THE ROLE OF FAMILIES IN PROMOTING HEALTH BEHAVIOURS IN THEIR PRESCHOOL AGED CHILDREN

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, within the School of Social, Community and Organisational Studies, University of Western Sydney, Nepean, March, 2000.
PLEASE NOTE

The greatest amount of care has been taken while scanning this thesis,

and the best possible result has been obtained.
STUDENT STATEMENT

This is to certify that this thesis has not been submitted for a higher degree to any other University or Institution. The source of the information herein is original and is solely the work of the author, except as indicated in the text.

Janet Roden.
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ABSTRACT

This thesis explores parental health behaviours in order to develop a questionnaire which will measure the health behaviours of parents. It does so in a triangulated study by using a combination of qualitative and quantitative research methods. In the first, qualitative, exploratory study a modified Grounded Theory (Glaser & Strauss, 1967) approach was used to explore the health concepts and health behaviours of parents. The aims of the qualitative study were to explore parents’ concepts of health and the health behaviours they initiate for their preschool aged children, and examine the relationship between parents’ health concepts and the health behaviours they undertake for their children. The purposive sample of eleven parent couples and three single parents with preschool aged children attending long day care and preschool/Kindergarten centres, was equally distributed between parents from Mt Druitt and Baulkham Hills in Western Sydney. Consenting parents were given in-depth interviews, undertaken in groups of threes and simultaneously analysed, and interviews were finalised when saturation was regarded as having occurred. Results revealed the presence of three themes. The largest theme, ‘The Nature of Health’ indicated that most families were engaged in prevention rather than health promotion whilst ‘The Inter-generational Theme’ recognised that mothers were perceived as being involved in the transmission of health values from one generation to another. The last theme ‘The Multi-dimensional Nature of Child Health Behaviour’ provided some understanding of the way child health is ‘meshed’ into life because it is hard to separate out and in that way is multi-disciplinary in nature.

The aims of the quantitative study were that: the health concepts of wellness, health promotion and illness prevention, identified by these parents, were measured; the relationship of these measured health concepts was examined for Western Sydney families with preschool aged children to a range of demographic and family variables, and lastly that the health beliefs of these families and their intention to undertake health behaviours for their children, were determined.

In line with the major research aims of the second, quantitative study, the emerging theory from the inductive exploration of parents’ health and their health behaviours and the health literature, formed the basis for the construction of a questionnaire which
contained health domains of wellness, health promotion and illness prevention and their clusters. A purposive sample of 150 volunteer parents, whose children attended either preschools/ kindergartens or long day care centres, equally distributed between the regions of Mt Druitt and Baulkham Hills, was given a 26 page questionnaire which contained demographic and health related variables. A reasonable return rate of 68.66% was achieved and the data was analysed using SPSS and the MANCOVA technique. The results reflected a very strong association between group variability and the demographic cluster and models for wellness, health promotion and illness prevention. The results indicated that the lower socio-economic background, Mt Druitt families performed better on wellness health behaviours associated with sharing, because they were inclusive of their children and obtained resource people for their problems. On the other hand the higher socio-economic background, Baulkham Hills families were better able to perform on wellness health behaviours such as having reduced smoking and caffeine drinking behaviour. Moreover when it came to health promoting behaviours Baulkham hills families watched less TV with their children while for preventive health behaviours they did more regular cleaning of teeth and dental checks than the Mt Druitt families.

Important implications arising for practice are that doctors and child health nurses need to assist low socio-economic background families to develop a health promotion commitment, being mindful of the important health transmission role of mothers; community nurses need to collaborate with child care centres in low socio-economic areas so that they can empower these families through involvement in community projects, develop and run family health management projects and monitor these families through health visitor programs and child and family health professionals need to be active in lobbying for changes to healthy public policy especially involving television.
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CHAPTER 1

INTRODUCTION

1.1 SIGNIFICANCE OF THE THESIS

Australian families play a vital role in supporting the healthy development of their young children. The health of young families is very important, especially that of young children who need parental guidance to establish effective health values for themselves and the next generation. It is imperative that Australian families with young children have health promotion and illness prevention strategies so as to remain healthy. Disadvantaged families need assistance with these health strategies in order to maintain their health and satisfactorily develop appropriate health values.

The compromised health of disadvantaged, low socio-economic families and what can be done to assist them is a major concern in this thesis. The thesis provides an in depth picture of health promotion in Australia, of the different kinds of Australian families with young preschool aged children and what influences their health. It demonstrates how abstract constructs can provide a more appropriate Health Belief Model which focuses on health promotion. It culminates in the final achievement of a questionnaire based on rich parental data, which measures the health behaviours of different kinds of parents towards their preschool aged children.

This thesis is important because it is authentically reflects the perspectives of parents about what they do for their child’s health. It is also important since it provides a much needed instrument to measure family health and parental health behaviours towards their preschool aged children. Finally it is a thesis which challenges the status quo by demanding that health professionals, especially community nurses, help families acquire health and maintain it – especially those disadvantaged Australian families with preschool aged children.
1.2 BACKGROUND AND RATIONALE

The author’s background is that of a nurse and midwife in the child and family health area. As a result I have a commitment to and an interest in children, their families and their healthy development. My involvement in this project stemmed from my earlier research activities in childhood immunisation. This research identified renting, itinerancy (moving more than four times in five years) and lower educational status as being implicated in incomplete childhood immunisation in Western Sydney (Roden, 1992, March-May). Because these socio-economic factors were important for this childhood immunisation research it made sense to investigate the impact of socio-economic factors generally on child health. What was needed was to ask parents what health behaviours they undertook for their young child and to investigate whether low socio-economic background was one of the major factors affecting those health behaviours.

As well, my commitment to and desire to be involved in the beginning field of health research was behind my efforts to construct an instrument which would measure the health of families with preschool aged children. Moreover as family research is another area of interest for me it was important to involve parents in the overall assessment of their family health status, not just in assessing what they do for their preschool aged child’s health. It was also important to pursue this research as the Australian government has a commitment to improving family health and needs the assistance of health professionals in this task (The First Biennial Report of the Australian Institute of Health, 1988). Other issues of major concern for me are the growing divide between rich and poor in Australian society; the lifestyle problems associated with fast food and lack of exercise and stress created by the pace of living and technological change. These issues impact on Australian families and can unfavourably affect health patterns and behaviours of families with young children.

The choice of families with preschool aged children was made by me on the basis that an understanding of the value of health within the family setting is developed in early childhood (Loveland-Cherry, 1989, 1996). Although families with children of preschool age fall within the range of families in early childhood it is argued that by this stage parental health behaviour patterns have had enough time to develop. The choice of a preschool setting was made because there were 72% of Australian four year olds
attending formal care with 79% of those attending preschool (Australian Bureau of Statistics, 1994).

1.3 THE RESEARCH QUESTIONS

Of interest in this thesis are parents’ concepts of health and the health behaviours that parents initiate for their preschool aged children. In addition the factors that compromise the health of young Australian families were investigated. Do these factors impede the ability of parents to undertake health promotion and illness prevention behaviours for their children?

This thesis will answer these questions by investigating different families of low socio-economic background, single parent families and families of ethnic origin with young preschool aged children living in two different socio-economic areas of Western Sydney.

1.4 OVERVIEW OF THESIS

1.4.1 Development of the Thesis

In Chapter 2 the reader is introduced to health promotion because it has an important role in this thesis. This chapter focuses on all aspects of illness prevention and health promotion. It addresses definitional bases of health, health education, illness prevention and health promotion as well as examining their historical development. The status of health promotion compared to that of curative medicine is explored and the importance of the health promotion role for doctors and nurses and philosophical and political issues associated with health promotion are addressed. Then discussion focuses on the issue of quality of life and health and that of the individual assessment of the value of health, with the introduction to the concept of a wellness life style (Ardell, 1977). This is finally followed by addressing family health and the importance of health and health promotion for different kinds of families with young children, especially those of low socio-economic background, single parent, as well as families of ethnic origin, in order to explore whether these families undertake different health behaviours for their children.

Chapter 3 is pertinent and appropriate in specific terms in relation to the topic it focuses on families and their health promotion role and why families need health promotion.
Important sections are family definitions and structures as well as a historical discussion about the health status of Australian families with young children. In addition, discussing the different types of families – ‘energised’ families, nuclear families, single parent families and ethnic families – and the factors which appear to influence family health such as socio-economic background, locus of control and self efficacy are addressed. A main focus for this Chapter is that of the socio-economically disadvantaged families and the importance of health promotion in assisting these families. It is argued here that Australian community nurses need to become more involved in their health promotion role for these needy families. Moreover the thesis seeks to validate this increased family health promotion role for community nurses, through its supporting research. The final section identifies the important questions – for example, do different kinds of families hold different kinds of health concepts? – which need to be answered about such families and their possible health promotion needs.

Chapter 4 provides an overview of theories about families as well as addressing health promotion models. The Health Belief Model (HBM) is acknowledged as the most significant health promotion model although Pender’s (1996) revised family health promotion model is also considered appropriate for the use of nurses in modifying entrenched, negative health behaviours. It is argued in this Chapter that the ‘negative’ illness prevention notions associated with the HBM are inappropriate for the promotion of health. However, a point of interest for this Chapter occurs with the discussion of similarities between the HBM and the exciting possibilities presented by other expectancy theories such as those of Fishbein and Ajzen (1975) and Ajzen (1985). This Chapter argues that inserting two constructs from Ajzen's Theory of Planned Behaviour – intention and perceived control – will provide a revised Health Belief Model which has a health promoting focus, especially for families with young children.

The methodological considerations associated with the qualitative research study (study one) are presented and justified in Chapter 5. This first study is an introductory, exploratory, qualitative study which uses a modified Grounded Theory (Glaser & Strauss, 1967) and has a purposive sample of fourteen parent sets with preschool aged children attending long day care and preschool/kindergarten centres. Of these fourteen parent sets six parent couples and one single parent (seven parent sets) were from Mt Druitt while five parent couples and two single parents (seven parent sets) were from Baulkham Hills.
In-depth interviews, undertaken in threes with consenting parents, were simultaneously analysed. When no new themes emerged but for peripheral material involving the sub themes, saturation was regarded as occurring so interviews were finalised on this basis.

1.4.2 Aims of the Qualitative Study

The aims of the qualitative study are to:

- explore parents’ concepts of health and the health behaviours they initiate for their preschool aged children, and
- examine the relationship between parents’ health concepts and the health behaviours they undertake for their children.

The rationale for this study was that it would provide the rich, thematic data about parental perceptions of health and their health behaviours towards their children. The themes for this data would then be used to inform the second quantitative study.

Chapter 6 makes available the rich parental data which forms the basis for the construction of the questionnaire. The thematic development is primarily about the main theme - that of ‘The Nature of Health.’ It highlights holistic health and that of parental role performance; parents focused on adapting to change and parents who strive to reach their full health potential. Other themes are ‘The Multi-dimensional Nature of Child Health Behaviour’ in which parents indicate that the health behaviours they undertake for their child become merged with other kinds of behaviours and it is hard to separate them out, and ‘The Inter-generational Theme’ which addresses the transmission of health behaviours from parents’ mothers to many of the parents in the study. Furthermore the small number of families who aspire to health promotion as well as the majority of families focused on illness prevention concepts, are also identified and discussed.

The second study, which is explained in Chapter 7, is quantitative (study two) and involves the development of a questionnaire primarily based on the resultant thematic development acquired from the first inductive study.
1.4.3 Aims of the Quantitative Study

The aims of the quantitative study are that:

- the health concepts of wellness, health promotion and illness prevention, identified by these parents, are measured;

- the relationship of these measured health concepts are examined for Western Sydney families with preschool aged children to a range of demographic and family variables, and lastly

- the health beliefs of these families and their intention to undertake health behaviours for their children are determined.

1.4.4 Process and Outcomes of the Thesis

Chapter 7 outlines the process and rationale for the development of the questionnaire associated with the measurement of such health concepts as wellness, health promotion and illness prevention. The rich parental data of the exploratory study is able to inform the questionnaire constructed in conjunction with the pertinent literature, initial hypotheses and questions asked of the data. On this basis the health domains of wellness, health promotion and illness prevention, measured in the questionnaire, are developed and the clusters of each domain are also constructed. The largest domain – that of wellness – consisted of seven clusters while the health promotion consisted of four clusters, followed by the illness prevention domain with two clusters.

The purposive sample for this study consisted of 150 volunteer parents from Mt Druitt and Baulkham Hills in Western Sydney (75 parents from each area) with children who were going to preschools/kindergartens or long day care centres. They were given a 26 page questionnaire with a selection of demographic and health related variables. In the final section of Chapter 7 procedures associated with the collection of the samples as well as the analysis of data is provided.

Chapter 8 presents the results of the quantitative study while Chapter 9 looks at the results in their totality and determines how the qualitative and quantitative studies contribute to the thesis as a whole. It is here that any limitations of the study, their reliability and
validity issues and any recommendations for future research are addressed. The important health findings of the quantitative and qualitative studies also need to be interpreted for health professionals on the basis of this exploratory work about health promotion and the health behaviours of parents towards their preschool aged child.

Important implications arising from this project are that firstly both doctors and child health nurses can assist low socio-economic background parents in becoming more involved in health promotion, especially mothers deemed important in their health transmission role. Secondly community nurses need to collaborate with child care centres in low socio-economic areas, especially those in Western Sydney, so as to empower these families by involving them in community projects, assisting families by running family health management programs and monitoring these families through health visitor programs. A further recommendation is for child and family health professionals to be active in lobbying for changes in policy associated with promoting family health programs and information on television.

1.5 SUMMARY

To date in this Chapter the researcher has provided an account of the significance of the thesis, its background and rationale, a brief statement of the problem the thesis is addressing and an overview of the development, the aims, the processes involved in the questionnaire construction and the outcomes of the thesis.

In order to set the scene for introducing the topic of families and their health promotion role, the next Chapter 2 addresses the status and contribution of health promotion and its position, historically and currently, within Australia. The health promotion role of doctors and nurses is also discussed as well as the value of health to individuals. In the final section the health promotion role of families with young children is introduced and will be explored in more depth into Chapter 3.
CHAPTER 2

HEALTH PROMOTION AND HEALTH PROMOTING BEHAVIOURS

This chapter critically examines illness prevention, health promotion and health promoting behaviours and the issues associated with them. The first section focuses on definitional issues associated with prevention and health promotion concepts and how the concepts have changed over time while the second will discuss economic and cost effectiveness aspects of prevention. The third section will address the perceived status of prevention as opposed to cure and the importance of health promotion to nurses whilst quality of life issues will be examined in terms of prevention in the fourth section. In the fifth section the various philosophical positions relating to prevention will be discussed and then related to workers in the community health area. Finally, a series of issues pertinent to the thesis topic will be examined, including – Does the health concept of prevention have a different meaning for different kinds of families? Will this affect whether and how these families undertake preventive health behaviours for themselves and their preschool aged child?

At a popular level few would argue with the proposition that ‘prevention is better than cure’. In this context ‘prevention’ is acknowledged to mean prevention from disease or injury whereas ‘cure’ refers to successful medical intervention in the case of illness or disease. At the same time, however, few would hold that as a community we do not need both illness prevention and health promotion programs as well as curative, medical intervention services. The very notion that one form of health intervention is better than another immediately opens up debates around issues such as competition for scarce health resources, power and conflict between various health professionals and what the various terms and concepts mean.

Much of the debate about prevention has centred on its economic value – its cost effectiveness. Fuchs (1986) suggests that in economic terms medical care can be equated to inputs (that is, income and education) whilst health can be equated to outputs (that is, expenses). Leichter (1991) mounts a challenge to the idea that prevention is better than
cure whilst Lawson (1991) concedes that prevention and cure are equally important. In his concession Lawson (1991) states that although prevention played a significant role in the reduction of heart disease in the 1970s through the decline in smoking behaviour and hypertension, people should also realise that medical intervention has played an equally important role – hypertension and hypercholesterolaemia, for instance, can also be controlled through medical intervention. Furthermore Leichter (1991) acknowledges that health promotion programs have yet to demonstrate their effectiveness or efficiency conclusively, with respect to prevention.

In terms of demonstrating the effectiveness of prevention Lawson (1991) demonstrates that prevention minimises pain and suffering, both of which have their own intangible costs, as well as saving money. Palmer and Short (1989) argue, however, that not all prevention interventions are necessarily of the cost saving variety. Whilst taxation and regulation is shown by cost-benefit analysis to be an effective and cheap approach to prevention outside the clinical domain (for example, taxing cigarettes to make them less accessible), health promotion interventions in the clinical domain may not necessarily be of economic benefit.

Finally, research exists that shows that sometimes prevention and sometimes cure buys more health for the same money (Russell, 1986) with Lawson (1991) conceding that while it is difficult to tease out the boundaries between prevention and medical treatment, in terms of their contribution to health costs and benefits, the fall in heart disease mortality can be attributed 60% to prevention and 40% to medical intervention.

It is difficult to argue for any final position with respect to whether ‘prevention is better than cure.’ This general overview guides the development of the rest of this chapter. The development of prevention and health promotion concepts in a historical sense, and the strategies and initiatives associated with the development of these concepts, is overviewed first.
2.1 CHANGES ASSOCIATED WITH HEALTH PROMOTION

2.1.1 Historical Influences and the Development of Concepts

During the 1950s there was great concern in the U.S.A. about the spread of diseases and people’s non-participation in programs to prevent or detect disease. Rosenstock, Hochbaum, Leventhal and Kegeles (1974) noted that The Health Belief Model (HBM) was formulated at that time to inspire people to participate in programs associated with the prevention or the detection of disease.

Whilst the HBM was originally developed for the purpose of preventing disease, this model, which could be used to explain both illness (disease) as well as health (preventive health) behaviour, had as its primary focus, disease and illness. The HBM dealt with the behaviour of individuals who were not suffering from disease and who needed to be oriented towards the avoidance of disease (Rosenstock, 1974a, Winter; Maiman & Becker, 1974) rather than being oriented towards maintaining good health. Supporters of the HBM were inclined to define health as the absence of disease, in line with the definition of Kasl and Cobb (1966, February), rather than defining health in a positive way, as did the World Health Organisation (WHO) in their adoption of Temkin’s (1953) position which defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity ...” (p. 21).

This ‘wellness’ oriented view of health was supported by many (see for example, Dunn, 1959, November; Travis, 1976; Ardell, 1977, cited in Friedman, 1986) and yet during the 1970s it appeared that American people were still not interested in participating in preventive health programs (Hochbaum, 1958; Rosenstock, 1960, March; 1966, July; 1974). In developed countries people still died prematurely from diseases and events associated with lifestyle (Leichter, 1991) whilst in Australia, at the same time, Hetzel (1980) refers to major Australian epidemics of death attributed to road accidents, coronary health disease, suicide and lung cancer. As a result of these increases in accidents and chronic diseases there was a rebirth in interest in prevention, health education and the consumer taking more responsibility for their own health (John E. Fogarty International Center for Advanced Study in Health Sciences and the American College of Preventive Medicine, 1976).
A new approach to prevention which concentrated on lifestyle diseases and focused on health education or health promotion was developed (Lawson, 1991). In Australia, for instance, the introduction of the Community Health Program in 1973, enabled a structure to be established which began to shift the orientation of the health care system from treatment to the prevention of disease, thus assisting the further development of health promotion concepts (Sindall, 1992). Revised definitions of health promotion to incorporate a broader perspective than that of individual behaviour, including educational and environmental supports to promote action and assist the development of healthy living conditions were emerging (Green & Kreuter, 1991). By the mid 1990’s health education and health promotion are joined, with their appearing to have a symbiotic relationship because health is influenced by environmental factors of a physical, socio-economic and cultural nature (Tones & Tilford, 1994).

Not only has the concept of health promotion changed but the complexity of this concept is increased when related concepts such as illness prevention and health education, are considered. As is the case with both health education and health promotion there are many definitions of either term which are not necessarily mutually exclusive (John E Fogarty International Center for Advanced Study in Health Sciences and the American College of Preventive Medicine, 1976).

Green and Kreuter (1991) suggest that before 1979-80 health education and health promotion were not distinct concepts and lacked clear articulation in terms of boundaries, methods and procedures. Palmer and Short (1989) while noting that the terms ‘health promotion’ and ‘prevention’ have been used interchangeably and overlap also state that health promotion and prevention do have different functions – health promotion involves strategies for improving health and engages people to nurture their own health (Milo, 1988) whilst preventive activities are carried out by health care workers on clients. The view that health promotion and illness prevention behaviours are separate entities is widely supported (Murray & Zentner, 1993; Brubaker cited in Logan & Dawkins, 1986). Green and Kreuter (1991) and Tones, Tilford, and Robinson (1991) consider that health promotion includes health education but is not limited to health education, this is in line with the model of health promotion which represents prevention, health education and health protection as overlapping concepts (Downie, Tannahill, & Tannahill, 1996). Whilst health education involves dissemination of information as well as a planned educational
program targeted at adopting a healthy lifestyle, it is only one of the many strategies associated with health promotion (Logan & Dawkins, 1986). Wass (1995) provides Green’s (1979a) definition of health promotion, although not recent, as being part of the new perspective in which health education and health promotion are distinct concepts. This definition acknowledges that health education is quite separate to the political and economic interventions that will help promote behavioural and environmental change to enable health to improve.

This definition of health promotion is much more than health education – it is political and involves structural changes that will change environments to support health. The interactive WHO definition of health promotion which Sindall (1992) notes is “the process of enabling individuals and communities to increase control over the determinants of health and thereby improve their health” (p. 279), hints at health education and illustrates the importance of political and structural change. This definition of health promotion and the previous one are addressing both health promotion and health education, unlike earlier pre 1980 definitions of the two concepts (Green & Kreuter, 1991).

Definitions of health have also changed to exhibit a more holistic and wellness oriented focus associated with actualisation. The WHO definition of health, supported by Dubos (1965), was an early exception because it encompassed personal and social resources as well as an individual’s physical capabilities (The First Biennial Report of the Australian Institute of Health, 1988) in a holistic approach.

In this thesis the WHO definition of health and health promotion, the notion of health promotion and prevention being separate but overlapping and the notion of health education being but one way of promoting health, will be adopted.

A major factor in the growth in importance of health promotion was the adoption by the WHO in 1981 of a range of goals and strategies known as ‘Global Strategy for Health for All’. This push for health promotion was also fuelled by issues in developed countries like America, Britain and Australia such as the increasing cost of the existing health systems, consumers’ increasing expectations about the findings of medical research services and their desire for more control over their health, together with educated,
middle class people placing a greater value on health and the quality of their lives (Friedman, 1992). Health promotion became more important and authors began to discuss *behaviours* associated with health promotion.

### 2.1.2 Health Behaviours

Harris and Guten (1979) defined health protective behaviours as any behaviour which protects, promotes or maintains a person’s health. Such health protective behaviours have been categorised according to personal health practices, safety practices, preventive health care, and avoiding environmental hazards and harmful substances. Other authors, such as Murray and Zentner (1993), identify health promotion behaviours as consisting of activities that increase the health and well-being of individuals, families, groups, communities and societies. They consider health promotion as focusing on prevention or reduction of illness by encouraging behaviours which will lead to the health and well-being of members of society. Others, such as Kulbok and Baldwin (1992, June) and Lawson (1991) provide examples of preventive health behaviours – diet, physical activity, sleeping, dental hygiene, use of seat belts and use of professional services, eating a well-balanced diet, exercising, stress reduction.

Pender (1987) draws a distinction between health promoting behaviours and health-protective (preventive) behaviours. Health promoting behaviours are viewed as enhancing well-being whereas health-protective behaviours are considered responses to threats to health. For the purposes of this thesis health promoting behaviours is the chosen term for those behaviours which promote health and well-being, and by so doing, remove actual or potential health problems that could diminish a person’s quality of life.

However, it should be noted that, at the behavioural level, health promoting and health protecting behaviour may be regarded as overlapping concepts. Immunisation, for example, is a health behaviour which can be regarded as a health protecting behaviour – a defensive action to avoid an actual health problem – but also health promoting – an action to improve health and enhance well-being.
2.1.3 Health Promotion Strategies and Initiatives

An increased interest in health promotion was reinforced by the publishing of the Lalonde Report (Lalonde, 1975) which highlighted that a great amount of premature death and disability in Canada was preventable (Ashton & Seymour, 1988; Ashton, 1992). In response, a new public health movement was initiated by WHO which instituted major changes as a result of the Alma-Ata Declaration in 1978 (World Health Organisation, 1988). At Alma-Ata WHO developed its Primary Health Care approach and its goal – Health for All by the Year 2000. This program was a response to the inequalities in health and health care which affected all countries whether they were developing or developed.

Lawson (1991) notes, however, that countries like Australia did not necessarily hold this view; they perceived this WHO strategy as being primarily for developing countries. Nevertheless Australia was not slow to respond. In 1988 the Better Health Commission reported and recommended that developing priorities for action was an appropriate strategy to achieving ‘Health for All by the Year 2000’ (the First Biennial Report of the Australian Institute of Health, 1988; Australian Nursing Federation, 1990; Grant & Lapsley, 1989). This was followed by the adoption of the report ‘Health for all Australians’ (Health Targets and Implementation Committee, 1988) which identifies major national goals for illness prevention and health promotion (Australian Community Health Association, 1986; Nutbeam, Wise, Bauman, Harris, & Leeder, 1993).

The adoption of ‘Health for all Australians’ (Health Targets and Implementation Committee, 1988), which occurred as a result of the development of primary health care in Australia (Commonwealth Department Health, Housing and Community Services. National Better Health Program, 1992) was supported by the development of the Ottawa Charter for health promotion in 1986. This was also a WHO initiative and was destined to make an impact in the health promotion area in terms of community development, health advocacy and reorientation of the health system (Sindall, 1992). Above all the new public health emphasised the building of strong communities and the achievement of increased participation in public decision making (Baum, 1998). Both initiatives – Primary Health Care and the Ottawa Charter – placed emphasis on equity in health services and on developing systems of primary health care. In turn, such developments
aimed to sustain health progress and build self-reliance and leadership capabilities at the local level, to encourage the participation of consumers of health services and to develop partnerships between the public, private and voluntary sectors. In the words of Robertson and Minkler (1994) the new health promotion movement “has come to represent the emergence of a new domain of knowledge and discourse” (p. 296). Such features of this movement were broadening the definition of health, the use of social and political strategies and the involvement of the community.

A further initiative – the Healthy Cities Australia Project which commenced in 1986 (The First Biennial Report of the Australian Institute of Health, 1988; Healthy cities Australia: Starting out, 1992; Sindall, 1992) – adopted the guidelines of the Ottawa Charter for its implementation and was evaluated as a meritorious project (Worsely, 1990). Further developments in health promotion since 1988 have been the establishment of the ‘Health for All 2000’ (HFA 2000) committees by the Australian national and state governments to develop public health programs based on identified priority areas.

2.1.4 Constraints on Developing Health Promotion in Australia

Funded programs for the training of public health professionals, additional funds for public health research and substantial increases in State and Commonwealth health promotion budgets have also been a significant landmark for public health and health promotion (Health Targets and Implementation Committee, 1988). Nevertheless, the new resources provided by the National Better Health Program are a cause for concern, since despite the development of more substantial infrastructure for health promotion, there was no ability to link the funding of the health system to health promotion activities (Nutbeam, Wise, Bauman, & Leeder, 1993). As the National Better Health Program had a very limited source of funding there was minimal progress made in relation to the health targets and a new framework for organising goals and targets developed (Nutbeam, Wise, Bauman, Harris, & Leeder, 1993).

National leadership for health promotion, as an essential move to promote the importance of health promotion, demands a reorienting of the health system (Nutbeam, Wise, Bauman, & Leeder, 1993). Funding for health promotion and the need to demonstrate costs and benefits effectively is also of prime importance for McMichael (1993) who
reflects on his experience in Public Health in Australia since the mid 1970s. He is adamant that secure funding of health ventures such as environmental health monitoring, which is in a beginning phase in Australia, is extremely urgent. In contrast to Australia’s minimal development in environmental health, Labonte (1993, cited in McMichael, 1993) uses interesting Canadian examples associated with environment and economy to show Canada’s progress in addressing this area.

Yet in Australia, where progress is slow in the achievement of national health goals (Nutbeam & Wise, 1996), Macklin (1993) argues that health promotion leadership must ensure that all related sectors (for example, occupational health and safety) are seriously committed to health, their activities linked and that health promotion be moved from the funding fringes of the health system.

