals, organisation of financial affairs.

For each of the subscales, respondents were required to compare--on 3- and 4-point response scales--their current performance with their previous performance. Final scale scores were the average of responses to each of the subscales. Data for the scale were obtained for the new parents 18 weeks after the baby's birth (Time 3) and for the heart attack sample 10 weeks after the heart attack (Time 2). Scale scores were not markedly skewed and the scale exhibited moderate reliability (see Section C, Table 3-12).

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[10]Because of the fact that few new mothers return to work immediately after the birth of a baby, subjective judgement of work-related role performance was not assessed in this scale.

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Marital harmony. A common measure of adaptation in the transition to parenthood literature has been the extent to which the event changes and disrupts the marital relationship. For this reason, in the new parenthood study, a six-item measure of marital harmony was obtained when the baby was 18 weeks old (Time 3).[11] Respondents were required to indicate whether they had experienced changes and problems in their marital relationship in the past fortnight and, if they had, how difficult they had been. Items were reverse-scored so that high scores reflected a low level of marital disruption, or marital harmony.

As is evident from Table 3-12, Section D, the scale exhibited satisfactory reliability. The distribution of scale scores was skewed, although not markedly so.

Intercorrelations among the measures of adaptation. Intercorrelations among the dependent variables are presented for the two samples in Tables 3-13 and 3-14. Examination of these tables reveals high correlations between concurrent measures of GHQ symptoms and state anxiety. These scales were, therefore, combined into a

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[11]Because the items comprising the marital harmony scale were incorporated in the measure of strain (scored in the opposite direction), a shortened version of strain--excluding these items--was used when strain was considered as a predictor of post-natal marital harmony.

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Table 3-13

Correlations Among the Measures of Adaptation - New Parents

Measure	1	2	3	4	5	6	7	8	9	10
1. (Low) GHQ symptoms (T1)	(.83)[a]	.53	.47	.41	.40	.42	.25	.10	.29	.28
2. (Low) anxiety (T1)		(.86)	.23	.45	.29	.45	.22	.14	.24	.24
3. (Low) GHQ symptoms (T2)			(.83)	.67	.41	.46	.37	.34	.49	.38
4. (Low) anxiety (T2)				(.91)	.35	.58	.37	.31	.44	.36
5. (Low) GHQ symptoms (T3)					(.86)	.70	.32	.24	.51	.46
6. (Low) anxiety (T3)						(.91)	.43	.35	.53	.48
7. Subjective view of own & partner's coping effectiveness (T3)							(.75)	.31	.37	.43
8. Partner's view of subject's coping effectiveness (T3)								[b]	.20	.26
9. Subjective rating of role performance (T3)									(.74)	.51
10. Marital harmony (T3)										(.83)

Note. Maximum n = 246; ns varied slightly because of pairwise deletion of missing data.

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Table 3-14

<u>Correlations Among Measures of Adaptation</u> - <u>Heart Attack</u>
<u>Sample</u>

Measure	1	2	3	4	5	6
1. (Low) anxiety (T1)	(.94)[a]	.35	.51	.24	.00	.31
2. (Low) GHQ symptoms (T2)		(.85)	.67	.35	-.07	.34
3. (Low) anxiety (T2)			(.92)	.40	.01	.35
4. Subjective view of own & partner's coping effectiveness (T2)				(.60)	.58	.25
5. Partner's view of subject's coping effectiveness (T2)					[b]	-.04
6. Subjective rating of role performance (T2)						(.77)

<u>Note</u>. Maximum n = 80; ns varied slightly because of
pairwise deletion of missing data.

<u>Note</u>. T1, Approximately two weeks post-infarct; T2, 10
weeks post-infarct.

[a]Reliabilities (Cronbach's alpha) in parentheses along
diagonal.

[b]Cronbach's alpha coefficient not computed for single-item
scale.

composite measure of psychological well-being; scale
scores were computed as the average response to the 32
items. Descriptive and psychometric data for the
composite scale are presented in Table 3-15. The
distributions of scale scores were not grossly skewed and,
in all instances, the alpha coefficients were high.

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Table 3-15

Descriptive and Psychometric Data for Psychological Well-being Scale (Composite Scale)

Measure	Mean	$\underline{S}.\underline{D}.$	Skewness	Cronbach's alpha
New parents - T1	3.31	0.34	-0.91	.89
- T2	3.31	0.38	-1.16	.93
- T3	3.37	0.37	-1.35	.93
Heart attack sample - T2	3.11	0.42	-0.70	.93

Note. Scale scores are mean item scores.

Note. New parents: T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal. Heart attack sample: T1, approximately two weeks post-infarct; T2, 10 weeks post-infarct.

In comparison with the other measures of adaptation, examination of Tables 3-13 and 3-14 reveals that, although related, the subjective and external ratings of coping effectiveness, as well as the measures of role performance and marital harmony, were empirically distinct from each other and from the concurrent measures of psychological well-being.

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CHAPTER FOUR

ANALYSIS OF THE NEW PARENTHOOD STUDY - INDIVIDUAL
AS UNIT OF ANALYSIS

Introduction

In order to test the proposed model of family stress,
the data obtained from the new parenthood study were
examined treating both the individual marital partner and
the couple as the units of analysis. The collective level
of interest is discussed in Chapter 5, while the results
pertaining to the individual are discussed in the present
chapter. Bivariate correlations, to test the hypotheses
developed in Chapter 2, will be considered first, followed
by multivariate analyses. Because the model proposed
multiple inter-related predictors and interactive effects,
regression analyses were employed to test its overall
utility.

Bivariate Correlations

Correlations between Predictors and Strain

Hypotheses 1 and 3-9 predicted that a number of
person and situational variables, as well as the
accumulation of recent and concurrent stressors, would
have significant direct effects on post-natal strain.
Correlations between strain and the relevant predictors
are presented in Table 4-1. As predicted, the importance
attributed to the event in the pre-natal period

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Table 4-1

Correlations Between Predictors and Post-natal (T2) Strain

Predictor	$\underline{r}$
Importance of the event (T1)	$.18^*$
Judged controllability of the event (T1)	$-.04$
Anticipated difficulty of the event (T1)	$.45^*$
Familiarity (T1)	$-.10$
Role ambiguity (T1)	$.25^*$
(Appropriate) timing of the event (T1)	$-.06$
Experience of recent and concurrent stressors (T3)	$.21^*$

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. Maximum $\underline{n}$ = 246; $\underline{n}$s varied slightly because of pairwise deletion of missing data.

$^*\underline{p}$ < .05 (one-tailed test; correlation in predicted direction).

contributed positively to the level of post-natal strain, as did the anticipation that the event would be difficult to manage. Role ambiguity--as assessed pre-natally--was also associated with a high level of post-natal strain. This is consistent with predictions, as is the finding that the experience of recent and concurrent stressors was associated with a high level of post-natal strain. However, contrary to expectations, timing of the event (planned vs unplanned pregnancy), familiarity with new

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babies, and appraisal of the event's controllability were not significantly related to strain.

Correlations between Predictors and Measures of Adaptation

Strain. The data supported the first major hypothesis pertaining to the prediction of adaptation, namely, that a high level of post-natal strain would be negatively associated with adaptation (see Table 4-2). As one would expect, the correlation was higher for the immediate measure of adaptation--where strain and psychological well-being were assessed contemporaneously-- than when there was a time-lag between predictors and outcome.

Coping strategies. Given that new parenthood can be considered as an event with some potential for control, Hypothesis 10 predicted that, in such situations, problem-focussed coping would facilitate adaptation, whereas emotion-focussed strategies would impair adaptation. Inspection of Table 4-2 reveals that, contrary to expectations, problem-focussed coping did not have a positive relationship with adaptation. In fact, for all measures of adaptation--with the exception of partner's view of subject's coping effectiveness--problem-focussed coping was negatively associated with adaptation. However, in relation to emotion-focussed coping, the data confirmed expectations. In all instances, emotion-

Table 4-2

Correlations Between Predictors and Measures of Adaptation

Predictor	Psych. well-being (T2)	Psych. well-being (T3)	Subj. view own & partner's coping effect. (T3)	Partner's view subject's coping effect. (T3)	Subj. rating role perf. (T3)	Marital harmony (T3)
Strain (T2)	-.62*	-.33*	-.38*	-.25*	-.44*	-.39*
Problem-focussed coping (T2)	-.27**	-.16**	-.18**	-.11	-.26**	-.34**
Emotion-focussed coping (T2)	-.55*	-.39*	-.37*	-.26*	-.35*	-.36*
Internality (vs externality) (T1)	.18*	.22*	.01	.06	.11*	.03
Self-esteem/ morale (T1)	.38*	.42*	.30*	.18*	.25*	.26*
Affective marital resources (T1)	.22*	.29*	.33*	.22*	.11*	.14*
Marital flex- ibility (T1)	.06	.13*	.12*	.11*	.11*	.03
Marital consensus (T1)	.13*	.22*	.12*	.11*	.13*	.16*
Contact with family (T1)	.07	.11*	.11*	.05	.05	.02
Contact with non- family (T1)	.08	.04	.05	-.02	.06	-.01
Qualitative social support (T1)	.08	.07	-.05	.00	-.01	.04

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. Maximum n = 246; ns varied slightly because of pairwise deletion of missing data.

*p < .05 (one-tailed test); **p < .05 (two-tailed test; correlation not in predicted direction).

focussed coping was negatively associated with adaptation (see Table 4-2).

The fact that the bivariate correlations between problem-focussed coping and adaptation were inconsistent with predictions is attributed to the effect of strain on both variables. A high level of strain was related to high levels of both problem- and emotion-focussed coping (r = .52 and .51, respectively.) This finding is intuitively reasonable to the extent that one would expect more coping behaviour, of any type, to be employed under conditions of high strain. To examine the possibility that strain produced the negative relationship between coping and adaptation, partial correlations between coping and adaptation--controlling for strain--were computed. As is evident from Table 4-3, once the level of strain was controlled, the correlations between adaptation--with the exception of marital harmony--and problem-focussed coping were no longer significantly negative; neither were they significantly positive; so the predicted effect of this type of coping was not confirmed. However, the hypothesis that emotion-focussed coping would impair adaptation was confirmed, even when the effect of level of strain was controlled.

Coping resources. Hypothesis 11 proposed significant relationships between coping resources--individual, marital, and social--and measures of adaptation.

Table 4-3

Partial Correlations Between Coping and Adaptation –

Controlling for Strain

Predictor	Psych. well-being (T2)	Psych. well-being (T3)	Subj. view own & partner's coping effect. (T3)	Partner's view subject's coping effect. (T3)	Subj. rating role perf. (T3)	Marital harmony (T3)
Problem-focussed coping (T2)	.06	.02	.02	.02	-.04	-.17**
Emotion-focussed coping (T2)	-.34*	-.27*	-.21*	-.16*	-.15*	-.22*

Note. T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. Maximum n = 246; ns varied slightly because of

pairwise deletion of missing data.

*p < .05 (one-tailed test).

**p < .05 (two-tailed test).

First, in relation to individual resources, it was

predicted that high internality, self-esteem, and morale

would facilitate adaptation. The data largely supported

this prediction. As expected (see Table 4-2), internality

was correlated positively with both the immediate and

delayed measures of psychological well-being, and with the

subjective rating of role performance; however, it was not

related to the other measures of adaptation. The data

concerning self-esteem and morale were consistent with

expectations. In all instances, the self-esteem/morale scale was positively correlated with adaptation.

Secondly, the prediction that marital resources would facilitate adaptation was largely confirmed by the data. Affective marital resources (composite of communication, cohesion, and satisfaction scales) and marital consensus were significant correlates of all measures of adaptation. Marital flexibility also emerged as a significant predictor of psychological well-being and ratings of role performance and coping effectiveness 18 weeks after the baby's birth.

As was discussed in Chapter 2, Olson and his colleagues (e.g., Olson, McCubbin et al., 1983) have proposed that marital cohesion and flexibility (adaptability) are curvilinearly related to measures of outcome. To test this proposal, scores on both the cohesion and flexibility scales were collapsed into three groups: low, moderate, and high. Scores for each of the outcome variables were then calculated for the three groups and univariate analyses of variance perfomed to ascertain if there were any differences among the groups. Support for the curvilinear hypothesis would be apparent if the middle group--scoring moderately on the dimensions of either cohesion or flexibility--exhibited higher adaptation scores than the two extreme groups.

Of the significant ANOVAS (see Appendix C, Tables C-1 and C-2) there was no case in which the cell means conformed to the pattern necessary to support the curvilinear hypothesis. For this reason, multiple comparison tests were not performed, and it was concluded that the data were inconsistent with the curvilinear hypothesis. The patterning of the cell means, instead, suggested support for the alternative hypothesis, namely, that the predictors were linearly related to the criteria.

Finally, in relation to social support, inspection of Table 4-2 reveals little confirmation for the prediction that the variable would facilitate adaptation to stress. This is with the exception that the amount of contact with family, as assessed pre-natally, was positively correlated with psychological well-being and favourable appraisals of own and partner's coping effectiveness 18 weeks after the baby's birth.

Multiple Regression Analyses

Data Analysis Procedure

Because high correlations among independent variables can influence the stability of regression analyses, the intercorrelations among the sets of predictors of strain and adaptation were examined for evidence of multicollinearity (see Appendix D, Tables D-1 and D-2). Few instances of high interscale correlation--where the

magnitude of the correlation approached the average of the scale reliabilities—were detected. Exceptions involved the emotion-focussed coping scale. As discussed in Chapter 3, the coefficient alpha for this scale was low. This was attributed to the fact that the items comprising the scale could be considered to be mutually exclusive. For this reason, the high interscale correlations involving the emotion-focussed coping scale were not considered to be a threat to the stability of subsequent multivariate analyses.

To ascertain whether it was necessary to test the utility of the model separately for males and females, two methods were utilised to examine the data for gender differences. First, the overall degree of similarity between the two sets of correlations—for males and females—was examined using a Pearson product-moment correlation computed over the pairs of corresponding correlations. Second, differences between males and females on each of the correlation coefficients were assessed. All comparisons between the individual correlations were made using a significance test based on Fisher's z-transformation of r (test for significance of difference of correlations from independent samples). However, as the samples were not independent—individuals were from the same couples—it was considered necessary to

employ a less conservative test if the difference between z-statistics was not significant. This $\underline{t}$-test compared the differences in standard scores for the correlated variables between males and females.[12]

To ensure a sufficient number of correlations on which to assess the similarity between males and females, the hypothesised predictors of strain and adaptation, as well as a number of background factors--pertaining to the pregnancy, labour, and the baby's condition at birth--were correlated with males' and females' scores on each of the dependent variables. The degrees of similarity between the correlations for males and females are presented for each of the dependent variables in Table E-1 (Appendix E). As is evident from this table, all of the coefficients of similarity were high. This was taken as evidence to suggest that the pattern of correlates of the outcome variables was similar for the two sexes.

Examination of the individual paired correlations (see Appendix E, Table E-2) revealed few differences between

[12]For example, if a comparison was required between the correlations of internality and Time 2 psychological well-being for males and females, firstly, both males' and females' scores on the two variables were converted to standard scores. This was to ensure that the variables had equal variances; the absolute difference was then taken between the two standardised scores and a $\underline{t}$-test for dependent samples was performed between the difference scores obtained for males and females.

males and females. More specifically, on no dependent variable were there more than three significant gender differences (out of 25 for strain and 26 for the measures of adaptation). The relatively low number of gender differences was taken as further evidence for the similarity of data between the sexes. For this reason, it was decided to perform the regression analyses on the pooled sample of males and females.

Regression analyses were performed for each of the dependent variables--strain and the several measures of adaptation--separately. Because the proposed model of stress distinguished distinct predictors of strain and adaptation, it was necessary to perform an additional set of analyses to ascertain the extent to which this distinction was valid. In these analyses, the alternate independent variables were entered, along with the hypothesised predictors, in regression analyses of strain and adaptation. For instance, in treating adaptation as an outcome, the predictors utilised were those theoretically related to adaptation, as well as those theoretically related to strain.

In all instances, because a specific model had been proposed, regression analyses, with one-tailed tests, were performed. To allow for the fact that R^2 is an inflated estimate of the amount of variance explained

in the dependent variable, assessments of this statistic were based on a value (the reduced R^2) that had been corrected for this bias.

Prediction of Strain

The majority of the predictors of strain--with the exception of generalised control beliefs--were proposed to have direct effects on strain. To test for the significance of these effects, all of the hypothesised predictors were entered into the regression equation in a single step, as there was no theoretical reason why any one of the variables should be entered prior to the others.

Additionally, in Hypothesis 2, an interaction was proposed between generalised control beliefs and the ambiguity of the situation. More specifically, it was expected that, under ambiguous conditions, individuals with internal control beliefs would be less likely to experience strain than externals; however, this relationship was not expected under non-ambiguous conditions. Because the variables were measured on continuous scales, it was appropriate to use regression analysis for the testing of the significance of the proposed interactive effect (Cohen & Cohen, 1983). A multiplicative term for the interaction was, therefore, computed. This term was based on standardised scores to

ensure that multicollinearity--between the main effects and the corresponding interactive effect--did not distort the analysis (Finney et al., 1984). The product term was entered into the regression equation with the other hypothesised predictors of strain. Although generalised control beliefs were not proposed to have a direct effect on strain, a main effect term for this variable was also entered into the equation to ascertain whether its effect was additive.

Results of the regression analysis are presented in Table 4-4. As predicted, the importance attributed to the event was distinctively associated with high levels of strain. The anticipated difficulty of the event, role ambiguity, and the number of other stressors recently and concurrently experienced also contributed distinctively to the prediction of strain. These results are all consistent with predictions. Contrary to predictions, however, the familiarity of the event, its judged controllability, and the appropriateness of the timing of the event did not contribute significantly to the prediction of strain. Also unexpected was the lack of support for the hypothesis that generalised control beliefs and role ambiguity would interact in their effects on strain. Overall, the model accounted for 26% of the variance in strain scores.

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Table 4-4

Multiple Regression Analysis Predicting Post-natal (T2)

Strain

Predictor	Beta
Importance of the event (T1)	.18[*]
Judged controllability of the event (T1)	-.01
Anticipated difficulty of the event (T1)	.39[*]
Familiarity (T1)	-.07
Role ambiguity (T1)	.17[*]
(Appropriate) timing of the event (T1)	-.01
Experience of recent and concurrent stressors (T3)	.16[*]
Internality (vs externality) (T1)	-.03
Internality x role ambiguity (T1)	-.05
R	.54
Adj. R^2	.26

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. n = 246; regression analysis based on mean

substitution of missing data.

[*]p < .05 (one-tailed test).

Prediction of Adaptation

Separate regression analyses were performed for each

of the measures of adaptation. For the analyses

predicting psychological well-being, assessments of well-

being at Time 1 were entered into the equations.[13] This

was to control for the possibility that relations among

predictors and outcomes could simply be a function of

consistency in well-being over time. These analyses,

thus, considered the extent to which change in

psychological well-being from the pre-natal period (or

usual well-being) to the post-natal period could be

accounted for by the hypothesised predictors. Using

regression analysis to control for the effects of initial

well-being is considered preferable to the use of change

[13]Because the pre-natal measures of psychological well-
being were obtained shortly before the baby's birth, it
was possible that they were not accurate measures of usual
well-being. To ascertain if this was the case,
Speilberger's Trait Anxiety Scale (Speilberger, Gorsuch, &
Lushene, 1970) was utilised pre-natally to assess the
respondent's general and relatively enduring levels of
(low) anxiety. Separate regression analyses of the
psychological well-being data--using the measure of state
anxiety as a single measure of the dependent variable--
were then performed in which the pre-natal measure of
state anxiety served as the measure of usual well-being in
the first analysis, and trait anxiety in the second. The
results of the regression analyses were similar--in both
the immediate and delayed outcome data--irrespective of
which measure of usual distress was utilised. This was
with the exception that the self-esteem/morale composite
scale emerged as a significant predictor of both the
immediate and delayed measures of (low) state anxiety when
the pre-natal measure of state anxiety was utilised as the
measure of initial distress, but not when trait anxiety
scores were used for this purpose. This discrepancy is
attributed to the moderately high correlation ($r = .64$)
between the self-esteem/morale scale and the measure of
(low) trait anxiety (an expected finding given that both
measures assess relatively stable facets of psychological
health). The important finding for the present research
is that the results obtained for the two analyses were
comparable, which suggests the validity of the pre-natal
measures of psychological well-being as indices of usual
well-being.

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or difference scores because of the unreliability of such scores (Cronbach & Furby, 1970; Cohen & Cohen, 1983).

Analyses were performed on the immediate and delayed outcome data--four and 18 weeks after the baby's birth, respectively. In the immediate outcome analysis, although the coping resources were assessed prior to the outcome (at Time 1), the measures of strain, coping strategies, and adaptation were obtained contemporaneously (at Time 2). The delayed outcome analyses, in contrast, employed only predictors that were assessed prior to the assessment of the measures of adaptation. These analyses constituted a more conservative test of the model to the extent that the effect of Pollyanna (Boucher & Osgood, 1969; Scott & Peterson, 1975) or plaintive set (Henderson et al., 1981)--the tendency to respond optimistically or pessimistically to all measures--is reduced. The analyses of the delayed outcome data also provided a more valid test of the model, given that they allow one to detect the temporal relations among variables (especially when initial distress is controlled for). Despite the limitations of the immediate outcome data, the results are presented to facilitate comparison with the results of previous research.

For each of the measures of adaptation, two regression analyses were performed. The first was conducted to estimate the efficacy of the model where additive effects of the resource variables were assessed,

and a second set of analyses sought to examine the possible buffering effects of coping resources. Because the additive model proposes that coping resources have main effects on adaptation, it was tested by entering the resource variables, as well as the other hypothesised predictors of adaptation--strain and coping strategies-- into each of the regression equations.

To test the buffering model, more complex analyses were required. Such a model proposes that coping resources buffer the individual against the negative consequences of stress (strain) and, hence, their effects are only evident at high levels of stress. Because this model is, in effect, proposing interactive effects between strain and resources, product terms, based on (standardised) resource and strain scores, multiplied together, were entered into each regression equation. This was in addition to the other predictors of adaptation (strain and coping strategies), as well as the main effect terms for the coping resources. Given that the buffering model proposes that resources protect the individual in the face of stress, evidence for this model would be apparent if the beta coefficients for the product terms were significantly greater than zero.

Analysis of Immediate Outcome Data - Additive Model

Psychological well-being. The regression analysis for the prediction of the immediate measure of

psychological well-being (four weeks after the baby's birth) is presented in Table 4-5. Firstly, as one would expect, initial well-being--as assessed pre-natally--was associated with well-being at Time 2. Secondly, the data were consistent with the expectation that a high level of post-natal strain would be associated with high concomitant distress. Also consistent with predictions was the finding of a positive relationship between problem-focussed coping and well-being. These data confirmed the supposition that, once level of strain was controlled, problem-focussed coping would facilitate adaptation, despite a negative bivariate correlation between the two variables. The hypothesis concerning emotion-focussed coping was also confirmed. As predicted, a high level of emotion-focussed coping in the immediate post-natal period was negatively associated with a concurrent measure of well-being.

Finally, in relation to the main effects of coping resources, qualitative social support--as assessed at Time 1--was associated distinctively with post-natal (Time 2) well-being. The remaining coping resources did not emerge as significant predictors of the Time 2 measure of psychological well-being. Overall, the model accounted for 54% (adjusted R^2) of the variance in the dependent variable.

Table 4-5

Multiple Regression Analyses Predicting Immediate and

Delayed Measures of Psychological Well-being

Predictor	Psychological well-being (T2)	Psychological well-being (T3)
	Beta	Beta
Initial well-being (T1)	.23*	.26*
Strain (T2)	-.48*	-.12*
Problem-focussed coping (T2)	.10*	.04
Emotion-focussed coping (T2)	-.25*	-.21*
Internality (vs externality) (T1)	.07	.10*
Self-esteem/morale (T1)	.07	.14*
Affective marital resources (T1)	.04	.08
Marital flexibility (T1)	-.08	-.02
Marital consensus (T1)	-.04	.02
Contact with family (T1)	.01	.05
Contact with non-family (T1)	.05	-.03
Qualitative social support (T1)	.09*	.03
R	.75	.59
Adj. R^2	.54	.31

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. n = 246; regression analysis based on mean substitution of missing data.

*p < .05 (one-tailed test).

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Analyses of Delayed Outcome Data - Additive Model

Psychological well-being. Results for the delayed
(Time 3) measure of psychological well-being are shown in
Table 4-5. Again, as one would expect, Time 1 and Time 3
measures of well-being were significantly related. The
hypothesis that a high level of strain in the immediate
post-natal period would emerge as a distinctive predictor
of a delayed measure of well-being was confirmed by the
data. Additionally, as expected, emotion-focussed coping
adopted in the immediate post-natal period impaired
subsequent well-being. In relation to coping resources,
internality and (high) self-esteem/morale scores were
distinctive predictors of Time 3 well-being. With the
removal of the contaminating effect of contemporaneous
measurement, the model accounted for 31% of the variance
in the delayed measure of psychological well-being.

Subjective view of own and partner's coping
effectiveness. As shown in Table 4-6, there were temporal
relationships of both strain and emotion-focussed coping
with views of own and partner's coping effectiveness.
High levels of strain and emotion-focussed coping in the
immediate post-natal period contributed to poor subsequent
ratings of coping effectiveness. Consistent with
predictions, affective marital resources (assessed with
the cohesion/satisfaction and communication composite
scale), psychological resources (assessed with the self-

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Table 4-6

Multiple Regression Analyses Predicting Own and

Partner's Ratings of Coping Effectiveness

Predictor	Subjective view of own and partner's coping effectiveness (T3) Beta	Partner's view of subject's coping effectiveness (T3) Beta
Strain (T2)	-.24*	-.15*
Problem-focussed coping (T2)	.00	.02
Emotion-focussed coping (T2)	-.16*	-.15*
Internality (vs externality) (T1)	-.08	.02
Self-esteem/morale (T1)	.14*	.06
Affective marital resources (T1)	.28*	.15*
Marital flexibility (T1)	-.01	.03
Marital consensus (T1)	-.10	-.03
Contact with family (T1)	.12*	.05
Contact with non-family (T1)	.02	-.05
Qualitative social support (T1)	-.06	.00
R	.53	.35
Adj. R^2	.25	.08

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. n = 246; regression analysis based on mean substitution of missing data.

*p < .05 (one-tailed test).

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esteem/morale composite scale), and contact with family were distinctive predictors of subsequent ratings of own and partner's coping effectiveness. The overall model accounted for 25% of the variance in the dependent variable.

Partner's view of subject's coping effectiveness. The model was able to account for only 8% of the variance in the partner's rating of the subject's coping effectiveness. However, even when the measure of adaptation was supplied by an external source, levels of strain and emotion-focussed coping in the immediate post-natal period were temporally related to a delayed measure of adaptation (see Table 4-6). The pre-natal assessment of affective marital resources also emerged as a distinctive predictor of an external measure of post-natal adaptation.

Subjective rating of role performance. Regression analysis of the Time 3 subjective ratings of role performance--shown in Table 4-7--revealed distinctive relationships of adaptation with both strain and emotion-focussed coping. Post-event role performance was impaired if high levels of strain and emotion-focussed coping characterised the immediate post-natal period. No other variables emerged as distinctive predictors of subjective appraisals of one's own role performance. The adjusted R^2 for the model was .19.

Table 4-7

Multiple Regression Analyses Predicting Subjective

Rating of Role Performance and Marital Harmony

Predictor	Subjective rating role performance (T3)	Marital harmony (T3)
	Beta	Beta
Strain (T2)	$-.32^*$	$-.17^*$
Problem-focussed coping (T2)	$-.02$	$-.16^{**}$
Emotion-focussed coping (T2)	$-.13^*$	$-.16^*$
Internality (vs externality) (T1)	.07	$-.02$
Self-esteem/morale (T1)	.11	$.16^*$
Affective marital resources (T1)	$-.02$	.05
Marital flexibility (T1)	.05	$-.06$
Marital consensus (T1)	.02	.06
Contact with family (T1)	.03	$-.02$
Contact with non-family (T1)	.05	$-.04$
Qualitative social support (T1)	$-.02$	.06
R	.48	.48
Adj. R^2	.19	.19

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. n = 246; regression analysis based on mean substitution of missing data.

$^*p$ < .05 (one-tailed test)

$^{**}p$ < .05 (two-tailed test).

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Marital harmony. The model accounted for 19% of the variance in the Time 3 measure of marital harmony. As predicted, high levels of post-natal strain and emotion-focussed coping had negative effects on subsequent marital harmony, while pre-natal self-esteem/morale emerged as a distinctive positive predictor of the dependent variable (see Table 4-7). However, contrary to predictions, problem-focussed coping impaired, rather than facilitated, harmonious marital relationships in the post-natal period.

Analysis of the Immediate Outcome Data - Buffering Model

Psychological well-being. A second set of regression analyses were used to test the hypothesis that coping resources buffer the individual from the negative effects of stress. Using the immediate measure of psychological well-being (Time 2) as the dependent variable, a significant interaction was found between strain and qualitative social support (see Appendix F, Table F-1).

To represent this interaction graphically, the two variables were dichotomised at the mean of the respective scales and a 2 x 2 table was constructed yielding mean outcome scores calculated for each of the cells. As is evident from Figure 4-1, there is weak support for the buffering hypothesis. Under conditions of high strain, perceived adequacy of social support--as a measure of the quality of one's support network--appeared to buffer the

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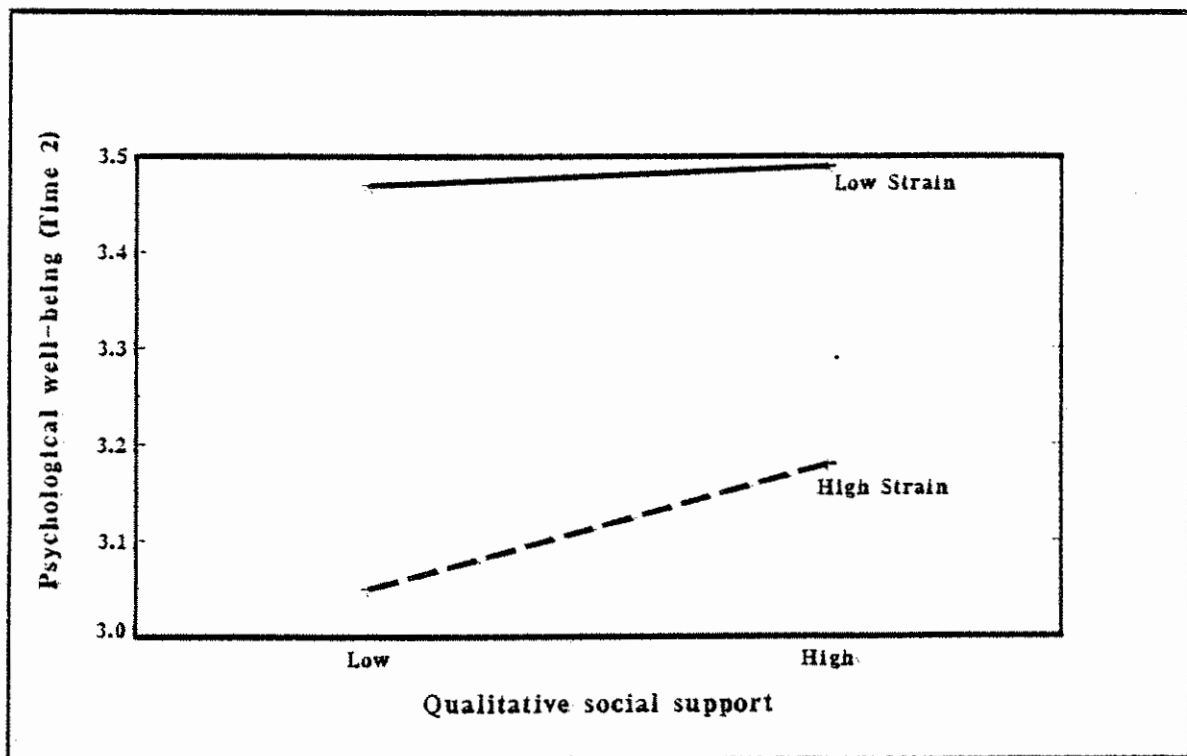
Figure 4-1. Interaction of Strain (Time 2) and Qualitative
Social Support (Time 1) on Psychological Well-being
(Time 2).

deleterious effects of strain on symptoms, an effect which
was not apparent at a low level of strain.

There was also a significant interaction between
strain and amount of contact with respondents' social
network outside the family (see Appendix F, Table F-1).
However, as is shown in Figure 4-2, this interaction is
not consistent with the buffering hypothesis. There was a
tendency for high contact with non-family network members

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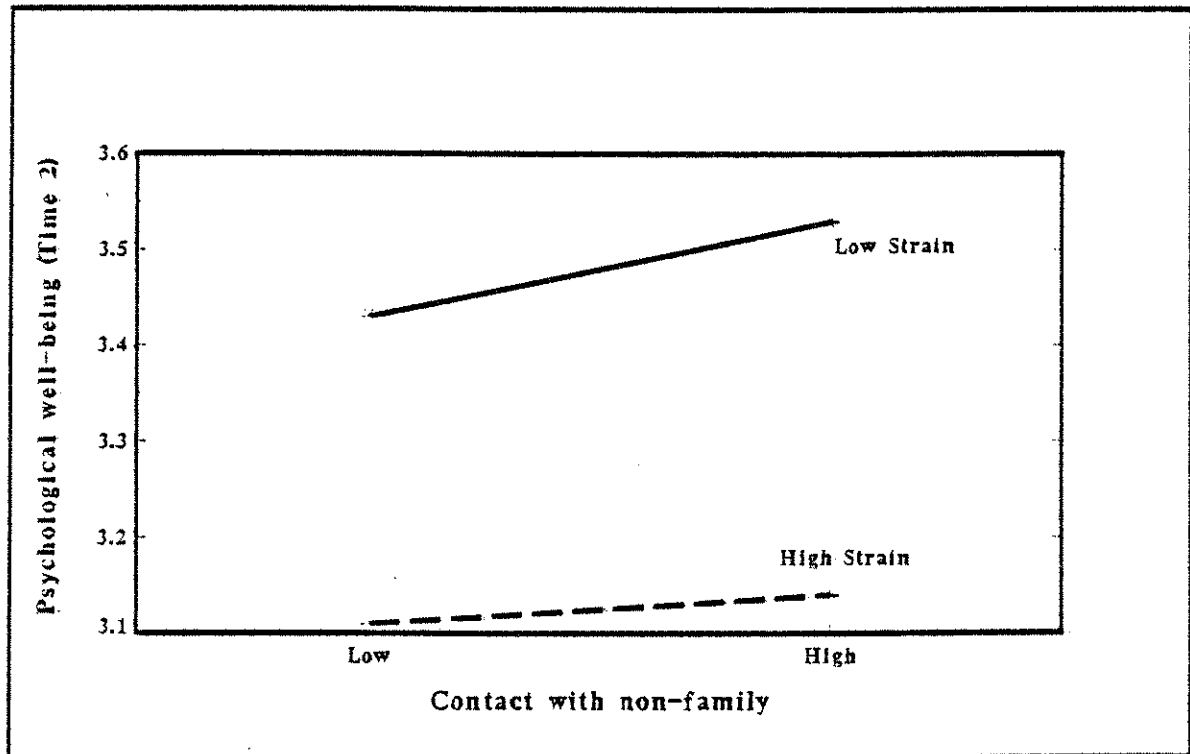
Figure 4-2. Interaction of Strain (Time 2) and Contact with Non-family (Time 1) on Psychological Well-being (Time 2).

to be associated with well-being at a low, rather than a high, level of post-natal strain.

Analyses of Delayed Outcome Data - Buffering Model

Analyses of the delayed outcome data revealed little support for the buffering model. This was with the exception that there was a significant interaction between strain and (internal) control beliefs when the model was regressed on partner's ratings of subject's coping effectiveness (see Appendix F, Table F-4). As shown in

Figure 4-3, this interaction is consistent with the buffering hypothesis. At a low level of strain, the effects of internality were weak, whereas at a high level of strain, those persons with internal control beliefs were given higher ratings of their coping effectiveness than those with external control beliefs.

Prediction of Strain and Adaptation Using Theoretically Relevant and Irrelevant Predictors

The model, as previously described, proposed that the predictors are different for strain and adaptation. To test for the accuracy of this proposition, it was necessary to rule out two possibilities. Firstly, it was possible that the coping resources could have influenced strain as well as adaptation. Secondly, the predictors of strain could have influenced both strain and adaptation. These two possibilities were examined with regression analyses.

Prediction of Strain

To test for the possibility that coping resources could have influenced the level of strain as well as adaptation, the predictors of strain and the coping resources were entered into the regression equation. Results of the analysis (see Appendix G, Table G-1) confirmed predictions to the extent that the coping resources were not related to strain.
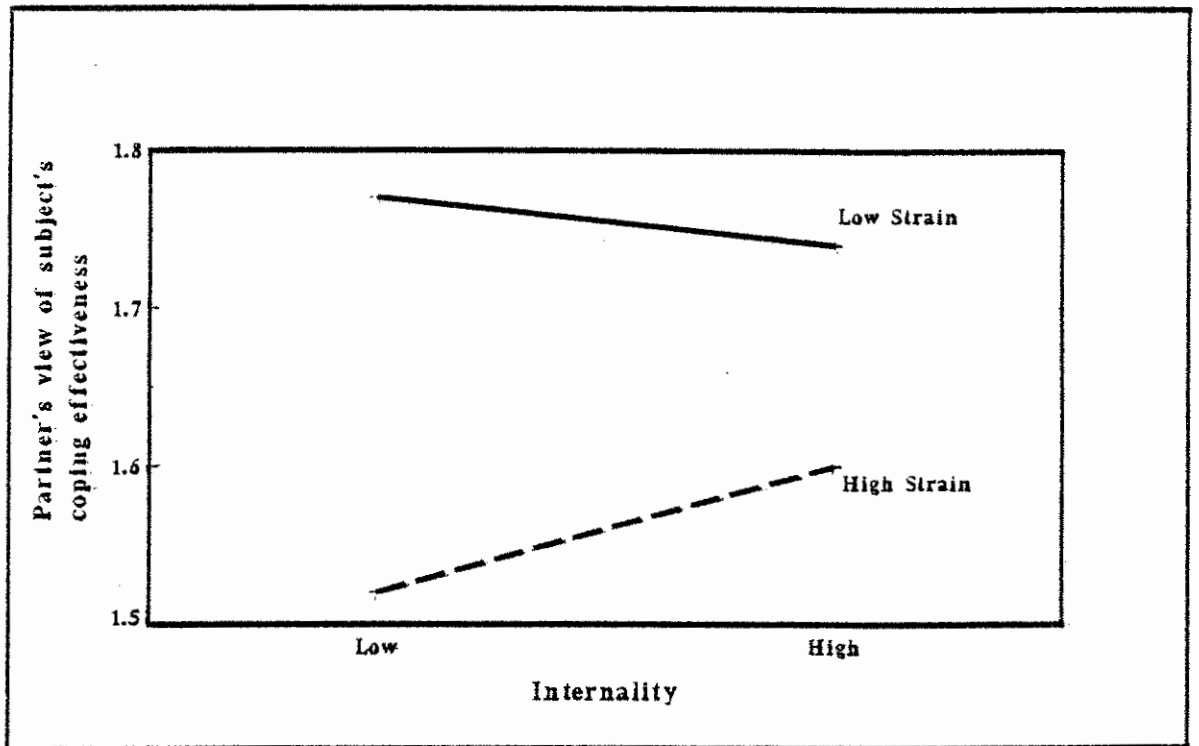
Figure 4-3. Interaction of Strain (Time 2) and Internality (Time 1) on Partner's View of Subject's Coping Effectiveness (Time 3).

Prediction of Adaptation

To test for the possibility that the predictors of strain could be significantly related to the measures of adaptation, the predictors of strain, as well as the hypothesised predictors of adaptation--strain, coping strategies, and coping resources--were entered into each regression equation. The interactive terms--between strain and the coping resources--were not entered into the

equations because of the lack of strong support in the previous analyses for their utility.

As expected, the predictors of strain were, in general, not significantly related to the measures of adaptation (see Appendix G, Tables G-2 to G-7), although there were a number of exceptions to this finding. The exceptions were, firstly, the more the event was appraised as important in the pre-natal period, the greater the likelihood that favourable post-natal ratings of own and partner's coping effectiveness would be given. Secondly, role ambiguity--as assessed at Time 1--appeared to contribute to less favourable post-event ratings of own and partner's coping effectiveness and to impair post-natal role performance. Finally, the experience of concurrent and recent stressors was a distinctive predictor of low levels of post-natal marital harmony.

Summary

In conclusion, the data provided some support for the proposed model of family stress. As predicted, the importance attributed to the event, its anticipated difficulty, the presence of role ambiguity, and the experience of recent and concurrent stressors emerged as distinctive predictors of strain. In the prediction of adaptation, there was consistent support for the expectations that high levels of post-natal strain and emotion-focussed coping would impair adapation to new

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parenthood. There was, however, only mixed support for the relevance of coping resources. This support was largely in accordance with the proposal that coping resources have direct effects on adaptation; there was little support for the alternate hypothesis that these resources buffer the negative effects of stress. Finally, the data largely confirmed the expectation that the predictors of strain and adaptation would be distinct.

CHAPTER FIVE

ANALYSIS OF NEW PARENTHOOD STUDY - COUPLE
AS UNIT OF ANALYSIS

Introduction

The results to be presented in this chapter pertain to the analysis of the new parenthood data at the couple level. Recall that an explicit goal of the present research was to assess the utility of the proposed model of family stress at the level of the family or, more specifically in this case, the level of the couple. First, the empirical treatment of the model at the couple level is discussed and, second, bivariate correlations are utilised to test the hypotheses developed in Chapter 2. Finally, regression analyses testing the overall utility of the proposed model are presented.

Empirical Treatment of the Couple Level of Analysis

As mentioned in Chapter 2, consideration of the model at the couple level involved the use of two different dimensions. These were the relative position of the couple on the scales of interest, as well as the degree of congruency between partners' scale scores.

To take each of these dimensions in turn, the relative level of the couple on each of the variables was assessed using the mean couple score. The mean score has

been utilised for this purpose in other research (Barnes &
Olson, 1985; Moos & Moos, 1976; Olson, McCubbin et al.,
1983), and is preferable to other measures of level--such
as the minimum or maximum score--because it reflects the
magnitude of both partners' scores. The minimum and
maximum scores are based on one member's score only and,
hence, fail to reflect adequately the couple's relative
position on a particular scale.

However, as Fisher et al. (1985) have pointed out,
mean scores should not be utilised alone. While they
provide an adequate representation of couples' relative
positions on different scales, they fail to detect any
differences between the contributing scores. As noted in
Chapter 2, incongruency between partners on different
predictors has been associated with (poor) marital quality
(Billings, 1979; Birchler & Webb, 1977).

In the present study, two different types of scores
were utilised to assess the degree of congruency between
marital partners' scores. Firstly, the absolute
discrepancy between partners' scores--the unweighted
discrepancy score--on each variable provided an index of
the congruency between partners. Again, the use of this
type of index has characterised other marital and family
research (Moos & Moos, 1976; Olson, McCubbin et al.,
1983). As an alternative to raw difference scores, other
researchers have utilised the correlation between

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partners' scores as a measure of congruency (e.g., Stephen & Markman, 1983). However, as Fisher et al. (1985) have pointed out, such a procedure is problematic to the extent that a high correlation between partners' scale scores may not necessarily reflect a high degree of agreement. Instead, it may simply reflect a high degree of covariation. To exemplify this point, males may score at one end of a scale whereas their partners score consistently at the middle of the scale. A correlation analysis could yield a high correlation between the two sets of scores, but it would be a function of a high degree of covariance, as opposed to agreement. For this reason, in the present research, raw difference scores, rather than correlational indices, were used as a measure of congruency.

The second index of congruency used in the present study was a weighted discrepancy score. This was for the reason that raw difference scores will be of the same magnitude wherever on the scale the difference between the scores lies. So, for instance, on a scale of 0 to 40, if the male scores 20 and the female scores 15, the discrepancy score will be five as it will be if the male scores five on the scale and the female scores zero. A case can be made for the view that a distinction should be made between similarity at the mid-point of the scale and similarity at its extremes. It is possible that it is more adaptive if couples are similar at the extremes,

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rather than at the middle, of a scale. Such a proposal cannot, however, be tested using raw difference scores.

An alternative score, that will differentiate between regions of the scale where the difference lies, is a weighted discrepancy score or, more specifically, the product between the partners' standardised scale scores. Such a score--if reverse-scored to correspond with the unweighted discrepancy score--will range from a low point where both partners score at the same extreme of the scale to a high point where partners score differently at the extremes of the scale--for instance, where the female has a high score and the male has a low score. Intermediate scores will result when partners score similarly at the middle of the scale. Because of the possibility that it is similarity at the extremes of the scale that is relevant to adaptation, rather than extent of similarity per se, weighted discrepancy scores were utilised as additional predictors in the analyses.

To summarise the previous discussion, the couple analyses were based on three different types of scores: the mean scores of the couple on each of the scales, unweighted discrepancy scores--the absolute differences between partners' scale scores--and weighted discrepancy scores--the (inverse of the) product of partners' standardised scores on the same scales.

Bivariate Correlations

Correlations of Mean and Discrepancy Scores on
Predictors with Mean Post-natal Strain

Hypothesis 12 predicted, firstly, that collective
strain would be higher if mean couple scores for the
predictors of strain were high. Data relevant to this
hypothesis are presented in Table 5-1. As expected, high
couple strain was associated with high collective
importance attributed to the event, high collective
anticipated difficulty of the event, low couple
familiarity with the event, high collective level of role
ambiguity, and a high mean score for experience of recent
and concurrent stressors. However, contrary to
predictions, the collective level of post-natal strain was
not associated with couple scores for judged
controllability of the event or the extent to which it was
well-timed.

Hypothesis 12 also predicted that the collective
level of post-natal strain would be heightened if there
was a discrepancy between partners' scores on the
hypothesised predictors of strain. The results--presented
in Table 5-1--provide no support for this prediction.
Dissimilarity between partners--whether assessed with
unweighted or weighted discrepancy scores--on the
predictors of strain did not have any significant
influence on post-natal strain.

Table 5-1

Correlations of Mean Predictor Scores and Discrepancy

Scores with Mean Post-natal (T2) Strain

Predictor	r
Importance of the event (T1)	
Mean	.16*
Discrepancy - unweighted	.03
- weighted	-.17
Judged controllability of the event (T1)	
Mean	-.04
Discrepancy - unweighted	.01
- weighted	-.09
Anticipated difficulty of the event (T1)	
Mean	.51*
Discrepancy - unweighted	-.14
- weighted	-.16
Familiarity (T1)	
Mean	-.16*
Discrepancy - unweighted	-.08
- weighted	-.01
Role ambiguity (T1)	
Mean	.27*
Discrepancy - unweighted	-.11
- weighted	-.09
(Appropriate) timing of the event (planned vs unplanned pregnancy) (T1)	
Mean	-.09
Discrepancy - unweighted	.09
- weighted	.10
Experience of recent and concurrent stressors (T3)	
Mean	.24*
Discrepancy - unweighted	-.07
- weighted	-.06

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. Maximum n = 123; ns varied slightly because of pairwise deletion of missing data.

*p < .05 (one-tailed test).

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Correlations of Mean and Discrepancy Scores on

Predictors with Mean Adaptation

Strain. It was predicted in Hypothesis 13 that
high collective strain and dissimilarity between partners'
levels of strain would impair couple adaptation.[14] The
data largely confirmed this hypothesis (see Table 5-2).
High collective scores on both the immediate and delayed
measures of adaptation were associated with high couple
levels of post-natal strain. Moreover, the presence of
dissimilarity between partners' levels of strain--as
assessed with raw difference scores--impaired collective
well-being in the immediate post-natal period and couple
view of own and partner's coping effectiveness 18 weeks
after the baby's birth. However, contrary to
expectations, dissimilarity at the extremes of the strain
scale did not influence collective adaptation.