Just as lack of commitment by health sector workers will have a negative impact on health promotion, Baum and Sanders (1995) suggest that in industrialised countries like Australia there are several constraints associated with HFA 2000. These include the goals and targets approach, stemming from economic reasoning, which has detracted from social and environmental issues inherent in the Primary Health Care approach; the behavioural and life style focus, based around individualism, which has worked against a collective approach to Primary Health Care; and finally, the global threat of environmental degradation that has been ignored at the expense of promotion of economic growth.

Conclusion

This section demonstrates that the concepts of health, health education and health promotion changed from a narrow, negative focus before the 1980s to now becoming more definite, expansive and positive. This occurred because of strategies like the ‘Global Strategy of Health for All’ adopted by WHO and initiatives such as the Ottawa Charter, instrumental in translating health promotional concepts into reality. Nevertheless it is the perception of health promotion experts that countries like Australia appear to need a greater commitment to these strategies and initiatives so that they will improve their performance in health promotion (Nutbeam, Wise, Bauman, & Leeder, 1993; McMichael, 1993; Macklin, 1993).
The next section is informative of health economics and cost effectiveness associated with health promotion which are important considerations nowadays with the rising cost of health care.

2.2 ECONOMICS AND COST EFFECTIVENESS

Overall, economic issues surrounding prevention and cure are complex. There is the issue of economic backing and whether the support of the politically powerful and wealthy groups of Australian society for prevention is forthcoming. We also need to ask ourselves whether economic issues should always take precedence over health. It is to these issues that the thesis now turns.

Opinions differ as to the importance of our health and economic issues associated with health. Research indicates that good health does not come free and that prevention does cost money (Russell, 1986). Cost savings were, however, an important factor when health promotion came on the scene in Australia – as a newcomer it was seen as delivering cost savings in an overloaded health care system. However, Sindall (1992) notes that as health promotion began to develop, the increasing demands facing health budgets resulted in funding reduction for many community health services in Australia.

Not unusually, Australia, in line with other countries, is currently having difficulty containing the costs of health care (Davis & George, 1998), and this has led to choices needing to be made about the use of scarce health resources (Mooney, 1986).

The temptation for governments to invest an inadequate amount of money in health promotion services, (Ministerial Review of Community Health Services and Henry, G, 1985; New South Wales Dept. of Health, 1994) including community health initiatives, whilst at the same time severely reducing the funds of large hospitals is a dilemma for health services and health promotion alike (Hard Facts, 1993; Bradley, 1992). One of the reasons behind governments’ inadequately funding health promotion services (Hard Facts, 1993) is because there is a series of difficulties in assessing exact costs and benefits of health promotion.
2.2.1 Difficulties of Measuring Health Promotion Outcomes

Whilst curative interventions are highly visible, occur in particular individuals and are able to be quantified by using clinical measures, health promotion activities depend on an absence of ill health (Haycox, 1994). Furthermore, it is sometimes hard to differentiate between prevention and treatment and to tease out the actual cost of prevention (Leichter, 1991) especially if estimates better suited to curative interventions are used rather than weighing up all the costs and benefits of health promotion (Tolley, Buck, & Godfrey, 1996). Other limitations result from assessment of the role of prevention on improvement in health status due to as yet, minimal experience, the increased time assessment that estimation of the role of prevention needs and the difficulty of determining exact savings in terms of illness prevention (Laaser, Roccella, Rosenfeld, & Wenzel, 1990).

The difficulties of measuring health promotion outcomes are widely acknowledged. Maynard (1991) argues that outcome measuring methods such as medical evaluation (use of mortality data which includes lives saved or additional years of life gained) and economic evaluation (estimation of resources saved as a result of successful health promotion programs), are problematic because they do not allow for the effect of intervention on the length and quality of a person's life. There are other approaches to measuring health promotion outcomes which are associated with valuing life – such is the effect of health programs which includes additional life years and the quality of these years (Maynard, 1991). The result of this sort of approach is a global measure of the quality of life for all kinds of health promotion activities while such measures are crude and imperfect (Maynard, 1991) and do not account for patient/client expectations (Jan & Mooney, 1997). The economic evaluation of health promotion activities is important if their benefits are to be made apparent to policy makers and health promotion can compete for limited health resources.

Other techniques for evaluating effectiveness of preventive measures in the health care sector are also described by Tones, Tilford and Robinson (1991) and Pender (1996) as cost-effectiveness analysis and cost-benefit analysis. The difference between these two techniques is that cost-effectiveness analysis would only provide information, for example, about the compared costs of a smoking cessation clinic with those of general practitioners providing a similar service, whereas the more rigorous cost-benefit analysis
would compare the financial costs of delivering a smoking cessation program with the costs (dollar value) of the benefits resulting from smoking cessation (Tones, Tilford, & Robinson, 1991).

2.2.2 Issues Associated with the Cost Evaluation of Prevention and Cure

Although cost-benefit analysis provides evidence that the benefits of health education can outweigh program costs, economic issues in relation to health are complicated. Tones, Tilford and Robinson (1991) caution that in the long term health education may prove expensive because of the cost of future care with more people living longer due to increased life expectancy. As life expectancy is also increased by developments in medical technology and intervention, both will share these cost constraints. Tones, Tilford and Robinson (1991) and Draper (1991) go so far as to suggest that prevention is inconsistent with the goals of economic productivity and that, in the future, we will have to choose between being committed to health or wealth. In such a situation medical technology has an advantage in that it is also involved in creating wealth for medical experts and others, while prevention does not have the same capacity to generate wealth.

On the other hand, if Australia adopts the ‘Health For All by the year 2000’ approach then prevention costs may escalate since it demands equal access to health for all. If prevention needs to serve two masters, that is, the promoting of health as well as being economical, there is a strong temptation in a westernised, rationalist society such as Australia, with limited resources, for health care choices to be made between options with differing degrees of efficiency, effectiveness and acceptability (Sax, 1990).

In the light of the original purpose of prevention suggested by Russell (1986), to promote a healthful life rather than save money, Australian society obviously needs to examine its commitment to prevention and the rhetoric of ‘health as wealth’ taking in to account the costs of both prevention and medical technology.

Conclusion

This section has provided evidence for the complexity of economic issues surrounding prevention and cure. It has also hinted at the status of prevention and cure which will be discussed briefly in the next section.
2.3 PERCEIVED STATUS OF PREVENTION VERSUS CURE

Medical dominance strongly influences the health division of labour – economically, politically, socially, intellectually – and it is the most important political aspect of healthcare in Australian society (Grant & Lapsley, 1989; Palmer & Short, 1989). Specialist doctors in Australian public hospitals, not to mention those who have a financial interest in private hospitals, have an economic interest in the acquisition and operation of medical technology and the expansion of such technologies. The curative element of medicine which is characterised by medical technology is promoted by specialist doctors, who comprise one third of all registered doctors in Australia (Palmer & Short, 1989). Bates and Linder-Pelz (1990) view the physician as representing the ruling class and controlling medical technology in order to have power. Farrant (1991) notes that because the medical profession wants to keep health intervention under its control, technical feasibility and cost effectiveness programs have assumed more importance than the need for social, economic and political changes considered fundamental to Primary Health Care.

2.3.1 The Low Status Assigned to Prevention

Furthermore, Palmer and Short (1989) provide evidence that there is an inadequate emphasis on health promotion and prevention in medical school curricula demonstrating the low status position of prevention compared to the high status of curative medicine. Despite the importance of health promotion, as part of a total health service the majority of health professionals are involved in providing hospital-based medical services to clients. Whilst doctors espouse prevention as an important and necessary part of doctoring, their lack of preventive effort can be attributed to several factors – lack of knowledge in preventive medicine, reduced incentives for medical practitioners to undertake preventive medicine, and the lower status medical peers assign to preventive activities (Palmer & Short, 1989).

This latter point – the low status nature of prevention – has not been assisted by the implementation of Community Health Services that constrain non-medically qualified staff. The low status of such staff as nurses, physiotherapists, psychologists and social workers, is being encouraged because they provide services which are also currently being performed by doctors at a more expensive rate (Palmer & Short, 1989). Davis and
George (1988) are prompted to suggest that preventive services are considered “a Cinderella of the health care system” (p. 8).

2.4 WHY HEALTH PROMOTION IS RELEVANT FOR NURSES

Although the influence of Primary Health Care did not begin to take shape until 1979 with the WHO meeting at Alma Ata, nursing had been associated with health for a long time, despite much nursing literature and practice having been dominated by illness (Laffrey, 1985). Nursing was rare among health professionals in encompassing health promotion in its work during the twentieth century (Plymat, 1998, February). Health promotion activities began to be undertaken in earnest by community nurses in community health settings which were established in Australia in 1973. Such community health centres were increasingly identified with health promotion activities.

Health promotion as a practice for health professionals like Australian nurses has increased with factors such as the ‘Global Strategy for Health for All’ initiated by WHO; increasing cost of health systems in developed countries; consumers’ expectations about health services; and the emergence of an educated, middle-class placing greater value on health and quality of life (Friedman, 1992). Conceptually, ‘health’ has assumed a central place in nursing along with the ‘person’ and ‘environment’ (Fawcett, 1978; Fitzpatrick & Whall, 1983) while the importance of health promotion in nursing has been argued for by many authors such as Donaldson and Crowley (1978) and Gershwin and Nilsen (1989). Laffrey (1985) acknowledges that “health and health promotion are fundamental concepts for the nursing profession” (p. 31).

2.4.1 The Problems and Complexities of the Health Promotion Role of Community Nurses

Nevertheless the role of nurses in health promotion after the adoption of ‘Health for All’ was problematic (Gott & O’Brien, 1990). There is evidence to suggest that community nurses, not only in Australia but in other countries, found the implementation of their health promotion role restricted and limited to such activities as that of health education based on the medical model rather than community activities viewed from the perspective of the Ottawa Charter (Plymat, 1992; Foster & Plymat, 1995). Moreover, many authors believe there is also limited current exploration and direction of health promotion roles.
for nurses based on community activity (Clarke, Beddome and Whyte, 1993; Scruby & McKay, 1991; Kang, 1995; Kuehnert, 1995; Baldwin, 1995). In response to this Plymat (1998, February) notes that Australian nurses have been challenged by Kermode and Brown (1995) to radically change their approach by focusing on using community development strategies to change the social causes of ill health. On a warning note though, Dixon (1989) and Baum and Saunders (1995), echoed by Wass (1995) advise that while community development can have some impact on power relationships and equity, it is unable to shift power relations on a broad scale.

2.4.2 Adopting a ‘Wellness’ Approach to Community Nursing Practice

Less radically Howat and Jones (1992) consider that nursing should adopt and develop a ‘wellness’ approach in its practice, noting that the term ‘wellness’ is often used interchangeably with that of health promotion. Both Howat and Jones (1992) and Murray, Zentner and McDowell (1993) suggest the use of an ecological view which identifies many physical and social environment problems causing health threats. This approach is particularly useful, they suggest, because it ensures a total or holistic view. Holistic care which consists of psychological, biological, cultural, social and spiritual aspects is equated with ‘wellness’ nursing which focuses on joint assessment with the client in terms of mind, body and spirit. It includes the promotion of whole-person healing and self-healing and self-care measures. McMurray (1999) acknowledges the power of the wellness perspective in relation to community health. Clark (1986) considers that wellness nursing theory is beneficial for community nursing practice because it can be:

- used as a basis for nursing practice that assists in uniting nurses especially in health promotion practice
- used as a basis for action when other health professionals challenge nursing practice, and
- of assistance to nurses working with clients to improve their quality of life.

This latter point is taken up in the following section where by the assistance of nurses is deemed important in promoting health to improve people’s quality of life.
2.5 QUALITY OF LIFE ISSUES

Hetzel (1980) is adamant in stating that moral decisions are needed about the kind of society we want – how much commitment to economic development do we want? Do we have a proper balance between human health, welfare and economic development? Is a commitment to health worth the investment in time, money and effort?

Is it more worthwhile investing in prevention rather than cure? Both prevention and cure can have an impact on an individual’s quality of life. Some individuals will decide that rather than invest in illness prevention they will accept the need for curing if it comes their way. The individual undertaking the prevention role may find that this takes time, money (for food and exercising) and effort/suffering spent on exercise and dieting (Bates & Linder-Pelz, 1990) whereas another individual involved with curing will experience the need of suffering pain from treatments as well as spending time and money on treatments. In other words, as each approach – prevention or cure – has a price and an effect on an individual’s quality of life, it is up to the individual to choose. However, choice may depend on privilege. If an individual comes from a minority group it is not a question of choice. It is paramount that social policies are in place so that such groups can enjoy accessible health services (Knowles, 1977).

2.5.1 Strategies to Assist Disadvantaged Individuals Maintain Their Health

Strategies that motivate individuals to change to positive health behaviours are inadequate, especially when combined with social equity. Poverty, low educational levels and social minority group status heighten susceptibility to premature mortality, chronic preventable disabilities and poor preventive health practices (Health Targets and Implementation Committee, 1988). Palmer and Short (1989) acknowledge that it was the Health for All Australians Committee of 1988 that identified major health status differences in the Australian population on the basis of socio-economic status, gender and ethnicity. They also advised that such health problems for those of lower socio-economic background, women and those of ethnic status could be effectively reduced through health promotion.
Thus those people who are at equity disadvantage may be at risk of compromising their health and also their quality of life. Reflection on Friedman’s (1992) reference to health having a lower priority than jobs, food or shelter for those of the lower socio-economic classes raises concern with regard to Australian families. Clearly there are major differences in health between high and low socio-economic families (Harper, Holman and Dawes, 1994; Australian Institute of Health and Welfare, 1998; Meade, 1994). Choosing prevention and therefore improving their quality of life may not be a reality for these latter families. Their inability to be involved in health promotion may be influenced by such factors as poverty (low socio-economic status), low educational levels and membership of a social minority group. Yet according to Hetzel (1980):

Health is an essential determinant of quality of life – it is a value that needs advocacy and advancement in our affluent and commercial society. Ill health is a major personal, social and economic burden. A positive philosophy of personal responsibility for health is required in the community at large ... The possibilities for development of a healthy way of living are much greater in these days of universal education and mass media. Let us begin to harness these great resources for the advancement of health and an improved quality of life (p. 284).

These statements made by Hetzel reinforce that according to the WHO Constitution everybody has a right to positive health and they further suggest that the government has a duty through policy and legislation to enhance an individual’s health on the basis of human right so government intervention can be justified in promoting health (Logan, Green, & Woodfield, 1989; Downie, Tannahill, & Tannahill, 1996). Government commitment to a health initiative for disadvantaged communities needs to involve community nurses. More of these health professionals should be active in developing and establishing cooperative health promotion ventures with communities of lower socio-economic backgrounds so that they can promote healthier life style options for these people.

2.5.2 Community Involvement in Decision Making about Health Issues

The establishment of these community health promotion ventures will also assist in nurturing a sense of community responsibility deemed important in bringing about health for all (Logan et al. 1989; Downie et al. 1996). In support of this Nossar (1993) notes that health problems need to be defined in terms of the communities they affect – consumers need to be involved in health decisions at a community as well as an
individual level. Kretzman and McKnight (1993) note that if community members are involved in commitment and resources then community development is successful. These authors steer away from adopting a traditional, needs-based approach to community problems. They consider that a more successful, alternative path is that of identifying the capabilities, skills and assets of lower income people for the purposes of developing policies and activities.

Just as it has been acknowledged that disadvantaged communities need to be assisted by community nurses in taking responsibility for the special health problems of their community so too it needs to be stated here that there are quality of life issues that should to be addressed by the whole Australian community. At this level there are decisions that need to be made by Australians (rich and poor alike) that will affect their quality of life. The Australian community, informed by health professionals with vested interests in both prevention and curing, needs to decide about balancing out expenditure on prevention as well as cure at all stages of the life span but especially in the light of future demographic population projections which note that by the year 2001 twelve percent of Australians will be over 65 years of age (Australian Bureau of Statistics, 1984). These ever increasing number of elderly Australians will be susceptible to diseases and disabilities, there will be a demand for the provision of additional services and more pressure will be placed on already scarce health resources (Bates & Linder-Pelz, 1987). Moreover Sax (1990) suggests that there have not been any adequate evaluations of costly medical technology prior to its use and that the damage this technology may cause could outweigh the benefits many patients expect. On the basis of this information, cost effectiveness studies, involving quality of life aspects associated both with medical technology and health promotion, need to be undertaken more extensively so that reliable data can be accumulated as evidence for each perspective.

**Conclusion**

From this section it can be seen that the circumstances of an individual have an impact on whether he/she has the opportunity to be healthy or not. Moreover quality of life issues arise from disadvantaged communities which need to be empowered by community nurses. However, quality of life issues also impact at a broader level on the Australian community. Decisions by all Australians will need to be made in the near future about
prevention and cure, in line with the new sense of community responsibility, referred to previously, which health promotion brings. The community needs to decide whether the health budget should be readjusted to emphasise a commitment of health promotion or a commitment to medical technology, at all stages of the life span.

As a result of this it could well be decided, using research as a justification, that health promotion should be emphasised more and more money committed to this approach than that of curing and medical technology at the life span stages perceived to be most receptive and appropriate for its use. From this it is argued that health promotion, which is important for nurses, will be viable in the future and, as this is the case, the philosophical issues associated with it need to be addressed in the next section.

2.6 PHILOSOPHICAL ISSUES

Bates and Linder-Pelz (1990) identify three ideological positions in relation to health promotion. Palmer and Short (1989) are essentially talking about the same matters when they address and evaluate their three strategies for the improvement of the health of the Australian population.

Consensus is Bates and Linder-Pelz’s (1990) first position which argues that individuals are, and want to be, responsible for their health. Palmer and Short (1989) refer to this as the life style approach which considers that diseases in a westernised society are caused by one’s life style and that the responsibility for prevention falls on the individual who makes decisions about his or her own behaviour. Bates and Linder-Pelz’s (1990) second position, conflict, holds that individualism ignores the economic and social forces limiting an individual’s actions, behaviours and choices. Palmer and Short (1989) define this strategy as that of the new public health, identified earlier in 2.1.3, which identifies the causes of disease – pollution, unhealthy working conditions and the production of goods like alcohol and tobacco – as being within the occupational and environmental sector. In this approach the responsibility for prevention is placed on industry,
governments and community organisations to assist in the re-creation of a healthier environment.¹

The third position, more complex and pluralist, is that major social changes will not completely solve community problems (Bates & Linder-Pelz, 1990). Instead the pluralists argue that there is no need to change the status quo when the power group – traditional, curative medicine is in control. This position concedes that there is room for all allied health groups i.e. traditional, curative medicine, community based preventive and alternative medicine, to work together. In discussing their third, medical approach, which seems to equate with the pluralist perspective, Palmer and Short (1989) acknowledge that disease is caused by biology and doctors have the primary responsibility for prevention.

In evaluating these approaches to health promotion and prevention, Palmer and Short (1989) acknowledge the positive and negative aspects of each. The pluralist perspective is considered plausible and attractive although they note that as well as doctors being concerned that their clients will reject their attempts at promoting preventive measures (for example, a client does not want to be counselled about giving up smoking) they also consider preventive health as not being a financially rewarding area in which to practice (that is, long preventive health consultations are not adequately reimbursed). On the other hand, doctors are accessible to the large numbers of the community who visit them, patients see doctors as appropriate to give prevention advice and they are likely to be responsive to this advice. Furthermore, whilst health promotion appears to work against the interests of powerful groups like doctors, due to lack of incentives the pluralist perspective is regarded as a safe option for health promotion (Palmer & Short, 1989). The pluralist perspective concentrates on the individual client, as does the consensus perspective, and they are favoured by powerful interests because they do not call for radical social and economic change.

The pluralist perspective is not regarded favourably by Palmer and Short (1989), as they suggest the approach is akin to victim-blaming (that is that individuals are given

¹ The two ideological positions – consensus and conflict – appear to equate respectively with those of the preventive and the radical-political models identified by Tones and Tilford (Seedhouse, 1997).
responsibility for their illness). It also fails to acknowledge the social, political and economic factors that significantly influence individual’s choices.

Although it is difficult to evaluate health education and life style strategies, evaluation of the consensus perspective in economic terms suggests that the individual is responsible for making decisions not to smoke. If the individual makes this decision then this cost will be eliminated, however, the financial cost of other things like buying special foods to induce dietary changes and undertaking exercise programs will still be there. On the other hand, unlike the consensus position which is not cost effective for the individual, the conflict position of governments’ introducing taxes on alcohol and tobacco assists the individual to be cost effective while at the same time it causes individuals to cut down on drinking alcohol and smoking (Palmer & Short, 1989; Leichter, 1991).

Palmer and Short (1989) also suggest that the new public health perspective is also problematic in that it calls for social and economic change by promoting proposals for healthy public policy. The new public health promotes equal access by calling for radical changes in society which can only be achieved through collective political action. Not only is there a problem trying to coordinate the federal, state and local government structures and the various community organisations for the purposes of producing new government policy but, primarily, governments and industry (backed by powerful groups) are not likely to make radical changes to the political balance that exists in Australian society.

These philosophical positions, it can be argued, differentially impact on the beliefs of community health workers. The positions of consensus and conflict seem to stem from controversy surrounding the definition of health and illness. The WHO definition of health acknowledges that health comprises biological, behavioural and social aspects. Sindall (1992) also argues that many health workers would agree with this broader notion of the causes of illness being those of social as well as biological and behavioural factors. Paradoxically, these same health workers would argue that they could not change the social system so they would endeavour to change the individual’s behaviour instead. This individual versus the system debate in health promotion is also seen (Green & Raeburn, 1988) stemming from the definition of illness and the way health workers perceive their work roles.
Of the three perspectives associated with health promotion, the consensus and the pluralist perspectives are most similar and acceptable to the powerful groups in society as essentially they maintain the status quo. On the other hand, the radical, conflict perspective aligned with the new public health which promotes equity and demands society change, is far less acceptable to the power brokers in Australian society. Workers in health promotion experience confusion as a result of internalising an ideological view of how health promotion should work. In practice the ideological view of health promotion (that is, the conflict perspective) has difficulty working. Health promotion workers are confused because they are encouraged to support the conflict perspective but this perspective is not provided with the political support it requires.

No one position suits this thesis. Rather the thrust of this work is that of a ‘middle course’ perspective which runs between the perspectives of consensus (lifestyle), conflict (the new public health) and pluralist (medical), identified in the work of Bates and Linder-Pelz (1990). In explaining the ‘middle course’ position firstly it has already been stated that the conflict position supporting radical political action is not acceptable; secondly maintaining the status quo, considered appropriate for the pluralist model, is not appropriate and neither is the consensus approach of victim blaming whereby individuals take responsibility for their health. Families from lower socio-economic backgrounds are acknowledged to be disadvantaged and unable to take on health responsibility without the help of community nurses and government funds. Moreover although in the ‘middle course’ position the government, backed by community support, takes a pro-active stance by enabling community nurses to assist disadvantaged families and provide health promotion assistance through the establishing of community projects, this is not perceived as a radical social change as would be the case for the conflict position. Additional information about the ‘middle course’ position is that although environmental influence and its impact on the family living in its community is a major focus the perspectives of individuals are still important. Another important part of this position is the importance of the role of health professionals like community nurses to meet the needs of disadvantaged families and also to work in partnership with these families and medical health professionals.
As the health promotion stance of being pro-active and empowering disadvantaged communities is perceived as being important in this thesis the notion of health – what it is and whether it is valued by individuals – needs to be addressed in the following section.

2.7 INDIVIDUAL ASSESSMENTS OF THE VALUE OF HEALTH

The individual assessment of the value of health has already been briefly touched on in this Chapter. It is interesting to note here that Gochman's (1975) research into the value of health found that health may be less important in the population than other things like appearance. It has also been acknowledged that some individuals place a greater importance in their health and maintaining their health than others. In other words what is regarded as healthy behaviour by one individual may be seen as very unhealthy behaviour by another.

An active interest in health may be a result of the definition of health an individual perceives as appropriate for their lifestyle needs. Pender (1982) suggests that illness-oriented treatment is associated with dehumanisation and depersonalisation of individuals whereas preventive health care can be viewed from a humanistic perspective. According to this perspective promoting health is viewed as positive striving to fulfilment and thence personal health. Pender (1982) also points out that there are different definitions of health that have evolved and can be categorised according to stability (health is defined as enabling an individual to adapt to her/his environment, according to Dubos, 1965, introduced earlier in this Chapter 2.1.1) and actualisation. Health is identified as a developing, growing process (also see Dunn, 1959, earlier in this Chapter 2.2.1). These notions of health have also been depicted in the work of such nurse researchers as Bauman (1961), Natopoff (1978) and Laffrey (1982).

So in contrast to the narrow view of health depicted as the absence of disease, illness or symptoms, discussed previously in this Chapter, health takes on a positive, fulfilling notion which pervades all aspects of an individual’s life style. If an individual assesses the value of health as being important then she/he will develop a commitment to wellness. Bruhn (1988) describes certain lifestyle characteristics of wellness as the ability to learn new skills, exercise choices in problem solving, make use of resources in adapting, engage in self-care activities, exhibit an internal locus of control (that of a self initiator)
and an optimistic attitude as well as a positive self-image. Moreover in a similar vein Ardell (1977) refers to an ‘integrated’ life, suggesting that the major dimensions of high-level wellness – self-responsibility, nutritional awareness, physical fitness, stress management and environmental sensitivity – need to be balanced and harmonious so that the individual can maximise his/her potential or continually strive to increase his/her level of wellness. Self-responsibility, according to Friedman (1998), is the crucial dimension which makes up a wellness life style. Self-responsibility involves active accountability for one’s own and one’s family health and the realisation that self-responsibility and self-care is knowing how to use the health care system appropriately.

So too like Bruhn (1988) and Ardell (1977), Smith (1983), presents an interesting view of her four models of health (Laffrey, 1985, July). Smith’s (1983) first model addresses health as the absence of disease; her second model considers effective role performance as well as holistic health as being healthy; the third model of health is the ability to engage in effective interaction with one’s physical and social environment and being able to adapt in terms of changing or growing if necessary. Her final model equates health with maximum well-being and the realisation of fullest human potential throughout the life span.

Smith’s (1983) models present varying degrees of health definitions ranging from the first, negative view through to the all encompassing holistic and positive, final, eudaimonistic model which acknowledges the fullest human potential (Laffrey, 1985) and is on a par with the wellness life style of Ardell (1977) or Bruhn (1988) as their commitment to wellness and active engagement in enhancing health. It also appears that ‘positive’ health espoused by Downie et al. (1996) is similar because it is regarded as true well-being in terms of the individual being empowered, being physically fit and also taking into account physical, emotional and social aspects associated with health. According to such authors this is certainly the concept of health that is perceived as having significant standing and support in health promotion today.

As the health of families is paramount to the work of this thesis the next section will move to briefly addressing families and their health.
2.8 HEALTH AND FAMILIES

This chapter has addressed the development of and the current position of prevention and health promotion in Australia today. It has also discussed differing definitions of health, including differing individual perspectives. Smith's (1983) four health models, while applying particularly to individuals, may also be used to assist in determining the various health levels of different families (Loveland-Cherry, 1996). Families play a central role in the transmission of health values to their children – probably the most important health promoting behaviour.

Smith's models will be used in this thesis to assess the levels of health identified by a broad spectrum of families with young children of preschool age. It is argued that children at the preschool stage of development (in this case approaching four or five years of age) are at an appropriate age, are interested in and are beginning to practice their own health behaviours with the guidance of their parents or preschool instruction. It can also be argued that when children enter preschool it is an ideal time to study the parent's health behaviours towards their children. According to Loveland-Cherry (1996), whom it has already been noted has adopted Smith's models to incorporate that of family health, an understanding of health and its importance is developed in the family during early childhood and by the start of preschool, parental health behaviours towards their children are usually established.