Coping strategies. It was predicted in Hypothesis 14
that, for events with some potential for control (such as
the transition to parenthood), collective adaptation would
be facilitated by high couple levels of problem-focussed

[14]The mean score for partner's view of subject's coping
effectiveness was not utilised as a measure of collective
adaptation. This was because the item pertaining to
partner's view of subject's coping effectiveness was also
an item in the scale assessing subjective rating of own
and partner's coping effectiveness. This meant that the
mean score for the latter scale utilised the same data as
would have comprised the mean score for partner's rating
of subject's coping effectiveness.

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Table 5-2

Correlations of Mean and Discrepancy Scores for Strain with

Mean Adaptation

Predictor	Psych. well-being (T2)	Psych. well-being (T3)	Subj. view own & partner's coping effect. (T3)	Subj. rating role perf. (T3)	Marital harmony (T3)
Strain (T2)					
Mean	$-.66^*$	$-.44^*$	$-.46^*$	$-.51^*$	$-.41^*$
Discrepancy –					
unweighted	$-.25^*$	$-.11$	$-.21^*$	$-.09$	$-.10$
weighted	$.11$	$.01$	$-.07$	$-.08$	$-.07$

Note. T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. Maximum n = 123; ns varied slightly because of pairwise deletion of missing data.

$^*p$ < .05 (one-tailed test).

coping, whereas high couple levels of emotion-focussed coping would impair collective adaptation. Data relevant to this hypothesis are presented in Table 5-3. Because of the high correlations observed at the individual level between strain and both emotion- and problem-focussed coping (see p. 159), this hypothesis was tested using partial correlations where the effect of collective strain was controlled. Contrary to predictions, couple levels of problem-focussed coping did not influence

Table 5-3

Correlations of Mean and Discrepancy Scores for Coping

Strategies with Mean Adaptation

Predictor	Psych. well-being (T2)	Psych. well-being (T3)	Subj. view own & partner's coping effect. (T3)	Subj. rating role perf. (T3)	Marital harmony (T3)
Problem-focussed coping (T2)					
Mean[a]	.09	.11	.04	.03	-.09
Discrepancy -					
unweighted	-.01	-.03	-.08	.01	.05
weighted	-.17*	-.20*	-.26*	-.19*	-.15
Emotion-focussed coping (T2)					
Mean[a]	-.31*	-.31*	-.27*	-.06	-.12
Discrepancy -					
unweighted	-.26*	-.12	-.10	-.08	-.19*
weighted	-.04	.05	.00	-.06	-.07

Note. T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. Maximum n = 123; ns varied slightly because of

pairwise deletion of missing data.

[a]Correlation coefficients are partial correlations after the

effect of collective strain was controlled.

*p < .05 (one-tailed test).

collective adaptation. There was, however, some support

for the proposed effect of collective levels of emotion-

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focussed coping; collective adaptation--as assessed by immediate and delayed measures of couple well-being and mean view of own and partner's coping effectiveness--was impaired by high couple levels of emotion-focussed coping.

In relation to the effects of dissimilarity of partners' levels of problem-focussed coping strategies, it was not possible to determine a priori whether dissimilarity (or complementarity) in partners' use of these strategies would impair or facilitate adaptation. Examination of the data (using two-tailed tests) suggested that a discrepancy between partners' levels of problem-focussed coping impaired adaptation (see Table 5-3). Specifically, the unweighted difference score for problem-focussed coping was not related to collective adaptation; however, if one partner adopted extremely high levels of this type of coping and the other extremely low levels, then most facets of collective adaptation--with the exception of marital harmony--were impaired. These data are consistent with the view that a dissimilarity between partners' levels of problem-focussed coping is maladaptive. To support the complementary model, differences at the extremes of the problem-focussed coping scale should have facilitated, rather than impaired, collective adaptation.

For emotion-focussed coping, it was proposed (in Hypothesis 14) that a dissimilarity between partners' levels of this type of coping would impair collective

adaptation. Data relevant to this proposal are shown in Table 5-3. As predicted, discrepancy--assessed with raw difference scores--impaired collective well-being in the immediate post-natal period and marital harmony 18 weeks after the baby's birth. However, differences at the extremes of the emotion-focussed coping scale did not especially influence collective adaptation.

Coping resources. It was proposed in Hypothesis 15 that collective adaptation would be facilitated by high couple levels of coping resources and impaired by dissimilarity between partners' resources. To consider, first, personal resources, the data presented in Table 5-4 provide some support for the hypothesis. High collective scores on the self-esteem and morale composite scale were associated with all measures of collective adaptation, while discrepancy between partners' psychological resources--assessed with unweighted and weighted discrepancy scores--impaired most facets of collective adaptation. This was with the exception that the unweighted discrepancy score was not significantly associated with the couple's view of their own role performance.

Examination of Table 5-4 also reveals that high collective levels of internality were positively associated with post-event measures of couple well-being, but not with the other measures of adaptation. The

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Table 5-4

Correlations of Mean and Discrepancy Scores for Personal

Coping Resources with Mean Adaptation

Predictor	Psych. well-being (T2)	Psych. well-being (T3)	Subj. view own & partner's coping effect. (T3)	Subj. rating role perf. (T3)	Marital harmony (T3)
Self-esteem/morale (T1)					
Mean	.35*	.52*	.34*	.29*	.31*
Discrepancy –					
unweighted	-.30*	-.29*	-.24*	-.14	-.23*
weighted	-.23*	-.18*	-.32*	-.19*	-.27*
Internality (vs externality) (T1)					
Mean	.23*	.28*	.05	.12	.07
Discrepancy –					
unweighted	.06	.10	.10	.06	.13
weighted	.23**	.20**	.23**	.11	.20**

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. Maximum n = 123; ns varied slightly because of
pairwise deletion of missing data.

*p < .05 (one-tailed test).

**p < .05 (two-tailed test).

absolute difference between partners' internality scores
did not influence collective adaptation; however, contrary

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to predictions, if one partner was highly internal and the other was highly external, couple adaptation was generally facilitated--except for the couple's subjective view of their own role performance.

In relation to marital resources--particularly for affective marital resources and marital consensus--the data generally supported the prediction that high couple scores on marital resources would be associated with high collective adaptation (see Table 5-5). There was little support, however, for the hypothesised effect of dissimilarity between partners' ratings of marital resources on collective adaptation. This was with the exception that differences at the extremes of the flexibility scale impaired collective adaptation--as assessed with the post-natal measure of subjective view of own and partner's coping effectiveness. There were also two unexpected findings: Dissimilarity at the extremes of the affective marital resources scale appeared to facilitate, rather than impair, the Time 3 measures of collective well-being and the couple's view of their post-natal role performance.

Finally, the data shown in Table 5-6 largely fail to confirm the prediction that high couple scores on the social support scales would be associated with high couple adaptation. This was with the exception that the mean score for amount of contact with family was positively associated with mean psychological well-being 18 weeks

Table 5-5

<u>Correlations of Mean and Discrepancy Scores for Marital</u>

<u>Resources with Mean Adaptation</u>

Predictor	Psych. well-being (T2)	Psych. well-being (T3)	Subj. view own & partner's coping effect. (T3)	Subj. rating role perf. (T3)	Marital harmony (T3)
<u>Affective marital resources (T1)</u>					
Mean	.28*	.33*	.37*	.11	.16*
Discrepancy –					
unweighted	.06	.08	-.11	.14	.12
weighted	.20	.24**	.12	.21**	.10
<u>Marital flexibility (T1)</u>					
Mean	.05	.16*	.18*	.13	.02
Discrepancy –					
unweighted	-.05	-.07	-.12	.06	-.05
weighted	-.14	-.14	-.16*	.01	-.12
<u>Marital consensus (T1)</u>					
Mean	.12	.21*	.15	.17*	.17*
Discrepancy –					
unweighted	.14	.08	-.12	.12	.05
weighted	.08	.06	-.01	.17	.00

<u>Note</u>. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

<u>Note</u>. Maximum n = 123; ns varied slightly because of pairwise deletion of missing data.

*p < .05 (one-tailed test); **p < .05 (two-tailed test).

to predictions, if one partner was highly internal and the other was highly external, couple adaptation was generally facilitated--except for the couple's subjective view of their own role performance.

In relation to marital resources--particularly for affective marital resources and marital consensus--the data generally supported the prediction that high couple scores on marital resources would be associated with high collective adaptation (see Table 5-5). There was little support, however, for the hypothesised effect of dissimilarity between partners' ratings of marital resources on collective adaptation. This was with the exception that differences at the extremes of the flexibility scale impaired collective adaptation--as assessed with the post-natal measure of subjective view of own and partner's coping effectiveness. There were also two unexpected findings: Dissimilarity at the extremes of the affective marital resources scale appeared to facilitate, rather than impair, the Time 3 measures of collective well-being and the couple's view of their post-natal role performance.

Finally, the data shown in Table 5-6 largely fail to confirm the prediction that high couple scores on the social support scales would be associated with high couple adaptation. In terms of the hypothesised effects of

of dissimilarity between partners, there was no support
for the expectation that discrepancy scores--both weighted
and unweighted--for the social support scales
would impair collective adaptation (see Table 5-6).
The significant correlations shown on Table 5-6 can be
considered as Type I errors, given the large number of
correlations computed.

Multiple Regression Analyses

As with individual scores, regression analyses were
performed on couple scores, firstly, for the prediction of
strain and, secondly, for the prediction of adaptation.
Because the individual data confirmed the expectation of
distinct sets of predictors for strain and adaptation,
this hypothesis was not examined at the couple level.

Mean scores on each of the measures of outcome--
strain and adaptation--served as dependent variables in
the couple analyses. This was for the reason, mentioned
previously, that the mean couple score provides an index
of the couples' relative position on the scale of
interest. For each dependent variable, separate analyses
were performed using mean and unweighted discrepancy
scores as predictors in one instance, and mean and
weighted discrepancy scores as predictors in the other
instance. This procedure was adopted for two reasons.

First, because of the large number of scores calculated for each couple--mean, difference, and product--it was considered preferable to limit the number of predictors utilised in any one analysis. Second, as the difference and product scores (unweighted and weighted discrepancy scores) were essentially indices of the same dimension, namely, degree of congruency between partners' scores, their utility was assessed separately. If both weighted and unweighted discrepancy scores emerged as significant predictors, a third analysis was performed. This analysis combined the significant predictors from the two former analyses into a single analysis with the aim of establishing the joint relevance of the three sets of predictors. Because of the exploratory nature of the analyses, and the large number of variables--mean and weighted discrepancy or mean and unweighted discrepancy--considered at any one time, the predictors in each of the analyses were subject to stepwise selection, and two-tailed tests were used to test for the significance of the beta weights.

Prediction of Strain

Each of the analyses predicting strain utilised the hypothesised predictors as independent variables. The proposed interaction effect--between generalised control beliefs and role clarity--was not examined empirically because of the lack of confirmation for the proposal in the individual analyses.

The first analysis utilised mean and unweighted discrepancy scores--raw difference--as predictors. As is evident from Table 5-7, both the mean and discrepancy

Table 5-7

Regression Analysis Predicting Mean Couple Strain (T2) from Mean and Unweighted Discrepancy Scores

Measure	Beta
Mean - anticipated difficulty of the event (T1)	.44
Mean - role ambiguity (T1)	.18
Mean - experience of recent and concurrent stressors (T3)	.19
Discrepancy - anticipated difficulty of the event (T1)	-.16
R	.58
Adj. R^2	.32

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 123; regression analysis based on mean substitution of missing data.

Note. All betas from stepwise analysis significant at p < .05 (two-tailed test).

scores for the anticipated difficulty of the event emerged as significant predictors of couple strain. As expected,

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couple strain was heightened if the collective level of anticipated difficulty of the event was high. However, contrary to expectations, couple strain was lessened, rather than heightened, if there was a high discrepancy between partners' anticipation of the difficulty of the event. Couple strain was also lessened if the collective levels of role ambiguity--as assessed pre-natally--and experience of concurrent and recent stressors were low. Overall, the set of significant predictors accounted for 32% of the variance in the dependent variable.

When mean and weighted discrepancy scores--products-- were used as predictors, there was no instance in which a discrepancy score emerged as a significant predictor of post-natal strain. As is shown in Table 5-8, high couple strain was associated with high mean levels of anticipated difficulty of the event, high couple role ambiguity, and high collective experience of recent and concurrent stressors. This set of predictors accounted for 30% of the variance in the dependent variable.

An additional analysis of the data using the significant predictors from the two former analyses was not performed because of the lack of empirical support for the utility of any of the weighted discrepancy scores. Given that the model utilising mean and unweighted discrepancy scores as predictors explained more of the

Table 5-8

Regression Analysis Predicting Mean Couple Strain (T2) from Mean and Weighted Discrepancy Scores

Measure	Beta
Mean - anticipated difficulty of the event (T1)	.44
Mean - role ambiguity (T1)	.19
Mean - experience of recent and concurrent stressors (T3)	.19
R	.56
Adj. R^2	.30

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 123; regression analysis based on mean substitution of missing data.

Note. All betas from stepwise analysis significant at p < .05 (two-tailed test).

variance in couple strain, results from this analysis formed the basis for interpretation of the data.

Prediction of Adaptation

A separate regression analysis was performed for each of the measures of adaptation. When the dependent variable was a measure of psychological well-being, the mean Time 1 well-being score was entered first into the

equation. The mean scores for the predictors of
adaptation--strain, coping strategies, and resources--and
all of the discrepancy (unweighted or weighted) scores
were then subject to stepwise selection. The buffering
hypothesis (utilising interaction terms) was not examined
at the couple level, because of the lack of support for
its utility at the individual level.

Analysis of immediate outcome data - psychological
well-being. Results of the regression equation where the
immediate measure of couple well-being was the dependent
variable, and mean and unweighted discrepancy scores
served as independent variables, are presented in Table
5-9. In addition to the significant relationship between
initial and subsequent couple well-being, high couple
levels of strain and emotion-focussed coping emerged as
distinctive predictors of low collective scores on a
concurrent measure of psychological well-being.
Dissimilarity between partners' scores on the self-
esteem/morale and the qualitative support scales also
impaired couple levels of post-natal well-being. The
model accounted for 58% of the variance in the dependent
variable.

Results of the analysis when the mean and weighted
discrepancy scores were used as predictors of
psychological well-being (Time 2) are presented in Table
5-10. As is evident from this table, high couple well-

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Table 5-9

Regression Analysis Predicting Mean Couple Well-being (T2)

from Mean and Unweighted Discrepancy Scores

Measure	Beta
Mean - psychological well-being (T1)	.26
Mean - strain (T2)	-.48
Mean - emotion-focussed coping (T2)	-.17
Discrepancy - self-esteem/morale (T1)	-.14
Discrepancy - qualitative social support (T1)	-.13
R	.77
Adj. R^2	.58

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 123; regression analysis based on mean substitution of missing data.

Note. All betas from stepwise analysis significant at p < .05 (two-tailed test).

being in the immediate post-natal period was associated distinctively with high couple well-being at Time 1 and low concurrent levels of couple strain and emotion-focussed coping (adjusted R^2 = .55). Also noteworthy is the fact that none of the product terms emerged as predictors. For this reason, an additional analysis using

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Table 5-10

Regression Analysis Predicting Mean Couple Well-being (T2)
from Mean and Weighted Discrepancy Scores

Measure	Beta
Mean - psychological well-being (T1)	.29
Mean - strain (T2)	-.48
Mean - emotion-focussed coping (T2)	-.19
R	.75
Adj. R^2	.55

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. N = 123; regression analysis based on mean
substitution of missing data.

Note. All betas from stepwise analysis significant at $p <$
.05 (two-tailed test).

the significant predictors from the two former analyses as
independent variables was not performed. The results of
the analysis using mean and unweighted discrepancy scores
as predictors formed the basis for subsequent discussion
of the results. This was because it explained more of the
variance in the dependent variable than the model based on
mean and weighted discrepancy scores.

Analyses of delayed outcome data - psychological
well-being. The results of the analysis predicting Time 3
couple well-being scores from mean and unweighted
discrepancy scores are presented in Table 5-11. As
expected, there was a significant temporal relationship
between the pre-natal and the delayed post-natal measures
of collective well-being. In addition to this finding,
high couple levels of strain and emotion-focussed coping
in the immediate post-natal period impaired collective
well-being 18 weeks after the baby's birth, as did low
couple levels of self-esteem and morale. Couple
dissimilarity in their qualitative ratings of social
support also contributed to low couple well-being 18 weeks
after the baby's birth. Overall, the model accounted for
51% of the variance in the dependent variable.

The analysis predicting Time 3 couple well-being
scores from mean and weighted discrepancy scores yielded
similar results to the previous analysis (see Table 5-12).
Mean well-being at Time 1, mean levels of strain and
emotion-focussed coping, and mean scores on the self-
esteem/morale composite scale emerged as distinctive
predictors of the dependent variable. Additionally, high
collective levels of problem-focussed coping in the
immediate post-natal period facilitated subsequent couple
well-being. There were no instances where weighted
discrepancy scores emerged as significant predictors of
the dependent variable. For this reason, no further

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Table 5-11

<u>Regression Analysis Predicting Mean Couple Well-being (T3)</u>

<u>from Mean and Unweighted Discrepancy Scores</u>

Measure	Beta
Mean - psychological well-being (T1)	.39
Mean - strain (T2)	-.17
Mean - emotion-focussed coping (T2)	-.19
Mean - self-esteem/morale (T1)	.21
Discrepancy - qualitative social support (T1)	-.14
R	.73
Adj. R^2	.51

<u>Note</u>. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

<u>Note</u>. N = 123; regression analysis based on mean substitution of missing data.

<u>Note</u>. All betas from stepwise analysis significant at $p <$ .05 (two-tailed test).

analyses of the data were performed. The results of the analysis utilising the mean and unweighted discrepancy scores formed the basis for subsequent interpretation of the data. This was because it accounted for slightly more of the variance than the analysis utilising mean and weighted discrepancy scores as predictors.

Table 5-12

Regression Analysis Predicting Mean Couple Well-being (T3) from Mean and Weighted Discrepancy Scores

Measure	Beta
Mean - psychological well-being (T1)	.41
Mean - strain (T2)	-.24
Mean - emotion-focussed coping (T2)	-.23
Mean - self-esteem/morale (T1)	.18
Mean - problem-focussed coping (T2)	.16
R	.73
Adj. R^2	.50

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 123; regression analysis based on mean substitution of missing data.

Note. All betas from stepwise analysis significant at p < .05 (two-tailed test).

Analyses of delayed outcome data - subjective view of own and partner's coping effectiveness. The results of the regression analysis predicting mean ratings of own and partner's coping effectiveness from mean and unweighted discrepancy scores are presented in Table 5-13. It is noteworthy that none of the discrepancy scores emerged as

Table 5-13

Regression Analysis Predicting Mean Subjective View of Own
and Partner's Coping Effectiveness (T3) from Mean and
Unweighted Discrepancy Scores

Measure	Beta
Mean – strain (T2)	-.29
Mean – emotion-focussed coping (T2)	-.23
Mean – affective marital resources (T1)	.27
R	.58
Adj. R^2	.31

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. N = 123; regression analysis based on mean
substitution of missing data.

Note. All betas from stepwise analysis significant at p <
.05 (two-tailed test).

significant predictors. Couples had a more favourable
view of how they and their partner coped with new
parenthood if they experienced low levels of strain and
employed low levels of emotion-focussed coping in the
immediate post-natal period. High couple ratings of
affective marital resources--as assessed pre-natally--also
emerged as a distinctive predictor of favourable

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collective ratings of own and partner's coping effectiveness. Overall, the model accounted for 31% of the variance in the dependent variable.

Mean and product (weighted discrepancy) scores accounted for 35% of the variance in mean subjective ratings of own and partner's coping effectiveness (see Table 5-14). Mean ratings were less favourable if the couple experienced high strain and adopted high levels of emotion-focussed coping in the immediate post-natal period, and if they had low affective marital resources. Dissimilarity between partners at the extremes of the self-esteem/morale composite scale also emerged as a distinctive predictor of low couple ratings of their effectiveness in coping with parenthood. This finding is graphically presented in Figure 5-1. Inspection of the figure reveals that higher mean ratings of own and partner's coping effectiveness were given if both partners had high scores on the self-esteem/morale scale.

Additional analyses of the mean couple ratings of own and partner's coping effectiveness were not undertaken because of the lack of statistical support for the relevance of any of the unweighted discrepancy scores. The model based on mean and weighted discrepancy (product)

Table 5-14

Regression Analysis Predicting Mean Subjective View of Own
and Partner's Coping Effectiveness (T3) from Mean and
Weighted Discrepancy Scores

Measure	Beta
Mean - strain (T2)	-.20
Mean - emotion focussed coping (T2)	-.30
Mean - affective marital resources (T1)	.24
Weighted discrepancy - self-esteem/ morale (T1)	-.22
R	.61
Adj. R^2	.35

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. N = 123; regression analysis based on mean
substitution of missing data.

Note. All betas from stepwise analysis significant at p <
.05 (two-tailed test).

scores was adopted for subsequent interpretation of the
data because, in comparison to the model based on mean and
unweighted discrepancy scores, it accounted for more of
the variance in the dependent variable.

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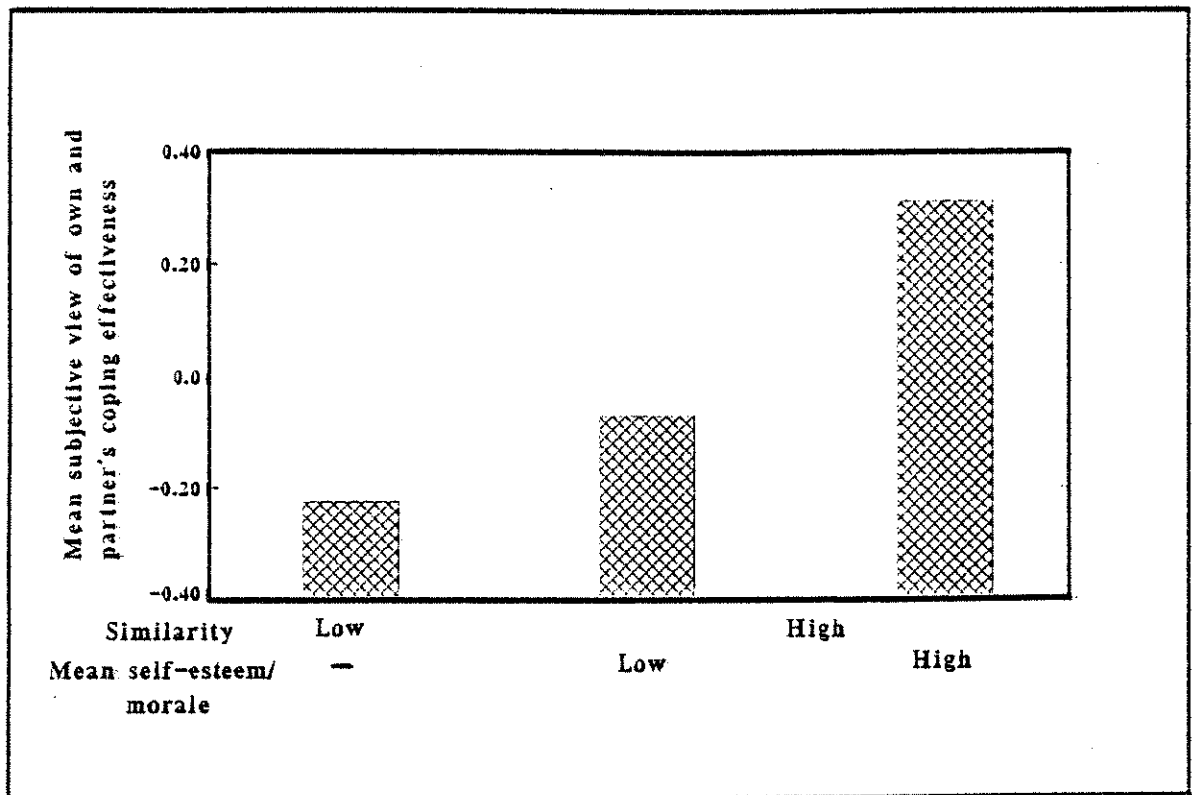
Figure 5-1. Effect of Similarity at the Extremes of the
Self-esteem/morale on Mean View of Own and Partner's
Coping Effectiveness.