This thesis examines the health behaviours of parents of preschool aged children. The concept of health of families of different background, that is those parents who were not born in Australia, single parents and parents of low and high socio-economic background – will be explored to see if and how it varies. The health promoting behaviours and preventive health behaviours used by these different groups of parents – tooth care practices; visits to doctor for preventive health; immunisation practice; safety practices and nutritional and exercise practices – will be assessed and the different families' concepts of health compared. While the recent discussion has addressed variation in healthy behaviour for different individuals, the focus in this thesis will be on families and their variation in healthy behaviour, particularly focusing on socio-psychological aspects. The following chapter takes up this focus by exploring family dynamics and their relationships to health promoting behaviours.
CHAPTER 3
HEALTH PROMOTING BEHAVIOURS IN FAMILIES WITH
PRESCHOOL AGED CHILDREN

Prevention of illness rather than the promotion of health, is presently the predominant
focus in Western families – families with young children are no exception (Kulbok &
Baldwin, 1992) despite recent initiatives to redefine health as an actualising concept
rather than a concept associated with prevention of illness (Palank, 1991). According to
Doherty and Campbell (1988) society is understandably still preoccupied with ‘wonder’
drugs that attack diseases rather than being overly interested in making changes to its
lifestyle. Yet now it is time to reorient families in our society towards positive health
values and their health promotion roles; the future of Australia depends on how families
take care of their children (Williams, 1989). The role of health promotion in families
with young children should not be underestimated since sound health patterns and
behaviours established in early childhood will affect future development.

The family with preschool children is at an ideal developmental period. First, an
understanding of health and its value is developed within the family context at the stage
of early childhood (Loveland-Cherry, 1996). Second, parental health behaviour patterns
usually have had some time to develop in those parents who are beginning to encourage
their preschool aged child to undertake such basic health behaviours as hand washing and
teeth cleaning. Third, the preschool environment is a further source of influence on
children’s health habits. Of the 72% of Australian four year old children using formal

This thesis investigates differing families’ concepts of health as well as parental health
promoting behaviours for the preschool aged child. For parents with children of
preschool age a predominant health focus is on preventing illness (for instance, pool, road
and home safety and immunisation) which, while undeniably important, ignores health
promoting behaviours (for instance, the encouragement, development and maintenance of
healthy eating and exercise/rest patterns). Nurturing these healthy behaviours assists families to establish healthy behaviour patterns with their preschool children which will provide benefit through time, and assist to combat diseases such as cancer, heart disease, diabetes and arthritis in later life. There are many families with young children who, because of ignorance or inability to change their lifestyle behaviours will develop health patterns which put them at risk of developing these diseases. There are many families with young children who are unable to change their lifestyles due to social and economic inequality and who risk health breakdown.

In its first section this chapter argues for the importance of health promotion in assisting young Australian families, especially those living in poverty, to live a healthy lifestyle. The second section acknowledges the different types of families with young children such as nuclear, single parents, itinerant, ethnic and ‘energised’ families. It then moves to address family participation in health promotion, and in line with its socio-psychological emphasis, discusses the influence of socio-economic, locus of control and self-efficacy factors on the health promoting behaviour of these families. Finally the last section discusses the role of community nurses as advocates of primary health care for parents of preschool aged children. As this final section addresses community nursing and its associated theoretical concepts it reinforces and supports a logical stance which negates the need for discussing biomedical concerns.

3.1 DEFINING HEALTH PROMOTING BEHAVIOUR OF FAMILIES OF PRESCHOOL AGED CHILDREN

An extensive review of health concepts in the previous Chapter established that there was definitional confusion and overlap among the three terms health promoting behaviour, health protective behaviour and health preventive behaviour. In this thesis the term ‘health promoting behaviour’ has been adopted because firstly it conveys a more positive approach to health and health behaviours and it also denotes behaviours associated with promoting health and enhancing well-being.

In this thesis there is also a focus on primary maintenance health behaviours which are regarded as health promoting behaviour. Primary maintenance health behaviours are ‘ongoing’ in nature over a time period, they impact on the physical, social and emotional
health of the preschool aged child and are undertaken by the parents to maintain optimal health and personal fulfilment. Examples of these health behaviours for children are maintaining a balance between exercise and rest and maintaining optimal nutritional levels whereas when the whole family is considered, an example like participating in leisure programs is important. While specific health threats (like the disease measles) and their associated health behaviours (immunisation) may impact from time to time, it is the ongoing, primary maintenance health behaviours that assume major importance in establishing healthy life patterns, more so than those mechanical health maintenance behaviours like teeth cleaning and hand washing.

3.2 THE ROLE OF FAMILIES IN PROMOTING HEALTH BEHAVIOURS TO THEIR YOUNG CHILDREN

Families are societies’ primary social structure for health promotion and provide the context in which children learn health (and other) behaviours and in which lifestyle patterns are formed. As the primary transmitter of values and norms to children in society, the family is most appropriate to be teaching a body of knowledge and skills to its members about being healthy and staying well (Kandzari & Howard, 1981; Friedman, 1992). For families with young children preventive health activities range from visits to a health care agent, to vaccinations, nutritional eating, weight control and balanced exercise, teeth cleaning and preventive dental visits and safety behaviours inside and outside the home (Friedman, 1992). Families act as positive or negative influencers on health behaviours by demonstrating positive health behaviours such as sound, nutritional eating and/or negative health behaviours such as smoking (Gottlieb, Green, & Mechanic, cited in Palank, 1991).

Although child rights are increasingly recognised (Draft U.N. Convention on the Rights of the Child: Appendix II, 1989; Sidoti, 1997) parents make decisions about what health values they wish their children to acquire, since young children have little or no capacity to choose or to influence their parents’ health behaviours. Negative parental health behaviours such as smoking are likely to have both short and longer-term detrimental consequences. Side stream smoking increases respiratory diseases in young children and there is a longer term connection between parental smoking and promoting future smoking behaviour in young children (Mohler, 1987; Patty, 1994; National Health and
Medical Research Council, 1997). Clearly, there is a need for families, especially those with young children of preschool age, to adopt sound health promotion practices since children at this stage of child development (four years) are at an age when they are interested in and receptive to ‘beginning practice’ of their own health behaviours which will persist across generations.

### 3.2.1 The Effect of Poverty on Family Health

In this generation health promotion has become even more important for families given the increased incidence of chronic ‘lifestyle’ diseases such as cancer, ischaemic heart disease and stroke. There is a need to produce lifestyle changes to protect against such diseases (Lawson, 1991; Bates & Linder-Pelz, 1990), and contain treatment and hospitalisation costs.

An increased rate of poverty in Australian families with young children, promoted by political ineptitude (Briggs, 1994) has a negative health impact. Parents’ capacities to institute health care practices are compromised by economic hardship and family breakdown. Although the biological embedding of socio-economically disadvantaged families and its impact will not be explored a brief review of Australian literature about low income families is useful here. Harris (1993) indicates that low income children experience limitations in the use of dental and preventive services (National Health Strategy, 1992), are less likely to receive continuity of care in health services (Jolly, 1990) and points to a direct link between poor health and low economic resources (see also Aber, Bennett, Conley, & Li, 1997; Moon, Rahman, & Bhatia, 1998). As has already been addressed in Chapter 2.5.1 and 2.5.2, emphasising health promoting behaviours assists in empowering families in promoting equity to combat poverty. One way this can be achieved is by disadvantaged people working with health workers so that they can exercise power and be involved in planning, decision making and assisting others (Fried, 1980 cited in Vimpani, 1989). Such opportunities, Fried and Vimpani (1989) suggest, provide people with a new sense of community, interdependence and mutuality rather than the isolation and labelling of their experience as a result of social and cultural pressures. This is supported by Syme (1999) who points to effective communities as a means of involving families in poverty in health promotion programs to assist with their health needs.
It follows, therefore, that government provision of money for health promotion projects which provide poor families with a sense of community involvement and interdependence rather than a sense of isolation and hopelessness is very important. Poverty in families with young children is very real now (Briggs, 1994) despite Federal government initiatives including the Social Security Review, the introduction of the Child Support Scheme and the Family Package, which have focused on child poverty (Brownlee & King, 1989). Since the acknowledged increase in families living below the poverty line (Edgar, 1992) child poverty has been on the political and social agenda. Family support services are needed more than they ever were as more families fall into poverty as a result of increased unemployment and marriage breakups (McCaughey, 1987) with Jolly, Nolan, Moller, and Vimpani (1991), indicating that poverty is the most single, important threat to families and their children’s health. Poverty in its social context impinges on poor peoples’ household and residential organisation to influence child health (Mullins & Short, 1992). For Australian children, aged 0 – 4 years, poorer health occurs in socio-economically disadvantaged families, where neither parent is employed, and in single parent families (Mathers, 1995).

There is no doubt that the current increase in poverty in Australia has been influenced by events which started in the 1970s and caused the quality of family care and the state of family health to deteriorate. Family structure changed away from the traditional, nuclear family, there was a loss of economic security and supporting social networks due to unemployment, large scale emigration and demographic changes occurred associated with family breakdown and there was an increase in the number of single parent families. In single parent and unemployed Australian families there were significantly increased infant mortality rates. Immigrant, Aboriginal, disabled families, and abused children in families and those children in care suffered serious inequities as reflected in mortality and morbidity (Williams, 1989).

3.2.2 Priority Child Health Issues in the 1990s

After the 1970s more families in Australia were unable to fulfil their parenting roles adequately. Disadvantaged families found great difficulty in nurturing, rearing and developing relationships with their children whilst other families had difficulties associated with their functioning and their children’s behaviour and development. Thus,
Murphy (1992) notes that during the 1980s to 1990s parental needs in early childhood health services had changed from preventing serious childhood diseases to supporting parents through the problems they faced as a result of our modern society, which were those of child management, handling behavioural and developmental problems, preventing child accidents, preventing child abuse, detecting post-natal depression as well as health promotion and child health screening. In the early 90s Murphy (1992) also provides future directions for child health in 2001, based on the WHO’s Health for All Strategy and in line with the goals of Primary Health Care. These future directions target health outcomes in four priority areas – infectious diseases; injury; adverse pregnancy outcomes; and asthma – and follow principles of equity, accessibility, integration and participation (by health care providers and consumers) in child health care.

The prevention of infectious diseases, as one future target associated with parental health behaviours is of relevance. Low levels of national immunisation rates (Commonwealth Department of Human Services and Health, 1995a) have prompted concern about the increased incidence of serious infectious childhood diseases such as whooping cough and measles (Roden, 1992). The recent introduction of a National Immunisation Strategy in Australia which records childhood immunisations, requires the provision of evidence of immunisation by parents prior to a child attending school and provides cash incentives, aims to improve immunisation levels and thus prevent serious infectious childhood illnesses (Lister, McIntyre, Burgess, & O’Brien, 1999).

Other new, serious infectious and life threatening illnesses, for ‘at risk’ families with young children are Hepatitis B and C. Hepatitis B is considered a major risk in Australia for families with young children who live in areas such as South Western Sydney with a high carrier incidence (Roden, 1993). Similarly Hepatitis C is a potentially fatal virus and if unchecked could be a major killer of young Australians in the next 20 years (Talbot, 1994). The practice of health promoting behaviours such as safe sex, the use of clean needles for injecting drug users as well as no sharing of toothbrushes or razors and, in the case of Hepatitis B, the immunisation of those babies and people living in affected communities, will help to control the transmission of these significant diseases and prevent their threat amongst families with young children.
As well as exploring childhood disease prevention strategies, the priority areas of injury and adverse pregnancy outcomes are also relevant to discussion of the role of families in health promotion for young children. Prevention of child injuries, such as burns, drownings and other accidents, are crucial to the well-being of children of preschool age, with health promotion having an important role to play, especially in the child abuse area. Family breakdown and poverty in disadvantaged families not only increase child injuries, such as burns and other accidents, but also are significant factors behind the increased incidence of child abuse (The New South Wales Government Child Protection Council, 1990, March; Gilding, 1997; Tomison & Wolcott, 1997; O’Neill, 1994). The other priority area – adverse pregnancy outcomes – also has an association with health promotion through its relationship to healthy growth and development. The stage of preschool age is an important time to emphasise sound nutrition and exercise. There are indications that young girls who are compromised in their development at this stage may develop problems later in child birth which could be associated with the adverse consequences of post partum haemorrhage. Nutritional deprivation in female children leads to poor skeletal development which increases the possibility of cephalo-pelvic disproportion in labour, and this is a major risk factor associated with post partum haemorrhage and even maternal mortality (Paul, 1993; Macgraith & Gillis, 1980; National Health and Medical Research Council, 1991 & 1993; Wheeler, 1991; Whitford, 1993). Obviously the importance of health promotion, related specifically to promotion of sound growth and development inherent in a healthy and safe life style, is directly relevant to families with preschool aged children particularly those from disadvantaged families.

By the mid 90s (June 1995) the National Healthy Policy for Children and Young People was endorsed by the Australian Health Minister’s Conference (Commonwealth Dept. of Human Services and Health, 1995a). This same year the development of a child health policy for NSW was imminent with expanded priority health issues being those of – child and adult mental health, dental, gender, parent support, Aboriginal child health, children from non-English speaking backgrounds and disadvantaged groups with an emphasis on children from low socio-economic backgrounds – and including those of immunisation, child protection, injury, nutrition and asthma, deemed earlier priorities (NSW Dept. of Health. Policy Development Division, 1996, August). It is also interesting to note here that parent support appears to have been included as a health priority because of
William’s (1989) concern about the importance of parents and their family role in child health. Overall although the new priority issues appear to have increased and broadened there is now evidence that poverty for families is important because it is reflected in many of these new priorities.

Having discussed the role of families in transmitting health values, the effect of poverty on families with young children and some recent strategies to address the health needs of families it is useful to consider the concept of family in contemporary Australia.

3.3 HISTORICAL INFLUENCE ON THE FAMILY FORM

To provide an understanding of the development of the family form as it is known in Australia today it is necessary to briefly discuss structures and economic roles of families through history (Draper, 1991). Talcott Parsons (1980) states that in pre-industrial times families were usually extended (that is they contained a household which included grandparents and unmarried adult members) with most family members contributing in varying ways to the household economy. During the industrial period families became nuclear (and economic roles diverged), consisting of a husband/father financial provider and a wife/mother involved in housework. Others have suggested that prior to the industrial revolution families were small not large and extended, and that in Western history there have been three main kinds of families (Laslett, 1972 also cited in Draper, 1991 and Stone, 1977). The ‘open lineage family’, existing from the medieval age to the early sixteenth century, consisted of wide kinship connections but a lack of privacy and limited close ties with spouse, parents and children; the ‘restricted patrilineal family’, existing from the middle of the sixteenth century to the middle of the seventeenth century, was characterised by an increasing loyalty to the state and church and a declining loyalty to kin and the community and the ‘closed domesticated nuclear family’ developing from 1640, demonstrated close bonds between parents and children, an increasing sense of privacy within the family and a growing sense of individualism (Stone, cited in Draper, 1991).

Different family structures were also associated with the changing economic role of the family. Prior to industrialisation, family economies were small and received different contributions from the various members whilst after industrialisation there was a definite
distinction created between the home and family life and the economy as a place where labour occurred. During the 19th and 20th century, Reiger (1986) argues that the dominant ideal of family life was imposed by the Bourgeoisie over the working class and the landed aristocracy. Reiger further suggests that the modern family has similarities with the Bourgeois family which was involved in the rise of economic and social dominance. Draper (1991) disagrees by pointing to a more diffuse economic contribution, now that the dual income family is asserting its dominance. Today in Australia, there are a variety of family forms and the nuclear, male dominant family is no longer representative of Australian families (Draper, 1991).

Another aspect of present day Australian families is that they are smaller in size. According to United States literature despite change in form and function the image of the traditional nuclear family consisting of parents, children and the extended family of grandparents, aunts, uncles etc., persists (Gershwin & Nilsen, 1989). These authors also note that many major functions a family undertook previously such as achieving economic survival, passing on religion and values and educating are declining in importance as various social institutions assume greater responsibility for them. Both in the United States and Australia authors state that present day families face heightened expectations to provide relational needs such as love, intimacy, self-acceptance, nurturing, caring, individuation, and sharing and support through adversity (Eastman, 1987; Loveland-Cherry, 1985, 1989; Curran, 1983).

The reasons for the changing Australian family form and function will be covered in the next brief section on family trends.

3.3.1 Current Family Trends

The five important current Australian family trends – the gap between rich and poor families and increasing families in poverty; changes in women’s expectations, life patterns and power in the family; increasing numbers of smaller families; the popularity of marriage and increasing divorce rates and the increased number of single-parent families – make it hard for families to fulfil relational needs (Draper, 1991; Eastman, 1987). In addressing Eastman’s (1987) fifth trend – that of increasing single-parent families – her statistics of 14.6% for Australian single-parent families for 1989 equate
with those of Draper (1991). The stresses of divorce and remarriage and poverty bring real hardship to many single-parent families who find their relational needs are often compromised (McDonald, 1984).

3.3.2 The Notion of Family Health

Having examined structural and functional family trends this chapter turns to an examination of family health and Friedman (1992) suggests that the concept of family health is even more broadly and abstractly defined than the concept of health itself. Again there is a wide variety of views. The association of health promotion with the functioning of healthy families is acknowledged by such authors as Beavers, 1977; Pender, 1987; Loveland-Cherry (1983, cited in 1996) and Friedman, 1992.

Crayton (1986), Smith (1983) and Walsh (1982) provide three similar definitions of ‘family health’. The healthy family, according to Crayton (1986), regulates its boundaries and is able to use energy, communication and resource attainment and self care to achieve functioning that ensures that the family and its members exist with a satisfactory level of well-being. For a healthy family to be located on the wellness end of the illness – wellness continuum, this means that family members are well-nourished; have achieved mental well-being; are free of disease; have achieved optimal daily functioning in such areas as work, recreation, education, self-care (this includes positive health behaviour such as undertaking periodic health assessments); are trustful, creative, productive and content; and are cohesive and work productively towards achieving their goals. This view of family health appears to fit quite well with Smith’s (1983) four models of health which Loveland-Cherry adapts to her definition of ‘family health’ in Chapter 2.8. Smith’s last model is associated with wellness and achieving optimal health. Moreover Smith’s first, clinical model associated with absence of disease is akin to Walsh’s (1982) first perspective of ‘family health’ – asymptomatic family functioning or absence of any dysfunction. Walsh’s other two perspectives are those of having optimal family functioning characteristics as well as ‘average’ family functioning and transactional family processes based on integration, maintenance and growth of the family system.
3.3.3 Developmental Stages of Families

The previous discussion of what a healthy family is and its functioning capacity demands further discussion of the various types of families in terms of their developmental stages, their health promotion activities and the way they can be categorised.

One way of categorising families, especially those families with young children (Mallinger, 1989), is by using the developmental theory approach. Duvall’s (1977 & 1977a) theory of family development describes family life over the lifespan and is divided into a number of predictable, discrete stages of family development and tasks that families have to achieve at these various stages. It is a useful approach which is commonly used to describe where different families are in terms of their developmental stage (Murray & Zentner, 1993). Altogether there are eight developmental stages, from: beginning families; early childbearing families; families with preschool children; families with school children; families with teenagers; launching centre families; families of middle years; to the family in retirement and old age. Friedman (1986) notes the criticisms levelled at family developmental theory such as its assumption of stability within each stage and lack of explanation of the changes prior to the commencement of a new stage but she acknowledges that its framework provides useful guidelines for analysing family development and health promotion needs.

Another developmental approach based on Duvall’s work is that of Okun’s (1984) developmental tasks and issues. Though Mallinger (1989) notes that it is recognised as a more comprehensive approach to family development, Okun’s definition of the family represents a heterosexual couple with children and may not be representative of non-nuclear families. Carter and McGoldrick’s (1980, cited in Roth, 1989 and Gilliss, Highley, Roberts, & Martinson, 1989) approach to family development has six stages which refer only to the family with young children whose age span is 0 – 12 years. It also describes, in developmental forms, the family which divorces and remarries. As the focus in this Chapter is about diverse family types with young children from upper three to five years of age, the family developmental stage deemed most appropriate for investigation is families with preschool children. Duvall’s (1977 & 1977a) developmental framework and tasks for children and parents will be the reference point for this particular stage of family development.
Duvall and Miller (1984) present a list of developmental tasks for the family of a preschooler. These tasks have quite a practical but also a health promotion focus. They range from not only encouraging and accepting the child’s developing skills as well as supplying adequate housing, recreation and planning for child related costs but also include maintaining personal privacy, nourishing common interests and friendships to strengthen self confidence and self respect, sharing household and child care responsibility and creating and maintaining effective communication within the family (Duvall & Miller, 1984 cited in Murray & Zentner, 1993). Whilst Duvall’s approach demonstrates that health promotion is critical in families of preschoolers, other authors (Kandzari & Howard, 1981, cited in Bomar, McNeeley, & Palmer, 1989 and Szafran, 1989) have also worked with families of preschool children and have adopted a health protection focus. Protective parental behaviours include: awareness of accident hazards; completion of immunisations prior to school entry; and providing for and encouraging good nutrition, adequate sleep and exercise and dental health practices. Although an understanding of protective behaviours is necessary for both parents and nursing health professionals working with preschoolers the importance of health promoting behaviours is paramount and needs to be acknowledged, in line with the emphasis it is given by Duvall.

As the importance of and the influence of poverty on families with young children has already been stated as a major concern, the impact of socio-economic factors and child and family health will be addressed in the next section.

3.4 DETERMINING FACTORS ASSOCIATED WITH FAMILIES AND THEIR CHILDREN’S HEALTH

Among many factors associated with child and family health is the relationship between concepts to do with children’s health and selected family members’ characteristics including socio-economic status (Gochman, 1985). Steele and McBroom (1972) also note the high correlation found between educational levels of women and the increased frequency of health behaviours as well as these women’s importance in decision making about their children’s health. Litman (1974) likewise acknowledges the major influence mothers have on the food habits and attitudes of their school aged children.
Further evidence for the relationship between a child’s health and family characteristics is illustrated by Pender (1987) who points to the importance of the mother in developing health promoting lifestyles during childhood, thus avoiding the need for changing resistant health behaviours that are damaging in adulthood. Clearly values are transmitted from one generation to another. Some families of origin will be more committed to promoting healthy lifestyle behaviours because the family norm will be influenced by one person valuing health (Friedman, 1986). A dominant female family member who considers health as a desirable state will be much more likely to engage in promoting healthy behaviours. This general position needs to be balanced by Pender’s (1986) research demonstrating that many families will rank health high on their list of priorities but need assistance in bringing their behaviours in line with their values. Also some families may consider health to be a secondary priority goal in itself, only essential in the attainment of other goals.

3.4.1 The Impact of Socio-economic Factors on Child and Family Health

One of the major determining factors used to identify families is that of socio-economic status. Socio-economic status and the sets which it consists of, such as education, income and occupation are all independently associated with health promoting behaviours (Brown, Muhlenkamp, & Fox, 1983; Duffy, 1988; Gottlieb & Green, 1984; Krick & Spbal, 1990; Macera, Pate, & Davis, 1989; Muhlenkamp, Brown, & Sands, 1985; Riffle, Yoho, & Sams, 1989 and Rokowski, 1987, all cited in Palank, 1991). Moreover, studies undertaken by such authors as Dean (1989), Wiley and Comacho (1980) and Wingard, Berkmen, and Brand (1982) demonstrate the importance of one’s educational level and income in the uptake of different health behaviours. Lower socio-economic status families do not consider health as a major priority unless they are extremely ill or are in an emergency situation (Koos, 1954). Evidence is provided by Marwick (1988), Markland and Durand (1976) and Marks, Halpin, Irvin, Johnson, and Keller (1979) for a high risk of incomplete immunisation for children whose parents are young, single and non-white, have less than high school education, are of low socio-economic background and who live in a large family.
In Australia too, low socio-economic status is related negatively to preventive health. Low income, low education and social minority family groups are all predictive of poor preventive health practices (Bates & Linder-Pelz, 1987). Harris (1993) also notes that there is a direct link between poor health and low economic resources for low income children in their use of dental and preventive services.

Nevertheless, while many studies indicate a link between socio-economic factors and child preventive health behaviours, not all do so. In Britain, Peckham and Bedford (1989) suggest that socio-economic influences were small in childhood immunisation rates compared to parental attitude. On the other hand, in the United States, Green (1979) found that mothers’ preventive health behaviour such as immunisations, baby visits for checkups, preventive dental care, owning a thermometer and a medical dictionary was highly correlated with socio-economic status. In Australia, Radford (1982) suggests that it is difficult to determine the contribution of socio-economic factors to immunisation levels. This is reinforced by Basser (1977) and Blaze-Temple, Binns, and Boldy (1988) both cited in A Review of Childhood Immunisation in New South Wales by Carey (1991), who note that non-compliance in immunisation in Australia has been associated with lower socio-economic level or lower family income but that lower educational level of parents has not produced consistent findings. In this writer’s own research (Roden, 1992) it has been demonstrated that families who rent their homes, have a lower educational level and who have moved more than four times in the last five years are significantly more likely to have incomplete immunisation among their children.

Other researchers continue the theme that socio-economic factors are not very significant in influencing children’s health behaviours. Work undertaken by Becker and Maiman (1975), for instance, suggests that demographic, personality, social or structural factors have little effect on medical care compliance as well as health compliance behaviour. Rosenstock (1974) documents elements in the Health Belief Model as being the individual’s readiness to take action on the basis of her/his perceived susceptibility and severity of the disease, the individual’s evaluation of the benefits and costs in taking action and the cues to action (or the internal/external stimulus necessary to trigger the health action), rather than demographic factors. Further evidence of a lack of socio-economic influence being employed in the Health Belief Model is provided by Becker, Nathanson, and Drachman (1977), who showed that mothers with a 'preventive health
orientation’ were significantly more likely to make preventive service visits. These authors concluded that the mother’s health knowledge was predictive of their health service utilisation. Unfortunately Becker et al. (1977) used only low socio-economic status respondents and were not able to make suitable comparison with those of high socio-economic status.

Other socio-economic status indicators also show a typical pattern of variability. Itinerant families with young children (families who rent and move often) are significantly more likely to have incomplete immunisation (Roden, 1992). Whilst itinerancy has been perceived as a preventive health risk, ethnicity is not associated with lack of immunisation compliance, for instance (Blaze-Temple et al. 1988; Roden, 1992). Basser (1977) also found no difference in vaccination compliance rates between children of mothers from non-English speaking countries and English speaking countries (except surprisingly for measles vaccination). On the other hand, Bouwman (1990) found that children of families of non-English speaking background (NESB) attended Sydney council immunisation clinics at later ages than children of English speaking background. Similarly, the Eastern Sydney Health Area survey found lower compliance rates for children of NESB compared to children of English speaking background for the measles mumps immunisation (Carey, 1991), while Roden (1993) demonstrated that children from families of NESB were significantly more likely to be incompletely immunised for their age than children of English speaking background in South Western Sydney.

Despite minor variation these studies of NESB and itinerant families suggest that such families are vulnerable when it comes to child health practices. As Friedman (1986) highlighted, lower socio-economic status families have urgent but different priorities when compared with higher socio-economic status families who place a special value on health and the quality of their lives.

This association between low socio-economic background and poor health is of concern in Australia where poverty has increased through the 1970s and 1980s into the 1990s. Raman (1999), who defined family poverty as receiving less than half the average household income, notes the doubling of impoverished Australian families to 16% by 1996 and states that among other things children for these families have less immunisation, dentist visits and doctor’s visits. Harris (1989) and Trethewey (1989) state
that the causes of this can be attributed primarily to the increase in the proportion of single parent families and their associated poverty. Silburn et al. (1996) in their Western Australian Child Health Survey point to over half of all single parents (57%) as divorced or separated compared with only 20% of never married parents. Dawson (1991) reveals that children living with single mothers (or with mothers and stepfathers) were more likely to have behavioural problems whilst those living with single mothers were at increased risk of asthma. The same research also showed that children of divorced parents experienced an increase in accidental injury. In Australia, Muehlenberg (1993) in a review of North American research (McLanahan, 1985; Mott & Haurin, 1987; Matsueda & Heimer, 1987; Wallerstein & Blakeslee, 1989; Zinsmeister, 1992; Daly & Wilson, 1985; Lightcap, Kurland, & Burgess, 1987; and Margolin, 1992) and one Australian research study ‘Settling Down – Pathways of Parents After Divorce’ by Funder, Harrison, and Weston (1993), argues that two parent families, not one parent families, are the key to the healthy development of a child. On the other hand there are two studies which support that single parents with children eight years and over have health promotion potential. Although Loveland-Cherry (1986) used small American samples to examine the health practices of both single and two parent families she reveals a non-significant correlation between socio-economic status and health practices as well as single parent family potential for competent functioning. The latter result is also confirmed in Ford-Gilboe’s (1997) larger Canadian study of single and two parent families.

Nevertheless, other Australian studies by Amato (1987), Dunlop and Burns (1988) and Weston (1993) suggest that adjustment in adolescence was related to the quality of parent-child relationships, family conflict and happiness rather than the nature of family structure (single parent or other family types). Other factors contributing to family poverty are the increase in unemployment of families with dependent children, the increase in housing costs, inadequacy of income support payments for families with children and the fall in real incomes for low wage earners.

While there is evidence to support the association between increased numbers of Australian families with young children living in poverty with poor health, an American study undertaken by Pratt (1976) discounts that socio-economic factors are important for families and their health promoting practices. An ‘energised’ mode of family health
behaviour was identified by Pratt in her study of 273 New Jersey, nuclear families with children aged 9 – 13 years. According to Gochman (1985), Pratt found that methods of child rearing such as – emphasising rewards for good behaviour, using reasons and explanation and giving autonomy – used by the ‘energised’ family, (who displayed characteristics of regular interaction between family members; family involvement in community activities and flexibility and autonomy in family members roles and power) were associated with increased health behaviours such as dental care, personal cleanliness and regular elimination. On the other hand, the use of traditional parental disciplinary methods such as punishment, lack of instruction and trying to gain control over the child were associated with decreased health behaviours. Pratt’s child rearing patterns appear to concur with those of Bronfenbrenner (1958) and Kohn (1959, 1977). They found that middle class mothers who used techniques of reasoning, isolation and love with-holding wanted their children to be independent and responsible whereas working class mothers who used physical punishment wanted their children to conform and be obedient, neat and clean. While Kohn (1977) and Bronfenbrenner (1958) and an additional study by Luster, Rhoades, and Hass (1985) point to socio-economic related differences in child rearing (Thompson & Mee, 1983) an Australian study undertaken by Burns, Homel, and Goodman (1982) questions this, along with Pratt. Nevertheless Pratt (1976) does admit that the ‘energised’ family form was found in slightly larger proportions amongst more highly educated families than poorly educated families. It should also be noted here that although socio-economic factors are not important for Pratt (1976) her study is valuable and pertinent for this research because it goes one step further than child rearing behaviours to address parental health practices and their children’s health behaviour.

3.4.2 The Influence of Locus of Control

As well as the effect of socio-economic influences on family health there are other factors which need to be addressed in relation to families and their children’s health. Two such factors are locus of control and self-efficacy. Health locus of control is where people either take control of their health (have an internal locus of control) or their health is controlled by external factors (have an external locus of control) (Rotter, 1966) while self-efficacy is the perception that one is capable of accomplishing a behaviour (Bandura, 1986). The influence of both these factors – health locus of control and self-efficacy – is supported by the following literature. An internal locus of control was considered more
important than socio-economic or racial factors as a predictor for mothers taking their baby to health services (Tinsley & Holtgrave, 1989). Howell-Koren and Tinsley (1990) suggested that physicians sought more information from, and behaved more positively towards a baby’s mother with an internal locus of control. Palank (1991) acknowledges that there are supportive studies for the influence of health locus of control on health promoting behaviours but is of the belief, along with Pender (1996) and Strecher and Rosenstock (1996), that self-efficacy research is more convincing in its influence over health promoting behaviours. Strecher and Rosenstock (1996) and Pender (1996) believe self-efficacy is necessary when re-educating clients and promoting health in those who display decadent, entrenched life style behaviours. However, in this thesis it is argued that the main emphasis is not about developing a health promotion model for nurses to assist them with re-educating those families with negative, entrenched life style behaviours. The emphasis in this case is on developing a health promotion model for nurses to assist them educate young families and their children who do not necessarily exhibit negative, entrenched lifestyle behaviours but who display some evidence of attempting or wanting to attempt and attain more positive lifestyle behaviours for their families. Of importance in this project is extending the HBM in order to develop a health focus associated with health promoting behaviours for families with preschool aged children. Being in control of their children’s health is perceived to be an important factor for these families with young children, hence the importance of health locus of control here. The construct of perceived behavioural control as well as its association with the intention to undertake such health promoting behaviour is the main consideration. That different kinds of families will perhaps be more in control of their children’s health and therefore more able to undertake health promoting behaviour needs to be investigated in this thesis.

In line with research related to parents’ control over their children’s health behaviours the study by De Vellis et al. (1993) discusses the development and validation of the Parent Health Locus of Control (PHLOC) scales measuring parents’ beliefs about what influences their children’s health. This study has been validated on parents of preschool and elementary school children as well as parents with special interests in health matters. De Vellis et al. note that the PHLOC scales which are based on group data could be used for group intervention in order to identify categories of parents who perceive themselves having less influence over their children’s health.
The PHLOC scales are an interesting approach to identifying and informing ‘at risk’ parents and assisting them with their children’s health habits. However, the notion of being in control is obviously influenced by socio-economic factors. For example, whilst some parents may be more in command of their lives and not so much influenced by others it could still be a problem being in control of your child’s health behaviours if you did not have adequate access to financial resources. As the previous discussion has already indicated there is still strong evidence for socio-economic factors being involved in influencing children’s health. Australian research, incorporating the PHLOC scales, is now needed to investigate those families with young children deemed vulnerable to reduced health promotion opportunities such as families from low socio-economic backgrounds and who are single parent, itinerant, and whose country of origin is not Australia.

3.4.3 Conclusion

This section has discussed the development of the Australian family form; the increasing diversity of these families and the worrying, growing trend of single-parent families and families in poverty which comprise those families ‘at risk.’

It has also been determined that ‘family health’ is a broad concept with similarities, conveyed by the ‘health’ continuum, which begins with absence of disease and eventually leads to a self actualised, wellness perspective of family health. The developmental theory of Duvall (1977) is also acknowledged as most appropriate to describe families with preschool aged children because it is not only more representative of diverse, non-nuclear families than other theories, it incorporates health promotion in its theory as well.

Assessing the effect of socio-economic factors for vulnerable families such as single parent, itinerant, ethnic (English speaking and non-English speaking) and their impact on the child health promoting activities of these families is another aspect of this section. The influence of poverty is also addressed in terms of its effect on the control families have over their health and the health of their children.

There is a real need for further research due to the very limited Australian research on health promoting behaviours of young Australian families other than that of parents and
their immunisation behaviours with their children. Furthermore the negative health focus (concentrating on health protective or preventive behaviours) in current child health literature needs to be updated to a positive health focus, emphasising health promoting behaviours of families with young children.

Finally, due to the magnitude and urgency of the problem of young Australian families living in poverty, if Australian community nurses are going to be involved in assisting these vulnerable Australian families with preschool aged children with their health promoting behaviours then a research study is imperative so that problem aspects can be identified and a plan of action put into place.

The next section addresses the important role that community nurses can play in assisting families to develop their health promoting behaviours.

3.5 THE ROLE OF NURSES IN PROMOTING THE HEALTH OF FAMILIES WITH YOUNG CHILDREN

Most people, Kandzari and Howard (1981) acknowledge, are realising that they can make choices and influence their own health, but they need education from health professionals in becoming well and staying well. This is especially the case for families with preschool aged children who suffer a disadvantage. For community nurses to do this, however, will need them, as well as the families they work with, to be oriented and re-educated from an illness prevention focus to a focus which emphasises health promotion and remaining well.

The important role of families in health promoting activities extends to health professionals including nurses in their need for education to engage family members in health promotion. Families and health professionals are well practised at disease/illness prevention but need to have more practice and experience in health promotion and remaining well (Kandzari and Howard, 1981). There is a need for nurses to determine and impart to families how they can reach their fullest health potential and function at their optimal health level, be those families free of disease or illness, or for example, a family living with a young child with Hepatitis B.
3.5.1 The ‘Middle Course’ Family Health Promotion Approach

The role of Australian community nurses in health promotion proposed by this researcher stems from the ‘middle course’ position, discussed previously in Section 2.5.1, and that of the nature of families and their health (the family health perspective) addressed in Chapter 2. Together these two concepts and the way they can be implemented constitute the ‘middle course’ family health promotion approach. The reader will recall that this approach encompasses a family systems focus whereby the family interacts with the surrounding environment which involves the community, and in doing so, this position also claims to be considerate of the perspective of the individual person. The role of health professionals, like community nurses, and the partnerships they have both with other medical personnel and their patients are two other important aspects of the ‘middle course’ family health promotion approach.

Although government and community financial support to assist these families with their life style needs such as family nutrition, exercise and work and leisure problems – would be expected in the ‘middle course’ approach, it cannot be taken for granted, according to Koch (2000). She notes the importance of community nurses taking an active role in defining and establishing their practices as well as having a voice in health policy.

The implementation of the ‘middle course’ family health promotion approach is associated with Australian community nurses (including early childhood nurses) contributing to health promotion in disadvantaged families with preschool aged children by refocusing their role and concentrating on six major things:

- ‘At Risk’ families,
- A family focus,
- Child care setting involvement,
- Home visits,
- Community development projects and advocacy, and
- Developmental focus.
‘At Risk’ Families

Firstly there is a need to identify those families who are at most risk in terms of their health behaviours. Obviously of most concern are those families living in poverty – low income, ethnic (non-English speaking and English speaking), itinerant and single parent – who are in dire need of health promotion assistance from community nurses. In disadvantaged areas of NSW it would be advisable for health promotion activities for preschool aged children and their families to be more intensive and programs more concentrated the whole year round. Furthermore as there are often aspects of child development and parental management that are interrelated in community nursing practice the notion of treating the whole family as a unit makes sense in this kind of community nursing practice.

A Family Focus

The need for a family focus is reinforced by the American family health nursing experience (Gilliss et al. 1989) which is different to that in Australia. In Australia, family health nurses who play a role in assisting preschool children and their parents are usually community health nurses or early childhood/maternal health nurses. As in the United Kingdom, the focus is usually on delivering individual care rather than family care. This contrasts with the family health nursing practitioner, in the USA, who delivers care to the whole family unit (Gilliss et al. 1989; Clements & Roberts, 1983; Whall, 1986). In the United States the family and the development of its health promoting behaviours has been emphasised in a way which is quite unlike the development of family health promotion behaviours in Australia (Gray & Sergi, 1989). Family nursing (Gilliss et al. 1989; Friedman, 1992), established in America in the 1970s, has developed its base in the health and illness aspects of American family life. In the United Kingdom and Australia no such development has yet occurred (Doherty & Campbell, 1988). Family nursing in the area of child and family health is managed by a family health nurse who undertakes a health promotion nursing role for the whole family as a unit (Bomar, Mcneeley, & Palmer, 1989). This family care focus contrasts with the present focus in child and family health in Australia in which a community nurse, an early childhood nurse or a maternal health nurse would occasionally be involved in health promotion and would usually focus on one family member (the preschooler) rather than the whole family.
Child Care Setting Involvement

As well as the importance of a family focus Australian community nurses can also learn from their American counterparts who are more actively involved in child day care. In America nurses are involved in child care settings, more often than in Australia. Not only may nurses assume the role of counsellor for families making decisions about child day care in the US but they may advise, provide direct services or perhaps become a health services director whose responsibility is to write the health program for the child care centre (O’Grady & Glass, 1989). It is also important for Australian community nurses to become involved in family health promotion – involving the whole family – through their initial contact with children in the child care centres.

It should also be noted here that a commendable effort has just been made by the NSW Health Department with the introduction and piloting of the “Families First” (1999) initiative. Early childhood visitors (nurses) will regularly visit the home of new parents for six months and experienced, trained volunteers will also visit these parents on request to provide weekly advice, friendship and/or task assistance. In addition to this early intervention teams to assist stressed families having difficulties and local development programs for isolated parents are two additional strategies provided.

Whilst the involvement of early childhood nurses with young families for the first six months and the introduction of the volunteer home visitors program is no doubt an important step forward – although it is too early to evaluate such an initiative – it is still emphasised here that community nurses can and should have more regular health promotion involvement with young families, especially after the first six months of life with the emphasis being on the preschool years.

Currently nurses are involved in health promotion activities to a limited extent (and usually not through preschools/kindergartens unless especially asked) with parents of preschool children and could be much more active if health promotion programs were established targeting health promotion ventures for preschool children and their families.
Home Visits

Community nurses in NSW, Australia could assist all parents and teachers at child care centres by visiting these sites in conjunction with home visits if deemed necessary. Vimpani (1998) challenges health professionals, particularly community nurses, to become involved in the strategy of home visiting – providing information, health care and psychological support over a nominated period of time. Home visiting services are perceived by authors such as Weiss (1993) to be one way an underprivileged family is better able to integrate into the community.

Community Development Projects and Advocacy

Just as home visits are deemed an important strategy for community nurses so too is that of developing co-operative healthy life style ventures. This approach has its roots in community development and community participation which have recently become synonymous terms (Abbott, 1995). Community development refers to professionals and community members ideally meeting as equals to collectively identify community problems and develop a plan of action to bring about community change (Friere, 1972). In support of this Vinson and Power (1999, June) look to lifting family morale of the socially disadvantaged (Horin, 1999, June 8) and empowering them through community development projects organised for such things as development of community facilities, involvement in a community business enterprise/co-operative, development of community gardens or taking part in regular community clean ups.

Advocacy is also an important part of the community nurses’ role in establishing community development projects because these nurses need to participate in getting community members to identify health issues (Labonte, 1997). Yet rather than being involved in identifying community needs (Friere, 1972) community nurses can assist and support the specified community by facilitating the process involved in identifying capabilities, skills and assets of lower income people and going on to work with local institutions for community rebuilding, in line with the suggestions of Kretzman and McKnight (1993).
Developmental Focus

As well as the additional strategy of community development projects just addressed, a developmental focus for community nurses is also considered important so that young preschool aged children can be assessed by child and family health community nurses. In New South Wales, Australia, whilst there is involvement of nurses in child care centres and some nurses do become child care directors, this is usually the province of a preschool/kindergarten teacher trained in the educational aspects of child development as well as child care assistants who have had no nursing training. Although developmental screening takes place before the commencement of preschool and again at the start of school, in the preschool environment many teachers and parents have limited knowledge of preschool health assessment and screening and may not detect problems in a child’s development. Of further concern is the fact that parents appear to have minimal contact with these nurses, doctors or hospitals at this stage of child development unless they are concerned about their child’s development or health for some reason.

3.6 FURTHER DIRECTIONS FOR THE THESIS

If community health and early childhood nurses are going to work more closely with families and their preschool aged children, especially ‘at risk’ families, whose health behaviour development is rapid, it is important for these nurses to better understand parental health promoting behaviours and what influences them.

This thesis aims to improve understanding in these areas, by seeking answers to the following questions, most of which have originated in the literature reviewed to date:

- Do different kinds of families – for example families varying on socio-economic background and parent structure – hold different concepts of health? Research data will be examined by using the health literature. Smith’s (1983) four health models will be used, as an example, to determine whether families perceive they are functioning in terms of the first basic health model of absence of disease or whether they perceive they are functioning within Smith’s higher health models.

- Do different families initiate different health behaviours for their children?
• Are there similarities between the health concepts of families and the behaviours families initiate for their children?

• Are there differences in health promotional abilities of families, and

• Are some families more in control of their health and their children’s health than others?

The answers to these questions will identify ‘at risk’ families and will provide information which will assist community nurses in their efforts to promote healthy family behaviour.

The next Chapter discussing the Health Belief Model (HBM), albeit in a modified form, has been chosen as the only model which can predict preventive health behaviours which underlie the questions just noted. The major modification that will be discussed is the need to give the HBM a much greater health promotion focus, in line with Chapter 2. The work of Ajzen (1985) will be drawn on heavily to make these modifications.
CHAPTER 4

DEVELOPMENT OF HEALTH BELIEF MODEL

The previous Chapter addresses the health promotion needs of diverse families with preschool aged children, especially those families from low socio-economic backgrounds and other sources of disadvantage. It acknowledges in addressing the ‘middle course’ family health promotion approach that Australian community nurses have a key role to play in health promotion which has been implemented in the USA since family nursing commenced in the 1970s. These Australian nurses could be much more active, like family health nurses have been with young children in the United States, in working more with and assisting families with young children, especially disadvantaged ones, with their health promotion needs.

The health care function of the family is infrequently defined and addressed in the literature (Reutter, 1984 cited in Gershwin & Nilsen, 1989). The basis of this thesis thus demands a discussion of health promotional theories which may inform the nursing of families with preschool children. It reflects on family nursing and its base in a number of general theories about the family and their association with appropriate nursing theories to provide a focus on the healthy family. In this Chapter theories that are more or less useful for the examination of the concept and practice of health promotion are examined. There are a number of such theories – general theories associated with family nursing as well as the specific contributions of nursing from Orem (1971, 1980 & 1985) and Rogers (1983). Pender’s health promotion model and her revised health promotion model (1987 and 1996, respectively) and their implications for nursing practice are also introduced.

Within this plethora the Chapter increasingly narrows to review the Health Belief Model (HBM) cited in Rosenstock (1974) and the associated foundational work of Fishbein and Ajzen, in particular, Ajzen’s Theory of Planned Behaviour (1985). It is from this base that the thesis attempts to modify the HBM so that it is more appropriate to use with families who have preschool children.
4.1 USEFUL THEORIES ABOUT FAMILY HEALTH PROMOTION

In family nursing there are theoretical contributions from three disciplines – family therapy, family social science and nursing (Friedman, 1986 and 1992). This is so because no one theory can fully explain the relationships and dynamics of family life or provide a knowledge base for assessment and intervention (Friedman, 1986).

Unlike nursing theories, which Whall (1983) and Clements and Roberts (1983) acknowledge are superficial or incomplete in their application to the family, family therapy and family social science theories are much more complete and powerful in their description and explanation of family behaviour and family intervention (Friedman, 1986). Family therapy theorists are concerned with facilitating change in ‘dysfunctional’ families. Their multitude of theoretical perspectives are classified in terms of orientation into psychodynamic, experiential or humanistic and behavioural as well as conceptualising the family as a system, for example those theories of Satir, Bowen and Minuchin all cited in Whall (1983). Family social science theories are the most informative for nursing purposes due to their ability to demonstrate how families function, how families interact, how the family changes and how the family reacts to stress. Friedman (1986) chooses to highlight three approaches that are central to family practice and understanding the family.

The first approach is the developmental (Duvall, 1977) while the second is that of the systems approach in which the family is viewed as being part of its ecological environment (Bronfenbrenner, 1979). Both of these approaches were addressed in the previous chapter – the developmental approach in detail in Section 3.3.3 and the systems approach in Section 3.5.1 – and this second approach acknowledges the ‘middle course’ family health promotion approach previously identified as useful for the role of community nurses. Further aspects of the systems approach are that the family is regarded as an open system within its suprasystems (such as the surrounding environment) and it also contains subsystems (such as its socio-cultural group). The open system of the family contains boundaries which can be open or closed, regulating the amount of input from the environment. Self-regulatory mechanisms also assist the family to balance and control inputs and outputs via feedback loops so that equilibrium can be
achieved (Friedman, 1986). Family systems models have developed from this base and have been used by family health nurses to measure qualities considered healthy in a family, for example, the Circumplex Model of Family functioning (Olson, Sprenkle, & Russell, 1979) and the Beavers Systems Model (Beavers & Voeller, 1983).

The third approach reviewed by Friedman (1986) from within the Family Social Science cluster is that of the structural-functional approach. Loveland-Cherry (1989) notes that this has also been used as a framework by nurses to assess healthy family development. Whilst within this approach the family is still viewed as a social system, the outcome rather than the process is regarded as more significant. It is the functional and structural aspects of the family which are given primacy. In family nursing where the dynamics of the family and the internal and external forces which affect it seem particularly important, this theory may prove productive.

As well as the three approaches reviewed by Friedman (1986) she also suggests that some nursing theories such as that of Rogers (1983), Roy (1981) (Outcome Theorists) and Orem (1971, 1980, 1985) (Needs Theorist) bear further consideration in their application to the family. Although there is some debate about the lack of development of nursing theories and therefore their value to family nursing, Whall (1981, cited in Gershwin & Nilsen, 1989), Reutter (1984) and Gershwin and Nilsen (1989) note that nursing theories like Orem, with its understanding of the significance of the family (Reutter, 1984; Pender, 1986) and Rogers (1983), with its family centred, systems model approach, should be integrated with the systems and structural-functional approach because together they hold great promise for the nurses’ role in healthy family assessment and intervention. However, Fawcett and Whall (1990) have identified that Orem’s (1971, 1980, 1985) theory can be justified as useful for family health promotion because firstly it includes the self-care needs of very ill clients as well as the educative-supportive self-care needs of so called healthy clients and, secondly Orem’s (1971) definition of health describes a state of wholeness or integrity of individuals (Foster & Janssens, 1980) deemed to support a significant health promoting focus. For this reason Friedman (1986) argues that Orem’s individually focused, family assessment and self-care oriented theory (Gershwin & Nilsen, 1989) should be included as a family health promotion theory.
As well as all these theoretical approaches another one suggested for consideration is that of Pender’s (1987) format for a family health promotion-protection plan which would provide opportunities for developing and testing nursing interventions (Loveland-Cherry, 1989 & 1996). Pender (1986) acknowledges that little work has been undertaken to date in formulating strategies or evaluating their effectiveness for family health promotion, provides a preliminary model consisting of strategies (which include value clarification, enhancement of interpersonal relationships and support systems, lifestyle review and the development of a family health promotion-protection plan) which she acknowledges is a beginning point for family health promotion. Pender’s model is based on the work of Rosenstock (1966), Hochbaum (1958) and Kegeles, Kirsch, & Haefner (1965) who developed the HBM which will now be reviewed. For this reason Pender’s model will be critiqued after the discussion on the HBM.

4.2 OUTLINE OF THE HEALTH BELIEF MODEL

Although the HBM has been thoroughly evaluated, has received empirical support and is considered to be one of the most influential models in health promotion some critics would argue that, in the strict definitional sense, this model is not a theory (Janz & Becker, 1984). For example this model has never been exposed to the rigorous treatment that Fishbein and Ajzen’s (1975) Theory of Reasoned Action has received (Rimer, 1991). The HBM originated in the 1950s to explain why people would not participate in programs to prevent or detect disease (Hochbaum, 1958 and Rosenstock, 1960, 1966 and 1974, cited in Strecher & Rosenstock, 1996). At a later stage, Becker, Drachman & Kirsch (1974) extended the application of the HBM to include people’s responses to symptoms and Becker and Maiman (1975) included people’s responses to illness and compliance with medical directions. Thus, the initial model was extended to include screening behaviours, all preventive health actions and illness behaviours (Rosenstock, 1974a; Becker et al. 1974; Becker and Maiman, 1975; Maiman, Becker, Kirsch, Haefner, & Drachman, 1977; Janz & Becker, 1984).
4.2.1 Key Constructs of the HBM

The significant constructs in this model, identified in Figure 4.1, were originally documented by Rosenstock (1974), with Janz and Becker (1984) and Rosenstock (1990) a decade later as:

- ‘Perceived Susceptibility’ which refers to one’s subjective perception of the risk of contracting a condition or disease. This can also include one’s perception of re-susceptibility if one has had an illness or one’s susceptibility to illness in general.

- ‘Perceived Severity’ which is associated with feelings about the seriousness of acquiring an illness in terms of medical and social consequences.

- ‘Perceived Benefits’ which is based upon beliefs regarding the effectiveness of the particular actions available in reducing the threat of disease/illness. A person who was motivated by the threat of the condition would not be expected to accept the recommended health action unless they perceived this as feasible and efficacious.

- ‘Perceived Barriers’ refers to the cost-benefit analysis which it is believed people undertake in order to weigh up beneficial action and its opposing limitations such as costs, side effects, time-consuming and inconvenience. This exercise may provide negative aspects of a health action which may act as an impediment to undertaking the recommended health behaviour.

Taken together the latter two constructs ‘perceived benefits of taking action and barriers to taking action’ – involve weighing up the individuals’ and his/her peers’ beliefs about availability and effectiveness of different courses of action.

Rosenstock (1974) also acknowledges additional variables such as ‘cues to action’ (which has not been overly researched) where levels of susceptibility and severity provide the stimulus to act and the perception of barriers offer a preferred mode of action. It is the cues to action (for example, internal cues such as one’s perception of one’s bodily state or external cues such as a result of interpersonal contact or media contact) that instigate preventive health activity.

Finally, Rosenstock (1974) addresses ‘modifying factors’, defined as demographic, socio-psychological and structural, as being those which serve to condition an individual’s perceptions about perceived benefits of preventive health actions.
As the dimensions of the HBM have just been identified there is a need to address them according to influences and factors that have impacted on the HBM.

Figure 4.1
Diagram of the (original) Health Belief Model

4.2.2 Factors that have impacted on the Development of the HBM

Becker, Drachman and Kirscht (1974) have suggested that the HBM can be described as an expectancy-value theory which addresses behaviour as occurring under conditions of uncertainty, in line with Lewin (1935) who also influenced the predictive models of Tolman, Rotter, Edwards, Atkinson and Feather (Maiman & Becker, 1974). The Lewinian assumptions underpinning the HBM could be described as Lewin’s conceiving of an individual whose daily activities consisted of a process of being pulled by positive forces (reflected in perceived benefits of an action) and repelled by negative forces (the threat of disease) (Rosenstock, 1974). Within the HBM an action is seen as more likely when, in association with the threat, the action is perceived as efficacious and cost effective.
Motivation is considered problematic for those who devised the HBM because the perception of susceptibility to and the severity of a condition was regarded as itself being a motivating factor (Rosenstock, 1974). However, it is important to ask whether the susceptibility to and fear of disease is the only thing that motivates people and whether people may not also be motivated by wanting good health. Nevertheless Rosenstock (1974), who is concerned about how adequate the Lewinian notion is in its conceptualisation of positive health actions – that of people being drawn towards ‘positive’ health and at the same time being repelled by ‘negative’ disease – notes that the conceptualisation of ‘positive’ health as motivating individuals has not been clarified for the HBM. This reinforces the problems that the social researchers had as a result of the definition, conceptualisation and limited approach to the notion of ‘health.’

There was an attempt made to overcome this problem through the introduction of the concept of ‘general health motivation’ into the HBM. This separate health motivational variable, postulated by Becker, Drachman and Kirsch (1972) as an individual’s desire to achieve a positive health state and to avoid a state of illness represents the desire to undertake and maintain health related goals. Becker, et al. (1972) selected health behaviour motivation dimensions based on the theories of Atkinson and Lewin, which correlated with the appropriateness of the HBM to predict preventive health or illness behaviour. The authors examined the motivations of mothers with sick children first and then the probability that the mother would comply with medical treatment for the child to reduce the threat. General health motivations were things like the physical threat to the child and feelings of being able to control things as well as the value of reducing the threat and associated factors. This enabled Becker et al. (1972) to conclude that positive health motivations do exist and are a part of health-related behaviour and the revised HBM. However, their approach still adopts that of disease prevention – not that of a positive health focus – on the basis that they were relating health motivation to mothers’ compliance with their child’s medical treatment, rather than adopting a health promotion stance in which health motivation is associated with maintaining good health in children. On this basis one needs to ask how well the new concept ‘general health motivation’ will measure health in the revised HBM.

As well as the acknowledgement of the need for inserting ‘general health motivation,’ the further addition of the concept ‘self-efficacy’ is suggested by Rosenstock, Strecher, and
Becker (1988). They believe that for a given behaviour to occur both constructs – ‘locus of control’ which is a concept about the self construct (referred to in Chapter 3) and ‘self-efficacy’ which takes into account one’s ability to undertake a behaviour – are necessary. As previously noted, further support for this is identified by Strecher and Rosenstock (1996) in their argument that for modification of lifestyle practices associated with chronic illness or modification of negative health practices like smoking, people need enhanced self-efficacy.

4.2.3 Brief Critique of the HBM

Many criticisms have been levelled at the HBM including: its social psychology connections; the assumption that individuals undertaking health behaviours do so in a rational or conscious way (Rosenstock, 1974); the lack of evidence to support the belief-behaviour relationship; the difficulty associated with modifying beliefs and no suggestion of strategies for change; the focus on individual factors in terms of health intervention, rather than considering socio-environmental factors as well; the notion of ‘engineering’ individuals into preventive health behaviours and how this effects future behaviour and the encouragement of victim blaming because of the HBM’s focus on the individual’s part in determining behaviour (Rosenstock, 1990). Although these criticisms are acknowledged it appears that they can be challenged. For example, if the criticism of the lack of evidence to support the belief-behaviour relationship is examined it can be argued that there is already extensive evidence to support the attitude, belief, behaviour and intent relationship in a similar expectancy-value theory to that of the HBM, that has been researched in Ajzen’s (1985) Theory of Planned Behaviour and which will be addressed later. Furthermore the criticism related to the assumption that individuals undertaking health behaviours do so in a conscious or rational way will also be investigated more fully in a later section. At this point, however, a major criticism needs to be discussed.