Analyses of delayed outcome data - subjective ratings
of role performance. When mean and unweighted discrepancy
scores were used as predictors, the model accounted for
25% of the variance in mean subjective ratings of role
performance. Favourable mean couple ratings of own role
performance were distinctively associated with high couple
strain at Time 2 and high mean scores on the self-
esteem/morale scale (see Table 5-15). Also noteworthy is
the lack of empirical support for the relevance of any of

Table 5-15

Regression Analysis Predicting Mean Subjective View of Own
Role Performance (T3) from Mean and Unweighted Discrepancy
Scores

Measure	Beta
Mean - strain (T2)	-.45
Mean - self-esteem/morale (T1)	.17
R	.51
Adj. R^2	.25

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. N = 123; regression analysis based on mean
substitution of missing data.

Note. All betas from stepwise analysis significant at $p <$
.05 (two-tailed test).

the discrepancy scores as predictors of mean couple
ratings of post-natal role performance.

The analysis predicting couple ratings of role
performance from mean and weighted discrepancy scores
yielded the same results as the previous analysis. There
was no statistical support for the relevance of any of the
product terms.

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Analyses of delayed outcome data - marital harmony.
Using mean and unweighted discrepancy scores as
predictors, mean ratings of marital harmony 18 weeks after
the baby's birth were higher if the couples experienced
low levels of strain in the immediate post-natal period
and utilised low levels of emotion-focussed coping (see
Table 5-16). An additional distinctive predictor of
collective post-natal marital harmony was the couple's
mean pre-natal score on the self-esteem/morale composite
scale. The higher the couple score on this variable in
the pre-natal period, the higher their subsequent marital
harmony. This set of predictors accounted for 21% of the
variance in the dependent variable. It is noteworthy that
no unweighted discrepancy scores emerged as distinctive
predictors of mean marital harmony.

The analysis using mean and weighted discrepancy
terms as predictors explained 23% of the variance in mean
marital harmony scores (see Table 5-17). Again, high
couple strain and emotion-focussed coping at Time 2
emerged as distinctive predictors of low couple marital
harmony at Time 3, as did high pre-natal levels of couple
self-esteem and morale. Additionally, dissimilarity at the
extremes of partners' ratings on the self-esteem/morale
scale emerged as a significant predictor of the dependent
variable. Inspection of Figure 5-2 reveals that couple

Table 5-16

Regression Analysis Predicting Mean Marital Harmony (T3)

from Mean and Unweighted Discrepancy Scores

Measure	Beta
Mean - strain (T2)	-.24
Mean - emotion-focussed coping (T2)	-.20
Mean - self-esteem/morale (T1)	.17
R	.48
Adj. R^2	.21

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 123; regression analysis based on mean substitution of missing data.

Note. All betas from stepwise analysis significant at $p <$ .05 (two-tailed test).

ratings of marital harmony were higher if both partners had high scores on the self-esteem/morale scale.

Because of the lack of support for the utility of unweighted discrepancy scores as predictors of mean marital harmony, further analyses of the data were not

Table 5-17

Regression Analysis Predicting Mean Marital Harmony (T3)
from Mean and Weighted Discrepancy Scores

Measure	Beta
Mean - strain (T2)	-.18
Mean - emotion-focussed coping (T2)	-.30
Mean - self-esteem/morale (T1)	.15
Weighted discrepancy - self-esteem/ morale (T1)	-.19
R	.51
Adj. R^2	.23

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. N = 123; regression analysis based on mean
substitution of missing data.

Note. All betas from stepwise analysis significant at $p <$
.05 (two-tailed test).

performed. The model utilising mean and weighted
discrepancy scores as predictors formed the basis for
subsequent discussion of the data. This was because it
accounted for more of the variance in the dependent
variable than the analysis utilising mean and unweighted
discrepancy scores as predictors.

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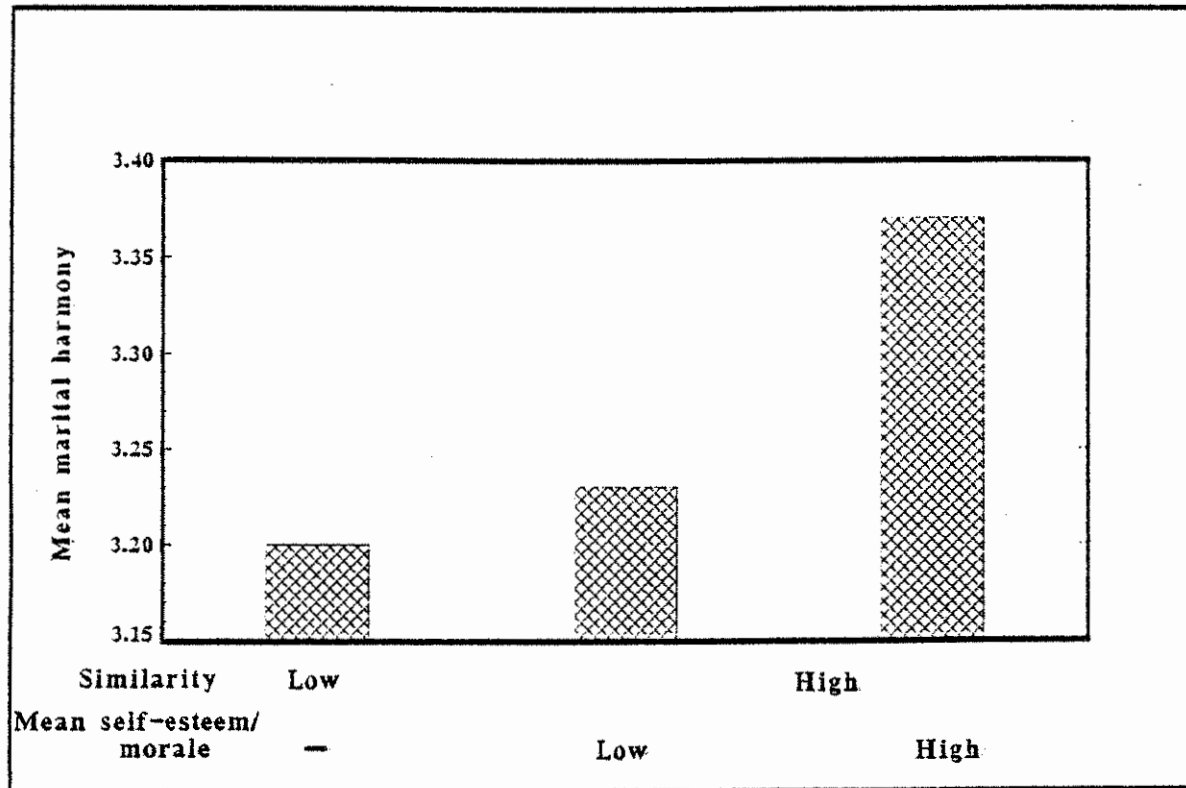
Figure 5-2. Effect of Similarity at the Extremes of Self-esteem/morale on Mean Marital Harmony.

Summary

In summary, the present chapter considered the transition to parenthood using the couple as the unit of analysis. It was proposed that both mean couple scores on the independent variables and discrepancy scores on these same variables would be relevant to the prediction of collective outcome. The data provided some support for this proposal, although the weight of evidence was in support of the utility of mean scores, rather than discrepancy scores. The data linking mean couple scores

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to collective strain and adaptation largely replicated
those obtained when the individual marital partner was the
unit of analysis.

CHAPTER SIX

COMPARISON OF RESULTS FROM NEW PARENT

AND HEART ATTACK STUDIES

Introduction

The transition to parenthood provides an example of a normative--expected and generally anticipated--stressor. An additional study of a non-normative stressor involving heart attack patients and their spouses was undertaken, with the aim of replicating results obtained from the new parents. For this reason, the data obtained from the heart attack sample were not used to examine directly the hypotheses derived from the proposed model of family stress; instead, they were used only to test the generality of results obtained from the new parents. The present chapter compares the data obtained from the two studies, treating first individuals, then couples, as units of analysis.

Data Analysis Procedure

Because of the small size of the heart attack sample--40 patients and their partners--the comparison between the two studies was made on the basis of bivariate correlations. It was not, however, possible to assess the overall similarity between patterns of correlations obtained from the heart attack and new parent samples. This was because of the small number of correlates on

which to base such a comparison. Instead, to assess the
degree of similarity between the data sets, significance
tests were computed on the differences between
corresponding correlation coefficients from independent
samples, based on Fisher's z-transformation of r. The
majority of comparisons were made on the basis of two-
tailed tests, given that it was hypothesised--with the
exception of the effects of judged controllability of the
event on strain--that there would be no differences
between the two samples. Because of the small size of the
heart attack sample, this test had low power and, hence,
it is necessary to interpret the results of the comparison
between new parent and heart attack samples with caution.

Outcome measures were comparable in the two samples,
with three exceptions: First, subjective stressfulness of
difficulties associated with the event was not measured
directly in the heart attack study (it seemed
inappropriate under the circumstances); instead, a scale
score based on the items common to both studies--
pertaining to the person's subjective rating of the
stressfulness of the event as a totality--was used as a
measure of strain for comparison. The second difference
between the outcome measures utilised in the two studies
concerned the immediate measure of psychological well-
being (obtained at Time 1 of the heart attack study and
Time 2 of the new parent study). Only a single measure of

psychological well-being--the measure of state anxiety[15]--
was administered to the patients and their spouses
immediately after the heart attack. Again, only those
items common to both studies (in this case the items
comprising the measure of state anxiety) were used for
comparison. A final difference between the outcome
measures used in the two studies was that, because of its
dubious relevance as a facet of adaptation in the context
of a heart attack, marital harmony was not assessed as an
outcome variable in the latter study.

Individual Analyses

Correlation coefficients were computed separately for
the patients and their spouses. This is in contrast to
the new parenthood study where, for the purposes of data
analysis at the individual level, the males and females
were pooled--after empirical verification of the similarity
of the correlations for the two sexes--into a single
sample. Such a procedure was considered reasonable given
that both partners in the new parenthood study had
experienced comparable stressors to the extent that they
had both experienced the birth of their first child. Such
an argument, however, cannot be sustained in the context
of a heart attack; one partner is the patient and, therefore,
experiences directly the impact of a life-threatening

[15]To ensure comparability between the immediate measures
of state anxiety, scores for the new parenthood study were
based on the same items that comprised the scale for the
heart attack sample (see Footnote 8; p. 146).

illness, whereas the other experiences a different stressor, namely, the threat of losing a loved one. Given the different types of stressors experienced by the patients and their spouses in the heart attack sample, they were not pooled into a single group, but instead compared separately with the new parents.

Comparison between the patients and their spouses was not performed. This was because the rationale for the heart attack study was to assess the generality of results obtained from the new parents, rather than to study directly the experience of heart attack patients and their spouses.

Prediction of Strain

In terms of the hypothesised predictors of strain, there were five variables common to both the new parenthood and heart attack studies. These were familiarity with the event, anticipated difficulty of the event, judged controllability of the event, experience of recent and concurrent stressors, and (appropriate) timing of the event.[16] It was expected that the relationships of these variables with strain would be similar for the two samples. This was with the exception that, because

[16]The degree to which the event was appropriately timed was assessed in the heart attack study as the patient's age, and for the new parents, as the plannedness of the pregnancy.

appraisal of situational controllability has been found to heighten strain in medical contexts, it was proposed that the correlation between judged controllability of the event and strain would be significantly more positive in the heart attack sample than among the new parents.

As is evident from Table 6-1, the comparison of the correlates of strain for the two samples was largely as expected. Firstly, the fact that the correlation between appraisal of the event's controllability and strain was significantly more positive for the heart attack patients than for the new parents confirmed expectations, although the lack of a difference between the correlations for the spouses of the patients and the new parents was unexpected. Second, as predicted, the correlations of strain with familiarity, anticipated difficulty of the event, and the experience of recent and concurrent stressors were similar for the two samples. However, contrary to predictions, there was a significantly greater negative relationship between appropriate timing of the event and strain among patients than among new parents. Post hoc analysis of the data revealed that, while the appropriateness of the timing of the event did not influence the level of strain experienced by new parents, strain was heightened for younger patients--that is, if its timing was inappropriate ($p < .05$; two-tailed test).

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Table 6-1

Correlations of Predictors with Strain for New Parents,

Heart Attack Patients, and their Spouses

Predictor	New parents	Heart attack patients	Heart attack spouses
Maximum n^a	246	40	40
Judged controllability of the event	-.04	.44**	.16
Anticipated difficulty of the event	.32	.22	.14
Familiarity	-.17	-.32	-.29
(Appropriate) timing of the event	-.02	-.49*	-.29
Experience of recent and concurrent stressors	.00	.04	.30

[a]Ns varied slightly because of pairwise deletion of missing data.

*Correlation significantly different from the new parents (p < .05; two-tailed test).

**Correlation significantly different from the new parents (p < .05; one-tailed test).

Prediction of Adaptation

Analysis of immediate outcome data - psychological well-being. Inspection of Table 6-2 reveals that the pattern of correlations between the hypothesised predictors of adaptation and the immediate post-event

Table 6-2

Correlations of Predictors with the Immediate Measure of
Well-being for New Parents, Heart Attack Patients, and
their Spouses

Predictor	New parents	Heart attack patients	Heart attack spouses
Maximum n^a	246	40	40
Strain	-.28	-.32	-.20
Emotion-focussed coping	-.53	-.42	-.40
Problem-focussed coping	-.28	-.21	-.30
Internality (vs externality)	.21	.11	.17
Self-esteem/morale	.36	.20	.32
Affective marital resources	.20	-.15	.24
Marital flexibility	.05	-.08	.16
Marital consensus	.11	.09	.41
Contact with family	.04	.20	-.24
Contact with non-family	.08	.28	-.13
Qualitative social support	.13	.17	-.20

[a]$\underline{N}$s varied slightly because of pairwise deletion of
missing data.

measure of psychological well-being (four weeks post-natal
- new parents; approximately two weeks post-infarct -
heart attack study) was similar for the patients and their
spouses in comparison with the new parents.

Analyses of delayed outcome data - psychological
well-being. The similarity between the data from the
heart attack and new parent samples obtained in the
analysis of the immediate psychological well-being scores
was also evident in the analysis of the comparable delayed
measure of adaptation (18 weeks post-natal - new parents;
10 weeks post-infarct - heart attack study). As is
evident from Table 6-3, there was only one significant
difference between the correlations in the new parent
sample and those in the patient and spouse samples.
Specifically, there was a significantly greater positive
relationship between amount of contact with non-family
network members and well-being among patients than among
new parents. It was revealed on post hoc analysis of the
data that frequency of contact with non-family was
positively associated with the delayed measure of
psychological well-being for the heart attack patients (p
< .05; two-tailed test); however, the relationship was
weak and nonsignificant for the parents.

Analyses of delayed outcome data - subjective view of
own and partner's coping effectiveness. Examination of
Table 6-4 reveals that the pattern of correlations between
the predictors of adaptation and subjective view of own
and partner's coping effectiveness were similar for the
heart attack patients and the new parents. However, there
were a number of significant differences for the
comparison between spouses and parents.

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Table 6-3

Correlations of Predictors with the Delayed Measure of
Well-being for New Parents, Heart Attack Patients, and
their Spouses

Predictor	New parents	Heart attack patients	Heart attack spouses
Maximum $\underline{n}$[a]	246	40	40
Strain	-.16	-.19	-.08
Emotion-focussed coping	-.39	-.11	-.36
Problem-focussed coping	-.16	-.15	-.23
Internality (vs externality)	.22	-.04	.23
Self-esteem/morale	.42	.39	.38
Affective marital resources	.29	.18	.51
Marital flexibility	.13	.11	.36
Marital consensus	.21	.30	.46
Contact with family	.11	.18	.09
Contact with non-family	.04	.54[*]	.04
Qualitative social support	.07	.24	.00

[a]$\underline{N}$s varied slightly because of pairwise deletion of
missing data.

[*]Correlation significantly different from the new parents ($\underline{p}$
< .05; two-tailed test).

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Table 6-4

Correlations of Predictors with Subjective View of Own and
Partner's Coping Effectiveness for New Parents, Heart
Attack Patients, and their Spouses

Predictor	New parents	Heart attack patients	Heart attack spouses
Maximum $\underline{n}^a$	246	40	40
Strain	-.32	-.08	.12[*]
Emotion-focussed coping	-.37	-.11	-.12
Problem-focussed coping	-.18	-.22	.06
Internality (vs externality)	.01	.02	.14
Self-esteem/morale	.30	.40	.26
Affective marital resources	.33	.41	.63[*]
Marital flexibility	.12	.30	.31
Marital consensus	.12	.38	.60[*]
Contact with family	.11	-.12	-.09
Contact with non-family	.05	.31	.12
Qualitative social support	-.03	-.03	-.17

[a]$\underline{N}$s varied slightly because of pairwise deletion of
missing data.

[*]Correlation significantly different from the new parents ($\underline{p}$
< .05; two-tailed test).

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Firstly, the correlations between the outcome and both affective marital resources and marital consensus were significantly greater--in the positive direction--for spouses in comparison with the new parents. More favourable views of own and partner's coping effectiveness were associated with high marital resources and consensus for both samples ($p < .05$; two-tailed test); however, the extent of the relationship was significantly higher for the spouses than the parents. Secondly, among spouses of heart attack patients, the relationship between strain and subjective view of own and partner's coping effectiveness was significantly more positive than among new parents. Post hoc analyses revealed that, while the two variables were correlated for the parents ($p < .05$; two-tailed test), they were not for the spouses.

Analyses of delayed outcome data - partner's view of subject's coping effectiveness. The correlations between the predictors of adaptation and partner's view of subject's coping effectiveness are presented in Table 6-5. As is evident from this table, there were a number of significant differences between the heart attack and new parent samples.

The comparison between the patient and parent samples yielded two significant differences. There was a significantly greater positive relationship between emotion-focussed coping and partner's view of coping

Table 6-5

Correlations of Predictors with Partner's View of

Subject's Coping Effectiveness for New Parents, Heart

Attack Patients, and their Spouses

Predictor	New parents	Heart attack patients	Heart attack spouses
Maximum n^a	246	40	40
Strain	-.20	.08	.12
Emotion-focussed coping	-.26	.35[*]	.08
Problem-focussed coping	-.11	.18	.13
Internality (vs externality)	.06	-.03	-.23
Self-esteem/morale	.18	.34	.14
Affective marital resources	.22	.46	.09
Marital flexibility	.11	.36	.15
Marital consensus	.11	.39	.13
Contact with family	.05	-.25	-.40[*]
Contact with non-family	-.02	.36[*]	.07
Qualitative social support	.00	.02	-.12

[a]$\underline{N}$s varied slightly because of pairwise deletion of missing data.

[*]Correlation significantly different from the new parents ($\underline{p}$ < .05; two-tailed test).

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effectiveness among heart attack patients than among new parents. For the heart attack patients, emotion-focussed coping was positively associated with partner's rating of coping effectiveness ($p < .05$; two-tailed test), while in the new parent sample there was a significant negative association between the variables ($p < .05$; two-tailed test). There was also a significantly greater positive relationship between amount of contact with non-family and partner's view of subject's coping effectiveness among patients than among new parents. It was evident from post hoc analysis of the data that frequency of contact with non-family was positively related to adaptation for the heart attack patients (two-tailed test, $p < .05$), which was not the case for the new parents.

Among spouses of the heart attack patients, the correlation of amount of contact with relatives and partner's view of subjects' coping effectiveness was significantly lower than among new parents. Further analysis of this finding revealed that patients tended to give their spouses a high rating of coping effectiveness if they had minimal contact with their family ($p < .05$; two-tailed test), while the variables were uncorrelated for parents.

Analyses of delayed outcome data - subjective rating of role performance. Correlations between the predictors of adaptation and subjective rating of role performance

for the new parents, heart attack patients, and partners
are presented in Table 6-6. As is evident from this
table, there were no significant differences between the
correlations obtained for the new parents and either the
patients or their spouses.

Couple Analyses

Comparison of the heart attack and new parent samples
was also performed with the couple as the unit of
analysis. Mean couple scores were utilised as these
scores provided indices comparable to the individual scale
scores.

Prediction of Strain

In prediction of strain, the couple analyses yielded
data similar to those from the individual analyses (see
Table 6-7). As expected, the correlation between the mean
couple view of the event's controllability and mean strain
was significantly more positive in the heart attack sample
than among the new parents. Also as expected, the
correlations of mean couple strain with mean anticipated
difficulty of the event, mean familiarity, and couple
experience of recent and concurrent stressors were similar
for the two samples. However, contrary to expectations,
the appropriateness of the timing of the event had a
significantly greater negative relationship with couple
strain in the heart attack sample than among the new

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Table 6-6

Correlations Between Predictors and Subjective Rating of

Role Performance for New Parents, Heart Attack Patients,

and their Spouses

Predictor	New parents	Heart attack patients	Heart attack spouses
Maximum n^a	246	40	40
Strain	-.30	-.14	-.12
Emotion-focussed coping	-.35	-.03	-.09
Problem-focussed coping	-.26	-.18	-.06
Internality (vs externality)	.11	.18	.26
Self-esteem/morale	.25	.29	.07
Affective marital resources	.11	.10	.09
Marital flexibility	.11	.19	.16
Marital consensus	.13	.22	.21
Contact with family	.05	.09	-.09
Contact with non-family	.06	.33	.22
Qualitative social support	-.01	.34	.24

[a]Ns varied slightly because of pairwise deletion of missing data.

Table 6-7

Correlations of Mean Couple Scores on Predictors with

Couple Strain for New Parent and Heart Attack Samples

Predictor	New parents	Heart attack sample
Maximum $\underline{n}^a$	123	40
Judged controllability of the event	-.26	.40**
Anticipated difficulty of the event	.43	.19
Familiarity	.23	.39
(Appropriate) timing of the event	-.01	-.44*
Experience of recent and concurrent stressors	-.01	.27

[a]$\underline{N}$s varied slightly because of pairwise deletion of missing data.

*Correlation significantly different from the new parents ($\underline{p} < .05$; two-tailed test).

**Correlation significantly different from the new parents ($\underline{p} < .05$; one-tailed test).

parents; that is, couple strain was higher for the heart attack sample if the timing of the event was inappropriate

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(i.e., younger patients) (p < .05; two-tailed test), a finding that was not apparent for the new parents.[17]

Prediction of Adaptation

Correlations between mean couple scores on each of the predictors and the outcome measures for the heart attack and new parent samples are presented in Tables 6-8 and 6-9. As is evident from these tables, there were no significant differences between any of the correlation coefficients for the mean level of the immediate or delayed measures of psychological well-being, or for the mean couple view of their own role performance.

However, for the mean couple view of their own and partner's coping effectiveness, there were a number of significant differences between the correlations computed for the heart attack and new parent samples (see Table 6-9). Firstly, there was a significantly larger (negative) relationship between mean couple strain and the couple ratings of self and partner's coping effectiveness in the new parent sample than in the heart attack sample. Secondly, in a similar fashion, the couple's emotion-focussed coping had a significantly larger negative

[17]Because patient's age comprised the measure of timing of the event in the heart attack study, a mean score for this variable could not be obtained and, hence, the single score was used in the individual, as well as the couple analyses.

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Table 6-8

Correlations of Mean Couple Scores on Predictors with Mean
Couple Scores on Measures of Psychological Well-being for
New Parent and Heart Attack Samples

| Predictor | Mean psychological well-being | | | |
| | Immediate | | Delayed | |
	New parents	Heart attack sample	New parents	Heart attack sample
Maximum n[a]	123	40	123	40
Mean strain	-.37	-.26	-.48	-.25
Mean emotion-focussed coping	-.52	-.41	-.48	-.25
Mean problem-focussed coping	-.36	-.14	-.18	-.09
Mean internality (vs externality)	.22	.22	.28	.10
Mean self-esteem/morale	.33	.21	.52	.43
Mean affective marital resources	.26	.12	.33	.44
Mean marital flexibility	.05	.20	.19	.38
Mean marital consensus	.11	.38	.21	.47
Mean contact with family	.04	-.07	.20	.16
Mean contact with non-family	.00	.22	.00	.32
Mean qualitative social support	.09	-.14	-.11	.02

[a]Ns varied slightly because of pairwise deletion of
missing data.