4.2.4 Criticism of the HBM Central to this Thesis

Although still other criticisms revolve around things like limitations with logical explanation, clarity and accuracy of the HBM due to unclear construct and relationship development, the major criticism associated with the work of this thesis is that there is a problem with the way health is conceptualised in that health motivation in the model has not been clearly addressed and needs reworking (Rosenstock, 1990). Evidence for this
statement is provided by Rosenstock’s use of Kasl and Cobb’s (1966) health behaviour definition as being that of any behaviour a person who perceives her/himself to be healthy undertakes so as to prevent disease or to detect disease in the asymptomatic stages. In their article the emphasis on preventing disease rather than promoting health is reinforced by Rosenstock (1974a, Winter) stating, in Suchman’s words that: “motivation to change ones’ health practices depends, to a large extent, upon the individual’s feelings of personal vulnerability and the seriousness with which he views the health hazard” (p. 370). From this statement it is easy to recognise the narrow, medicalised definition of health and the emphasis on disease prevention over the notion of promoting health which fits with the failed attempt to reconceptualise health to that of the concept of ‘general health motivation’, previously addressed in 4.2.2.

The redefinition of health is crucial so as to provide a wellness perspective associated with the promoting of health behaviours. Some authors (Rosenstock, 1974, and Pender, 1996) are unable to reconcile the avoidance orientation of the HBM with that of health promoting behaviours which will lead towards self-actualisation. It is the belief of this researcher that this is still possible with the inclusion of additional constructs. However, if the definition of health is clarified to reflect health promotion there will be a major re-orientation of the HBM and original problematic constructs like ‘cues to action’ would need to change so as to reflect this new position. Another example is provided of some original constructs like perceived seriousness and perceived susceptibility, deemed to have less relevance for a model with a health promotion focus and which would be subsumed under the important perceived behavioural control construct when addressing the control one’s family has over their health (see Figure 4.1). Moreover if promoting health behaviour and positive health is considered important it is also essential to ascertain behavioural intention which is involved in the likelihood of undertaking the particular health promoting behaviour.

4.2.5 Pender’s Models of Health

Pender’s (1987) concern about the negative health orientation of the HBM precipitated development of her two models – a modified HBM, based on protective or preventive health behaviour and another proposed Health Promotion Model – and is based on her
belief that there is a difference between health protective or preventive behaviours and health promoting behaviours, previously debated in Chapter 3.

With both of these models the major constructs of individual perceptions, modifying factors and likelihood of action from the HBM are present and, in addition, each model includes ‘perceived control’ and the importance of health, subsumed under the construct of individual perceptions. In fact, Pender (1987) notes that the only difference between these two models is the more negative approach in the content of ‘individual perceptions’ for the modified HBM compared with the positive health focus displayed within the content of the same construct – that of a desire for competence, self awareness and self-esteem – for the proposed Health Promotion Model.

Having devised these two health models Pender (1996) then proposed a revised Health Promotion Model, based on research studies associated with the proposed Health Promotion Model, which involves the deletion of such constructs as the importance of health, perceived control of health and cues to action and the inclusion of prior related behaviour, perceived self efficacy and activity-related affect (Bandura, 1986). It should be noted here that Bandura’s notion of emotions being given off during behaviour and becoming sources of self efficacy or ones’ personal capacity to undertake a behaviour, are quite different to Fishbein and Ajzen’s (1975) affective evaluation of the specific outcomes of a behaviour. Pender’s emphasis on self efficacy in her revised Health Promotion Model, is so that nurses can re-educate clients with decadent, entrenched life style behaviours, and is similar to the position of Strecher and Rosenstock (1996) who have an interest in introducing self efficacy in the HBM.

How applicable Pender’s revised Health Promotion Model approach is in promoting health behaviours for families with young children, is questioned by the writer. It is argued in this thesis that it is important to develop a health promotion model which identifies ‘at risk’ families through the incorporation of such a construct as ‘behavioural control’ deemed important for families who are trying to develop health behaviours in their young children. Although there may be some families with decadent life style behaviours, given the opportunity most families with preschool aged children are interested in modelling healthy behaviours for their children.
4.3 FISHBEIN AND AJZEN’S MODELS – RELEVANCE FOR MODIFYING THE HBM.

The work of Fishbein and Ajzen, especially their Theory of Reasoned Action, has stimulated much research and has been extensively debated and critiqued by researchers since its advent in 1975. However, by using the Theory of Reasoned Action (1975) as a basis Ajzen developed the Theory of Planned Behaviour (1985) which stimulated more health research due to its wider research application. Moreover the Theory of Planned Behaviour (1985) is ideally placed to assist in the modification and re-orientation of the HBM to reflect a health promotion emphasis, not only because of its new construct ‘perceived behavioural control’ but because it is also classified as an expectancy-value theory as is the HBM.

As the Theory of Reasoned Action (1975) forms the basis for development of the Theory of Planned Behaviour it will now be addressed.

4.3.1 Fishbein and Ajzen’s Theory of Reasoned Action (1975)

The Theory of Reasoned Action (1975) and its conceptual underpinnings is based on preferences for a single, unidimensional approach to attitude and its measurement (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) in which beliefs and behavioural intentions are seen as independent but related phenomena. Although considered interrelated Fishbein and Ajzen (1981) have made it clear that there is a definite distinction between belief, attitude, intention and behaviour. This is so since they have different determinants and are affected in different ways by the same experimental manipulations.

The separate but related nature of attitudes, beliefs, behavioural intentions and behaviour has been described in Fishbein and Ajzen’s (1975) Theory of Reasoned Action. This theory describes a causal chain linking beliefs (formed on the basis of available information) to the person’s attitudes, attitudes to intentions and intentions to behaviour. As the performance of behaviour provides the person with new information this again influences beliefs and the causal chain starts over again.
Clearly, beliefs are the cornerstone in the Theory of Reasoned Action. Fishbein and Ajzen (1975) state that a person learns to form a number of beliefs about an object (that is, the person associates the object with certain kinds of attributes). In this way beliefs are formed about self, people, institutions, behaviours and events. It is the totality of a person’s beliefs which serves as the information base that determines their attitudes, intentions and behaviour. In fact external variables such as personality traits and demographic variables influence behaviour only indirectly by affecting the attitudinal and normative considerations that determine behaviour (Fishbein, 1980). Fishbein and Ajzen view human beings as essentially rational organisms who use information to make judgements, form evaluations and arrive at decisions.

That human beings are able to systematically process information available to them suggests that an information-processing approach underlies the information of attitudes. A positive attitude will result if the beliefs associate the object with primarily favourable attributes. Thus a person’s attitude towards some object is determined by his/her beliefs that the object has certain attributes and by their evaluation of those attributes. Generally speaking, a person who believes that performing a given behaviour will lead to positive outcomes will hold a favourable attitude towards the behaviour and vice versa (Fishbein & Ajzen, 1981).

The Relationship between Beliefs, Attitudes and Intentions

A person’s attitude towards some object is related to the set of his/her beliefs about the object but not necessarily to any specific belief. This is also the case with the relationship between attitude and intention. Finally each intention is viewed as being related to the corresponding total behaviour pattern that would occur (Fishbein & Ajzen, 1975).

The Theory of Reasoned Action (1975) was the seminal work on which both of these authors based their later research. In this theory an individual’s behaviour (B) is determined by his/her intention (I) to perform that particular behaviour as described in Figure 4.2. Behavioural intention is considered to be part of two factors:
Figure 4.2
The Theory of Reasoned Action (Fishbein & Ajzen, 1975)

- the first factor is the individual’s attitude (positive or negative) towards performing the behaviour under consideration which Fishbein and Ajzen suggest is the relation between a set of beliefs (N) about performing a behaviour and attitude towards that behaviour; and

- the second factor is the individual’s subjective norm with respect to that behaviour. This means the individual’s belief about the importance significant others such as a partner or co-worker place on the performance of that particular behaviour.

Thus, if no unforeseen circumstances have caused a change in plans, the best predictor of behaviour is a measure of the individual’s behavioural intention and this can be calculated by determining his or her attitude (based on the individual’s beliefs) and subjective norm and estimating their importance in performing the behaviour. It is also noted that although these determinants – attitude and subjective norm – may both be important, for some behavioural intentions attitudinal considerations will be more important than normative considerations or vice versa.

In addition to this it is necessary to provide some understanding of the level of complexity of the Theory of Reasoned Action. This can be illustrated in terms of addressing the performance of the particular behaviour and determining the behavioural criterion. Fishbein (1980) indicates that there are four elements used to define this –
action (behaviour), the target towards which action is directed, the context in which the action happens and the time when the action occurs. Fishbein uses the term ‘correspondence’ to refer to the degree to which the four elements used to define the behavioural criterion are also used to define the behavioural intention – when they are the same then accurate predictions follow.

In conclusion a succinct account of the Theory of Reasoned Action (1975) has been provided and is described as a causal chain linking interrelated but succinct concepts in the following way – beliefs (a major consideration) to the person’s attitudes, attitudes to intentions and intentions to behaviour (Fishbein & Ajzen, 1981). An understanding has also been provided about the nature of beliefs, attitudes and intentions and the way they relate to each other (Fishbein & Ajzen, 1974).

4.3.2 Critique of Fishbein and Ajzen’s Theory of Reasoned Action

Many researchers (Tandis, cited in Fishbein, 1980; Liska, 1984; Miniard & Cohen, 1981; Bentler & Speckart, cited in Liska, 1984; Songer-Nocks, 1976) have criticised Fishbein and Ajzen’s Theory of Reasoned Action but most criticisms have been rebutted by the authors or their supporting colleagues.

To begin with, Triandis (cited in Fishbein, 1980) considers that cognitive based evaluation differs from a person’s affective response to the behaviour. Fishbein rebuts this claim by arguing that no such distinction is warranted as one is unable to distinguish between the two aspects.

Liska’s (1984) criticism is related to Fishbein and Ajzen’s lack of awareness of external and environmental factors on behaviour in natural settings, being contingent on resources. However, Miniard and Cohen (1981) are more concerned about these authors’ lack of clarity about motivation to comply. Nevertheless Fishbein and Ajzen (1981) are convincing in their addressing of the measuring of motivation and its accompanying statistical procedures.

Liska’s (1984) second criticism is lack of independence of the constructs ‘attitudes to social norms’ and ‘attitudes to a behaviour’ and is also acknowledged by Miniard and Cohen (1981). However, although Kruglanski and Klar (1985) consider that an attitude
and a subjective norm towards a behaviour need not be thought of as independent of one another Fishbein and Ajzen (1981) argue that they have demonstrated that the manipulation of both attitude and subjective norm produces independent behaviour in each case.

The final criticism of instability of the construct ‘behavioural intentions’ and its inability to predict behaviour is supported by three authors: Liska (1984), Songer-Nocks (1976) and Fredricks and Dorsett (1983). Moreover Bentler and Speckart (1981, and also cited in Liska, 1984) argue that attitudes are better predictors of behaviour than is behavioural intention. Fishbein (1976) replies to Songer-Nock’s criticisms while Fishbein and Ajzen (1976) respond to the general claims about the inability of ‘behavioural intentions’ to predict behaviour. They argue that whilst their theory generally acknowledges a strong relationship between intention and behaviour this relationship can be affected by external variables.

4.3.3 Ajzen’s Theory of Planned Behaviour (1985)

Whilst most criticism of Fishbein and Ajzen’s Theory of Reasoned Action (1975) was rebutted, a problem did remain for their work. Classified generally as a ‘control’ factor this problem was the precursor for Ajzen’s (1985 & 1987) new Theory of Planned Behaviour. The Theory of Planned Behaviour extends Fishbein and Ajzen’s (1975) Theory of Reasoned Action by including a confidence variable, that is, according to Ronis and Kaiser (1989) “confidence in one’s own ability to carry out the action” (p. 1069). The Theory of Planned Behaviour is a general model in which the Theory of Reasoned Action represents a special case, that is, Ajzen states it is designed to deal with those behaviours under volitional control, assuming most behaviours of interest in social psychology fall into this category. However, there is also the recognition that there is the possibility that many behaviours may not be under complete control, and the concept of perceived behavioural control is added to handle behaviours like this.

Whilst both the Theory of Reasoned Action (1975) and the Theory of Planned Behaviour (1985) have two determinants of intention – an attitude towards behaviour and subjective norm – it is the Theory of Planned Behaviour which has another determinant known as the degree of perceived behavioural control (PBC) or the perceived ease or difficulty in
performing the specific behaviour, identified in Figure 4.3. The strength of the individual’s intention to perform a particular behaviour is dependent on the more favourable the attitude and subjective norm in terms of the behaviour. Ajzen (1988) notes that this new theory is an attempt to provide a conceptual framework that addresses the problem of not being in control. Just as beliefs concerning consequences of a behaviour are viewed as determining attitudes, and normative beliefs are viewed as determining subjective norms in the Theory of Reasoned Action, so too beliefs about resources and opportunities may be viewed as underlying perceived behavioural control.

**Figure 4.3**

*The Theory of Planned Behaviour (Ajzen, 1985)*

The Theory of Planned Behaviour proposes that behaviours are directly influenced by intentions, which in turn are directly influenced by:

- confidence in one’s own ability to carry out the action is the third determinant of intentions (Ronis and Kaiser, 1989). However, Ajzen (1988) persists in addressing this determinant as the degree of perceived behavioural control. Although the meanings of each are fairly close, Ajzen believes that perceived behavioural control
refers to the perceived difficulty of performing the behaviour as well as its reflecting
the notion of past experiences and the anticipation of obstacles;

- attitudes which are directly influenced by beliefs about the benefits and cost of the
  action; and

- norms.

The Theory of Planned Behaviour (1985) considers the possible effects of perceived
behavioural control on achievement of behavioural goals, not the actual amount of control
a person has in a certain situation. Ajzen (1988) notes that whereas intention reflects a
person’s willingness to try and perform a given behaviour, perceived control will try and
take the constraints on performing such a behaviour into account. The important features
of the theory are:

- assuming that perceived behavioural control has motivational implications for
  intentions, people who believe they have not got the resources and/or opportunities to
  perform a certain behaviour are unlikely to develop a strong behavioural intention to
  this behaviour even if their attitudes and subjective norms are favourable towards
  performing this behaviour; and

- the possibility of a direct link between perceived behavioural control and behaviour.
  Perceived behavioural control can help predict goal attainment independent of
  behavioural intention because it reflects actual control with some accuracy.
  However, Ajzen (1988) also notes that in cases like the individual having little
  information about the behaviour, with changes in resource requirements or when new
  elements have entered into the situation, a measure of perceived behavioural control
  may add little to the accuracy of behavioural prediction.

In summary, the important constructs and their relationships for the Theory of Planned
Behaviour (1985) have been described. Ajzen’s Theory of Planned Behaviour is regarded
as an extension of the Theory of Reasoned Action because it contains an extra
determinant – that of perceived behavioural control – on the basis that understanding and
being able to predict behaviour, not under an individual’s control as well as behaviour
within the individual’s control, is an important objective.
4.3.4 Critique of Ajzen’s Theory of Planned Behaviour

All the criticism associated with Ajzen’s Theory of Planned Behaviour has come from the construct ‘behavioural intention.’ The first criticism is that from Brubaker and Fowler (1990) who have challenged this theory’s assumption that it is necessary to influence outcome and normative beliefs so as to change behavioural intention. However, Brubaker and Fowler’s work cannot be accepted because firstly their results are based on self report only and secondly the categorisation of their research data (messages) is problematic.

The second criticism comes from Netemyer and Burton (1990) who are supportive of behavioural intention being a better predictor of volitional behaviour while they consider behavioural expectation to be a better predictor of goal directed behaviour. However, this research is not conclusive on this issue.

The last criticism is from Warshaw and Davis (1985) and Fishbein and Stasson (1990) who both have concerns about the ambiguous nature of the construct ‘behavioural intention’. Warshaw and Davis suggest that extending the Theory of Reasoned Action makes the meaning of ‘behavioural intention’ ambiguous while Fishbein and Stasson (1990) consider that the Theory of Planned Behaviour is unable to distinguish between personal wishes and self predictions. Although these two criticisms are not rebutted further evidence to support the theory in question is available. Godin and Kok (1996) present an account of all social and behavioural science and clinical medicine research material from 1985 to 1996 and note that the Theory of Planned Behaviour performs well in terms of intention being a predictor of health related behaviours, with perceived behavioural control also being a successful predictor in half of all the studies.

Both the Theory of Reasoned Action and the Theory of Planned Behaviour have been reviewed. It has already been stated that the Theory of Planned Behaviour is an extension of the Theory of Reasoned Action. In this theory an individual’s behaviour (B) is determined by his/her intention (I) to perform that particular behaviour. Behavioural intention is part of the individual’s attitude towards performing the behaviour and the individual’s subjective norm with respect to that behaviour. Another important factor associated with behavioural intention is perceived behavioural control, identified as the
additional determinant (with attitude and subjective norm) which forms the Theory of Planned Behaviour.

The Theory of Planned Behaviour, with its construct perceived behavioural control, is promising for the purposes of modification of the HBM. Attention is now directed towards suggesting how the HBM can be suitably modified to reflect a health promotion focus for families with preschool aged children.

4.3.5 The Suggested Way Forward for the HBM

‘Positive’ health definitions (Downie, Fyfe and Tannahill, 1990) associated with health promotion need to be considered as a more appropriate way for the HBM to be oriented. It has been stated in Chapter 3 that there is support for the influence of locus of control on health promoting behaviour. It has also been suggested that the Theory of Planned Behaviour shares similarities with the HBM primarily because they are both expectancy-value theories (Janz & Becker, 1984). On this basis the HBM may be assisted by the addition of a locus of control construct acknowledged as ‘perceived behavioural control’ and the addition of the construct ‘behavioural intention’ which are considered important for such a model addressing health promotion in families with young children (see Chapter 3). As well, other constructs needing a health promotion focus are ‘perceived threat of disease’ which would become ‘perceived notion of health’ and ‘perceived susceptibility and seriousness to disease’ which reverts to the construct ‘perceived behavioural control’ and ‘cues to action’ are all represented in Figure 4.4 in the Revised Health Belief Model.

The First Gap

First of all it was important to bridge a gap by including from Ajzen’s rigorous research (1985) the construct ‘perceived behavioural control’ as a way of acknowledging how much control people perceive they have over maintaining their level of wellness. The inclusion of such a construct would help the decision making ability of the HBM especially in terms of habitual or unconscious behaviour and would also orient decision making with regard to the economic and environmental factors preventing the individual undertaking health behaviours (Janz & Becker, 1984).
The Second Gap

If ‘perceived behavioural control’ was included then it made sense to include the construct ‘behavioural intention’ from the Theory of Planned Behaviour (1985) to overcome a second gap – that of lack of logical explanation, clarity and accuracy of the HBM and the inability to predict health promoting behaviour. The arguments for including this construct are that ‘behavioural intention’ and ‘perceived behavioural control’ are able to more accurately predict health promoting behaviour and would improve the accuracy of the relationship of constructs in the HBM.

The Third Gap

The third gap to be overcome is to re-develop the construct ‘perceived threat of disease’ to reflect a wellness health orientation. This construct may not play such a prominent role
in health promoting behaviour because in a wellness health perspective one’s ‘perceived notion of health’ is paramount. It is proposed that ‘perceived notion of health’ be the significant, overriding construct under which ‘perceived threat of disease’ is subsumed, in line with the position that illness prevention concepts may overlap with health promotion concepts. So whilst acknowledging parents who are oriented towards developing a positive health focus in their child, this construct also includes parents who have negative feelings about their child’s health.

The Fourth Gap

The fourth gap needing to be rectified was that of re-orienting the constructs ‘perceived seriousness of disease’ and ‘perceived susceptibility’ to emphasise a health promoting perspective. As the constructs ‘perceived seriousness of disease’ and ‘perceived susceptibility’ in the HBM appear to have less relevance when they are related to promoting health behaviour, it is anticipated that these constructs will need to be de-emphasised and subsumed under the construct ‘perceived behavioural control,’ noted earlier. The constructs ‘perceived susceptibility’ and ‘perceived seriousness’ can be seen as relating negatively to health, when a parent is doubtful about their capacity to maintain their child’s health without medical intervention. On the other hand if a parent is confident in terms of their ‘perceived behavioural control’ position towards their child’s health (i.e. they are confident of their ability to maintain their child’s health, empirical evidence bears this out and they value health) then they will want to undertake health promoting behaviours if other elements (for example, financial, social and environmental) are in harmony.

The Fifth Gap

The final gap to be addressed relates to the construct ‘cues to action’ and the need to move its position in the Revised Health Belief Model. Rosenstock (1974) describes ‘cues to action,’ which is linked to ‘perceived threat of disease,’ as the construct which instigates preventive health behaviour. No research has been done, however, which validates this position. The confusion that surrounds the construct ‘cues to action’ in terms of its location within the HBM, lends support to the need to place the construct ‘behavioural intention’ in between ‘perceived benefits and barriers’ and ‘the likelihood of
taking recommended health promoting/preventive health action’ as the predictor of health promoting/preventive health behaviour.

In conclusion this section has highlighted the five gaps that have been eliminated to enable the Revised Health Belief Model, focused on health promotion, to be developed. These gaps have been removed through the addition of constructs ‘perceived behavioural control’ and ‘behavioural intention’ and the modification of ‘perceived threat of disease’ to ‘perceived notion of health;’ the re-organisation of ‘perceived seriousness and susceptibility’ to be included in ‘perceived behavioural control’ and the changed ‘health’ focus of ‘cues to action.’

It can be argued that it is necessary to measure all behaviour – whether non-volitional or volitional, – so that an understanding of a range of health promoting and preventive health behaviours of different parents can be acquired and understood. This also provides further support for retaining the constructs ‘perceived behavioural control’ and ‘behavioural intention’ within the HBM so as to improve its predictive capacity. To date they have been acknowledged as essential constructs to be included within the HBM on the grounds of health perceived as wellness, rather than illness behaviour; the need to increase health decision making options in the HBM; the importance of improving the accuracy, clarity and predictability of the HBM; and the importance of acknowledging the impact of non-rational thought on parental health promoting and preventive health behaviours.

4.3.6 Application of the Health Belief Model to the Research Area

It is important to note here that Strecher, Champion and Rosenstock (1997) make reference for researchers to the necessity of testing the HBM as a combination of constructs rather than “... a collection of equally weighted variables operating simultaneously” (p. 88). They state that there is no point in placing health belief variables into a multivariate analysis on this pretext.

The researcher holds a contrary view that prior to testing the HBM there is a need to determine the strength of the important additional concepts ‘perceived behavioural control’ and ‘intention’ in a multivariate analysis of demographic and health related
concepts about parents and their involvement in health behaviours for their preschool aged children. With the new ‘positive’ health focus it is the researchers’ belief that some of the constructs will change and/or have a different emphasis in the Revised Health Belief Model illustrated in Figure 4.4. However, as the two new constructs of ‘perceived behavioural control’ and ‘intention’ are considered important for families with preschool aged children they should be further investigated. Rather than testing a group of variables of the same value that are operating together, in line with the approach of Strecher, Champion and Rosenstock (1997), it is considered by the researcher that the effect of the combination of the two constructs ‘perceived behavioural control’ and ‘intention’ needs to be determined first because these new constructs are the cornerstones of the Revised Health Belief Model.

4.4 SUMMARY EVALUATION

4.4.1 Review of Chapters to Date

Chapter 2 addresses the importance of promoting health and in so doing defines those concepts of health, health education, illness prevention and health promotion as well as exploring their historical underpinnings. The status of health promotion is determined, the health promotion role of health professionals such as nurses and doctors is briefly explored and philosophical concepts associated with health promotion and their political implications are also examined. A short discussion follows about individuals and health assessment in which the concept of wellness (Ardell, 1977) is introduced. Finally, family health is addressed and the researcher’s interest in parental health behaviours like immunisation and the need to promote health, rekindled by the goal of ‘Health for All by the year 2000’ (The First Biennial Report of the Australian Institute of Health, 1988). This has led to the researcher’s statement about exploring the health of different kinds of families such as low socio-economic, single parent, itinerant families, as well as families of ethnic origin, to determine whether these families undertake different health behaviours for their children.

Chapter 3 focuses on families with preschool aged children and their important health promotion role. Family definitions and structures and a brief historical overview about the health status of Australian families with children is provided. As well such issues as
health and its association with socio-economic factors, locus of control and self efficacy are also explored. Of importance in this Chapter is the notion of disadvantaged families, especially those lower socio-economic families, who are in need of health promotional assistance to improve their health. It is argued here that Australian community nurses, especially those early childhood nurses and community nurses, need to follow the example of American family health nurses in becoming more involved in their health promotion role for these needy families. Furthermore the author states that the thesis will validate the need for these nurses’ increased health promotion role with such families through its supporting research evidence. The latter section of the Chapter refers to research questions about families and their health concepts and health behaviours that are pertinent to this thesis.

Finally Chapter 4 addresses family health and health promotion models. The HBM is acknowledged as the most important health promotion model although Pender’s (1996) revised health promotion model, devised from the HBM, is also considered appropriate for the use of nurses in modifying entrenched, negative health behaviours. It is argued in this Chapter that the ‘negative’ illness prevention notions associated with the HBM are inappropriate for the promotion of health. The well researched theories of Fishbein and Ajzen’s Theory of Reasoned Action (1976) and Ajzen’s Theory of Planned Behaviour (1985) which come from a similar philosophical basis as the HBM are introduced at this point. The researcher believes that Ajzen’s Theory of Planned Behaviour with its constructs of perceived behavioural control and intention may play an important contribution in modifying the HBM and orienting it more towards health promotion, especially for those families with young children. Being in control of their children’s health is deemed important for such families especially those families who espouse wellness health behaviour, according to health literature (Bruhn, 1988). For this reason the researcher plans to test the constructs of ‘behavioural control’ and ‘intention’ by including them in the questionnaire which is part of the quantitative study.

4.4.2 Thesis Aims

On the basis of the evidence built up from the preceding Chapters, involving the specific research questions, and the researcher’s overarching interest in the health of different
kinds of Australian families with preschool aged children, the research aims of the thesis for the qualitative, exploratory study are:

**Research Aims for the Qualitative Study**

- Examine the perceptions of parents about the health behaviours they initiate towards their preschool aged children, and
- Identify parents' concepts of health and the relationship between these and the health behaviours they undertake for their preschool aged children.

The goal of this research is to use the emerging theory from the inductive exploration of parents' health and their health behaviours as the basis for the development of a parental health behaviour questionnaire so that the health concepts such as illness prevention, health promotion and wellness, identified by parents, can be measured.

**Research Aims for the Quantitative Study**

The research aims of the second, quantitative study are:

i. Develop a measure of health promotion, illness prevention and wellness which would be grounded in parents' perceptions of family health.

ii. Explore the relationship of these measured concepts of health for families with preschool aged children to a range of demographic and family variables, and

iii. Examine the health beliefs of families from Western Sydney with preschool aged children and their intention to undertake health behaviours for their children.
CHAPTER 5

METHODOLOGY CONSIDERATIONS/QUALITATIVE STUDY

This Chapter presents an overview of the methodological approach adopted in this research. Discussion about sampling sources and general procedure precedes the overview of the first of two studies which is based in a qualitative method.

i. This thesis aimed to firstly explore parents’ concepts of health and the health behaviours they initiated for their preschool aged children in a qualitative study. Then, on the basis of the emerging parents’ health and their health behaviour theory acquired from this inductive exploration, the health concepts of wellness, health promotion and illness prevention, identified by these parents, were measured; the relationship of these measured health concepts were examined for Western Sydney families with preschool aged children to a range of demographic and family variables and lastly the health beliefs of these families and their intention to undertake health behaviours for their children were determined in the second quantitative study.

ii. This Chapter provided a discussion about which methods were best suited to fulfilling these aims and overviewed the method of the Qualitative Study (study one).

The goal of this research was to use the open-ended interview to provide data for an emerging theory of parents’ health and their health behaviours. On the basis of this emergent theory a questionnaire was developed which addressed the measurement of health and health related behaviours that parents of preschool aged children undertook.