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Table 6-9

Correlations of Mean Couple Scores on Predictors with Mean

Couple Score on Other Measures of Adaptation for New

Parent and Heart Attack Samples

Predictor	Mean subjective view of own and partner's coping effectiveness		Mean subjective rating of role performance	
	New parents	Heart attack sample	New parents	Heart attack sample
Maximum n[a]	123	40	123	40
Mean strain	-.40	.10[*]	-.34	-.18
Mean emotion-focussed coping	-.46	.04[*]	-.33	-.02
Mean problem-focussed coping	-.24	.09	-.27	-.05
Mean internality (vs externality)	.05	.00	.12	.18
Mean self-esteem/morale	.34	.50	.24	.29
Mean affective marital resources	.37	.60	.11	.10
Mean marital flexibility	.18	.35	.13	.19
Mean marital consensus	.15	.54[*]	.17	.23
Mean contact with family	.10	-.10	.11	.01
Mean contact with non-family	-.04	.24	-.01	.27
Mean qualitative social support	-.07	-.08	.02	.32

[a]Ns varied slightly because of pairwise deletion of missing data.

[*]Correlation significantly different from the new parents (p < .05; two-tailed test).

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relationship with mean couple view of own and partner's coping effectiveness for the heart attack sample than for the new parents. Post hoc analyses of these results revealed that, while there were significant negative associations of couple levels of strain and emotion-focussed coping with mean ratings of own and partner's coping effectiveness among new parents ($p < .05$; two-tailed test), the correlations were weak and non-significant in the heart attack sample.

The final difference between the two samples involved the correlation between couple consensus and mean rating of own and partner's coping effectiveness. The variables were significantly correlated in both samples ($p < .05$; two-tailed test); however, there was a significantly greater positive relationship between the variables for the heart attack sample.

Summary

In summary, the analyses reported in this chapter provide evidence for the generality of results pertaining to a normative stressor (new parenthood); they appear to apply also to a non-normative stressor (heart attack). The comparability between the two studies was evident when either the individual or the couple was used as the unit of analysis. At the individual level, comparability was most marked for the outcome measures of strain, psychological well-being, and subjective rating of post-

event role performance. There was less comparability between the two studies when the outcome measure was the subjective view of own and partner's coping effectiveness or partner's view of the subject's coping effectiveness. A similar pattern of results was evident when the couple was utilised as the unit of analysis.

CHAPTER SEVEN

DISCUSSION

The aim of the present research was to examine the
utility of a proposed model of family stress. The data
provided support for the model to the extent that its
major propositions were largely confirmed. Moreover,
additional support for the utility of the model was
provided by evidence of the generality of results obtained
from the context of a normative event--new parenthood--to
the context of a non-normative event--a heart attack.

Prediction of Strain

The model of family stress proposed that the person's
subjective appraisal of the event's stressfulness would be
influenced by a number of person and situational
variables, as well as by the accumulation of recent and
concurrent stressors. There was mixed support for the
utility of these different variables as predictors of
post-natal strain, a pattern of results that was largely
replicated in the heart attack sample. Specifically,
importance of the event, anticipated difficulty of the
event, experience of recent and concurrent stressors, and
the ambiguity of the event emerged as distinctive
predictors of post-natal strain. However, there was no
support for the predicted effects of generalised control
beliefs, situational control beliefs, and timing of the

event. Similar findings were observed when the couple was the unit of analysis, with the exception that the mean couple score for importance of the event did not emerge as a significant predictor of couple strain. In terms of differences between partner scores on the predictors of strain, there was no support for the proposal that such differences would heighten couple strain.

To discuss these findings in more detail, it is, firstly, noteworthy that there was a lack of support for the proposal that generalised control beliefs have their greatest influence under conditions of high ambiguity. Because the present study employed a measure of role ambiguity as an index of situational ambiguity, it is not possible to reach any firm conclusions regarding the utility of ambiguity as a moderator in the relationship between control beliefs and strain. It could be that role ambiguity is not a valid indicator of the ambiguity of the situation; had a better indicator been available, the data may have provided support for the proposed moderating influence of ambiguity.

Two factors may account for the lack of support for the hypothesised relationship between situational control beliefs and post-natal strain. First, it is possible that in a novel situation, such as the transition to parenthood, individuals are unlikely to have firm beliefs about the degree to which a situation has potential for control and, hence, these beliefs will not influence

strain. Alternatively, it is possible that the nature of the event can account for the lack of support for the expected relationship between situational control beliefs and strain. Unlike a discrete event--such as a job interview--it is difficult to conceptualise new parenthood in terms of control. Is the relevant dimension control over the birth, or control during the first weeks at home, or control over the child's life? Future research will have to examine which of these contextual features can account for the failure in the present research of situational control beliefs to lessen post-natal strain.

As expected, the relationship between situational control beliefs and strain was significantly more positive for the heart attack patients than for new parents. There was, however, no difference between the correlations for the partners of the patients in comparison with the new parents. Although this finding should obviously be replicated in a larger sample, it suggests that the issue of whether or not control is in the hands of the self or in the hands of the medical profession is more salient to the patients than to their relatives and, for this reason, it is only among patients that the belief in potential for control appears to induce strain.

The lack of support for the hypothesised effects of familiarity is inconsistent with findings reported by Steffensmeir (1982). Steffensmeir found that familiarity

with new parenthood was associated with low levels of post-natal strain; however, other studies have reported contrary findings (Russell, 1974; Wente & Crockenberg, 1976). The discrepancy between Steffensmeier's study and those--including the present study--that have failed to find the expected relationship between familiarity and strain is attributed to a methodological difference between the studies. Steffensmeier used a measure of strain that was concerned specifically with the effects of the event on the couple's lifestyle, while other studies-- including the one presently under discussion--have utilised general measures of post-natal strain. It can, therefore, be concluded that familiarity does not appear to lessen the overall level of post-natal strain, a finding that is apparently generalisable to other settings, given the comparability observed for the effects of familiarity in the new parent and heart attack samples.

It is noteworthy that there was a lack of support for the proposed relationship between plannedness of the pregnancy and post-natal strain. This contrasts with Steffensmeir's (1982) finding of a significant negative relationship between the two variables. It is possible that the discrepancy between the present data and those of Steffensmeir is a function of the middle-class bias in the present study, a bias that would be unlikely in Steffensmeir's stratified sample. Presumably the bias in the present sample characterised both the planned and the

unplanned pregnancies, thus, minimising the number of
couples with unplanned pregnancies from the lower socio-
economic strata. It can, further, be supposed that it is
these couples for which an unplanned pregnancy would be
the most stressful and, if they were adequately
represented in a sample, it is possible that the data
would provide support for the hypothesised relationship
between the timing of the event and strain.

The fact that plannedness of the pregnancy was not
related to the level of post-natal strain does not
necessarily imply a lack of support for the proposed
relationship between timing of the event and strain. It
is possible that the plannedness of the pregnancy is not a
valid measure of whether or not the arrival of the baby is
well-timed. Even though a pregnancy may be unplanned, the
couple may be reconciled with the impending birth by the
end of the pregnancy. Future research should attempt to
develop a more adequate measure of the extent to which the
timing of new parenthood is appropriate.

The fact that the relationship between opportune
timing of the event and strain was significantly more
negative for the heart attack patients than for the new
parents strengthens the claim that plannedness of the
event may not have been a valid measure of opportune
timing of the event. It was revealed on post hoc analysis
of the data, as would be predicted by the model, that
younger patients experienced more strain than older

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patients. There was, however, no difference between the new parents and spouses of the heart attack patients in terms of the relationship between timing of the event and strain, a finding that suggests that the effects of timing of the event are specific to the person directly experiencing the event.

There was strong support for the proposal that the anticipated difficulty of the event would influence the level of post-natal strain. The practical implications of such a finding are considerable, given that, if it is possible to modify an individual's judgements of the difficulty in dealing with an event, then the associated strain will presumably be reduced. Bandura (1982) discussed four principal sources of information that he claimed, from the results of a number of empirical studies (Bandura & Adams, 1977; Bandura, Adams, & Beyer, 1977; Bandura, Adams, Hardy, & Howells, 1980), are the bases on which individuals form their judgements of self-efficacy. According to Bandura (1982), individuals can base these judgements on information from their physiological response to the event, from their past experiences, or from the experiences and persuasive influences of others. In the context of new parenthood, the latter two sources of influence could presumably be utilised in ante-natal classes, with the aim of reducing post-natal strain by modifying prospective parents' judgements of the difficulty of dealing with a new baby.

There was no support for the proposal that dissimilarity between partners' scores on the predictors of strain would heighten the couple strain. It would seem that the presence of differences between partners' views of the event—for example, its importance and ambiguity—is not stress-inducing. The generality of this finding will have to be established in future studies, given that it may be a reflection of a lack of heterogeneity in the present sample. The fact that the sample was not random may have limited the number of couples who had discrepant views of the impending birth of their first child, which would account for the lack of support for the expectation that such discrepancies would heighten collective strain.

In relation to discrepancy scores, there was one unexpected finding. The discrepancy between partners' anticipated difficulty of the event emerged as a distinctive predictor of low, rather than high, strain. One possible interpretation for the finding is that the partner anticipating the lowest difficulty was able to influence the other's view of how difficult the event would be to deal with and, hence, lower couple strain.

The present model of stress and coping, in accordance with Lazarus and Folkman's (1984) conceptualisation of the stress process, proposed that a person's coping resources would influence adaptation to stress, but would not influence the level of strain associated with the event.

The obtained data supported this proposal and, to this extent, refute suggestions made by Gore (1981) and Cohen and Wills (1985) that coping resources--and, more specifically, social support--will influence the extent to which an event is appraised as stressful.

A final point concerning the prediction of strain pertains to the fact that the hypothesised predictors of strain did not account for large amounts of variance in the dependent variable. Prior to a discussion of why the model did not account for more of the variance in strain scores, it is necessary to point out that the present study provided a conservative test of the model. None of the predictors was assessed contemporaneously with the measure of strain and, for this reason, the effects of response sets, such as Pollyanna (Boucher & Osgood, 1969; Scott & Peterson, 1975) or plaintive set (Henderson et al., 1981) were minimised. However, even with this acknowledgement, it is obvious that other factors, not considered in the present research, are relevant to strain. The exact nature of these variables is not immediately clear; however, additional person variables, such as past success of coping with similar events (Silver & Wortman, 1980) may be relevant, as may other factors related to different dimensions on which the event can be described. The identification of such variables presents both a theoretical and empirical challenge for future research in the area.

Prediction of Adaptation

The proposed model of family stress hypothesised that the level of strain, the type of coping strategies utilised, and the extent of an individual's coping resources would predict adaptation. The results of the new parenthood study provided support for these hypotheses, a pattern of results which generalised to the heart attack study. Specifically, there was strong support for the proposed (negative) effects of strain and emotion-focussed coping; however, there was only weak support for the proposed effects of problem-focussed coping. In relation to coping resources, there was support for the proposed effects of self-esteem/morale, internality, and affective marital resources. There was, however, only weak support for the proposed effects of social support. In terms of the nature of the effects of coping resources, the data provided little support for the buffering model. Instead, coping resources generally had main effects on the measures of adaptation. The results obtained when the couple was used as the unit of analysis were similar to those obtained at the individual level; however, there was little support for the expectation that dissimilarities between partners' levels of strain, coping, and coping resources would impair collective adaptation.

To discuss these findings in more detail, it is noteworthy that there was no support for the hypothesis

that a discrepancy between partners' levels of strain would impair collective adaptation. The presence of dissimilarity between partners' experiences of post-natal strain did not appear to influence couple adaptation to new parenthood. Future research will have to examine the generality of this finding, given that it may, again, be a reflection of a lack of heterogeneity in the present sample.

The lack of strong support for the proposed effects of problem-focussed coping is not inconsistent with previous research. Even in cross-sectional designs, there has not been consistent support for the hypothesis. Some of these studies have reported support for the relationship between problem-focussed coping strategies and adaptation (Billings & Moos, 1981, 1984; Colletta & Gregg, 1981; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986), while others have not (Bachrach & Zautra, 1985; Cronkite and Moos, 1984; Holahan & Moos, 1985).

Given the equivocal nature of the results linking problem-focussed coping and adaptation, it would seem that there is insufficient evidence to warrant the inclusion of a proposed relationship between the variables in future models of stress and coping. It may be that the notion of problem-focussed coping strategies is too broad. Instead, it is possible that a consideration of more specific forms

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of problem-focussed coping will yield the expected relationship with measures of adaptation. In support of such a view, Lazarus and his colleagues (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986) reported that planful problem-solving was positively related to adaptation. Similarly, Felton and Revenson (1984; Felton et al., 1984) found that information-seeking appeared to facilitate adaptation to illness, while Menaghan (1982, 1983a, 1983b) has reported that optimistic comparisons—a cognitive form of problem-focussed coping—facilitated adaptation in marital, parental, and occupational contexts. However, consistent with the view that broadly-based notions of problem-focussed coping are not related to adaptation, Menaghan (1982, 1983a, 1983d) found only weak support (in a marital context) for the facilitating effect of direct action—a type of coping that appears similar to the broad notion of problem-focussed coping.

In relation to marital harmony, problem-focussed coping appeared to impair, rather than facilitate, post-natal marital harmony. One explanation for this finding is that it is a contextual effect specific to the marital relationship. However, such an interpretation does not accord with previous research that has suggested that problem-focussed coping strategies—direct action and optimistic comparisons—facilitate adaptation in the marital context (Menaghan, 1982).

An alternative interpretation is that the present finding of a negative relationship between problem-focussed coping and marital harmony is an artifact of the manner in which problem-focussed coping was assessed in the present research. Because the items comprising the problem-focussed coping scale largely focussed on the baby--such as 'tried to become more organised' and 'tried to become more patient with baby'--affirmative responses to the items may have reflected a focus on the baby at the expense of other facets of respondents' lives, such as their marriage. For this reason, high levels of problem-focussed coping could have appeared to impair adaptation to new parenthood, as assessed by the marital harmony scale. Presuming that this explanation is valid, further research should avoid the use of coping items that reflect a focus on a single sphere of one's life to the exclusion of other spheres.

Contrary to data reported by Barbarin et al. (1985), there was no evidence to suggest that complementary levels of problem-focussed coping would facilitate collective adaptation. The univariate analyses suggested, instead, that the discrepancy between partners' levels of problem-focussed coping--at the extremes of the scale--impaired collective adaptation. As Burke and Weir (1979) have suggested, the complementary pattern of marital partners' coping styles is probably a reflection of the stereotypic sex-role orientations of males and females, where males

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engage in more problem-focussed coping than females. The lack of support in the present research for the hypothesis that complementarity of problem-focussed coping would facilitate collective adaptation may be a function of the fact that the new parents were young and essentially professional and, therefore, may have been less likely than the mixed-age sample of Barbarin et al. (1985), to have stereotypic sex-role orientations.

There was only weak support--at the level of bivariate correlations--for the hypothesis that dissimilarity between partners' levels of emotion-focussed coping would impair collective adaptation. This is again contrary to the findings reported by Barbarin et al. (1985) and suggests that, in the context of new parenthood, the degree of congruency between partners' levels of emotion-focussed coping is unrelated to collective adaptation. The fact that Barbarin et al. analysed their data with univariate techniques only may explain the discrepancy between their results and those obtained in the present sample.

The univariate results of the present research suggested that if one partner engages in high levels of problem-focussed coping and the other partner in low levels then couple adaptation is impaired. This finding is interesting in light of the lack of comparable data for emotion-focussed coping. The basis for these differential

results may be related to the different functions of the two types of coping. Because problem-focussed coping strategies are directed towards management of the stress, it seems reasonable to expect that dissimilarity between partners' levels of this type of coping will have more influence on collective adaptation than dissimilarity in emotion-focussed coping strategies, which deal not with the event, but with its accompanying emotions. However, because the discrepancy between partners' levels of problem-focussed coping did not emerge as a distinctive predictor of collective adaptation, the differential zero-order correlations for the discrepancy between partners' levels of problem- and emotion-focussed coping should be interpreted with caution.

In relation to emotion-focussed coping, it is noteworthy that spouses of the heart attack patients were more likely to rate favourably the patient's coping effectiveness if the patient used high, rather than low, levels of emotion-focussed coping. It is possible to tentatively suggest that this finding is a reflection of the propensity of heart attack patients to deny the seriousness of their illness. Stern et al. (1976) reported that 'deniers' showed faster returns to pre-event levels of social functioning, and were less likely to experience post-infarct anxiety and depression than other patients. Given this evidence it is not surprising that, to an observer, emotion-focussed coping strategies--of

which a strong component is denial--may be indicative of
coping effectiveness. It is, however, interesting to note
that the relationships between emotion-focussed coping
strategies and the subjective measures of adaptation were
not significantly different for the heart attack patients
and the new parents. This would have been expected if the
present data had concurred with those reported by Stern et
al. (1976), since these researchers found positive effects
of denial on subjective measures of adaptation--such as
anxiety and depression. Given that there were only eight
'deniers' in the study conducted by Stern et al., in
conjunction with the small sample size of the present
sample, it is not possible to reach any firm conclusions
concerning the effects of denial on post-infarct
adaptation. However, future research should examine the
possibility that the positive effects of denial are a
facade to the extent that they serve to influence an
observer's view of the patient's coping effectiveness,
rather than the patient's own view.

In relation to coping resources, it is interesting to
note that internality emerged as a predictor of adaptation
only when the dependent variable was a measure of
psychological well-being. Although there is a lack of
studies in the area that have related internality to other
measures of adaptation, there is support for the findings
of the present study to the extent that all available
literature linking internality to adaptation has utilised

psychological well-being--or a derivative of this variable--as the measure of adaptation (e.g., Holahan & Moos, 1986, 1987; Huisani et al., 1982; Lefcourt et al., 1981). The evidence, therefore, suggests that, while internal control beliefs are beneficial to one's level of post-natal well-being, they have no effect other self-report measures of adaptation.

The fact that the evidence of an additive effect of internality was found in a longitudinal design--where internality and strain were assessed at different times--concurs with previous research (see Nelson & Cohen, 1983). Interestingly, however, there was no evidence of a main effect of internality in the immediate outcome data; such a finding was evident only when the measure of well-being was obtained 18 weeks after the baby's birth. Given the fact that control beliefs had a significant zero-order correlation with the first post-natal measure of well-being, this suggests that, four weeks after the baby's birth, factors other than control beliefs have more relevance for adaptation.

Also worthy of discussion is the finding that internality appeared to buffer the deleterious effects of strain when the assessment of adaptation was provided by an informant. In short, this finding suggests that, under conditions of high strain, displays of internality appear to give others the impression of coping effectiveness, yet fail to have the same effect on self appraisal. Certainly

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this finding will have to be replicated in future
research, given that in the present study the informant's
rating of coping effectiveness was based on a single item.
However, it is interesting to the extent that it suggests
that support for the buffering model may be dependent on
the source of the measure of adaptation, a finding that
warrants further empirical attention.

The data failed to provide evidence for the proposal
that a discrepancy between partners' generalised control
beliefs would impair collective adaptation. In fact, the
data suggested, instead, that if one partner had extreme
internal beliefs, and the other had extreme external
beliefs, then collective adaptation was facilitated.
Because the finding was apparent only in the univariate
analyses, it should be interpreted with caution. However,
it may be that dissimilarity between spouses' resources is
not the only dimension of relevance to collective
adaptation; in some instances complementarity of resources
may be adaptive. Such a possibility should be a focus of
future research.

In relation to the effects of differences between
partners' levels of self-esteem and morale, there was
evidence to suggest that, four weeks after the baby's
birth, adaptation was impaired if partners had differing
levels of these psychological resources. However, in the
analyses of the delayed outcome data--and, more

specifically, in the case of marital harmony and
subjective view of own and partner's coping
effectiveness--it was not similarity per se that was
related to adaptation, but similarity at the extremes of
the scale. Graphical representations of the data (see
Figures 5-1 and 5-2, pps. 214 and 219) revealed a pattern
of data more complex than that implied by Klein and Hill's
(1979) notion of distributive effects. Specifically,
collective adaptation was highest for couples where both
partners had high levels of self-esteem and morale. One
interpretation of this finding is that individuals with
low or moderate levels of psychological resources have
less ability to respond to the demands of a new situation
and, hence, impair not only their own adaptation, but the
collective adaptation of the group. The fact that
similarity per se had a positive relationship with
collective adaptation when the baby was four weeks old,
yet it was similarity at the high levels of the scale that
appeared to facilitate adaptation 18 weeks after the
baby's birth suggests that collective adaptation becomes
more sensitive, with time, to one or both partners'
feelings of self-doubt.

It is interesting to note, at the couple level, the
importance of considering the interrelationship between
the interpersonal resources of the individual spouses.
This finding accords with Walker's (1985) view that family
stress researchers should examine the personal resources

of all family members. As noted previously, family members will respond to a given stressor differently and, for this reason, their personal resources will be central to their response to the event (Walker, 1985). At the collective level, the fact that family members will respond differently to the same stressor will not change and, therefore, to achieve an understanding of group adaptation it is necessary to examine the interrelationship between members' personal resources.

The effects of affective marital resources--cohesion, communication, and satisfaction--appeared to be dependent on the particular facet of adaptation under consideration. It was only when the dependent variable was either the subject's view of own and partner's coping effectiveness or partner's view of the subject's coping effectiveness that affective marital resources were related to adaptation. Considering the time-lag between the assessment of marital resources and the relevant measures of adaptation, it is unlikely that these findings are a reflection of a response set bias. An alternative explanation is that affective marital resources contribute to more favourable ratings of own and partner's coping effectiveness by enhancing the level of understanding that spouses can achieve with regard to each other's response to the event, as well as allowing for the exchange of positive feedback and encouragement.

Despite the findings discussed above linking affective marital resources to adaptation, the lack of more support for the general hypothesis that marital resources would facilitate family members' adaptation to stress is inconsistent with previous research (e.g., Angell, 1936; Friedrich & Friedrich, 1979; Hill, 1949; Lavee et al., 1985). It is possible that this is a function of a lack of heterogeneity in the marital resources of new parents. Such a proposal is supported to the extent that there were a number of differences in the correlations of marital resources and adaptation for the new parents in comparison with the heart attack sample.

The data provided little support for the proposal that a discrepancy between partners' ratings of marital resources would have a negative influence on collective adaptation. Again, this may be attributed to the predominance of satisfied couples in the present study, to the extent that the homogeneity of the sample may have reduced the presence of discrepancy between spouses' views of their marital relationship. Future research should explore the possibility that more representative samples will yield data in support of the proposed negative effects of a discrepancy between partners' ratings of marital resources.

The fact that only weak support was found in the present study for the relevance of network measures to

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adaptation is not inconsistent with the previous literature in the area. A number of researchers have reported either weak or non-existent evidence for the hypothesised relationship between quantitative social support and measures of adaptation (Billings & Moos, 1981; Bromet, Soloman, Dunn, & Nicklas, 1972; Cohen et al., 1982; Holahan & Moos, 1982, 1984; Porritt, 1979; Schaefer et al., 1981; Stemp et al., 1986; Surtees, 1980); however, others have reported support for the hypothesis (Bell, Le Roy, & Stephenson, 1982; Lin et al., 1979; Williams et al., 1981). It is on the basis of the latter body of studies that Cohen and Wills (1985) concluded that quantitative social support is a significant predictor of well-being. Future research will have to establish the basis for the equivocal nature of the evidence linking quantitative social support and adaptation, although it would seem that the evidence in support of the hypothesis is not as strong as suggested by Cohen and Wills.

Two additional points concerning the relationship between quantitative social support and adaptation in the present study require attention. First, the data linking quantitative social support and adaptation suggested that frequent contact with one's family--as assessed pre-natally--facilitated favourable post-natal views of own and partner's coping effectiveness. The fact that this network measure did not appear to facilitate other facets of adaptation makes the finding difficult to interpret.