The next step was to develop a way of measuring the health concepts of illness prevention, health promotion and wellness, identified by the voices of parents, and which would be used to determine the health concepts of Western Sydney families with preschool aged children in the Quantitative Study (study two). For the purposes of further clarification study one focused on health as a qualitative investigation while study two focused on the more quantitative notions of health prediction.
5.1 TRIANGULATION OF METHODS

5.1.1 Providing Evidence for Method Choice

This study seeks to address the outlined aims in order to provide a well informed basis for understanding the health behaviours of families with preschool aged children living in Western Sydney. It is considered that the use of both qualitative and quantitative methods, in a method triangulation, are required. Lincoln and Guba (1985) acknowledge the importance of method triangulation in improving the credibility of qualitative methods, and the validity of quantitative methods. In this study the concept of health needs exploration in the qualitative tradition whereas the questions about health prediction can best be answered by adopting a quantitative research approach (see Bauman & Greenberg Adair, 1992; Steckler, McLeroy, Goodman, Bird, & McCormick, 1992).

To enable families to construct and share their own realities about their health and the health behaviours they undertook for their children a series of interviews were conducted. The resulting ‘rich’ interview data was then used as the basis for informing the construction of a questionnaire which was better able to measure the health behaviours of families with preschool aged children (Bauman & Greenberg Adair, 1992; Polit & Hungler, 1993). A number of researchers (for example, Long, 1984) had found that using both approaches contributed insights necessary for a comprehensive understanding of health and the complexities of families (Daly, 1992).

The use of both qualitative and quantitative research methods has also been undertaken because, in the words of Corner (1991), nurses need “to capitalise on the strengths and benefits of each (research) approach” (p. 718), so that they can have a better understanding of nursing practice. Within nursing there has developed a quantitative-qualitative research methods dichotomy about which Gortner (1993) states that nursing needs not only to respect subjectivity but objectivity in its research methods. As well as informing nursing, this research also has a wider audience of health professionals among whom it can be argued quantitative research methods are often more highly valued. There is a need in this study to adopt the use of quantitative as well as qualitative research methods so that this research may be acknowledged as credible by such professions.
The approach of combining qualitative and quantitative research methods to be used in this study can be likened to the situationalist perspective defined by Rossman and Wilson (1985) as one in which the two research methods should be viewed as 'separate but equal' (Rossman & Wilson, 1985) and also 'as complementary but representing different philosophical beliefs' (Vidich & Shapiro, 1955). The situationalist perspective involves the use of different methods which remain discrete because of their different philosophical bases. However, each method is also regarded as having equal value and has the ability to complement the other. This situationalist research approach is extremely appropriate for undertaking health related research such as that which is the topic of this thesis, which needs a well rounded research approach which only quantitative and qualitative research methods can provide. The situationalist perspective can provide rich data as well as precision. In this project it is valuable because it allows the researcher to be cognisant of the 'voices'/meanings of parents and to move beyond her own perspective in informing the questionnaire.

In this perspective each research method is considered as important and necessary as the other and works in a complementary way but remains separate maintaining its integrity and its philosophical base.

A case has been mounted here for the benefits of adopting triangulation or using the situationalist approach in which the two paradigms of qualitative and quantitative research be combined so as to assist in the development of exciting research about health concepts and the health behaviours that parents undertake for their preschool aged child. The sampling sources and procedures for both studies will be described in the next section.

5.2 SAMPLING: SOURCES AND PROCEDURES

5.2.1 Rationale for Sampling

Choice of Area of the Sample

The two demographic areas – Baulkham Hills and Mt Druitt, in Western Sydney, were chosen because they demonstrated that they differed according to socio-economic data from the 1991 Census (Australian Bureau of Statistics Census, 1991) which confirmed
the 1996 Census figures (Australian Bureau of Statistics, 1996). Vinson and Power (1999, June) note that there is a pocket of social disadvantage in Sydney’s west which has created a divided west – Baulkham Hills falls within the privileged area of Western Sydney while Mt Druitt, which is part of the Blacktown City Council, abuts some of the poorest suburbs of Hebersham, Bidwill, Tregear and Shalvey (Horin, 1999, June 8).

Employment status, educational status, income, family composition and social services differ for the two sampling regions (ABS, 1991; ABS, 1996). With respect to employment status, the 1991 Census demonstrated that there were similarities in both areas between clerks, sales and tradespersons (45.9 % and 47.1% for Mt Druitt and Baulkham Hills respectively) but Mt Druitt had a high percentage of labourers (19.3%) whereas Baulkham Hills had a similarly high percentage of managers, administrators and professionals (36.8%). When the 1991 Census was compared with the 1996 Census there was a slight increase in clerks, sales and tradespersons for Mt Druitt (62.27%) compared to Baulkham Hills (50.16%). However, Mt Druitt still had a high but slightly reduced percentage of labourers (13.27%) while Baulkham Hills had a similarly high but increased percentage of managers, administrators and professionals (43.59%).

Another notable difference was found in educational status. Educational profiles from the Australian Bureau of Statistics (1991) indicated that whilst skilled vocational and basic vocational education was similar those people with bachelor degrees and undergraduate diplomas were much reduced in Mt Druitt (1.7% and 1.4% respectively) compared to Baulkham Hills (6.8% and 4.6% respectively). In the 1996 Census the numbers with bachelor degrees and undergraduate diplomas were still about half in Mt Druitt (9.8% and 4.7% respectively) compared to Baulkham Hills (20.5% and 9.2% respectively) but they seemed to be rising at a slightly greater rate in Mt Druitt.

The annual family income for most families in Mt Druitt ranged between $12,000 and $60,000 whereas in Baulkham Hills this was $35,000 to $100,000. By 1996 most Mt Druitt annual family incomes ranged from $6,240 to $77,948 whereas for Baulkham Hills annual family incomes were mostly between the range of $36,400 to $104,000.

Income differentials were reflected in the composition of families. In the 1991 Census 13.8% of families living in Mt Druitt were single parent families compared with 3.9% of single parent families living in Baulkham Hills. According to the 1996 Census the
number of single parent families in Mt Druitt was still three times as many (21.2%) compared to those single parent families in Baulkham Hills (7.7%). Furthermore Mt Druitt had one of the highest rates for dependence on pensions as well as one of the highest rates of supporting parent-dependent children in Western Sydney. This was in direct contrast to Baulkham Hills which had one of the lowest rates for dependence on pensions as well as one of the lowest rates of supporting parent dependence (Children in Western Sydney. Drugs and Alcohol in Western Sydney, 1992 and Incomes in Western Sydney, 1996).

The contrasting differences in the size of young families in each area was demonstrated by the numbers of children from 0 – 4 years of age in Baulkham Hills and Mt Druitt. The 1991 census information revealed that whilst the overall population numbers for each area was similar there were 6008 children living in Mt Druitt (postcode 2770) in the age category of 0 – 4 years compared with 3161 children of comparable age living in Baulkham Hills (postcode 2153). These figures remained roughly the same for the 1996 Census at 5,719 children from 0 – 4 years of age living in Mt Druitt compared with 2,761 children between 0 – 4 years living in Baulkham Hills.

The breakdown of childcare services reflected these differences. The Children Services List of Baulkham Hills Shire Council showed that there were seven (7) long day care centres (6 privately run and one run by the Council) and six (6) preschool/kindergartens operating from 9 a.m. to 3 p.m. or 4.30 p.m. for the Baulkham Hills area, many of which were privately run. In terms of the Children’s Services Listing for Blacktown City Council (1994) there were exactly twice as many services offered for the Mt Druitt area. These services included 14 long day care centres (4 Council-run, 5 Community Managed as well as 5 privately-run) and 12 preschool/ kindergartens (6 subsidised by the Department of Community Services (DOCS), 5 run by the Department of School Education and 1 privately owned.). In addition children’s services in Baulkham Hills were also more likely to be privately run than those in Mt Druitt.

So on the basis of the strong socio-economic differences identified between employment status, educational status, income, family composition and social services the two areas of Western Sydney – Mt Druitt and Baulkham Hills – were judged as being appropriate to satisfy a sample of contrasting socio-economic areas in Western Sydney. This thesis
examined whether these differences were apparent in the health behaviours parents undertook for their preschool aged children in the two areas.

Age of Children Whose Parents will be Sampled

This thesis intended to sample children who were four years old. This decision was made for two reasons. First, by this age parents would have had adequate time to practice their parenting behaviours and develop health practices with their children that they believed were important. By this stage parents would be more confident and established in their parenting roles with their children. Secondly, there appeared to be no research information on parents of four year old children in terms of their health behaviours towards their children so the researcher’s interest in exploring these parents and the influence they had on their children’s health patterns appeared to be appropriate.

Support for Preschool and Long Day Care Sample

It was argued above that parents of four year old children be chosen to be sampled. It followed then that justification be provided for the sample to be parents of four year old children attending preschools/kindergartens or long day care centres in Western Sydney. Investigation of child care attendance figures showed that the greatest use of formal child care was by Australian children aged four of whom 72% used formal care (defined as preschool, long day care centres, family day care, occasional care, other formal care and before and after school programs), 10% used informal care (defined as ‘other relative’, ‘other person’ and brother/sister/step care) and 18% used neither formal or informal care arrangements (Australian Bureau of Statistics, 1994). Among four year old children the largest users of formal care were those Australian parents whose children attended preschool (79%) compared with Australian parents whose children attended long day care centres (16.5%).

Whilst these Australia-wide figures support preschool as being a significant part of formal care for Australian four year olds, if one looks at Western Sydney there is a different picture. Although NSW has a higher proportion of Long Day Care facilities than Australia overall according to the 1993 census of child care services (Commonwealth Department of Human Services and Health, 1995) Western Sydney has a much higher proportion of Long Day Care places than NSW and, as a result, a lower proportion of
preschool places (Department of Community Services (DOCS) research and data analysis, 1990, cited in Children in Western Sydney. Drugs and Alcohol in Western Sydney, 1992).

In Western Sydney there are proportionally twice as many long day care centres (38.5% of all NSW centres) as preschools (18% of NSW preschools). The higher proportion of long day care centre places probably mirrors the high demand of working parents (both single and partnered) in Western Sydney for long day care to provide child care during working hours, which most traditional preschools do not accommodate.

A further pragmatic reason for choosing to sample from preschool and long day care services in the two sampling areas was the contacts which the researcher had with some of these centres in Western Sydney. Initially this was a result of involvement as an educator with nursing students placed in these centres but this was followed by the researcher having continuing contact with these centres through running in-service sessions for child care workers.

The Important Role of Women

It should be noted here that the contribution of both parents (father and mother) was important. It was therefore necessary to interview both parents to obtain their perspectives on what they do for their health and their child's health. However, when the researcher was approached by interested single parents who wanted to be interviewed the fact that she believed that women were the main carers of their children played a part in the choice of single female parents to represent single parents in this study. The choice of single female parents is supported by Glezer (1988), and Edgar and Glezer (1992) who point out that most married women with children choose to work part time or not at all when the children are very young. In addition the majority of child care is being undertaken by women as carers of their children. Recent Australian statistics also show that women, rather than men, spend the most committed time with family responsibilities (Australian Bureau of Statistics, 1995).
Summary

On the basis of arguments put forward about the substantial socio-economic differences between Baulkham Hills and Mt Druitt in terms of occupational and educational status, financial position and family composition the areas of Baulkham Hills and Mt Druitt have been chosen for both the qualitative and the quantitative study. Arguments have also been established for the respondents to be women who, it has been argued, are the main carers of four year old children who attend preschools and long day care centres within the nominated research areas.

The remainder of this Chapter concentrates on the design, sampling, response rate, procedure, data generation and analysis of the qualitative study.

5.2.2 Design

The methods which have been chosen to complement each other in this study are qualitative, in-depth interviewing as well as that of quantitative research involving the construction of a questionnaire/survey. This complementary method design approach is considered by Morgan (1998) to be acknowledged as one for use in health research in which the qualitative study is the preliminary work while the quantitative study involving the construction of the questionnaire is regarded as the major focus. The qualitative method of unstructured interviewing can be invaluable for familiarising a researcher with a new topic to be studied as well as being of assistance in prioritising the important questions in a questionnaire. To ensure that the data gained through these interviews would be appropriate, elements of ethnographic interviewing deemed important in this kind of research such as participant observation; the use of neutral probes; focussing on everyday life experience; the interviewer taking the subordinate role of the pupil and the use of the informant’s language as data, were adopted during the interviewing process (Bauman & Greenberg Adair, 1992).

5.2.3 Sampling

In each unstructured interview the family members who were the parents or the caregivers of a preschool aged child were interviewed about their health concepts and the health behaviours they undertook for their child. In support of this Swanson (1986) states
that much can be gained by interviewing couples as units because two responses instead of one are obtained and also one partner may assist the other’s interpretation of an event.

Glaser and Strauss (1967) state that for the purpose of reaching ‘theoretical saturation’ considered important in grounded theory, an adequate number of unstructured interviews – that is approximately ten – will need to be undertaken (Strauss, 1987; Strauss & Corbin, 1990; Chenitz & Swanson, 1985). Strauss and Corbin (1990) state that theoretical saturation is satisfied if no new, relevant data emerge regarding a category, if all paradigm elements are accounted for enabling category development to be dense, and finally if the relationship between categories is well established and validated.

5.2.4 Sampling Considerations

Criteria concerned with exclusion from the samples needs to be addressed here and relates to the qualitative and the quantitative study. As the diversity of the samples was important different kinds of families – nuclear, those of ethnic origin, itinerant, single female partner families and those of different ages – needed to be involved. Of all the parents who volunteered and were included in the samples (including both study one and two) every kind of family (previously identified above) was included except that no itinerant families were involved in Study one. For both studies families of Non-English speaking background were excluded. For the qualitative study the expense and difficulty of obtaining interpreters for interviews was problematic. With regard to the quantitative study the cost of translating an extensive (26 page) questionnaire into different languages would be prohibitive. Moreover the length of the questionnaire, which would need reasonable command of English at 6th grade primary school level, was regarded as being problematic for people who had limited command of English.

5.2.5 Sampling Frame

For the qualitative study interested in investigating health concepts it was considered appropriate to sample from two different long day care centres as well as two preschool/kindergartens in Western Sydney. Glaser and Strauss (1967) note that comparison groups provide control over similarities and differences and assist in category development. The total number of eleven parent couples and three single female parents (making fourteen families in total) was the purposive, volunteer sample drawn from one randomly selected
long day care and one preschool/kindergarten for each of the areas, making seven families from each of the two areas. Although it was not possible to predict how many families would be interviewed using a modified grounded theory approach, by the end of the research 14 families had been interviewed. The reason for ceasing interviews was that no new relevant data was emerging and that the category development had become sufficiently dense (Strauss & Corbin, 1990).

5.2.6 Response Rate

For the qualitative study all fourteen families who volunteered to be interviewed were able to fulfil this commitment.

5.2.7 Procedure

Ethics approval for the qualitative study was granted by the University of Western Sydney, Nepean. The application was approved after further details had been forwarded to the Ethics Committee such as the inclusion of an information sheet for the participants, identifying where interviews would be held and provision of more information for the Committee about the recruitment process.

Within this study ethical considerations were taken into account. A covering letter and the ‘Information Sheet for Parent/Parents’ were given to the parents when they came to collect their child (see Appendix 1). The ‘Information Sheet for Parent/Parents’ emphasised:

- the voluntary nature of participation;
- the guaranteeing of anonymity;
- the need for parents to be involved so that they could provide valuable input about what they do for their health and their child’s health;
- that a $20 gift voucher be provided after the completion of the interview as a way of thanking parents for their time, and
- that the interview would take 1 1/4 hours to complete.
Contact with Directors

For the qualitative study contact was made with Long Day Care Centres initially by letter asking for permission to request from parents that they be interviewed if they so desired.

Centre Directors were provided with exclusion criteria and then asked to make contact with the appropriate parents by sending home with children a short covering letter and an information sheet addressing the project and asking for the name, address and phone number of those families who were interested to participate. The researcher then obtained the returned sheets from the directors because parents were asked to return their sheets to the directors. After the researcher collected the returned sheets the interested families were then approached in each area.

5.2.8 Piloting of Interviews

For the qualitative study practice interviews were undertaken on three parent couples with preschool aged children. Practice was important for the researcher as well as the possibility of modifying the six questions which were nominated for the open ended interview (see Appendix 2). It was decided to leave the questions without making any changes because they appeared to have the potential to generate very interesting and pertinent data.

5.2.9 Data Generation

For the qualitative research study unstructured, tape-recorded interviews conducted at the participants’ homes took from one to two hours and transcriptions of all tapes took approximately four hours. Transcriptions of interview data also included participant observation details. Davis (1986) notes that “it is important to recognise that the primary purpose for the participant-observer role is methodological, i.e. it is considered the method ‘par excellence’ for collecting data for qualitative analysis” (p. 55).

Observation of the participants included the noting of non-verbal cues which involved visual cues such as facial expressions and body position as well as auditory cues such as pace and intensity of speech. Any inconsistencies noted in these cues were examined in terms of the content and the interview context. Furthermore, in the case of interviewing
two people, it is possible to observe both verbal fluency, power in the relationship as well as underlying processes such as coercion and negotiation (Swanson, 1986). The valuable information obtained from these cues that have just been described was recorded as field notes immediately after the interview and then compared with the transcription of the interview.

Another technique to be employed after or during self-transcription of the interview material was the writing of memos which proved useful for jotting down new ideas, writing guidelines for future interviews and the development of theoretical concepts.

5.2.10 Analysis

The use of the unstructured, formal interview was appropriate with a modified grounded theory methodological approach (Lofland, 1976). The reason the grounded theory was modified was because the researcher was coding for literal meaning and, in addition, descriptive codes were identified from the analysis of the first interview which formed the initial framework for the analytical process. Nevertheless modification of the initial coding framework took place from the second interview onwards through the use of opening or substantive coding. From this time onwards all interviews were undertaken in groups of three and were analysed at the same time. The researcher coded all the interview transcripts line by line, examining each sentence or paragraph and also taking the entire interview and asking questions about what was happening. This enabled many codes to be developed so that all the data could be adequately explained.

In line with the grounded theory approach data generation and analysis proceeded simultaneously. The constant comparative method of data analysis was used for discovering underlying interactive processes and meaning (Glaser & Strauss, 1967; Strauss, 1987; Strauss & Corbin, 1990). The constant comparative method, in line with the open coding process, was effective for making comparisons of similarities and differences between incidents and events and asking questions about whether data assisted the precision and specificity of concept development in this modified grounded theory study (Strauss & Corbin, 1990). The formal interviewing process, memoing and data analysis took eight months.
Open coding, which is associated with open theoretical sampling, was the first analytic process employed in grounded theory and in this research it was undertaken purposively, rather than systematically. Although it was predetermined that participants would come from two different socio-economic regions in Western Sydney (which also ensured diversity) they were recruited from preschools and child care centres on the basis of their interest and also their often being referred by friends. The latter aspect assisted the researcher to clarify the perspectives of friends with similar views. On the other hand the researcher’s moving to two, different and interested child care sites within each region further ensured the diversity of perspectives. Through the use of techniques associated with theoretical sensitivity such as constant comparison to search for similarities and differences and questioning or analysing words and phrases, addressed in Chapter 6.3.1, open coding established and developed concepts which were the building blocks of the new theory.

Other coding procedures such as axial coding (identifying a new way of connecting a category and its sub categories) and selective coding (selecting the core category, establishing its relationships to others and filling in other categories needing further development) were also used. They will be addressed in the next Chapter because they assisted the development of theory or theoretical saturation, discussed earlier and considered so important for the conceptual adequacy of theory (Glaser, 1978; Glaser & Strauss, 1967; Strauss & Corbin, 1990). Further information about coding progressing to categories, and categories progressing to themes can be found in Chapter 6.3.1. This section highlights concept development involving the initial, descriptive coding process, concept formation precipitated by the development of categories which are substantive as well as abstract and interpretive in nature and finally concept integration in which the original descriptive categories become saturated, signalling the emergence of a theoretical framework.

A final, important aspect of analysis was being able to establish that the criteria of rigour – dependability, confirmability and transferability (Lincoln and Guba, 1985) – were present to a certain extent in this research. This information is important for determining the validity of the research and will be explored further in Chapter 6.3.1.
5.3 SUMMARY

This Chapter has comprehensively covered the methodological approach adopted by the qualitative study (study one). Firstly it provides evidence for the method of choice – that of triangulation, also known as the situationalist perspective – to address the research aims in their totality for studies one and two. It then it moves to addressing sampling issues and general procedure for the Qualitative study (study one). Such aspects as rationale for sampling, the choice of the area, respondents and their children's ages and the setting have been argued. Finally the Chapter provides an in depth coverage of design, sampling, response rate, procedure, data generation and analysis of this qualitative study.

The next Chapter presents the results and their thematic development as well as providing a discussion of these results.
CHAPTER 6
THE PERCEPTIONS OF WESTERN SYDNEY PARENTS ABOUT THE HEALTH BEHAVIOURS THEY UNDERTAKE FOR THEIR PRESCHOOL AGED CHILDREN

So far in this thesis a picture has been built up about the role of health promotion (Chapter 2) and its acknowledged importance in the increasing numbers of vulnerable Australian families with preschool aged children (Chapter 3), especially those who live in poverty (Davies, 1995; Davies & Kingston, 1995; O’Brien, 1995). That healthy behaviours such as sound child management (Murphy, 1992) and immunisation (Lister et al. 1999) may be compromised for these families indicates a need for health professionals, such as community nurses, to become more involved in understanding parents’ ideas on health and the health behaviours they undertake for their young children. Community nurses, along with other health professionals, must obtain insights into the health behaviours of families so that they can advise and assist these families appropriately.

In Chapter 4 of this thesis health promotion models and suggestions for the improvement of the Health Belief Model in its health promotion role were addressed and then finally Chapter 5 which argued for the particular research approach to be adopted in this thesis. In this current Chapter the results of the qualitative, exploratory study about parents’ health behaviours towards their preschool aged children are presented and discussed.

6.1 DESCRIPTION OF RESEARCH

The reader will recall that this research explores health behaviours of parents with young children from two different socio-economic areas in Western Sydney – Mt Druitt and Baulkham Hills – on the basis that socio-economic factors such as education, renting and itinerancy had previously influenced the researcher’s childhood immunisation research (Roden, 1992).
The first stage of this research was conducted, using a modified grounded theory approach (Glaser & Strauss, 1967). The selection technique of purposive sampling provided fourteen parents who were given in-depth interviews which were successively undertaken and analysed (seven interviews were conducted in each geographical area and included two single parent families from Baulkham Hills and one single parent family from Mt Druitt). Interviews were finalised because no new themes were emerging except for peripheral information related to sub themes. The resultant themes for this first stage were to be used to inform the second stage of this research which would entail a questionnaire to be sent to parents in Western Sydney about the health behaviours they undertook for their preschool aged children.

6.2 RESEARCH AIMS

As previously stated there were two aims of this research:

i. to examine the perceptions of parents of preschool aged children about the health behaviours they initiated towards their children, and

ii. to identify parents’ concepts of health and the relationship between these and the health behaviours they undertook for their children.

6.3 ANALYSIS/METHODS

In accordance with a modified grounded theory approach, evidence to support the analysis was generated by using a coding arrangement in the search for meaningful categories, and comparing and evaluating interviews. A descriptive coding system, through which to provide a window to view the data, was initially developed after the first interview and consisted of the following descriptive categories:

- Concept of Health (H)
- Patterns of Behaviour (PB)
- Family Relationships (FR)
- Concept of Illness (I)
- Specific Health Events (SHE)
Specific Illness Events (SIE)

Family Process Over Time (FPOT)

It needs to be noted that for each descriptive category there were descriptive codes developed. For example, the descriptive category of Family Relationships (FR) consisted of seven codes with the eighth, ninth and tenth ones being added later on. They were:

i. How the family relates (*interacts, thinks about, feels and talks) to the world (others). Positive (P) versus Negative (N)

ii. How the family relates to each other Positive (P) versus Negative (N)

iii. How the child relates to the world Positive (P) versus Negative (N)

iv. How parent/s relate to the world Positive (P) versus Negative (N)

v. How the family relates to a situation Positive (P) versus Negative (N)

vi. How the child relates to a situation Positive (P) versus Negative (N)

vii. How parent/s relate to a situation Positive (P) versus Negative (N)

viii. How parents relate to themselves Positive (P) versus Negative (N)

ix. How parents relate to their child Positive (P) versus Negative (N)

x. How the child relates to their parents Positive (P) versus Negative (N).

As has been discussed previously a modified grounded theory approach was an appropriate way to describe this research because an analytic coding framework or schema, initially adopted by the researcher, was developed from the original interview data. Furthermore the researcher was trying to code the data for literal meaning in conjunction with comparing and evaluating interviews, in the search for themes which were supported by participant evidence. The coding schema was based on the issues and content which arose out of the first interview. The researcher felt more comfortable with the approach of applying a schema which, she believed, would help to impose some order on the data. Questions were continually asked of the data in the search for ascribing meaning to the parents’ statements (Minichiello, Aroni, Timewell, & Alexander, 1990).
However, the codes that were originally developed were added to and modified as the interviews proceeded. Open or substantive coding commenced from interview two so that all data (interviews transcripts, interview notes and memos) were examined line-by-line to identify the substance of what parents said about the phenomena of health and health behaviours. This meant that many substantive codes were adopted in an attempt to have the emerging theory fit the data (Hutchinson, 1986). For example, the codes of the descriptive category Patterns of Behaviour (PB) were modified to include not only health behaviours, illness behaviours, disability behaviours and other kinds of behaviours but also such things as ‘What parents do/don’t do for themselves/ and their children’; ‘What children do/don’t do for themselves/ and their parents’; ‘What health professionals do/don’t do for parents/children’; and ‘What information health professionals do/don’t provide for parents.’ As has been stated previously from the second interview, interviews were undertaken in groups of three and all three interviews analysed simultaneously. Unfortunately the fifth and the seventh interviews were partially lost due to problems with the recording mechanism in the tape recorder. However, as well as retaining some transcript material, the researcher had considerable, documented data obtained from written accounts immediately following these interviews, and they remained as part of the data set.

After six interviews were analysed, interpretive categories which reflected abstract or higher level coding, began to be developed as the researcher gained insight onto the meanings the participants attached to their statements (Burns & Grove, 1997). For example, the new interpretive category Parental Strategies (PS) which addressed the different ways of organising and handling childhood behaviour listed by parents, was developed on this basis. In support of this new category the researcher reviewed and asked questions of the earlier coded data and was able to assist its development by confirming that even after the second interview parental strategies, such as routine and rules were emerging:

We try to get a routine ... Oh yeah, we do a lot of routines ... yeah. Preferably that we get them into bed at the same time every night between 7 and 8 ... but um if we are lucky (laughs). But um they get used to that, I mean, we read them a story when we’ve cleaned their teeth ... get everything ready and that sort of quietens them down.
Furthermore parents had rule setting strategies addressing the importance of teaching their children life skills like learning their name, address and telephone number. They also discussed the rules they used for teaching about car safety:

Or getting into the car if we are going anywhere. There've been occasions when we've forgot to put the seat belt on and she'll tell us that you can't go, you haven't got the seat belt on ... Or doors. We don't like them touching doors because there's a lot of accidents with doors and they never ever close ... and with car doors we let them open them but not close them.

At the same time as the interpretive category Parental Strategies (PS) emerged questions were also asked of the initial, descriptive category codes and the data to further assist refinement and the development of categories. By the end of the analysis of the seventh interview it was clear that the descriptive categories needed to be refined. They were reduced and reconfigured to be:

Patterns of Behaviour (PB)
Concepts of Health and Illness (CHI)
Family Events (FE), and
Family Functioning Patterns (FFP)

At this time of reconfiguration and reorganisation of the descriptive category codes, there were elements of selective coding, addressed earlier in 5.2.10, that appeared to be present. Reconfiguration occurred in order to make more sense of the data. Rather than dealing with many fragmented categories it became necessary to join certain categories because of the non-productive overlap that occurred when they were separate. For example, the descriptive category code Family Relationships (FR) was determined to be part of that of Patterns of Behaviour (PB). Similarly Concepts of Health (H) and Concepts of Illness (I) were joined together because there was often not a clear distinction between health and illness according to the views of the participants. In another instance two categories Specific Health Events (SHE) and Specific Illness Events (SIE), although only being small were blended together and remained as Family Events (FE) because they were discrete. A further change also occurred to the name of the descriptive category code Family Process Over Time (FPOT) to what was considered a more appropriate label Family Functioning Patterns (FFP).
As well as reducing the developmental category codes to four, further interpretive categories were identified. The complete list of interpretive categories was:

Parental Strategies (PS)

Familial Influences (FI), and

Teaching Parental Values (TPV).