It is possible that contact with one's family provides one with positive feedback and encouragement as to how oneself and one's partner are dealing with new parenthood and, in this manner, facilitates a favourable view of own and partner's coping effectiveness. The fact that the rationale for the observed effect of affective marital resources on this dependent variable was attributed to a similar process adds credence to this conclusion, and suggests that one's judgement of own and partner's coping effectiveness--as a measure of adaptation--is sensitive to the feedback and support of one's intimates.

A second point pertaining to the relationship between network measures and adaptation concerns the fact that, although a significant interaction between strain and quantitative social support was observed on the immediate measure of psychological well-being, this finding is not consistent with the buffering hypothesis. Frequency of contact with non-family--as assessed pre-natally--had a positive effect on well-being at a low, rather than a high, level of post-natal strain. This is considered to be an effect specific to the context of new parenthood. Presumably frequent pre-natal contact with one's non-family network increases the likelihood of numerous visitors after the baby's birth, which may place an additional burden on the couple and, hence, fail to buffer the negative effects of post-natal strain.

The finding of a significant buffering effect of qualitative social support on psychological well-being four weeks after the baby's birth is consistent with previous research (see Cohen & Wills, 1985). However, Cohen and Wills also claimed that this effect is a pure buffering effect, which is contrary to the findings of the present research where both main and buffering effects were observed. These divergent data may be a function of the possibility that, in cases of a significant monotone interaction (with no crossover effect), a significant main effect may be an artifactual finding (Cohen & Wills, 1985; Dawes, 1969). Inspection of the graphical representation of the interaction between qualitative social support and strain (see Figure 4-1, pp. 179) reveals that this was the case in the present research. To observe both a main and buffering effect, there should have been an effect for social support at both low and high levels of strain, with the effect most marked at the latter level. However, the effect was apparent only at high levels of strain, which is consistent with a pure buffering effect.

The lack of support for the buffering effect of qualitative social support on the delayed measures of adaptation is worthy of comment. It is unlikely that the findings of a buffering effect on psychological well-being four weeks after the baby's birth was a result of a confounding between the measures of stress and social

support, given that there was a time-lag between the assessments of these variables. However, even if support is assessed prior to stress, Thoits (1982) has pointed out that the provision of social support may reduce the likelihood of stress occuring and, for this reason, bias results in favour of the buffering hypothesis. Again, this possibility does not appear to account for the findings of the present research, given that there was nonsignificant correlation (r = .11; two-tailed test) between the measures of qualitative social support and strain. An alternative explanation is offered by House (1981). He argued that at some point in time the buffering process is complete. In other words, social support may buffer the effects of stress in the short-term, but this effect will diminish with time. Presuming that this is the case, the results of the present study suggest that it is only in the immediate post-natal period that qualitative social support will buffer the effects of strain. The notion that the buffering effects of qualitative social support may be time-governed offers a challenge for future research.

In terms of general points concerning the utility of coping resources as predictors of adaptation, first, the findings of the present research indicate that psychological resources--self-esteem and morale--have more relevance to adaptation than interpersonal--marital or social--resources. In other studies that have

simultaneously examined the effects of personal and interpersonal resources, similar results have been reported (Cronkite & Moos, 1984; Hobfall & Lieberman, 1987; Huisani et al., 1982; Kobasa & Pucetti, 1983).

Hobfoll and Lieberman (1987) have suggested that individual resources--and more specifically, self-esteem-- appear to be more relevant to adaptation than other resources--such as social support--because the effect of self-esteem is situation-independent, whereas the efficacy of the other resources is dependent on the situation. The validity of this proposition is questionable, given that in reviews of both the social support and family stress literatures there is little evidence to suggest that contextual effects influence the relevance of marital and social resources to measures of adaptation (Cohen & Wills, 1985; McCubbin, Joy et al., 1980; McCubbin & Patterson, 1983a, 1983b; Walker, 1985).

An alternative explanation is that psychological resources have the most relevance to the prediction of adaptation because they are central to a person's ability to respond to the demands of new situations. As Walker (1985) has pointed out, in the context of family stress, all members of a given family will experience a given stressor event differently and, for this reason, a knowledge of their individual resources is essential to an understanding of their adaptation to such events. In

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contrast, marital and social resources may be somewhat peripheral to a person's ability to respond to the demands of a stressor.

Given the strong support observed in the present research for the effects of individual psychological resources on adaptation, it is possible that future models of stress and coping would benefit from the inclusion of other such variables. Folkman, Schaefer, and Lazarus (1979) have, for instance, suggested that an individual's problem-solving capacities may influence adaptation to stress, while empirical support has been provided for the relevance of the personal resources of self-complexity (Linville, in press) and flexibility or rigidity (Wheaton, 1983).

A second point concerning the utility of coping resources as predictors of adaptation pertains to the lack of support in the present research for the buffering hypothesis. The main exception to this conclusion involved qualitative social support which, consistent with previous research (see Cohen & Wills, 1985), showed evidence of a buffering effect. Both Cutrona (1984) and Cohen and Wills (1985) have noted that buffering effects are more difficult to detect in samples where all of the respondents have relatively high levels of stress. Although all the participants in the present research had undergone a major life event--the transition to parenthood--and, hence, could be considered to be

homogeneous in terms of stress, there was no evidence to suggest a truncation of strain scores. The lack of support in the present research for the buffering hypothesis is, therefore, not attributed to a low range of stress levels. Instead, it is concluded that, with the exception of qualitative social support, the effects of the resources considered in the present research appear to be additive rather than stress-buffering.

In terms of the utility of the proposed set of predictors of adaptation, there are a number of points that should be made. First, although there was support for the hypothesised relevance of each of the predictors—strain, coping strategies, and coping resources—the model did not account for large amounts of variance in the prediction of the delayed measures of adaptation. Again, it is necessary to acknowledge that, because the predictors of adaptation in these analyses were assessed prior to the measures of outcome, the present study provided a conservative test of the model. However, it is possible that additional variance could be accounted for by more specific forms of problem-focussed coping and other personal coping resources not considered in the present research. Moreover, as Kobasa and Pucetti (1983) have pointed out, other stress-resistance factors, such as diet and exercise, may help account for variation in adaptation to stress, as may more practical resources such as financial well-being.

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Second, it was proposed that the predictors of strain--with the exception of internality--would not influence adaptation. This proposal was largely confirmed by the data, although there were a number of exceptions. First, the data suggested that the more role ambiguity--as assessed pre-natally--the more unlikely new parents were to rate favourably their own role performance and their own and their partner's coping effectiveness. It is possible that pre-natal role ambiguity contributes to less favourable subjective views of adaptation because of the lack of a clear idea as to the demands of parenting and, hence, the effects of these demands on one's life. Additionally, more favourable views of own and partner's coping effectiveness were likely if a great deal of importance was attributed to the event pre-natally. Although there was evidence to suggest that importance of the event induced strain, it also appeared to facilitate adaptation as assessed by subjective views of coping effectiveness. Finally, the data suggested that the experience of concurrent and recent stressors increased the likelihood of marital disharmony 18 weeks after the baby's birth. This suggests that the stability of the marital relationship is vulnerable not only to the effects of the stressor under consideration, but also to the effects of recent and concurrent stressors.

Third, it is necessary to discuss the assessment of adaptation in the present research. Despite the empirical

distinction between the measures of psychological well-being, subjective view of own role performance, and marital harmony, the patterns of predictors identified for these facets of adaptation were similar. However, for subjective view of own and partner's coping effectiveness and partner's view of subject's coping effectiveness, there was evidence to suggest that, in contrast to other measures of adaptation, these measures were influenced by the nature of a person's interpersonal resources. As mentioned previously, it appears that judgements of own and each other's coping effectiveness are particularly susceptible to the provision of adequate support and feedback from others.

In relation to the use of subjective and external ratings of coping effectiveness as measures of adaptation, it is also necessary to note that the majority of differences between the new parent and heart attack samples involved these measures of adaptation. Although the correlations of the predictors of adaptation with ratings of own and each other's coping effectiveness were not grossly different for the two samples, the evidence suggests that ratings of coping effectiveness may be susceptible to situational influences, a possibility that should be examined in future research.

A final point pertaining to the measures of adaptation concerns the use of an external measure of the dependent variable. When the measures of the predictors

were decontaminated for the effects of same source,
although the basic hypotheses of the model were confirmed,
the amount of variance explained by the model was small.
The relevance of this finding is limited because of the
fact that only a single item was used to assess partner's
view of the subject's coping effectiveness. It does not,
however, detract from the importance of utilising other-
source measures of adaptation in future research. In
addition to the use of prospective designs, such a
methodology will ensure conservative tests of proposed
models of stress and adaptation.

General Points Concerning Couple Analyses

In terms of general points concerning the couple
analyses, it is noteworthy that the general trends obtained at
the couple level mirrored those obtained when the unit of
analysis was the individual marital partner. In other
words, a change in the unit of analysis did not appear to
influence substantially the major findings of the study.
However, it is necessary to note that the correlations
between the predictors and the dependent variables were
generally higher at the couple level than at the level of
the individual marital partner. This is presumably a
reflection of the lack of heterogeneity in the data, which
would have improved the reliability of the scales when
mean scores were used as predictors and, hence, increased
the magnitude of the correlations. A critical question
for future research concerns the extent to which the

comparability observed between the individual and couple levels of analyses is a function of the phenomenon under consideration--namely, the transition to parenthood--or whether it applies to other contexts.

Given that mean scores are a reflection of both partners' scores, it is tempting to conclude from the present data that the effects of marital partners' characteristics are summative. This would accord with Klein and Hill's (1979) view that the collective effects of members' characteristics adhere to the principle of additivity. However, it is possible that extreme scores would provide a better measure of collective functioning and, therefore, account for more of the variance in the dependent variable. Other researchers have suggested such a possibility. Weick (1971), for instance, conceptualised the attention span of the family in terms of the smallest span of any one family member, while Fisher et al. (1985) have utilised the most severe spouse rating of the impact of a stressor as an index of the level of couple stress. Although apparently not utilised in the literature, it is also possible that collective adaptation is a function not of the worst-functioning member--as implied by the previous two examples--but of the best-functioning member.

In the present research, post hoc consideration was given to the question of whether or not mean, maximum, or minimum couple scores would account for the most variance in the dependent variables. Different regression analyses

were performed for the prediction of couple strain and each of the measures of couple adaptation using the three different types of scores (after variables had been scored so that they were all in the same direction) as predictors (see Appendix H, Table H-1). Comparison of the amount of variance explained by each of the models did not reveal any conclusive findings. Basically, there was some evidence to suggest that, for the measures of couple adaptation--with the exception of the delayed measure of psychological well-being and the mean couple rating of own role performance--the models utilising mean and minimum scores explained comparable levels of variance in the dependent variable, and that the amount of variance explained by these models was more--although not markedly so--than that accounted for by the maximum score model.

Although it is not possible to draw any definitive conclusions from these data, it is possible to conclude that they do not provide strong support for the additivity principle. It may be that in a more representative sample--where there would presumably be more extreme cases of poor functioning--the model based on the minimum level of couple functioning would explain more of the variance in the dependent variable than the additive model. Such a possibility should be a focus for future research.

It could, however, be more complicated than simply a situation where one model will apply uniformly across all predictors. It is probable that for some variables the

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group level is best represented by the score of the worst-functioning member, whereas for other variables the additive model may be the most applicable. This is not only an issue for empirical investigation, but presents a considerable task for future theory-building as well.

Related to this point is the suggestion in the present data that the applicability of the different models may, in part, depend on the measure of outcome under consideration. In the cases of mean strain and mean subjective view of role performance, the knowledge of the scores of the best-functioning member appeared to account for the most variance in the dependent variable. It would appear that the better functioning partner was able to influence the level of post-natal strain experienced by the other partner and that person's level of post-natal role performance and, in this manner, heighten the overall functioning of the couple. The suggestion from the present data of a differential applicability of the different models of family scores to particular measures of outcome adds further complexity to the task awaiting theorists in the field of family dynamics.

The overall trends suggest that what is important to collective functioning is not the presence of dissimilarity between partners, but the average level of the couple on the scales of interest. One interpretation of this finding is that couples are largely able to deal with the possible negative effects of any dissimilarities

that they have, yet the negative effects of poor
collective functioning cannot be dealt with and, hence,
emerge as more relevant to the prediction of outcome than
the presence of partner dissimilarity. Alternatively, as
mentioned previously, the lack of support for the
relevance of discrepancy scores may be a reflection of the
lack of heterogeneity in the present data. In a sample
of young satisfied couples, dissimilarities between
spouses are likely to be less pronounced than in a more
representative sample. It is, therefore, necessary for
future research to examine the relative importance of mean
and discrepancy scores in a probablistic sample of married
couples.

At a general level, it is also necessary to note a
number of methodological problems with the analysis of the
couple data in the present research. First, the use of
discrepancy scores reduces the power of subsequent data
analysis. This is for the reason that the low reliability
of discrepancy scores will contribute to a low variance of
this type of scores (Fisher et al., 1985). Future
research would benefit from the development of other
techniques to assess empirically the degree of
dissimilarity between partners' scores.

Second, the analyses of the couple data in the
present research were problematic to the extent that they
were essentially atheoretical. The use of stepwise
multiple regression to ascertain the relative importance

of the different predictors is likely to yield results that may be specific to the particular sample under consideration (Fisher et al., 1985). It is necessary for future theory-building in the areas of marital and family functioning to be able to determine a priori whether level and/or dissmilarity of a particular predictor is relevant to collective outcome and whether the weighted or unweighted measure is appropriate. This represents a tremendous task for future research in the area, yet with such developments the data could be subject to more powerful theory-testing analysis techniques, such as structural modeling and confirmatory factor analysis (Fisher et al., 1985).

Conclusions

In conclusion, the data obtained in the present research provided some support for the proposed model of family stress. Specifically, the distinctive predictors of post-natal strain were the importance attributed to the event, its anticipated difficulty, the presence of role ambiguity, and the experience of recent and concurrent stressors. Additionally, as expected, high levels of strain and emotion-focussed coping emerged consistently as distinctive predictors of poor adaptation to new parenthood, as did low levels of self-esteem and morale. An examination of the results of the present research suggested a number of factors that may improve the model's utility and, hence, should be examined in future research.

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In terms of the collective level of interest, the obtained results contribute to an understanding of the complexity of using the collectivity as the unit of analysis, although it is apparent that future research should be based on a more sophisticated theoretical treatment of family level concepts. Finally, the present research can be considered to have clinical relevance insofar as it has identified factors that appear to be salient to the family stress process. However, a more complete understanding of this process will not be possible without continued theoretical and empirical attention to the question of why some families appear to cope effectively with stress, while others cope poorly.

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APPENDIX A

ITEMS FOR SCALES USED IN STUDY

<u>Strain</u>

<u>New parenthood study</u> (k = 26; Cronbach's alpha = .86)

How much has the arrival of your baby upset you and your partner's usual routine? (4-point response scale: Not at all, Not much, A fair amount, A great deal)

Is the arrival of your baby the most disruptive event that has happened to you and your partner? (5-point response scale: No, definitely not, No, probably not, Unsure, Yes, probably, Yes, definitely)

Is the arrival of your baby the most difficult event that you and your partner have had to deal with? (5-point response scale: No, definitely not, No, probably not, Unsure, Yes, probably, Yes, definitely)

People usually experience some difficulties after the birth of their child. From the following list, please indicate which ones you have experienced and how difficult they have been for you <u>in the past fortnight</u>. (4-point response scale: Have not experienced, Experienced but not difficult, Experienced and somewhat difficult, Experienced and very difficult)

baby's feeding problems
baby's colic
establishing baby into a routine
handling your baby when it cries
getting your baby off to sleep
uncertainty about whether your baby's health and
 progress is within normal limits
lack of sleep
trying to manage and co-ordinate your daily routine
being interrupted in the middle of doing something
receiving contradictory advice from other people
lack of time with other adults (other than partner)
lack of friends with babies or young children
lack of time to do the things you enjoy
lack of freedom to do what you want to when you want to
lack of intellectual stimulation
loss of independence
changes to your work commitments
changes to you and your partner's marital relationship
feeling more distant from your partner
less time with your partner
problems sharing child-care tasks with partner
problems sharing household tasks with partner
changes to you and your partner's sexual relationship

Heart attack study (k = 3; Cronbach's alpha = .68)

How much has your/your partner's heart attack upset you
and your partner's usual routine? (4-point response
scale: Not at all, Not much, A fair amount, A great deal)

Is your/your partner's heart attack the most disruptive
event that has happened to you and your partner? (5-point
response scale: No, definitely not, No, probably not,
Unsure, Yes, probably, Yes, definitely)

Is your/your partner's heart attack the most difficult
event that you and your partner have had to deal with?
(5-point response scale: No, definitely not, No, probably
not, Unsure, Yes, probably, Yes, definitely)

Importance (k = 1).

(Item used in the new parenthood study only.)

How important do you think the arrival of your first
child is? (5-point response scale: The most important
event in my life, One of the most important events in my
life, A fairly important event, Not a very important
event, Not an important event at all).

Generalised Control Beliefs (Adapted from Rotter, 1966;

k = 10; Cronbach's alpha = .57)

(Items used in both new parenthood and heart attack

studies; all items 2-point response scale: Generally

false, Generally true.)

People's misfortunes result from the mistakes they make.

People who can't get others to like them don't understand
how to get on with others.

Becoming a success is a matter of hard work; luck has
nothing to do with it.

Getting a good job depends on being in the right place at
the right time (reverse-scored).

In my case getting what I want has nothing to do with luck.

What happens to me is my own doing.

I find that what is going to happen will happen (reverse scored).

It is not wise to plan too far ahead because things turn out to be a matter of good and bad fortune anyway (reverse scored).

People don't realise the extent to which their lives are controlled by accidental happenings (reverse scored).

I feel that I have little influence over the things that happen to me (reverse scored).

Judged Controllability of the Event

New parenthood study ($k = 1$)

Whether or not we have any problems handling our new baby is something that we can influence...(4-point response scale: Not at all, Not much, A fair amount, A great deal).

Heart attack study ($k = 1$)

How much do you think you and your partner can influence the extent to which you/your partner recover/recovers from your/his/her heart attack? (4-point response scale: Not at all, Not much, A fair amount, A great deal).

Anticipated Difficulty of the Event

New parenthood study ($k = 9$; Cronbach's alpha = .61)

Below is a list of changes in lifestyle that you and your partner may have to make after the birth of your child. Tick how difficult you think they will be for you and your partner to manage (3-point response scale: Not difficult, Fairly difficult, Very difficult).

loss of sleep
worry associated with the added responsibility of a child
less time with partner
changes to your marital relationship
changes to your financial situation

less freedom to do what you want to when you want to
worry about being a good parent
changes to your work commitments
less time to spend with friends, workmates etc.

Heart attack study (k = 5; Cronbach's alpha = .54)

Below is a list of changes in life style you/your partner
may have to make. How difficult do you think it will be
for you and your partner to deal with these changes? (3-
point response scale: Not difficult, Fairly difficult,
Very difficult) (category 'not applicable' also provided)

changes to diet
giving up or reducing smoking
changes to exercise regime
changes to work commitments
changes to methods for coping with stress

Ambiguity

New parents (k = 6; Cronbach's alpha = .76).

The responsibilities of a parent are often unclear to
those expecting their first baby. Below is a list of
different parental responsibilities. How clear is your
idea of what each of these responsibilities involves?
(4-point response scale: Not clear at all, Not very
clear, Fairly clear, Very clear) (all items reverse
scored).

feeding a baby
bathing and dressing a baby
settling a crying baby
dealing with an ill baby
organising play activities for a young child
disciplining a young child

Heart attack study (k = 1).

How disabling do you expect your/your partner's heart
attack to be? (5-point response scale: Completely
disabling, Considerably disabling, Can't tell, Slightly
disabling, Not at all disabling) (Scores of 1, 2, 4, & 5
assigned a score of 1; score of 3 assigned a score of 2)

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Familiarity

New parenthood study (k = 7; Cronbach's alpha = .56)

How many books and articles have you read about childcare and parenthood? (4-point response scale: None, One, A few, A lot)

How often have you talked to your partner about child-rearing? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently)

When you were growing up, how much contact did you have with babies (for instance, younger brothers and sisters)? (4-point response scale: None, Not much, A fair amount, A great deal)

How much other contact have you had with babies? (4-point response scale: None, Not much, A fair amount, A great deal)

How often have you looked after a young baby for a few hours or more at a time? (4-point response scale: None, Once or twice, Several times, A great number of times)

How many of your friends have young children? (3-point response scale: None, One or two, Several)

Heart attack study (k = 1)

Prior to your partner's illness, how much did you know about heart attacks? (4-point response scale: Nothing at all, Not much, A fair bit, A lot)

(Appropriate) Timing of Event (k = 1)

(Item used in the new parenthood study only.)

To what extent was your baby planned? Would you say your baby was... (3-point response scale: Accidental, Somewhat planned, Completely planned)

Experience of Recent and Concurrent Stressors

New parenthood study (k = 23)

Please read each of the following statements, and circle
the number 1 after any event which has happened to you
and your partner in the last year.

death of a family member or relative
serious illness or injury to a family member or relative
unemployment of self, partner, parent, or parent-in-law
retirement of parent or parent-in-law
self or partner studying at school (or college or
  university)

self or partner started a new job
parent or parent-in-law remarried
increase in financial difficulties
parent, parent-in-law, or partner and self having marital
  difficulties
parent or parent-in-law separated or divorced
self, partner, parent or parent-in-law having emotional
  problems
increase in care of parents or parents in-law
self, partner, parent, or parent-in-law involved in
  violation of the law
relationship deteriorated between self or partner and
  parent or parent-in-law
increase in self or partner's time away from home
renovations to home
move to a new home
move to a new city/town
mortgage taken out
possessions lost, damaged, or destroyed
self or partner become unhappy in job
increase in work pressure for self or partner
parent/s or parent/s in-law moved to another city/town

Heart attack study (k = 26)

Please read each of the following statements, and circle
the number 1 after any event which has happened to you
and your partner in the last year.

death of a family member or relative
serious illness or injury to a family member or relative
unemployment of self, partner, son, or daughter
retirement of self or partner
son or daughter left school

self or partner studying at school (or college or
 university)
self or partner started a new job
son or daughter married or started living together
increase in financial difficulties
son or daughter had child or adopted child
daughter or daughter-in-law had miscarriage or difficult
 birth
partner and self, or son and daughter having marital
 difficulties
son or daughter separated or divorced
self, partner, son, or daughter having emotional
 problems
increase in care of parents or parents in-law
self, partner, son or daughter involved in violation of
 the law
relationship deteriorated between self or partner and
 child
increase in self or partner's time away from home
renovations to home
move to a new home
move to a new city/town
mortgage taken out
possessions lost, damaged, or destroyed
self or partner become unhappy in job
increase in work pressure for self or partner
son or daughter moved to another city/town

Problem-focussed Coping (Adapted from Billings and Moos,

1981)

New parenthood study (k = 7; Cronbach's alpha = .75)

In the past fortnight, how often have you tried to accept
the changes that your baby has made to your lives (4-
point response scale: Not at all, Not much, Quite a lot,
A great deal)

In the past fortnight, how often have you tried to become
more patient with your baby (4-point response scale: Not
at all, Not much, Quite a lot, A great deal)

In the past fortnight, how often have you tried to
become more organised (4-point response scale: Not at
all, Not much, Quite a lot, A great deal)
In the past fortnight, how often have you tried to
become more flexible? (4-point response scale: Not at
all, Not much, Quite a lot, A great deal)

In the past fortnight, have you thought about things you
could do to establish your baby into some sort of
routine? (4-point response scale: No, not at all, No, not
much, Yes, sort of, Yes, a lot)

In the past fortnight, how often have you thought about
how you and your partner could manage to have more time
together? (4-point response scale: Not at all, Not much,
A fair amount, A great deal)

Which of the following people have you asked for advice
from, asked for help from (e.g., babysitting), or
confided in the past fortnight?

immediate family members
other relatives or friends
other people who have had babies
baby health sister
other professionals e.g., G. P.
clergy

Heart attack study ($\underline{k}$ = 7; Cronbach's alpha = .78)

Since your/your partner's heart attack, how often have
you tried to come to terms with the fact that you/your
partner have/has had a heart attack (4-point response
scale: Not at all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you thought about things you/your partner can do to
improve your/his/her lifestyle (4-point response scale:
Not at all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you tried to find out more about your/your partner's
treatment in the hospital and at home (4-point response
scale: Not at all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you tried to think of how you/your partner can better
handle stress (4-point response scale: Not at all, Not
much, Quite a lot, A great deal)

Since your/your partner's heart attack, have you thought
about changes you/your partner can make to your/his/her
work commitments (4-point response scale: No, not at all,
No, not much, Yes, a fair amount, Yes, a lot) (category
'I don't work'/'My partner doesn't work' also provided)

Since your/your partner's heart attack, how often have you asked advice from other people (such as doctors) as to what you/your partner can do in your/his/her recovery phase? (4-point response scale: Not at all, Not much, Quite a lot, A great deal)

Which of the following people have you asked for advice from, asked for help from (e.g., babysitting), or confided since your/your partner's heart attack?

immediate family members
other relatives or friends
people who have experienced a similar situation to yours
hospital staff
other professionals e.g., social worker
clergy

Emotion-focussed Coping (Adapted from Billings & Moos,

1981)

New parenthood study (k = 5; Cronbach's alpha = .41)

In the past fortnight, how often have you prayed and/or talked to a minister? (4-point response scale: Not at all, Not much, Quite a lot, A great deal)

In the past fortnight, how often have you eaten, smoked, slept, drunk more, or taken medications to reduce the tension (4-point response scale: Not at all, Not much, Quite a lot, A great deal)

In the past fortnight, how often have you taken out your tension on other people when you have felt angry or depressed? (4-point response scale: Not at all, Not much, Quite a lot, A great deal)

In the past fortnight, how often have you kept your feelings to yourself? (4-point response scale: Not at all, Not much, Quite a lot, A great deal)

In the past fortnight, how often have you thought about other things when you have been having difficulties with your baby? (4-point response scale: Not at all, Not much, Quite a lot, A great deal)

<u>Heart Attack Study</u> (<u>k</u> = 5; Cronbach's alpha = .49)

Since your/your partner's heart attack, how often have
you prayed and/or talked to a minister? (4-point response
scale: Not at all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you eaten, smoked, slept, drunk more or taken
medications to reduce the tension (4-point response
scale: Not at all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you taken out your tension on other people when you have
felt angry or depressed? (4-point response scale: Not at
all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you kept your feelings to yourself? (4-point response
scale: Not at all, Not much, Quite a lot, A great deal)

Since your/your partner's heart attack, how often have
you thought about other things to keep your mind off the
situation (4-point response scale: Not at all, Not much,
Quite a lot, A great deal)

<u>Self-esteem</u> (<u>k</u> = 5; Cronbach's alpha = . 69)

(Items used in both new parenthood and heart attack

studies.)