The category Parental Strategies (PS) initially included such things as routine (an organisational strategy identified earlier) as well as discipline, the use of rules and rewards and even being sent to relatives’ places to learn independence. Parental Strategies such as routine and rules were previously addressed because they began to appear in the second interview. The strategy of discipline developed in the third interview:

We are united on most things that happen with behaviour, discipline and everything we feel which I feel is good for her. It gives a healthy respect for us ... it also gives her an onlook as to how much we’re going to let her play with before she’s stopped ...

As well as the use of discipline which appeared to be quite important in interview three, the strategy of sending their daughter to stay with relatives was undertaken with the intent of developing independence in their child:

... and now she’s got to start adjusting with other areas, you know, like going off with an auntie or going off with her Nanna and things like that which she has accomplished ... it was only the three days but she did accomplish it this year.

By the time of the fourth interview another strategy that presented was rewards and saving:

... my son went on a camp ... and I went out and bought him a sports hat ... so that was his little reward ... because he tried very hard, and he’s only been doin’ it since January ... so you’ve got to show them, like reward them like that, so at the end like, um, they’ve got to learn the respect of like money, too ... they’re gotta save, like my children, they get money they go and put it away in their money box ...

The number of parental strategies increased after the 10th interview and included such things as game playing, encouragement, quiet time, warm environment, education (talking to children beyond their years, encouraging them to express themselves, talking
honestly, answering questions immediately, reasoning and questioning), role modelling, time out, eating behaviours, no eye contact, real life situations, rephrasing requests, doing jobs and making informed choices. The next interpretive category – Familial Influences (FI) involved such things as hereditary/genetics, health values and knowledge while the category Teaching Parental Values (TPV) addressed the teaching of values associated with discipline, life skills, respect, responsibility, independence, confidence, self esteem and life style.

At the end of this stage of the research the development of explanatory categories or themes connecting the data to the theory, was complete and can be viewed in Figure 6.1. These themes will be fully outlined in section 6.5.

6.3.1 Analytical Progression from Codes to Categories and from Categories to Themes.

The first step in the analytical process of this modified grounded theory was concept formation. This could be described as that of initial, descriptive code development and the move to a level two code or interpretive code/category. This process took place through the establishment of descriptive category codes, through the process of open coding (addressed in 5.2.10 and in 6.3) and the comparing of coded data which led to patterns of substantive categories taking shape. As has already been stated these categories were more abstract in nature and frequently resulted from clustering the substantive codes. The example of the sixth interview has already been given. The substantive category Parental Strategies (PS) emerged from the comparison of all data and then through clustering the substantive sub categories of routine, rules, educational communication, encouragement, and behaviour modification.

Concept formation was also enhanced by the flip flop technique (Strauss & Corbin, 1990) associated with theoretical sensitivity. A comparison of the data undertaken for similarities and differences was used to tease out the health behaviour experiences of mothers. The health experiences of mothers with chronically ill children was compared with that of mothers with healthy children. By comparing these two groups of mothers valuable assistance was provided in clarifying the differing health behaviour experiences of these mothers and particularly confirming what health behaviours mean to mothers of healthy children.
The next step of concept development began with the development of higher order codes/categories just addressed but continued through such means as the generation of hypotheses about categories of data and relationships and interrelationships. Such an example of a hypothesis that was tested at interview in this research was that parents who had had what they considered to be poor health experiences as children would be more vigilant and committed to enhancing their own child's health. Sometimes the literature was used to clarify the perspectives of respondents. Trying to discover what health and illness meant for respondents in their family context was assisted here by reference to the work of Illich (1976) and his notion of ‘ilth’. The blurring of health and illness was reflected in the data, in earlier interviews, when parents said that health ran into illness and it couldn’t be separated out.

The third and final process involved in this analysis was that of concept integration, although this process actually occurred from the beginning, due to the constant comparative nature of analysis. When interpretive categories were developing, for example, that of Teaching Parental Values (TPV) the sub category development of this category reflected discipline, life skills, respect and responsibility. Questions were continually asked of these sub categories and the other category codes to determine their relationship and interrelationship with the thematic concepts like, for example, The Intergenerational Theme, which was also developing. Memoing was important here for providing a way of flagging the development of the theory. For example, a particular memo discussed a probing question session about a particular category Parental Strategies (PS) and its sub categories and how another category – Familial Influences (FI) – developed as a result of this. It then became clear that these categories were related and intertwined with the two themes ‘The Multi-dimensional Nature of Child Health Behaviour Theme’ and ‘The Intergenerational Theme’ through close inspection of the data. This procedure just described involved a new way of connecting a category and its sub categories and has also been identified as axial coding (see 5.2.10).

The reduction of the descriptive categories to theoretical categories across three levels of categories – descriptive, substantive/interpretive and explanatory/theoretical – can be viewed in Figure 6.1. Finally three theoretical categories ‘The Nature of Health’, ‘The Multi-dimensional Nature of Child Health Behaviour’ and ‘The Intergenerational Theme’ emerged from the data that were attributed to parents addressing their understanding and
involvement for them in initiating health behaviours for their preschool aged child. This meant that the theoretical categories gave order to the relationship among the categories and led to the formation of a substantive theory which accounted for family health behaviour variation.

Criteria of Rigour

As was addressed in 5.2.10 the criteria of rigour needed to be assessed for this research study because of the importance of internal validity. This study reflected confirmability or the degree to which the findings were determined by the respondents, to some extent due to the fact that one respondent was re-interviewed and was able to validate the content, interpretation and completeness of her original interview. The second element of dependability – that other researchers would reach the same conclusions through reading this analytic process – was achieved to the extent that a clear “decision trail” had been achieved through the memos containing theoretical decisions.

Finally, transferability or the extent to which the study results were applicable to other contexts, was reflected to some extent in this study because an effort was made to include families who could provide a wide range and variety of descriptions of their experiences about looking after their families’ health. In that the three criteria of confirmability, dependability and transferability have been supported to some extent, this increases the certainty that the results may be transferable to young families undertaking health behaviours for their preschool aged children (Chenitz & Swanson, 1986).

6.4 JUSTIFICATION FOR COMPLETION OF INTERVIEWS

Interviewing and analysis was completed after the fourteenth interview because no new themes were emerging except for peripheral information related to sub themes. From the first interview a coding system, with descriptive categories, was constructed for the purpose of data analysis. The initial set of seven descriptive category codes arose out of the first interview and enabled the process of data sorting to occur so that after the sixth interview the first interpretive category Parental Strategies (PS) emerged.

After the seventh interview it was obvious that the descriptive category codes needed to be refined by reduction of the original category codes and the addition of a further two
interpretive categories – Familial Influences (FI) and Teaching Parental Values (TPV).
At this point the categories began filling up, providing a sense of repetition, meaning and completeness. At this stage it seemed that the material was saturating and closure was apparent. From interview seven through to interview twelve the major thematic development remained intact although there was some sub-theme elaboration. After interview twelve the researcher could see that this study was reaching completion because overall conceptualisation of the model appeared to have taken place and in the words of Strauss and Corbin (1990) there was no new, relevant data that was emerging regarding a category. Furthermore patterns of family health behaviour were visible, health behaviour differences were described and health behaviour was viewed as predictable. There was fairly dense category development – all the paradigm elements appeared to be accounted for – and there certainly were well defined relationships that had been established between the different categories and for which support had been provided.

6.5 RESULTS OF ANALYSIS

The results of this research revealed that there was one significant theme ‘The Nature of Health’ and two secondary themes ‘The Multi-Dimensional Nature of Child Health Behaviour’ and ‘The Inter-generational Theme’ that emerged from the data. These themes will be discussed through their connections with the interpretive categories – Parental Strategies (PS), Teaching Parental Values (TPV), and Familial Influences (FI). The reader is referred to Table 6.1 for a list of themes and sub themes associated with ‘The Nature of Health’ which are: ‘Holistic Health’; ‘Parental Role Performance’; ‘Parents Focused on Adapting to Change’; ‘Parents Demonstrating an Adaptive Capacity and a Strong Role Performance Focus’; ‘Parents who Strive to Reach their Full Health Potential’ and ‘Parents who Adapt to Change and Reach their Full Health Potential.’ The first substantial theme – ‘The Nature of Health’ – will be addressed in the next section and will be elaborated on more fully than the other two themes because of the focus on health related research in this thesis.
Table 6.1
A list of themes

<table>
<thead>
<tr>
<th>Major theme</th>
<th>Sub themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Nature of Health</td>
<td>Holistic Health</td>
</tr>
<tr>
<td></td>
<td>Parental Role Performance</td>
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<tr>
<td></td>
<td>Parents Focused on Adapting to Change</td>
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<td></td>
<td>Parents Demonstrating an Adaptive Capacity and a Strong Role Performance Focus</td>
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<tr>
<td></td>
<td>Parents who Strive to Reach their Full Health Potential</td>
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<td></td>
<td>Parents who focus on Adapting to Change and Reaching their Full Health Potential</td>
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Secondary themes

<table>
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<tr>
<th>The Inter-generational Theme</th>
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</table>

| The Multi-dimensional Nature of Child Health Behaviour |

6.5.1 The Nature of Health

Holistic Health

*Categorical Connections Supporting the Sub Themes*

As the three interpretive categories – Parental Strategies (PS), Teaching Parental Values (TPV) and Familial Influences (FI), (highlighted in Figure 6.1) – were an important influence on all the sub themes underlying ‘The Nature of Health’ they will be addressed for the *main* sub themes.

The first sub theme – ‘Holistic Health’ – (part of ‘The Nature of Health’) appeared to be influenced very much by ‘Parental Health and Who/What Influences Parents Health Ideas’ (part of the descriptive category Patterns of Behaviour (PB)) and will be addressed in the following section. That health and health behaviour were more than physical attributes became apparent through the developing influence of the category Familial Influences (FI) which involved health values and knowledge. Furthermore, when parents activated their health behaviours towards their children the data supported
them becoming involved in teaching parental values such as confidence and
independence as well as their developing parental strategies like routine or using rules
and rewards which were important in establishing emotional as well as physical health
attributes.

Moreover the influence of factors such as parents’ own experience, the parents’ own
parents, the media, the environment, socio-economic factors, being more focused on
prevention of illness or on a commitment to health promotion, illness and its association
with family health and family health decision making, some of which have been outlined
in Figure 6.1, and which are part of ‘Parental Health and Who/What influences Parents’
Health Ideas’, will now be addressed.

Initially it is important to note that all families interviewed appeared to be functioning at a
‘healthy’ level in terms of their lives and their children’s and there were no obvious signs
of families being ‘encapsulated’ or hiding themselves away without using resources and
community contacts.

First the important aspects about ‘holistic’ health parents experience will be discussed.
Nearly all parents interviewed acknowledged, on the basis of their own experience and in
varying degrees, that health was holistic because they talked about its physical, mental/
emotional and social components. It was described by one parent as: “Obviously good
diet, exercise and all that sort of thing. Paying attention to your health if it does fail ...
doing something about it ... and also I suppose being healthy in your mind as well and
being happy.” Another parent described what being healthy meant to her as “... feeling
good within yourself and about yourself and obviously being able to function properly ...”

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1 The italicised categories in Figure 6.1 are the interpretive categories and a descriptive category –
‘Family Functioning Patterns.’ The areas of – parental health, family health patterns, health behaviours
In the words of a mother, who agreed that mental health especially influenced our physical health:

... instead of going for a walk you sit down and have a cup of tea and a piece of chocolate cake, just to make yourself feel better. If things aren’t going how you

and health behaviour activation were all part of the large descriptive category ‘Patterns of Behaviour.’
want them to or if you’re sleep deprived or something like that. How I view myself does reflect on how I behave from a health point of view, I guess. If you’re feeling down you don’t feel like doing all the things that you should be doing ... for yourself.

These parents also held a holistic approach to the health of their children as did most parents:

I guess from the children’s point of view ... for them there’s the focus of really looking after their health. As parents that’s all we’re really doing, isn’t it because it’s the mental health, the emotional health and physical health ... that’s why you are here, why you do the things you do so that they’ll be healthy in all those ways.

Well again ... I think it’s very important that in order to be all round healthy that S is not only healthy in her body but healthy in her mind as well so we really encourage that ...

There were few parents who did not talk directly about the emotional as well as physical, health of their children being important. However, one indicated she was considerate of her disabled child’s emotional needs and especially keen to fight for her child who had only 30% vision in his left eye. She described how she went up to the school every year to tell the teacher that her son needed to sit up the front of the class and his embarrassment at this:

... yeah, and he didn’t want me to embarrass him. I said to him ‘R, it’s for your rights’... you know, I said ‘don’t worry what the other children think’ ... but one girl said to him ‘oh, you’re blind’ like this ... she’s real nasty ... I said ’R don’t worry what they say.’

Another family also did not really mention that they associated health with mental and emotional aspects. The mother of the family agreed that they were generally healthy but that they did not get enough exercise. However, the father came close to acknowledging emotional components of health when he said in answer to his wife reflecting on being healthy “It’s feeling good within yourself, you know you sort of feel chirpy ... but some days you wake up and drag yourself up and feel exhausted.”

Overall nearly all parents voiced their belief that their physical and emotional health was important. For example: “… you go to the gym and it’s very important to keep physically fit and it’s also important to have a healthy mental outlook as well.” Another mother also went on to say: “basically health I guess, as long as everything about the body is
supposed to be functioning the way it’s functioning and is healthy ... mental, physical and everything’s working properly.”

Parents’ Concepts of Health and their Children’s Health Behaviours

Before going on to discuss what influences parents’ health ideas the ‘holistic’ concept of health that parents stated they held needed to be compared with the kinds of health behaviours they undertook for their children. Interestingly, although parents suggested that emotional health, not just the physical health of their children was important to them, this was not always obvious when the health behaviours parents undertook for their preschool aged children were examined. What parents defined as health behaviours, or what one did for one’s child’s health every day, included physical things like sleep, dressing, bathing, nutrition, toileting, hand washing, teeth cleaning and exercise. However, as interviews progressed, things involving emotional health – like discipline, learning responsibility and even ‘time out’ – emerged.

According to the data parents’ health behaviours were eventually identified as holistic. In one example discipline was not necessarily related to health. It was something one mother enforced with her child when she was undertaking ‘cleaning’ health behaviours for this asthmatic child – discipline went hand in hand with a health related behaviour. However, another behaviour like discipline – that of learning responsibility – was mentioned by the tenth parent interviewee and was associated with health: “I don’t make her clean her cat or anything like that, just to be nice to him and help me to brush him and stuff like that. I suppose that’s all sort of a little bit to do with health.” This example does show that taking responsibility is associated with health as does the last example which emphasises that getting aggressive behaviour out is a healthy thing. As well as addressing general health maintenance this mother referred to ‘time out’ for her child: “... that’s when quiet time is needed and he is sent away and he takes out his frustration by screaming at me ... he gets it out of his system ... and then he comes out. It’s healthy for him to get that aggression out ... he comes back more rational.” From these examples it could be seen that there were a few instances where parents acknowledged that the ‘emotional’ health behaviours they undertook for their child was a part of health.
Parents Wanting Better Health than They Had

Just as the unique physical and emotional health experiences of parents have been revealed, so too the influence of the previous generation on the present parents’ health ideas will now be briefly explored.

When parents discussed the kind of health they wanted for their child some parents, and mostly mothers, wanted better health for their child than they themselves had experienced and they either wanted their child to be adaptive to change or to be able to achieve their full health potential. Perhaps parents who are dissatisfied with their health will strive harder to improve their children’s health. One couple was concerned about the sports injuries they had both received as a result of their heavy involvement in sport, another mother was concerned to ensure that her child become more positive in her outlook than she had been while a father did not want his children taking up smoking and drinking at an early age, as he had done. However, an important health aspect for a small group of mothers was that they wanted to be more active and receive more stimulation in this way as children. In the words of one of the mothers:

I think we wanted them to be in better health than we were ... Like when I did my course and that I learnt a lot about physical health, you know ... getting fit and staying fit and things like that, so I guess it’s a goal that I had in my mind for myself that I wanted my children to sort of acquire also.

Perhaps parents wanted more positive health experiences because they considered that health expectations and experiences for children were greater now. Nevertheless a number of parents interviewed were not satisfied with their levels of health as a result of their childhood experiences which has implications for the parental health behaviours of the previous generation.

The Difference between Healthy and Fit

Another factor which influenced parents’ ‘health’ ideas was the so called trendy nature of fitness for which parents appeared to partly blame the media. Unlike ‘being fit,’ which was doing high powered things at the gym considered fashionable, faddy and trendy, ‘being healthy’ was being able to run around the back yard with your child and keep up:

But I think health is ... is being able to run around the back yard and kick a ball with your children ... um just being able to participate in things ... you know,
whether you can physically keep up ... it’s a bit of a fashionable word ... fitness, but I think of fitness and health as two separate things again.

While many interviews indicated that being busy with the family meant little time to exercise, a number also indicated the influence of the ‘fitness’ trend: “people who exercise to keep healthy for the sake of it” as “being gym junkie type people.” These interviews suggested that ‘fitness’ with its fitness ‘hype’ and health are two different things:

To me fitness ... I used to play a lot of sport ... I used to go to aerobics 5 times a week and ... that’s fit, where you don’t run out of, to me ... you don’t get breathless. Um, you run the mile without even blinking sort of thing, to me that’s fit, physically fit ... but um, certainly the sport’s gone ... I don’t play as much sport as what I used to, so that’s what ‘fit’ means to me. ‘Healthy’ and ‘fit’ are two different things to me.

In this research parents forsook fitness and accepted ‘being healthy’ or being physically able to keep up with their child – this was considered of greater importance for these parents with their holistic health perspective.

Negativity and the Environment

There is a need to determine the impact of the environment for these families committed to holistic health. Most families focused on the negative aspects of an unhealthy environment – pollution, smoking, etc. with little discussion of the positive aspects of the environment: “A smoke free house. Um ... clear air would be nice ...” and “There’s too much lead in the air, without a doubt ... we’ve got the worst pollution in the area north west.” Some parents conceded they were not in control of the outside environment: “There’s no pollution inside this house ... No, outside the house; which you haven’t got control over really. I mean we recycle and we’re environmentally conscious in that way.”

There was negativity and almost despair transmitted by some families in relation to the environment. Interestingly, in line with a holistic health approach deemed representative of these parents some Baulkham Hills families addressed a positive, stable emotional environment which is reflected in this quote:

Its an environment thing ... giving them an environment that they feel loved in, that they feel that this is their home, that they don’t have to live in a house and
garden sort of home ... I think what stimulates good health is that they have some self esteem, that they are comfortable in their own environment ...

On the other hand a few Mt Druitt families discussed the negative physical and emotional aspects that could occur in the environment in the case of children being abused or molested:

...because the environment these day ... well, you hear people abductin’ children, doin’, you know, people kidnappin’ em ... I pick them up from school, I take them to school ... you’ve gotta these days ... Girls, you know, like, if they get molested well it buggers their life up, you know ... 

In conclusion although the families in this research held a holistic health perspective there were only a small number that identified the environment as a stable, positive emotional environment – most families were negative and focused on an unhealthy, physical environment.

Socio-economic Health Differences

As well as investigating environmental health it was also important here to examine whether socio-economic factors could affect parents’ ‘health’ ideas. As socio-economic factors and their impact on health were of interest in this research it was determined, during the Baulkham Hills interviews, that it would be advantageous to compare these families with those Mt Druitt families to see if health behaviours were any different. Although only one Mt Druitt family was able to be re-interviewed to collect pertinent socio-economic data to gauge a comparison, this was supplemented with some additional information which had already been gathered from the previous interview material.

It was important to note in this study that for families of different socio-economic backgrounds living in Western Sydney the concept of holistic health was the same. Moreover rating of socio-economic status had concentrated primarily on educational level, nature of housing, occupational status and number of children. For example, if we compared family “A” who was living in a small Housing Department dwelling with 5 children (and acknowledged that money was limited) and a husband with a lower status job and family “B” who had a comfortable, spacious, new house with 3 children and whose husband was involved in a higher status job, they both regarded health as having a physical as well as an emotional component:
I mean health is like ... it’s everything to me. It’s like, if you’re feeling healthy you don’t keep dramatising everything that’s wrong ... you don’t make it any worse ... you think positive ... Oh you have to have a lot of ... you have to have a mental, a mental thing.

Basically health I guess, as long as everything about the body is functioning the way it’s supposed to be functioning and is healthy ... mental, physical and everything’s working properly.

That both these parents were aware of the importance of physical and emotional health of their children was supported by most families from Mt Druitt and Baulkham Hills.

Mother “B” considered that the emotional aspects of health, especially good self esteem for her children was just as important as maintaining the physical things such as eating, washing, dressing and exercising. For example: “I think it would go against her self esteem if I went in and fixed what she’d done and I think that self esteem and emotional support and encouragement is all part of health.”

On the other hand mother “A” indicated that “giving her children a positive attitude” was also part of health. She also demonstrated that she was aware of one of her boys’ emotional needs:

.... I think O needs attention ... and he’s a little turd! Drives me crazy with affection and love and things like that and he’s just different ... They’re rough and ready ... boys ... he’s more soft and cuddly and annoying ... they’re annoying in their own ways but he’s sort of ‘mooshy’ ... I mean ... yeah ... emotional ... that’s it ... if he sees me crying he bursts into tears whereas the others look at me and say ... ‘not again!’ I cry at movies ... so he joins in.

The differences that were present between the two families suggested that “B” was more vigilant in her approach to child health behaviours such as teeth cleaning, diet and going to bed times. In reference to dentist visits she stated: “My mother was very strict about dentists and we had to go every six months and that type of thing, so I’ve got that in my mind and do that still with my girls.”

Mother “B” also mentioned that teeth cleaning was an important part of her preschool aged child’s routine whereas mother “A” commented that she was not very good with ensuring the kids had cleaned their teeth. In support of this she also had a huge lolly jar at the table to which her youngest child was helping herself. Whilst there was no further regional comparison material available for teeth cleaning behaviour there was support for Mt Druitt families being more inclined to give their children lollies and soft drink which
was observable at two other Mt Druitt family interviews. In addition another Mt Druitt family stated they received regular deliveries of soft drink each week which all family members, including their child, consumed. Whilst these behaviours and related comments about them were noticeable in Mt Druitt this was not the case for Baulkham Hills.

A further difference was that of diet for Mt Druitt and Baulkham Hills families. With regard to the two families being compared, mother “A” noted that she ate a fair bit of take away food and that for convenience sake her children had a plate of chips once a week. She also stated that her children loved food and listed their food choices but did not mention how she prepared their food and whether she took care with their diet:

... they love salads ... they love fruit ... they love junk food ... they’re not total health freaks ... believe me, they’re not. They love meat ... not keen on red meat ... but sausages and mince are their favourite meals ... but in general they eat everything ...

Another Mt Druitt mother noted that mostly her husband cooked meals except when they had take away. Concern for their diet seemed to come from the packets of chips and other salty junk foods which they referred to being food available for the week end.

In direct contrast to this mother “B” volunteered that she was aware of healthy food preparation such as cooking without any oil and was also concerned about her children’s health and what they ate: “... I’m sort of conscious of their health and what they eat.”

My children also suffer from the fact that I had the parents I had and we weren’t allowed to eat lollies and we didn’t have any fizzy drink in the house ... and I have to say ‘you drink water or you have juice and if you’re hungry after tea you have a piece of fruit.’

Like mother “B” many Baulkham Hills families noted their healthy food preparation or their awareness of this without being asked whereas this was not the case for most Mt Druitt families. However, there did not appear to be any other noticeable dietary differences for Mt Druitt and Baulkham Hills families.

Another difference between both mothers was that of bed time. Mother “A” wasn’t concerned about the amount of sleep and had a more casual approach to this: “Half past 8
... all of them go together ... D with Y ... C, Q and O are sharing ...” than that of mother “B” who had children of a similar age.

“Mother “B” on the other hand put her children into bed by 7.30pm, especially her oldest child because she needed the sleep: “... she’s usually in bed by 7.30pm and they have a good 12 hours sleep ... If they don’t have their routine F will be tired in the morning because they need the twelve hours sleep.” No more information was available on bed time arrangements for other Mt Druitt families so no further comparisons can be made here.

While both families were loving and concerned for their children, involved in community activities and equally participated in sporting and extra curricular activities, it appeared that children’s health behaviours associated with bed time, diet and teeth cleaning were practised differently for one lower socio-economic family. There was also some support for poorer diets and the increased eating of lollies for the Mt Druitt families overall.

Furthermore the potential for childhood accidents was greater for the lower socio-economic family because one child was hit on the neck by a ceiling fan blade when playing on bunk beds. All these factors – the potential for accidents and poor teeth cleaning practices (emphasising illness prevention deficits) and limitations in nutritional knowledge and poor sleeping habits (associated with health promotion needs) – indicate a compromised healthy life style for this lower socio-economic background family. A factor that may have contributed to accident potential of family “A” was that living was difficult and chaotic because of the crowding problems associated with very limited space and three children sharing one small bedroom:

The older ones? The bigger ones? ... Um ... a set of bunks and a trundle and a whole lot of mess. They have totalled their room completely ... now there’s no floor ... officially no floor. They pull everything out of their wardrobe to find something and it’s all everywhere.

In conclusion although the socio-economic differences were not obvious with regard to the holistic nature of health there did appear to be socio-economic differences in child health behaviours – less sleep, poorer teeth cleaning, more accidents and poorer diet – for one Mt Druitt family when this family was compared to a Baulkham Hills family. Nevertheless on the basis of these results no wider claims can be made here about lower
socio-economic status and its association with health behaviours like childhood accidents. However, there was some support for poorer quality child health behaviours like poorer diet – some Mt Druitt families had poorer quality diets, unlike those families in Baulkham Hills who generally appeared to be conscious and concerned about family dietary habits.

Prevention of Illness

As well as investigating the data for regional child health behaviour differences, in line with possible parent health differences, it was important to ask parents what ‘prevention’, in terms of their child’s health meant for them. It appeared that for the majority of parents the notion of illness was very much a part of prevention.

When the families’ definitions of prevention were examined doing things in advance to prevent illness was identified as the meaning of prevention. The parent majority identified with strategies organised around the prevention of illness rather than those to do with health education and the promotion of health. Most of the responses could be categorised into the more negative, avoiding illness ones that could be equated with illness prevention as well as those minimal responses that could be regarded as the more positive, educating ones and equated with an emphasis on health promotion. The latter will be addressed at the end of this section. On the other hand, for example, a significant response associated with illness prevention was ‘getting in early’ and a common example of this was taking your child to the doctors to prevent her getting sicker:

Well, getting in early I suppose. If D is sick you know, I’ll take her out to doctors if I think she’s very sick, with the tonsillitis ... with tonsillitis they can basically go down hill within half a day and be very sick and have a very high temperature, and be sick for days, so when she was susceptible to the tonsillitis, if I could see it coming on I would throw her in the car and go straight to the doctors to get them to have a look at her throat and tell me whether it was tonsillitis.

Another parent couple suggested that prevention was ‘being aware’ but also being on the spot or ready to help:

Being aware yeah ... It’s not getting in early ... you have to be there straight away when something happens ... You’ve got to think ahead to prevent it from happening ... If something goes wrong we are straight there, onto the problem.
Prevention for this family was associated with preventing an illness like croup because the wife and mother indicated someone was always sick in the family and the important thing was just being there to help that person.

While not having the illness problems of the family just described another mother was concerned about her child’s low resistance to infection and noted that prevention was: “…just trying to avoid it…preventing my child getting the illness rather than saying ‘let her get it’ … trying to avoid getting sick…”

One parent couple were supportive of prevention meaning ‘planning ahead’:

... if you plan ahead, what you are going to do and everything...it all works out all right...Yeah ... As far as health goes ... Um I think there’s a lot you can do to stop yourself, like stop the kids anyway from getting sick. You know ... prevention, you dress them warm, you make sure their rooms and beds are warm and um ... yeah, that’s about it. Yeah, that’s prevention ...

Although the previous example could be viewed as a fairly limited interpretation of ‘planning ahead’ it did indicate some attempt to protect one’s children from illness by being one step ahead in terms of providing a safe environment. This was a recurring theme for many families:

All I know is that I’m thinking of M’s well-being. I’m always one step ahead of her on everything that ... I’m watching what she’s doing and if she’s doing something that could even be remotely unsafe then she’s diverted to something else ...

This family also briefly touched on health maintenance but primarily addressed illness prevention as well as injury prevention:

Prevention ... stopping them from hurting themselves unnecessarily ... like we don’t let them run amuck because it’s not safe ... so, we’d always like to be there ourselves supervising ... and prevention of getting illness ... Immunisation and things like that ... and prevention we assume stops injury ...