How do you feel about yourself? (8-point response scale:
Delighted, Pleased, Mostly satisfied, Neutral (neither
satisfied or dissatisfied), Mixed (about equally
satisfied and dissatisfied), Mostly dissatisfied,
Unhappy, Terrible) (reverse scored) (Andrews & Withey,
1976)

I like myself. (5-point response scale: Never, Rarely,
Sometimes, Most of the time, All of the time) (Terry &
Scott, 1987)

After a social engagement, such as a party, I feel that
I've handled myself well: (5-point response scale: Never,
(Rarely, Sometimes, Most of the time, All of the time)
(Terry & Scott, 1987)

How interesting are you for other people? They find
me... (5-point response scale: Not interesting at all,
Not too interesting, Somewhat interesting, Pretty
interesting, Very interesting) (Jessor & Jessor, 1979).

I feel self-confident. (5-point response scale: Never, Rarely, Sometimes, Most of the time, All of the time) (Terry & Scott, 1987)

Morale (k = 4; Cronbach's alpha = .72)

(Items used in both new parenthood and heart attack studies.)

How often do you feel fed up or bored with the things you are doing in your life? (5-point response scale: Never, Rarely, Sometimes, Most of the time, All of the time) (reverse scored)

The things I am doing in my life seem worthwhile and meaningful to me (2-point response scale: Generally disagree, Generally agree)

How often do you feel excited or interested in the things you are doing? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently)

How often do you feel that you would like to change some of the things you are doing with your life? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently) (reverse scored)

Marital Cohesion (k = 6; Cronbach's alpha = .65)

(Items used in both new parenthood and heart attack studies.)

How many interests do you and your partner share? (4-point response scale: None, A few, Several, A lot)

Would you say that you and your partner are.... (5-point response scale: Pretty distant, A little distant, Not too close, Pretty close, Very close)

If you have a problem, how often do you discuss it with a friend rather than with your partner? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently)

How often do you (without your partner) spend time with your own personal friends? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently) (reverse scored)

How often do you and your partner do things without each other? (5-point response scale: Never, Rarely, Sometimes, Most of the time, All of the time) (reverse scored)

How often do you ask your partner for advice concerning your own personal decisions? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently)

Marital Flexibility (k = 8; Cronbach's alpha = .52)

(Items used in both new parenthood and heart attack studies.)

How well do you and your partner respond to sudden changes in your plans? (4-point response scale: Not well at all, Not very well, Fairly well, Very well)

How quickly do you and your partner adjust to new routines (e.g., if one of you has a new job)? (5-point scale: Very slowly, Fairly slowly, Neither slowly or quickly, Quite quickly, Very quickly)

My partner and I have our own jobs around the house that we always do (2-point response scale: Generally false, Generally true)

In every family decisions have to be made about such things as where to live, or whether to buy a new car. Many couples talk about such issues first, but the final decision often has to be made by the male or the female. Please indicate who makes the final decision in the following situations. If the situations are no longer relevant to you please describe what happened in the past (5-point response scale: Male always, Male more than female, Male and female equally, Female more than male, Female always)

whether to buy a new house or car
how to spend holidays
how to allocate family finances
what to do evenings and on weekends
which friends and relatives to entertain

Marital Communication (k = 5; Cronbach's alpha = .80)

(Items used in both new parenthood and heart attack studies.)

How satisfied are you with the way in which you and your partner communicate? (5-point response scale: Very dissatisfied, A little dissatisfied, Fairly satisfied, Very satisfied, Completely satisfied)

How often do you have difficulty communicating with your partner? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently) (reverse scored)

How often does your partner say things which would be better off unsaid? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently) (reverse scored)

How often do you feel that your partner is saying one thing and meaning another? (5-point response scale: Never, Rarely, Sometimes, Quite often, Frequently) (reverse scored)
How well do you think your partner understands you--your feelings, your likes and dislikes, and any problems you may have? (4-point response scale: Not well at all, Not very well, Fairly well, Very well) (Campbell, Converse, & Rodger, 1976; Headey, Holstrum, & Wearing, 1982.)

Marital Consensus (Adapted from Spanier, 1976; k = 8;

Cronbach's alpha = .69)

(Items used in both new parenthood and heart attack

studies.)

Most people have disagreements in their relationship. Please indicate the approximate extent of agreement between you and your partner for each item on the following list (5-point response scale: Never agree, Rarely agree, Sometimes agree, Usually agree, Always agree).

division of household tasks
choice of friends
handling finances
political issues
religious matters
conventionality (correct or proper behaviour)
ways of dealing with parents and in-laws
the amount of time you spend together

Marital satisfaction (k = 5; Cronbach's alpha = .79)

(Items used in both new parenthood and heart attack studies.)

If you were to marry again, would you want to marry the same person? (5-point response scale: No, definitely not, No, probably not, Unsure, Yes, probably, Yes, definitely) (Chadwick, Albrecht, & Kunz, 1976.)

I was much happier before I married than I am now. (5-point response scale: Strongly disagree, Disagree, Unsure, Agree, Strongly agree) (Bahr, Chappell, & Leigh, 1983) (reverse scored)

Our relationship is not really a success. (5-point response scale: Strongly disagree, Dsagree, Unsure, Agree, Strongly agree) (Bahr, Chappell, & Leigh, 1983) (reverse scored)

I think we have problems in our marriage...(5-point response scale: Never, Rarely, Sometimes, Most of the time, All of the time) (Terry & Scott, 1987) (reverse scored)

All things considered, how satisfied are you with your marriage? (5-point response scale: Very dissatisfied, A little dissatisfied, Fairly satisfied, Very satisfied, Completely satisfied) (Terry & Scott, 1987)

Quantitative Social Support: Amount of contact with family

New parenthood study (k = 6; Cronbach's alpha = .72)

How often do you, or your partner, see the following people? (5-point response scale: Less than once a month, About once a month, About once a fortnight, About once a week, More than once a week) (category 'no such person' also provided)

your parents
your partner's parents
other relatives

How often do you, or your partner, have telephone or letter contact with the following people? (5-point response scale: Less than once a month, About once a month, About once a fortnight, About once a week, More than once a week) (category 'no such person' also provided)

your parents
your partner's parents
other relatives

Heart attack study (k = 8; Cronbach's alpha = .72)

How often do you, or your partner, see the following
people? (5-point response scale: Less than once a month,
About once a month, About once a fortnight, About once a
week, More than once a week)

your parents
your partner's parents
your children not at home
other relatives

How often do you, or your partner, have telephone or
letter contact with the following people? (5-point
response scale: Less than once a month, About once a
month, About once a fortnight, About once a
week, More than once a week)(category 'no such person'
also provided)

your parents
your partner's parents
your children not at home
other relatives

Quantitative Social Support: Amount of contact with non-

family (k = 8; Cronbach's alpha (new parents) = .67;

(heart attack sample) = .66)

(Items used in both new parenthood and heart attack

studies.)

How often do you, or your partner, see the following
people? (5-point response scale: Less than once a month,
About once a month, About once   a fortnight, About once a
week, More than once a week) (category 'no such person'
also provided)

your mutual friends
your neighbours

How often do you, or your partner, have telephone or
letter contact with the following people? (5-point
response scale: Less than once a month, About once a
month, About once a fortnight, About once a
week, More than once a week) (category 'no such person'
also provided)

your mutual friends
your neighbours

Now, consider your own personal friends (not you and
your partner's mutual friends). How often do you see
them? (5-point response scale: Less than once a month,
About once a month, About once a fortnight, About once a
week, More than once a week) (category 'no such person'
also provided)

How often do you have telephone or letter contact with
them? (5-point response scale: Less than once a month,
About once a month, About once a fortnight, About once a
week, More than once a week) (category 'no such person'
also provided)

Do you and your partner belong to any clubs or community
organisations (such as church groups or football clubs)?
(No, Yes; If yes, how many?)

How about you alone? Do you belong to any clubs or
community organisations? (No, Yes; If yes, how many?)

Qualitative social support

New parenthood study (k = 5; Cronbach's alpha = .56)

Imagine the situation where you and your partner have
suffered a misfortune (e.g., damage to your house).
Indicate below whether you could rely on the following
people for help in such a situation (3-point response
scale, no, unsure, yes) (category 'no such person'
also provided)

your parents
your parents in-law
other relatives
friends
neighbours

Heart attack study (k = 4; Cronbach's alpha = .63)

Imagine the situation where you and your partner have
suffered a misfortune (e.g., damage to your house).
Indicate below whether you could rely on the following
people for help in such a situation (3-point response
scale, no, unsure, yes) (category 'no such person'
also provided)

children
other relatives
friends
neighbours

Adaptation

General Health Questionnaire (Abbreviated from Goldberg,

1972; k = 12; Cronbach's alpha ranged from .83 to .86)

(Items used in both new parenthood and heart attack

studies; all items reverse scored.)

We would now like to know whether you have had any
medical complaints, and how your health has been, in
general, over the past few weeks. Please answer the
following questions by circling the answer which
most nearly applies to you. Remember that we want to
know about present and recent complaints, not those you
had in the past. Have you recently:

Been able to concentrate on whatever you're doing? (4-
point response scale: Better than usual, Same as usual,
Less than usual, Much less than usual)

Lost much sleep over worry? (4-point response scale: Not
at all, No more than usual, Rather more than usual, Much
more than usual)

Felt that you are playing a useful part in things? (4-
point response scale: More so than usual, Same as usual,
Less useful than usual, Much less useful)

Felt capable of making decisions about things? (4-point
response scale: More so than usual, Same as usual, Less
capable than usual, Much less capable)

Felt constantly under strain? (4-point response scale:
Not at all, No more than usual, Rather more than usual,
Much more than usual)

Felt that you couldn't overcome your difficulties? (4-point response scale: Not at all, No more than usual, Rather more than usual, Much more than usual)

Been able to enjoy your normal day-to-day activities? (4-point response scale: More so than usual, Same as usual, Less so than usual, Much less than usual)
Been able to face up to your problems? (4-point response scale: More so than usual, Same as usual, Less so than usual, Much less than usual)

Been feeling unhappy and depressed? (4-point response scale: Not at all, No more than usual, Rather more than usual, Much more than usual)

Been losing confidence in yourself? (4-point response scale: Not at all, No more than usual, Rather more than usual, Much more than usual)

Been thinking of yourself as a worthless person? (4-point response scale: Not at all, No more than usual, Rather more than usual, Much more than usual)

Been feeling reasonably happy all things considered? (4-point response scale: More so than usual, Same as usual, Less so than usual, Much less than usual)

(Low) State-anxiety scale (Speilberger, Gorusch, &

Lushene, 1972; k = 20; Cronbach's alpha ranged from .86 to

.94)

(Items used in both new parenthood and heart attack

studies, with the exception that items 16 and 19-20 were

not utilised at Time 1 in the heart attack study)

We would like to know how you have felt in the last few days, including how you feel now. Do not spend too much time on any one statement but give the answer which seems to describe your recent and present feelings best. (4-point response scale: Not at all, Somewhat, Moderately so, Very much so)

I feel calm.
I feel secure.
I am tense. (reverse scored)
I am regretful. (reverse scored)
I feel at ease.
I feel upset. (reverse scored)

I am presently worrying over possible misfortunes.
 (reverse scored)
I feel rested.
I feel anxious. (reverse scored)
I feel comfortable.
I feel self-confident.
I feel nervous. (reverse scored)
I am jittery. (reverse scored)
I feel 'highly strung'. (reverse scored)
I am relaxed.
I feel content.
I am worried. (reverse scored)
I feel over-excited and 'rattled'. (reverse scored)
I feel joyful.
I feel pleasant.

Subjective Rating of Own and Partner's Coping

Effectiveness (k = 4; Cronbach's alpha (new parents) =

.75; (heart attack sample) = .60)

(Items used in both new parenthood and heart attack

studies.)

How well do you think you and your partner, as a couple,
dealt with the arrival of your child/your/your partner's
heart attack? (4-point response scale: Not well at all,
Not very well, Fairly well, Very well)

How about your partner? How well do you think he/she
coped with the arrival of your child/your/your partner's
heart attack? (4-point response scale: Not well at all,
Not very well, Fairly well, Very well)

How about yourself? How well do you think you coped with
the arrival of your child/your/your partner's heart
attack? (4-point response scale: Not well at all, Not
very well, Fairly well, Very well)

In dealing with the arrival of your child/your/your
partner's heart attack, do you think there are some
things that you, as a couple, could have done better?
(5-point response scale: No, definitely not, No, probably
not, Unsure, Yes, probably, Yes, definitely)

Partner's Rating of Subject's Coping Effectiveness ($k = 1$)

(Item used in both new parenthood and heart attack

studies.)

How about your partner? How well do you think he/she
coped with the arrival of your child/your/your partner's
heart attack? (4-point response scale: Not well at all,
Not very well, Fairly well, Very well)

Subjective rating of role performance ($k = 5$; Cronbach's

alpha (new parents) = .74; (heart attack sample) = .77)

(Items used in both new parenthood and heart attack

studies.)

Think of the different activities that you and your
partner used to do together. For each of the following
types of activities, please indicate how many of them you
and your partner have taken up again since the arrival of
your baby/since your/your partner's heart attack? (4-point
response scale: None of them, A few of them, Some of them,
All of them)

active home pastimes (e.g., gardening)
non-active home pastimes (e.g, watching TV)
active away from home pastimes (e.g, going for walks)
non-active away from home pastimes (e.g, going to movies
 or club meetings)

Now, think of the activities that you used to engage in
without your partner. For each of the following types of
activities, please indicate how many of them you have
taken up again since the arrival of your baby/since
your/your partner's heart attack (4-point response scale:
None of them, A few of them, Some of them, All of them)

active home pastimes (e.g., gardening)
non-active home pastimes (e.g, watching TV)
active away from home pastimes (e.g, going for walks)
non-active away from home pastimes (e.g, going to movies
 or club meetings)

How often have you and your partner seen friends and
relatives in the past fortnight? (4-point response scale:
Not at all, Less than before, As much as before, More
than before)

How about you alone? How often have you seen friends and relatives in the past fortnight? (4-point response scale: Not at all, Less than before, As much as before, More than before)

To what extent have you been able to fulfil your responsibilities to your friends and relatives in the past fortnight? (4-point response scale: Not at all, Less than before, As much as before, More than before)
How much emotional support and understanding have you been able to give to your partner in the past fortnight? (4-point response scale: None at all, Less than before, As much as before, More than before)

Marital Harmony (k = 6; Cronbach's alpha = .83)

People usually experience some difficulties after the birth of their child. From the following list, please indicate which ones you have experienced and how difficult they have been for you in the past fortnight. (4-point response scale: Have not experienced, Experienced but not difficult, Experienced and somewhat difficult, Experienced and very difficult)

changes to you and your partner's marital relationship
feeling more distant from your partner
less time with your partner
problems sharing child-care tasks with partner
problems sharing household tasks with partner
changes to you and your partner's sexual relationship

APPENDIX B

CONSENT FORM USED IN HEART ATTACK STUDY

I_____hereby give my consent to
participating in a study conducted by Ms Deborah Terry from
the Psychology Department of the Australian national
University. I understand that this study is to further
research into the experience of patients and their partners
in the recovery period following a heart attack. I
understand that Ms Terry will require some information from
myself and my partner when I am well enough and out of
Coronary Care and then again twelve weeks after my heart
attack.

I also understand that I may decline to continue
participation in this study at any stage and that the
participation in this study has the approval of my doctor.

It has been explained to me that confidentiality will be
maintained at all times. I understand that a name and
contact address will be required to facilitate the
collection of follow-up data. However, it has been
explained to me that my name and address will be destroyed
as soon as follow-up is completed and that this information
will simply be recorded as a coded number. It has also been
explained to me that no information will be released about
my condition to any person without my consent.

                              Signed_____
                                        (Patient)

                              Signed_____
                                        (Attending Physician
                                         or member of
                                         Physician's team)

APPENDIX C

MEAN SCORES ON MEASURES OF ADAPTATION

FOR LOW, MEDIUM, AND HIGH SCORERS

ON MARITAL COHESION AND FLEXIBILITY

Table C-1

Mean Scores on Measures of Adaptation for Low, Medium, and
High Scores on Marital Cohesion

| Dependent variable | Cohesion | | | df | F |
	Low	Medium	High		
Psychological well-being (T2)	3.26	3.28	3.35	2,232	1.42
Psychological well-being (T3)	3.28	3.34	3.43	2,234	3.26[*]
Subjective view of own & partner's coping effectiveness (T3)	-0.29[a]	0.06	0.08	2,224	4.14[*]
Partner's view of subject's coping effectiveness (T3)	1.59	1.64	1.71	2,224	1.21
Subjective rating of role performance (T3)	2.75	2.80	2.81	2,233	0.38
Marital harmony (T3)	3.26	3.19	3.32	2,234	1.25

Note. Scale scores are mean scores.

[a]Items standardised before scale score computed.

[*]$p < .05$.

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Table C-2

Mean Scores on Measures of Adaptation for Low, Medium, and High Scorers on Marital Flexibility

Dependent variable	Flexibility			df	F
	Low	Medium	High		
Psychological well-being (T2)	3.31	3.30	3.31	2,232	0.01
Psychological well-being (T3)	3.33	3.35	3.43	2,234	1.79
Subjective view of own & partner's coping effectiveness (T3)	-0.16[a]	0.08	0.09	2,224	2.75
Partner's view of subject's coping effectiveness (T3)	1.58	1.73	1.69	2,224	2.01
Subjective rating of role performance (T3)	2.78	2.79	2.81	2,233	0.16
Marital harmony (T3)	3.26	3.21	3.31	2,234	0.61

Note. Scale scores are mean scores.

[a]Items standardised before scale score computed.

APPENDIX D

INTERCORRELATIONS AMONG PREDICTORS

OF STRAIN AND ADAPTATION

Table D-1

Intercorrelations Among Predictors of Strain

Predictor	1	2	3	4	5	6	7
1. Importance of the event	[a]	-.04	-.01	.17*	-.10	-.03	.14*
2. Judged controllability of the event		[a]	-.05	.05	-.10	-.10	.11
3. Anticipated difficulty of the event			(.61)	-.04	.18*	-.07	.09
4. Familiarity				(.56)	-.38*	.00	.14*
5. Role ambiguity					(.76)	.05	-.04
6. (Appropriate) timing of the event						[b]	-.18*
7. Experience of recent and concurrent stressors							[b]

Note. Reliabilities (Cronbach's alpha) in parentheses along diagonal.

Note. Maximum n = 246; ns varied slightly because of pairwise deletion of missing data.

[a]Cronbach's alpha coefficient not computed - single item scale.

[b]Cronbach's alpha coefficient not computed - scale total computed as a frequency count.

*p < .05 (two-tailed test).

Table D-2

Intercorrelations Among Predictors of Adaptation

Predictor	1	2	3	4	5	6	7	8	9	10	11
1. Strain	(.86)	.53*	.51*	−.21*	−.03	−.14*	−.09	−.13*	.03	.08	.11
2. Emotion-focussed coping		(.41)	.38*	−.25*	−.02	−.15*	−.08	−.08	−.03	−.01	−.01
3. Problem-focussed coping			(.75)	−.05	−.03	.03	.00	−.05	.02	.05	.00
4. Self-esteem/ morale				(.80)	.21*	.32*	.23*	.27*	.17*	.17*	.12
5. Internality					(.57)	.17*	.03	.06	.05	.10	.08
6. Affective marital resources						(.88)	.32*	.43*	−.03	−.03	.01
7. Marital flexibility							(.52)	.26*	.04	.00	.11
8. Marital consensus								(.69)	.11	−.02	.05
9. Contact with family									(.72)	.17*	.31*
10. Contact with non-family										(.67)	.24*
11. Qualitative social support											(.56)

Note. Reliabilities (Cronbach's alpha) in parentheses along diagonal.

Note. Maximum n = 246; ns varied slightly because of pairwise deletion of missing data.

*p < .05 (two-tailed test).

APPENDIX E

GENDER DIFFERENCES AMONG CORRELATIONS

Table E-1

Coefficients of Similarity for Males' and Females'

Correlates of Dependent Variables over 26[a] Independent

Variables

Dependent variable	Coefficient of similarity[b]
Strain (T2)	.80[*]
Psychological well-being (T2)	.73[*]
Psychological well-being (T3)	.84[*]
Subjective view of own and partner's coping effectiveness (T3)	.76[*]
Partner's view of subject's coping effectiveness (T3)	.75[*]
Subjective rating of role performance (T3)	.86[*]
Marital harmony (T3)	.86[*]

Note. T2, four weeks post-natal; T3, 18 weeks post-natal.

[a]Comparison of correlates of strain for males and females

involved 25 independent variables.

[b]Pearson product-moment correlation computed over

corresponding correlations.

[*]$p < .05$ (two-tailed test) (assuming independence of

predictors).

Table E-2

Correlations between Predictors and Strain (T2) for Males

and Females

Predictor	Males ($n = 123$)[a]	Females ($n = 123$)
Importance of the event (T1)	.15	.18
Judged controllability of the event (T1)	.07	-.04
Anticipated difficulty of the event (T1)	.56	.31[*]
Familiarity (T1)	-.01	-.25
Role ambiguity (T1)	.17	.34
(Appropriate) timing of the event (T1)	-.08	-.04
Experience of recent & concurrent stressors (T3)	.28	.13
Emotion-focussed coping (T2)	.54	.51
Problem-focussed coping (T2)	.57	.47
Self-esteem/morale (T1)	-.24	-.22
Internality (T1)	-.20	.14[*]
Affective marital resources (T1)	-.18	-.10
Marital flexibility (T1)	.02	-.20
Marital consensus (T1)	-.15	-.13
Contact with family (T1)	.06	-.04
Contact with non-family (T1)	.18	-.01
Qualitative social support (T1)	.08	.12
Whether ill during pregnancy (T1)	-.04	.04
Weeks pregnant at birth (T2)	-.18	.02
Caesarian delivery (T2)	-.01	-.01
Length of labour (T2)	-.16	-.02
Induced labour (T2)	.18	.14
Epidural administered (T2)	-.02	-.03
Forceps delivery (T2)	.23	.15
Baby nursed in Special Care Nursery (T2)	.05	.16

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of missing data.

[*]Correlations significantly different at $p < .05$ (two-tailed test).

Table E-3

Correlations between Predictors and Psychological Well-being

(T2) for Males and Females

Predictor	Males (n = 123)[a]	Females (n = 123)
Importance of the event (T1)	-.13	-.03
Judged controllability of the event (T1)	-.12	.01
Anticipated difficulty of the event (T1)	-.47	-.23
Familiarity (T1)	-.13	.28[*]
Role ambiguity (T1)	-.06	-.32[*]
(Appropriate) timing of the event (T1)	.12	.10
Experience of recent & concurrent stressors (T3)	-.34	-.16
Strain (T2)	-.54	-.67
Emotion-focussed coping (T2)	-.58	-.53
Problem-focussed coping (T2)	-.23	-.28
Self-esteem/morale (T1)	.40	.29
Internality (T1)	.42	-.08[*]
Affective marital resources (T1)	.28	.17
Marital flexibility (T1)	-.02	.14
Marital consensus (T1)	.12	.14
Contact with family (T1)	.16	.02
Contact with non-family (T1)	.04	.10
Qualitative social support (T1)	.11	.06
Whether ill during pregnancy (T1)	-.05	-.10
Weeks pregnant at birth (T2)	.18	-.03
Caesarian delivery (T2)	-.03	.13
Length of labour (T2)	.00	.08
Induced labour (T2)	.04	-.03
Epidural administered (T2)	.02	-.04
Forceps delivery (T2)	-.08	-.09
Baby nursed in Special Care Nursery (T2)	-.10	-.09

Note. T1, pre-natal, T2; four weeks post-natal, T3; 18 weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of missing data.

[*]Correlations significantly different at p < .05 (two-tailed test).

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Table E-4

Correlations between Predictors and Psychological Well-being

(T3) for Males and Females

Predictor	Males (n = 123)[a]	Females (n = 123)
Importance of the event (T1)	.08	.04
Judged controllability of the event (T1)	-.02	.10
Anticipated difficulty of the event (T1)	-.29	-.28
Familiarity (T1)	.00	.07
Role ambiguity (T1)	-.18	-.21
(Appropriate) timing of the event (T1)	-.03	.04
Experience of recent & concurrent stressors (T3)	-.22	-.27
Strain (T2)	-.34	-.34
Emotion-focussed coping (T2)	-.39	-.40
Problem-focussed coping (T2)	-.10	-.23
Self-esteem/morale (T1)	.43	.41
Internality (T1)	.33	.10
Affective marital resources (T1)	.31	.28
Marital flexibility (T1)	.02	.25
Marital consensus (T1)	.17	.26
Contact with family (T1)	.17	.05
Contact with non-family (T1)	.03	.00
Qualitative social support (T1)	.16	-.02
Whether ill during pregnancy (T2)	-.02	-.19
Weeks pregnant at birth (T2)	.11	.04
Caesarian delivery (T2)	-.03	.12
Length of labour (T2)	-.10	.04
Induced labour (T2)	.01	.01
Epidural administered	-.20	-.03
Forceps delivery (T2)	-.11	-.04
Baby nursed in Special Care Nursery (T2)	.04	-.05

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of missing data.

Table E-5

Correlations between Predictors and Subjective View of Own
and Partner's Coping Effectiveness (T3) for Males and
Females

Predictor	Males (n = 123)[a]	Females (n = 123)
Importance of the event (T1)	.22	.10
Judged controllability of the event (T1)	-.03	.13
Anticipated difficulty of the event (T1)	-.16	-.25
Familiarity (T1)	.23	.19
Role ambiguity (T1)	-.25	-.39
(Appropriate) timing of the event (T1)	.05	.03
Experience of recent & concurrent stressors (T3)	-.03	-.14
Strain (T2)	-.25	-.48[*]
Emotion-focussed coping (T2)	-.26	-.46
Problem-focussed coping (T2)	.01	-.35
Self-esteem/morale (T1)	.29	.33
Internality (T1)	.02	.01
Affective marital resources (T1)	.32	.34
Marital flexibility (T1)	.17	.08
Marital consensus (T1)	.07	.17
Contact with family (T1)	.12	.12
Contact with non-family (T1)	-.09	.13
Qualitative social support (T1)	.01	-.07
Whether ill during pregnancy (T2)	-.02	-.07
Weeks pregnant at birth (T2)	-.05	.03
Caesarian delivery (T2)	-.13	.00
Length of labour (T2)	-.14	-.06
Induced labour (T2)	.05	.06
Epidural administered (T2)	-.24	-.08
Forceps delivery (T2)	-.09	-.07
Baby nursed in Special Care Nursery (T2)	.01	-.05

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of
missing data.

[*]Correlations significantly different at p < .05; two-
tailed test).

Table E-6

Correlations between Predictors and Partner's Rating of

Subject's Coping Effectiveness (T3) for Males and Females

Predictor	Males (n = 123)[a]	Females (n = 123)
Importance of the event (T1)	-.04	.02
Judged controllability of the event (T1)	.05	-.09
Anticipated difficulty of the event (T1)	-.25	-.01
Familiarity (T1)	-.03	.13
Role ambiguity (T1)	-.12	-.10
(Appropriate) timing of event (T1)	.12	.15
Experience of recent & concurrent stressors (T3)	-.14	-.07
Strain (T2)	-.28	-.30
Emotion-focussed coping (T2)	-.30	-.25
Problem-focussed coping (T2)	-.17	-.13
Self-esteem/morale (T1)	.16	.14
Internality (T1)	.11	-.06
Affective marital resources (T1)	.26	.15
Marital flexibility (T1)	.14	.09
Marital consensus (T1)	.14	.03
Contact with family (T1)	.06	-.04
Contact with non-family (T1)	-.14	.07
Qualitative social support (T1)	-.08	.10
Whether ill during pregnancy (T2)	-.15	-.13
Weeks pregnant at birth (T2)	.09	-.07
Caesarian delivery (T2)	-.06	.06
Length of labour (T2)	-.11	-.05
Induced labour (T2)	.00	.03
Epidural administered (T2)	-.15	-.32
Forceps delivery (T2)	-.15	-.16
Baby nursed in Special Care Nursery (T2)	-.12	-.02

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of missing data.

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Table E-7

Correlations between Predictors and Subjective Rating of

Role Performance (T3) for Males and Females

Predictor	Males (n = 123)[a]	Females (n = 123)
Importance of the event (T1)	.09	.04
Judged controllability of the event (T1)	.00	.08
Anticipated difficulty of the event (T1)	-.28	-.25
Familiarity (T1)	.03	.24
Role ambiguity (T1)	-.36	-.34
(Appropriate) timing of event (T1)	-.10	.01
Experience of recent & concurrent stressors (T3)	-.12	-.13
Strain (T2)	-.40	-.46
Emotion-focussed coping (T2)	-.29	-.39
Problem-focussed coping (T2)	-.27	-.21
Self-esteem/morale (T1)	.21	.31
Internality (T1)	.27	.06
Affective marital resources (T1)	.10	.12
Marital flexibility (T1)	.11	.12
Marital consensus (T1)	.06	.19
Contact with family (T1)	.00	.13
Contact with non-family (T1)	-.05	.14
Qualitative social support (T1)	-.02	.02
Whether ill during pregnancy (T2)	.04	-.14
Weeks pregnant at birth (T2)	-.06	.05
Caesarian delivery (T2)	-.08	.07
Length of labour (T2)	.03	.04
Induced labour (T2)	.02	.07
Epidural administered (T2)	.12	.18
Forceps delivery (T2)	-.04	.05
Baby nursed in Special Care Nursery (T2)	-.02	.00

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of missing data.

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Table E-8

Correlations between Predictors and Marital Harmony (T3)

for Males and Females

Predictor	Males (n = 123)[a]	Females (n = 123)
Importance of event (T1)	-.05	.05
Judged controllability of the event (T1)	-.07	.09
Anticipated difficulty of the event (T1)	-.25	-.21
Familiarity (T1)	-.11	.15*
Role ambiguity (T1)	-.21	-.22
(Appropriate) timing of event (T1)	-.06	-.05
Experience of recent & concurrent stressors (T3)	-.23	-.30
Strain (T2)	-.50	-.46
Emotion-focussed coping (T2)	-.30	-.41
Problem-focussed coping (T2)	-.34	-.32
Self-esteem/morale (T1)	.29	.25
Internality (T1)	.11	.04
Affective marital resources (T1)	.05	.21
Marital flexibility (T1)	-.03	.09
Marital consensus (T1)	.13	.19
Contact with family (T1)	.02	.04
Contact with non-family (T1)	-.11	.08
Qualitative social support (T1)	.08	.02
Whether ill during pregnancy (T2)	-.09	-.09
Weeks pregnant at birth (T2)	.04	-.12
Caesarian delivery (T2)	.02	.11
Length of labour (T2)	.03	.07
Induced labour (T2)	-.05	-.04
Epidural administered (T2)	-.03	-.05
Forceps delivery (T2)	-.17	-.15
Baby nursed in Special Care Nursery (T2)	.01	-.07

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

[a]Ns varied slightly because of pairwise deletion of missing data.

*Correlations significantly different at p < .05 (two-tailed test).

APPENDIX F

MULTIPLE REGRESSION ANALYSES

PREDICTING MEASURES OF ADAPTATION -

-          BUFFERING MODEL

Table F-1

Multiple Regression Analysis Predicting Psychological

Well-being (T2) (Buffering Model)

Predictor	Beta
Psychological well-being (T1)	.21*
Strain (T2)	-.50*
Emotion-focussed coping (T2)	-.23*
Problem-focussed coping (T2)	.08
Self-esteem/morale (T1)	.06
Internality (T1)	.06
Affective marital resources (T1)	.05
Marital flexibility (T1)	-.07
Marital consensus (T1)	-.05
Contact with family (T1)	.02
Contact with non-family (T1)	.05
Qualitative social support (T1)	.09*
Strain x self-esteem/morale	.07
Strain x internality	.04
Strain x affective marital resources	.01
Strain x marital flexibility	.05
Strain x marital consensus	-.03
Strain x contact with family	-.05
Strain x contact with non-family	-.10**
Strain x qualitative social support	.11*
R	.77
Adj. R^2	.55

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

*p < .05 (one-tailed test)

**p < .05 (two-tailed test).

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Table F-2

Multiple Regression Analysis Predicting Psychological

Well-being (T3) (Buffering Model)

Predictor	Beta
Psychological well-being (T1)	.26*
Strain (T2)	-.11
Emotion-focussed coping (T2)	-.22*
Problem-focussed coping (T2)	.04
Self-esteem/morale (T1)	.15*
Internality (T1)	.11*
Affective marital resources (T1)	.07
Marital flexibility (T1)	-.03
Marital consensus (T1)	.01
Contact with family (T1)	.05
Contact with non-family (T1)	-.04
Qualitative social support (T1)	.03
Strain x self-esteem/morale	-.09
Strain x internality	.01
Strain x affective marital resources	.05
Strain x marital flexibility	.05
Strain x marital consensus	-.01
Strain x contact with family	.00
Strain x contact with non-family	.03
Strain x qualitative social support	-.05
R	.60
Adj. R^2	.30

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

*p < .05 (one-tailed test).

Table F-3

Multiple Regression Analysis Predicting Subjective

View of Own and Partner's Coping Effectiveness (T3)

(Buffering Model)

Predictor	Beta
Strain (T2)	-.24*
Emotion-focussed coping (T2)	-.17*
Problem-focussed coping (T2)	.01
Self-esteem/morale (T1)	.14*
Internality (T1)	-.08
Affective marital resources (T1)	.28*
Marital flexibility (T1)	-.02
Marital consensus (T1)	-.11
Contact with family (T1)	.12*
Contact with non-family (T1)	.02
Qualitative social support (T1)	-.05
Strain x self-esteem/morale	-.03
Strain x internality	-.08
Strain x affective marital resources	.05
Strain x marital flexibility	-.07
Strain x marital consensus	.01
Strain x contact with family	-.01
Strain x contact with non-family	.01
Strain x qualitative social support	.00
$\underline{R}$	.54
Adj. $\underline{R}^2$	.23

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. $\underline{N}$ = 246; regression analysis based on mean substitution of missing data.

*$\underline{p}$ < .05 (one-tailed test).

Table F-4

Multiple Regression Analysis Predicting Partner's View

of Subject's Coping Effectiveness (T3) (Buffering Model)

Predictor	Beta
Strain (T2)	-.16*
Emotion-focussed coping (T2)	-.13*
Problem-focussed coping (T2)	.01
Self-esteem/morale (T1)	.06
Internality (T1)	.03
Affective marital resources (T1)	.15*
Marital flexibility (T1)	.03
Marital consensus (T1)	-.05
Contact with family (T1)	.06
Contact with non-family (T1)	-.05
Qualitative social support (T1)	.01
Strain x self-esteem/morale	-.04
Strain x internality	.15*
Strain x affective marital resources	.06
Strain x marital flexibility	.06
Strain x marital consensus	-.08
Strain x contact with family	-.09
Strain x contact with non-family	.01
Strain x qualitative social support	.05
R	.39
Adj. R^2	.08

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

*p < .05 (one-tailed test).

Table F-5

Multiple Regression Analysis Predicting Subjective View

of Role Performance (T3) (Buffering Model)

Predictor	Beta
Strain (T2)	-.31*
Emotion-focussed coping (T2)	-.14*
Problem-focussed coping (T2)	-.04
Self-esteem/morale (T1)	.10
Internality (T1)	.06
Affective marital resources (T1)	-.02
Marital flexibility (T1)	.06
Marital consensus (T1)	.04
Contact with family (T1)	.03
Contact with non-family (T1)	.05
Qualitative social support (T1)	.00
Strain x self-esteem/morale	-.02
Strain x internality	-.04
Strain x affective marital resources	-.05
Strain x marital flexibility	.05
Strain x marital consensus	.03
Strain x contact with family	.07
Strain x contact with non-family	.05
Strain x qualitative social support	.00
R	.50
Adj. R^2	.18

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

*p < .05 (one-tailed test).

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Table F-6

Multiple Regression Analysis Predicting Marital Harmony

(T3) (Buffering Model)

Predictor	Beta
Strain (T2)	-.21*
Emotion-focussed coping (T2)	-.15*
Problem-focussed coping (T2)	-.17**
Self-esteem/morale (T1)	.13*
Internality (T1)	-.03
Affective marital resources (T1)	.05
Marital flexibility (T1)	-.05
Marital consensus (T1)	.07
Contact with family (T1)	-.01
Contact with non-family (T1)	-.02
Qualitative social support (T1)	.09
Strain x self-esteem/morale	.09
Strain x internality	-.02
Strain x affective marital resources	.05
Strain x marital flexibility	-.06
Strain x marital consensus	.01
Strain x contact with family	-.04
Strain x contact with non-family	.08
Strain x qualitative social support	.09
R	.50
Adj. R^2	.19

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

*p < .05 (one-tailed test).

**p < .05 (two-tailed test).

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APPENDIX G

MULTIPLE REGRESSION ANALYSES
PREDICTING STRAIN AND ADAPTATION
FROM THEORETICALLY RELEVANT
AND IRRELEVANT PREDICTORS

Table G-1

Multiple Regression Analysis Predicting Strain (T2)

from Theoretically Relevant and Irrelevant Predictors

Predictor	Beta
Importance of the event (T1)	.19*
Judged controllability of the event (T1)	-.01
Anticipated difficulty of the event (T1)	.36*
Familiarity (T1)	-.09
Role ambiguity (T1)	.14*
(Appropriate) timing of event (T1)	-.01
Experience of recent & concurrent stressors (T3)	.17*
Internality	-.04
Internality x role ambiguity	.05
Self-esteem/morale (T1)	-.11
Affective marital resources (T1)	.02
Marital flexibility (T1)	-.02
Marital consensus (T1)	-.02
Contact with family (T1)	-.01
Contact with non-family (T1)	.09
Qualitative social support (T1)	.08
$\underline{R}$	.56
Adj. $\underline{R}^2$	.26

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. $\underline{N}$ = 246; regression analysis based on mean substitution of missing data.

*$\underline{p}$ < .05 (one-tailed test).

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Table G-2

Multiple Regression Analysis Predicting Psychological

Well-being (T2) from Theoretically Relevant and Irrelevant

Predictors

Predictor	Beta
Psychological well-being (T1)	.22*
Importance of the event (T1)	-.02
Judged controllability of the event (T1)	-.05
Anticipated difficulty of the event (T1)	-.04
Familiarity (T1)	-.03
Role ambiguity (T1)	-.03
(Appropriate) timing of the event (T1)	.06
Experience of recent & concurrent stressors (T3)	.03
Strain (T2)	-.46*
Emotion-focussed coping (T2)	-.25*
Problem-focussed coping (T2)	.10*
Self-esteem/morale (T1)	.07
Internality (T1)	.07
Affective marital resources (T1)	.04
Marital flexibility (T1)	-.08
Marital consensus (T1)	-.05
Contact with family (T1)	.02
Contact with non-family (T1)	.07
Qualitative social support (T1)	.09*
R	.75
Adj. R^2	.53

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18

weeks post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

*p < .05 (one-tailed test).

Table G-3

Multiple Regression Analysis Predicting Psychological

Well-being (T3) from Theoretically Relevant and

Irrelevant Predictors

Predictor	Beta
Psychological well-being (T1)	.23[*]
Importance of the event (T1)	.06
Judged controllability of the event (T1)	.01
Anticipated difficulty of the event (T1)	-.05
Familiarity (T1)	-.05
Role ambiguity (T1)	-.07
(Appropriate) timing of the event (T1)	-.04
Experience of recent & concurrent stressors (T3)	-.08
Strain (T2)	-.11
Emotion-focussed coping (T2)	-.20[*]
Problem-focussed coping (T2)	.06
Self-esteem/morale (T1)	.12[*]
Internality (T1)	-.10[*]
Affective marital resources (T1)	.07
Marital flexibility (T1)	-.03
Marital consensus (T1)	.03
Contact with family (T1)	.03
Contact with non-family (T1)	-.01
Qualitative social support (T1)	.04
R	.60
Adj. R^2	.31

Note. T1, pre-natal; T2, 1st post-natal; T3, 18 weeks
post-natal.

Note. N = 246; regression analysis based on mean

substitution of missing data.

[*]p < .05 (one-tailed test).

Table G-4

Multiple Regression Analysis Predicting Subjective View

View of Own and Partner's Coping Effectiveness (T3) from

Theoretically Relevant and Irrelevant Predictors

Predictor	Beta
Importance of the event (T1)	.14**
Judged controllability of the event (T1)	.04
Anticipated difficulty of the event (T1)	-.01
Familiarity (T1)	.03
Role ambiguity (T1)	-.14**
(Appropriate) timing of the event (T1)	.04
Experience of recent & concurrent	
stressors (T3)	.05
Strain (T2)	-.24*
Emotion-focussed coping (T2)	-.15*
Problem-focussed coping (T2)	-.03
Self-esteem/morale (T1)	.13*
Internality (T1)	-.08
Affective marital resources (T1)	.26*
Marital flexibility (T1)	-.05
Marital consensus (T1)	-.11
Contact with family (T1)	.11*
Contact with non-family (T1)	.04
Qualitative social support (T1)	-.02
R	.57
Adj. R^2	.28

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18
weeks post-natal.

Note. N = 246; regression analysis based on mean
substitution of missing data.

*p < .05 (one-tailed test).

**p < .05 (two-tailed test).

Table G-5

Multiple Regression Analysis Predicting Partner's View

of Subject's Coping Effectiveness (T3) from Theoretically

Relevant and Irrelevant Predictors

Predictor	Beta
Importance of the event (T1)	-.02
Judged controllability of the event (T1)	-.07
Anticipated difficulty of the event (T1)	.05
Familiarity (T1)	.02
Role ambiguity (T1)	-.02
(Appropriate) timing of the event (T1)	.08
Experience of recent & concurrent stressors (T3)	-.06
Strain (T2)	-.16*
Emotion-focussed coping (T2)	-.16*
Problem-focussed coping (T2)	.00
Self-esteem/morale (T1)	.07
Internality (T1)	.02
Affective marital resources (T1)	.16*
Marital flexibility (T1)	.04
Marital consensus (T1)	-.04
Contact with family (T1)	.06
Contact with non-family (T1)	-.02
Qualitative social support (T1)	-.01
R	.36
Adj. R^2	.06

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 246; regression analysis based on mean substitution of missing data.

*p < .05 (one-tailed test).

Table G-6

Multiple Regression Analysis Predicting Subjective View

of Role Performance (Time 3) from Theoretically Relevant

and Irrelevant Predictors

Predictor	Beta
Importance of the event (T1)	.09
Judged controllability of the event (T1)	.02
Anticipated difficulty of the event (T1)	-.07
Familiarity (T1)	-.03
Role ambiguity (T1)	-.22**
(Appropriate) timing of the event (T1)	-.04
Experience of recent & concurrent stressors (T3)	-.02
Strain (T2)	-.29*
Emotion-focussed coping (T2)	-.11
Problem-focussed coping (T2)	-.01
Self-esteem/morale (T1)	.08
Internality (T1)	.07
Affective marital resources (T1)	-.05
Marital flexibility (T1)	.00
Marital consensus (T1)	.00
Contact with family (T1)	.01
Contact with non-family (T1)	.05
Qualitative social support (T1)	.03
R	.54
Adj. R^2	.23

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 246; regression analysis based on mean substitution of missing data.

*p < .05 (one-tailed test).

**p < .05 (two-tailed test).

Table G-7

Multiple Regression Analysis Predicting Marital Harmony

(Time 3) from Theoretically Relevant and Irrelevant

Predictors

Predictor	Beta
Importance of the event (T1)	.08
Judged controllability of the event (T1)	.03
Anticipated difficulty of the event (T1)	-.08
Familiarity (T1)	-.01
Role ambiguity (T1)	-.09
(Appropriate) timing of the event (T1)	-.10
Experience of recent & concurrent stressors	-.17**
Strain (T2)	-.16*
Emotion-focussed coping (T2)	-.13*
Problem-focussed coping (T2)	-.11
Self-esteem/morale (T1)	.12*
Internality (T1)	-.03
Affective marital resources (T1)	.01
Marital flexibility (T1)	-.07
Marital consensus (T1)	.06
Contact with family (T1)	-.05
Contact with non-family (T1)	-.04
Qualitative social support (T1)	.08
R	.52
Adj. R^2	.21

Note. T1, pre-natal; T2, four weeks post-natal; T3, 18 weeks post-natal.

Note. N = 246; regression analysis based on mean substitution of missing data.

*p < .05 (one-tailed test).

**p < .05 (two-tailed test).

APPENDIX H

COMPARISON OF AMOUNT OF VARIANCE EXPLAINED

IN DEPENDENT VARIABLES USING MEAN, MINIMUM,

AND MAXIMUM COUPLE SCORES AS PREDICTORS

TABLE H-1

Comparison of Amount of Variance Explained (Adjusted R^2) in Dependent Variables (Mean Couple Scores) with Mean, Minimum, and Maximum Couple Scores as Predictors

Dependent variable	Mean	Minimum	Maximum
Mean strain (T2)	.31	.20	.31
Mean psychological well-being (T2)	.56	.55	.44
Mean psychological well-being (Time 3)	.50	.45	.41
Mean subjective view of own and partner's coping effectiveness (T3)	.31	.29	.24
Mean subjective view of role performance (T3)	.23	.17	.24
Mean marital harmony (T3)	.22	.22	.17

Note. $\underline{N}$ = 123; regression analyses based on mean substitution of missing data.