As well as families who were watching/supervising their children’s activities others were watching their children to make sure they were not getting any illnesses: “…We would hate our children to be exposed to something that’s unnecessary ... We really keep a watchful eye on the children ... we get concerned if there is something wrong.”
Prevention was typically associated with illness and injury prevention — sometimes even health maintenance and hints of health promotion:

Healthwise I think it comes back to good diet, plenty of regular exercise ... not sitting around watching television, not playing with computers like some kids do these days ...

Primarily families focused on illness prevention which could be avoiding illness, getting in early to prevent illness, watching ones children for illness or possible injury, planning ahead to stop your children from getting ill or being aware and ready to spring into action if any illness developed.

Commitment to Health Promotion

It needed to be stated that in this research there was a parent who demonstrated a limited knowledge of health and that of the importance of health professionals’ in promoting health. It appeared that this parent did not class accidents that her children had as being illness related events. She also made this comment: “Why take ‘em to like ... a nurse when there’s nothing wrong with them? (Refers to Z who hasn’t been to the Clinic since her first baby). I take ‘em to the doctors if they get sick ...” This was important to report because it identified a lack of knowledge about health education and health promotion.

Although this limitation in health knowledge was not typical of other parents most parents associated prevention with illness, as has been previously identified. In amongst these parents with their negative, narrow prevention concepts there were also some positive, educative approaches to health associated with a health promotion focus. One family, for example, who had this focus thought that being a good role model was part of prevention:

Educate them properly to prevent problems. You start them on the right track ... you start them on a healthy life style ... you educate them early then they’ve got a better chance of avoiding smoking, alcohol and drugs problems ... Prevention is being a good role model for your children. You need to set a good example by not drinking and smoking at home. You also need to talk honestly to your children and when they ask questions answer them straight away ...

For other families prevention was:

...getting in early so it never gets to ... getting in early ... so its educating in um...you’ve got to have shoes on and wear warm clothes or you will get a cold ...
not letting them go running outside and they start getting colds ... prevention is ... um better than cure.

This view of prevention illustrates, in contrast to the complex educational approach previously outlined, a more basic educational focus, one which hardly equates with health promotion. For another, a father, prevention was associated with training, exposure and moulding a person:

Prevention is a natural reaction or natural training and conditioning ... responsibility is training, exposing and hoping that the moulding that you are doing is going to lead to some prevention of something that’s never going to eventuate ... you act before prevention is required ...

Letting children have some freedom to explore also surfaced as important as an educational strategy in prevention:

We don’t like them sitting there cutting up all that paper ... if you don’t let them have that experience of handling the scissors ... they don’t know what they are able to create and make...it expands their mind and the creativity side of things is important for them too.

These glimpses of illness prevention that came from the expression of the meaning of prevention for this small group of families were gratifying. However, the researcher also investigated whether statements relating to prevention but more aligned with health promotion, could be found in the rest of their interview material. Only one of these families appeared to be health education advocates when their interview material was taken into consideration. This family had given a very comprehensive discussion about educating as could be evidenced from this quotation:

Well they’re not going to do something, or stick to something if they don’t want to. You’ve got to give them reasons for wanting to do it ... Sometimes we’ve had trouble getting the kids enthusiastic about getting ready to go to Little Athletics ... For the first couple of weeks S screamed...we had been really looking forward to it...but once he got there he had a ball ... but next week he screamed again so Y settled him down and talked to him ... you know you don’t want to go because you’re not quite sure what you have to do ... and after that talk he was all right...We want them to enjoy it and stick with it ... stick with some sort of physical activity like that ... Once they’ve done it and they’ve seen it they know what you’re talking about and it’s a lot easier.
Educational Strategies

Just as there were a minimal number of parents identified as being more focused on health education when they were asked about prevention, so too this was the case when all the interview material was assessed for a health education commitment. Interestingly a very small number of these families (originally considered part of the majority of families who defined prevention as illness prevention) and another family were part of the small group of families that defined prevention more in educative terms. It was the majority position of this small group that being effective role models were important for parents these days in teaching their children about living a healthy life:

I guess we’re their role models at the moment ... that is until our children start school and they get other people influencing their lives but whilst we’ve got them we’re their major role models obviously ... hopefully we’ll leave them to become young adults who can make well informed decisions about perhaps how they raise the next generation.

... when we have a few friends over the kids would never see us intoxicated because we’re not like that and hopefully that will give them the sort of ... role models that we would like them to have ...

As can be seen in this example role modelling was an important educational strategy for this family while another one discussed by them was teaching or learning in real life situations:

... the way I teach them things is when it occurs. It’s a bit like ... for instance someone asked me about road safety the other day and I said I teach my kids road safety when it’s happening because otherwise it’s meaningless to them ... the day my son came inside out of the garden and stuck his finger in his mouth and there was something on it that burnt his tongue ... and I said ‘What did you put on your finger?’ He said ‘I had grease on my finger’ so I think he actually touched a plant and there was something on there and it did burn his tongue ... I watched for symptoms but I explained to him why he should have gone and washed his hand ... and um he learnt a very valuable lesson from that because his tongue did hurt and it blistered ... it was enough to give him a scare so to me it’s more meaningful in a real life situation ... I tend to just handle it as I go.

Whilst this is also part of the learning process, for the remaining family they also used rules to a greater degree so that they could educate their child by developing ‘life skills’ which would teach their children about things like boredom, road safety or car safety so that they can keep safe and healthy:
Well we know they’ve got to experience boredom so that they can think of how they can cope with that because that’s a life skill and we want them to be able to get those life skills because we are not constantly stimulated all the time ... also ... the safety aspects ... he can say her name and address, telephone number ... she knows how to dial triple O if there’s an emergency. I mean that’s a life skill that she’s been taught ... And also from another safety point of view is that they never cross the road without holding our hands ... As soon as it’s a car type of place you must hold our hands or stand right beside us ... I guess knowing that there are limits and rules that you have to follow in your life so that you keep yourself safe and healthy too.

Unlike the other two families who also sought out information about health but were more involved in education strategies associated with role modelling, the family who used rules to develop their children’s ‘life skills’ in the quote above, was even better at getting up-to-date health related material from a parenting journal to which they subscribed. To illustrate this point the mother who was an asthmatic stated that she didn’t have asthma at present because of hormone variation caused by her breast feeding. This family also demonstrated that they were critical readers: “I think we’re fairly um...critical readers too. We don’t accept everything that’s written down ... um, we build on the knowledge we’ve already got and we can sift through what we know is fact and what we know is just hearsay ...”

Finally descriptions of these few families about their educational strategies indicated a commitment to health promotion in planning out an approach to healthy living which was certainly not so obvious from the majority of parents interviewed. On the basis of these discussions about health promotion and review of the interview material this small group of families, unlike the other families, appeared to have a clearer picture of where they were going in their search for a healthy life style for their children.

*The Concept of Family Health*

Just as the majority of parents associated ‘prevention’ with ‘illness’ so too was this the case for the concept of Family Health. It appeared that interviewees, when asked to talk about their families’ health, started assessing how much family illness they had:

Good health really, generally, aren’t we? The kids are basically in good health. U had a lot of ear problems as a baby ... from 9 months until ... just on a year ago ... so we finally had her hospitalised and put grommets in her ears ...
This was the pattern that occurred for most families when they were asked about their health. An interesting family example of how ‘health’ is perceived as ‘illness,’ demonstrating the blurring of the lines between health and illness as Illich (1976) has described it, is illustrated below:

Asthma, eczema, bronchitis ... those type of things ... I mean even things like ... thrush ... that’s not health to me that’s just part of living ... You get thrush ... fine! It’s not a problem. Health to me is things you need the doctor for.

Family health could also be defined according to obvious cases of family member’s illnesses. One mother was also very aware of providing her child with specific health behaviours associated with her condition. She considered that for her asthmatic daughter she was undertaking such preventive behaviours as bringing her indoors by 4 p.m. when the temperature changed; cleaning the lino floors with hot, scalding water; dusting surfaces and vacuuming to reduce dust and putting on the vaporiser which was on the table opposite.

The functional capacity of family members was also important. For example a mother in one family had a kidney condition which the doctors took seriously but she considered she was quite healthy because she was not sick and was able to undertake all her ‘mothering’ activities: “I’m healthy ... sort of ... kinda ... yeh! I have a kidney problem but I’m healthy!”

For the concept of family health the lines of demarcation are unclear between health and illness – the two concepts blur in together. As well, health is defined in functional terms for family members.

*Family Health Decision Making*

The final factor influencing parents’ health ideas was their decision making when they have a sick child to decide about. Parents appeared to go through a decision making process if they weren’t happy with a doctor’s recommendation. An example that could be applied was one where the mother had taken her child with middle ear infection to 3 or 4 doctors who had given him different antibiotics and nothing was working. The decision making process she used to determine what she would do with the child (in this case stop
the antibiotics) was to ask: "... Is the medicine working? Is the child getting any better, and my gut instinct."

When parents were not happy with their doctor's advice about their child's health they indicated they would act in an autonomous and sometimes assertive way, for example:

... if I'm not happy with something, I will say ok, I'll just get a second opinion. And it's not because I'm not happy with the diagnosis, I just would want the best for either my child or myself or cat. Yeah so if I'm not happy with what he says I'll question ... I would basically say I'm not ... I'm not 100% happy. I would like a second opinion and can you refer me to somebody else.

Interestingly one mother of a family showed how questioning and autonomous she could be with her child's health:

... a psychiatrist said that O had ADD (Attention Deficit Disorder) ... I don't believe in ADD ... I think it's a lot of rubbish ... I think that people use that because they can't control the kids or they just can't find a reason for what they are doing ... so I took their prescription that he gave me for the dextroamphetamine ... I started giving them to O for a week ... and I thought ... 'I don't like this idea!' ... so I stopped. He's got a hundred different reasons why he's not doing real good at school.

Some of the families had been involved in being unhappy with a doctor – in one case one couple went to another doctor in the same medical centre. Another parent couple stated that there was only one incident when they had to "push" their doctor to refer their daughter with her ear condition, for example:

The only time I've really had to question him has been about L's ears when he was just letting her go from one ear infection to the other by seeing if she'd grow out of it because we knew the problem was just that her eustachian tubes were immature ... but um ... I was leaving it to doctors and I just said to him 'what about a specialist now?' and he said 'well we'll see how she goes another month' and then he did ... he said 'well we'll refer her on now!'

From the above examples parents considered they knew what was best for their own child and were more than willing to take on the responsibility of decision making in relation to their child's health. Changing views about doctor's advice being blindly accepted were obvious – doctors were there to advise parents and, as the decision making experts in their child's care, most parents were questioning this advice and were making decisions about continuing or discontinuing treatment if they were not happy.
On the basis of the interviews parents wanted to be in control in terms of decision making about their child’s health. How decisions were made and who made them within families adds to our understanding. Some parents were involved in joint decision making and followed the democratic decision making approach about their children’s health whereas others were more authoritarian in their decision making approach. Rather than the mother making all the decisions as had happened in their parents’ generation, fathers were now more involved in health related decision making. This example demonstrated democratic family decision making:

W is very involved in everything and more often, anything major I discuss like for instance ... Hep B ... We are actually getting ourselves immunised at the moment ... but we talked a lot about that before ... we got a lot of conflicting information about that ... but we decided we would go and do that as a precaution ... I discuss things with W because I don’t want to make some of these decisions on my own. I want it to be debated between us a bit if that’s the case or if we both ... if we both agree then its an easy decision but obviously if W said to me he was not comfortable with something well we wouldn’t go ahead and do it.

However, the mother was credited as the expert when it came to day to day health activities as she was involved in more care related activities for her child.

I handle the health issues ... fathers see things differently ... We were sitting at the table and I said to P the other night ... are you going to bed? ... you better go to bed now because you’ve got dark circles under your eyes. And he (the father) said ‘what?’ Look, they don’t see their children the same way mothers see their children. Mothers look for things. I’m sure there are fathers out there who do, but as a general thing ... Mothers have to keep ... are responsible for their children’s care.

This was not to say that fathers were not involved. According to interview sources fathers, although they were usually very busy with their jobs did appear to be coming more involved and were enjoying it and were taking away the burden of child care from their wives at weekends, for example:

I don’t spend as much time with the children as I would like...and I miss that, and I ring them in the mornings when I’m at work and in the afternoons if I’m not going to be at home. I spend all my weekends with them whenever possible ... it’s something I miss. It’s hard to ... the hard things in the 90s, particularly for professional people is to find time for the family.
Overall when they had a sick child parents considered they knew what was best for their child – they were the decision making experts. Moreover it was suggested that mothers were day to day experts in terms of their child’s health activities.

In summary this section has explored the holistic nature of health the majority of parents stated they held in this research. It has addressed many health influencing factors – parents own experience, parents own parents, the media and trends, environment, socio-economic aspects, illness and prevention, commitment to health promotion, the concept of family health and family health decision making – which influence parents’ health ideas, and in so doing has provided special meanings of what holding a holistic health perspective is like for parents.

**Parental Role Performance**

The second sub theme – ‘Parental Role Performance’ – has emerged as being important for the majority of parents.

**Categorical Connections Supporting this Sub Theme**

Within the first sub theme ‘Parental Role Performance’ the category of Parental Strategies (PS) was connected through parents undertaking certain strategies and linking this with the performance of their parental role. Some data examples like introducing rules to establish desired behaviours associated with their child’s development or using the strategy ‘freedom to explore’ in the bringing up of their children have been referred to previously in the sub theme ‘Holistic Health.’ The second category Teaching Parental Values (TPV) was associated with children learning about values associated with life style through their parents and the environment. Examples of the interview data such as being a good role model for your children by not smoking and drinking at home, deemed pertinent to the sub theme, were present and have also been discussed. The third category Familial Influences (FI) was about parents, their health values, the relationship between health values and their roles and the impact of their roles on their life style. This last category was prominent in the data and will be elaborated on in more detail. That stress was a concern for parents engaged in their multiple roles was apparent from the data that will now be addressed.
In one family the husband began a discussion about the stress of daily living and the mother of the family reacted accordingly: “... life’s too fast ... there’s too much to do...everything’s too busy.” The mother of this family felt that she had no time for things like recreation or exercise. When she was asked about time for recreation she answered:

Very, very ... little. Very little. I take two days off work a week now ... I work three days full time ... like 9 ‘til 3 ... um, and I have two days off and on those two days I’ve tried to go to the gym of a morning ... um, nine mornings out of 10 I won’t make it because I’ve got to do this, I’ve got to do that ... I’ve got to do the housework or I’ll go shopping ...

When exercise was addressed the response was: “I walk fast to the letter box and back ... up ... up and down the hill ... that’s what I do for my health each day.” This mother was almost jealous of the father who had a very busy job, working six days a week, but who appeared to have more recreation opportunities than she did:

He plays golf once a week ... he probably gets more rest and relaxation time than I do. He’ll say I get two days off a week but those two days are spent either doing housework or doing the shopping or doing errands that I’ve got to do whereas if he gets his day at golf that’s like the whole day and he is gone ... he doesn’t have the kids with him.

In fact the mother noted that sitting in the doctor’s surgery for half an hour had been a very relaxing time because the children had been nice to each other.

When it came to the question about the importance of undertaking the mother or father role this family agreed that they had other roles that were just as important as well. The mother emphasised compartmentalising things and giving equal importance to all the roles, not just the mother role, she had to undertake: “... Yeah, and I think you do everything in little bits ... a bit of everything ... Yeah, you have to try and divvy things up a little bit.”

Certainly this ‘stressed’ mother considered she had to ‘cut herself up’ in order to undertake all her roles of which the mother role was just one. The issue of this mother’s problem with ‘role overload’ appeared important here.

While the majority of families like the previous mother, were inclined to agree that mothering was only one of their roles, there were three remaining mothers who agreed that the effective performance of their mothering role was extremely important to them –
they had a big investment in this. They were involved in most of the child care, they had at least three children and they were not working. It did appear that one of these mothers had taken the decision to stay at home to support her children emotionally, unlike her own experience as a child: “... I’m the type of child that needed to have somebody in the home ... I needed my boundaries ... I needed somebody to tell me... as I said that was through no fault of their own ... as I said she had to work ... to keep us.” Although this comment emphasised this mother’s conviction her husband travelled extensively and was not at home much. This must have reinforced the importance of her ‘mother’ role, just as would have been the case for the other two mothers whose husbands were night shift workers – in fact it may have been hard for these women to work anyway.

A further mother whose husband was a night shift worker “made decisions herself”, even though she consulted her husband. It was interpreted that she did an amazing amount of things for the family as a mother. When asked about her ‘mother’ role she said: “Mother goes like that ... doctor, nurse, lawyer, arbitrator – all in one. That’s all!”

Being healthy for these mothers was associated with performing their ‘mother’ role adequately. However, one of the husbands pointed out that this did not mean that through performance of this role they would necessarily stay well. This was further supported by one of the mothers agreeing that although undertaking the ‘mother’ role effectively was what it meant to be healthy, it was also important to her to take a break from this role for her ‘mental health’ so that she could continue to do a good job: “Yes. I would also say that something about having a separation period from my family and that folk art did that ... just getting out, that mental break ... and I came back ... better off ...”

Similarly another respondent stated that the ‘mother’ role didn’t necessarily make you healthy:

I think if anything it runs you down! Actually I find I have to stay healthy to be able to be a mother. A just requires so much attention and so much energy that I have to stay healthy in order to be able to look after her as well as I can.

And if the mother wasn’t healthy? One mother, capturing the essence of all said:

If she wasn’t healthy then the washing wouldn’t get done, the cooking doesn’t get done ... the children don’t get emotional support when they need it. The
mother is the centre and if the mother is not well or not there, you don’t have a centre.

As well as the ‘mother’ role there was also consideration given to that of the ‘father’ role. One husband was just as passionate about the importance of his two roles – worker and father:

Like I was unemployed for a while and we had to buy the cheap food and the cheap this and live cheap and I think the kids and the family suffered through that too. So now that I’m on good money and able to provide everything for the kids and family, I think the two roles (refers to his paid job as a supervisor as well as that of father provider) complement each other.

It is concluded that although the majority of those interviewed stated the importance that parental role performance held for them, they had different ideas about what these roles contained. Some parents (both male and female) agreed that undertaking the ‘mother’ role would not necessarily make them healthy. Although some parents did not rate the ‘mother’ role of central importance there were three mothers who agreed that the mothering role was a major part of their lives which contributed to their well-being – they believed they made a significant contribution as a mother and wanted to be acknowledged for this. Also interestingly, one of the fathers who had been unemployed realised the importance of his roles of provider and father, especially now that he was able to provide for his family again.

**Parents Focused on Adapting to Change**

The third sub theme – ‘Parents Focused on Adapting to Change’ – has emerged as being significant for some parent sets.

**Categorical Connections Supporting the Sub Theme**

The first category Parental Strategies (PS) was related to adaption and change through parents using the strategy of routine to assist their child to adapt to life. This strategy was one used by parents in varying degrees to assist the organisation of their child’s world – and perhaps even to assist the parents themselves, and will be elaborated on in section
6.3.2. The second category Teaching Parental Values (TPV) is regarded as providing a good link with the sub theme because, as has been previously noted in ‘Holistic Health,’ through the use of rules parents are able to teach their children special “life skills” considered important for adaption to their environment. The final category Familial Influences (FI) had a way of connecting its health values and knowledge in terms of families valuing adapting to change and considering it an important aspect of their lives, and will be discussed in more depth now.

Although there were many whose voices claimed role performance to being their major focus, some parent sets emphasised that adaption to change was a major aspect of their lives. A separated mother and her daughter had demonstrated throughout the interview how they could successfully adapt to the process of divorce and the future adjustments that were yet to come. She even talked about the lack of the ‘Parental Strategy’ – routine – referred to above, and her need to adapt to that. In fact this mother uses the word ‘adapt’ quite frequently in other contexts of her life:

... I must admit if we go away, it’s hard to keep a routine, because you’re not in your own environment ... you don’t have all your things ... and whatever and you’ve got to adapt ... I’ve travelled a fair amount with D ... you’ve got to have your breakfast on a bus travelling or whatever, but you sort of adapt to it ...

... there was a time when I just took my frustration’s out on my child, I didn’t hit her, I just might have been constantly cranky with her ... until one day I sort of looked back on the day before and thought, what am I doing? ... I did think that ... it’s made me a stronger person you know ... I just wouldn’t want to go through it again.

Other families, who were successful in demonstrating they had adaptive capacities, indicated that they were functioning effectively and making appropriate choices for their children as a result of access to pertinent information: “Well I think we can say we are healthy ... in that we are making healthy choices for them and that we’re in a reasonable state of body and mind ... not as healthy as we’d like to be because of what we are doing.”

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2 Overlap occurs between the three themes, which includes the sub themes of ‘The Nature of Health.’ For example, routine is an important parental strategy which is relevant to both the sub theme ‘Parents Focused on Adapting to Change’ and the theme ‘The Multi-dimensional Nature of Child Health behaviour.’
This family also had access to a parenting journal which contained articles on child health and gave them considerable information, and the mother was able to relay pertinent knowledge as a result:

... we’re fairly sun paranoid about the effects of ultraviolet light on their eyes as well as their skins ... actually, under one year of age we don’t put sunscreen on because we know that doesn’t agree with their livers and things like that ...

Both partners were employed in the remaining two parent sets who focussed on adoption. One of these families considered that they could adapt if one parent got sick:

If a parent got sick? I think you compensate ... I think we would compensate to work around that so that we ... certainly the routine would change but I wouldn’t say that the routine would break down. I think you would compensate ... I think if you’re sick ... Z would take on the major responsibilities for S if I was sick but we would compensate ... we would adjust out lives by supporting each other.

The mother of the other parent couple appeared to be well adjusted and demonstrated she was able to relax, have an exercise program and run a successful business with her available resources whilst her husband had a very stressful work situation and currently needed her support. Unfortunately the tape recording of this interview was indecipherable in places so although some transcript was available, quotes were not always possible.

In conclusion the parent examples provided were varied for families adapting to change. The examples ranged from adapting to divorce, a couple adapting to a husband’s stressful work situation and a mother’s running of a successful business to a family’s ability to make healthy choices through accessing pertinent information and functioning in an effective way. There was also a hypothetical example in which parents agreed that they would compensate if either one of them became ill, but this situation had not been tested as had the others.

Parents Demonstrating an Adaptive Capacity and a strong Role Performance Focus

Some parents demonstrated that role performance and adaptive health capacity was important to them through the fourth sub theme ‘Parents Demonstrating an Adaptive
Capacity and a strong Role Performance Focus. Parent couples were committed to their roles within the family as well as being able to demonstrate that they had adaptive capacities. For one couple, although both mother and father were committed to their parent roles, once again it was interesting to hear the father’s response to his ‘father’ role: “Oh yeah, well ... that sort of keeps me goin’ ... like I get satisfaction out of, you know ... the kids and that ... just to see them growin’ up and doin’ things for them and that ... like...well ... the kids are a part of us, eh?”

The other family, especially the mother showed commitment to multiple roles within her family:

My role as a mother to B is very important because it took us a long time to get her...but I do think that you’re individual things are important too ... I’m out there for a reason, I’m out there to do that work so we can still have a roof over our heads. Because if I didn’t go to work we wouldn’t have a house. So, I feel that side of my life is just as important as being B’s mother and trying to keep things together at home because if any one of those fell apart ... our whole being would fall apart.

So although these two families considered their family roles were important they were also able to demonstrate that they were adaptable. The first family showed their adaptive ability as a result of all the serious illnesses they had dealt with and were currently dealing with. This was one such example:

... because when I went to the Specialist he told me if it happened again...he’d put her into hospital and he had to put rods down ... You see I’m still waiting on tests ... I’ve gotta get back to the Doctor and I suppose she’ll do another lot of tests.

The other family, in a different example, also demonstrated their adaptive capacities:

... some people might bring a new baby home as we did and the baby had to blend into our way of life. Um, you’ve always been there, your family’s always been there, so whatever comes into that family has to grow with you, I don’t think it’s right that you should let it change you. You might have to expand yourself and you might have to alter from your normal way of doing something but I don’t think you should allow it to change you.

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3 As categorical connections have been addressed for the first two sub themes they will not be discussed for combined and overlapping sub themes.
These parent couples provided very different examples of parents demonstrating an adaptive capacity as well as a role performance focus, nevertheless they powerfully illustrate the way adaption and role performance can come together.

Parents who Strive to Reach their Full Health Potential

Two parent sets perceived themselves performing at their highest level of health in considering that the fifth sub theme ‘Parents who Strive to Reach their Full Health Potential’ was important for them.

Categorical Connections Supporting the Sub Themes

The sub theme ‘Parents who Strive to Reach their Full Health Potential’ was also connected to the categories Parental Strategies (PS), Teaching Parental Values (TPV), and Familial Influences (FI), because interview information on these parents who believed they had reached their full health potential was supportive of these categories. Nevertheless in order to demonstrate the differences between families focused on adaption and those focused on reaching their full health potential it should be noted here that Smith’s (1983) model is a progressive one and builds on each successive model level. This means that after focusing on change/adaption if a family manages to develop to the next level because they have successfully acquitted themselves at the adaption level (that is for example, they have demonstrated their flexibility and adaptability with their parental strategies like routine), then their focus will be directed to striving to reach their full health potential.

For parents whose focus is on themselves and their children reaching their full health potential ideally the parental strategies would provide a warm, nurturing environment; they would be relaxed about giving their child enough time; they would offer experiences to their child and extend their child in the physical and educational sense and would have educated and informed themselves so that they are aware of and actively involved in family health promoting activities.

Parental strategies are not the same for parents focused on adapting to change but rather they are mainly about adapting to routines or other environmental aspects. Parental strategies for parents trying to reach their full health potential are about active awareness,
involvement and commitment of families to health promotion; being actively involved in seeking out family health information and also promoting a stimulating but loving and supportive environment which engenders learning independence and confidence.

There are also differences for teaching parental values. Whereas teaching life skills or teaching children rules for their own safety is viewed as teaching parental values for parents focused on adapting to change, it is argued that for parents who strive to reach their full health potential there is a difference in these parents particularly trying to engender independence and confidence, particularly in decision making in their children. Whilst it could be argued that children may be confident and independent as a result of their being adaptable it does not necessarily follow that this will be an outcome of being adaptable to change. Parents who strive for their child reaching their full health potential in terms of confidence and independence have developed special strategies such as encouraging their child to make informed choices and encouraging their child to express themselves.

The differences for familial influences for parents adapting to change compared with parents striving for their full health potential is that valuing successful adaption to change is an essential value focus for the first parents whereas the latter families focus on valuing overall their child’s healthy development and are committed to an active health promoting role. Examples will be provided from the data to illustrate that those parents who are striving to reach their full health potential are involved in more than assisting their child to change in a healthy way.

The first parent example was that of a single mother who appeared to be striving to reach her full potential within her environment. She was a happy and enthusiastic young mother who believed her own fitness levels to be quite good because she walked three times a week and did aerobics. She also ate correctly, was looking for a job and was involved in church activities as well as being the treasurer at the preschool. In her own mind she was functioning very effectively and she felt good and certainly looked good for her 30 years. Although the complete transcript for this interview was unable to be obtained due to faulty audio equipment, comprehensive notes were taken and thorough observations made. Her child was an asthmatic and she hadn’t had an attack for one year which could have been attributed to the mother’s careful management of her daughter’s
condition. This mother’s little girl appeared happy, well dressed and well nourished and hydrated. She was about to go to the park across the road with her little friend and mother when the interview was conducted. Her mother also stated that she and J walked half a kilometre to preschool three times a week.

Although this parent certainly appeared to come close to performing at her highest health level there was no data on her ability to actively seek out information or whether she was able to use strategies to assist her child’s health values, unlike another parent couple who appeared to be better suited because they fulfilled a greater spread of the criteria for such a health performance.

Another family demonstrated their commitment to exercise as both parents believed that exercise was important and belonged to a gym. They liked the outdoors because they indicated that:

… we always walk the kids whenever we can…we walk the kids across to tennis instead of driving the car … It depends if it’s too hot…but we walk everywhere within walking distance …. we encourage them to do sporting things …. you know, like to get out and test themselves … they love to go to the park and playing on the equipment…as much as we can fit in.

These parents also showed great interest in their children and gave them as much time as they could as can be seen by the following quote:

I guess we spend a lot of time on the children too. We don’t mind if there’s a mess in the house or we don’t get the garden up to scratch. We’d rather sort of come home, drop everything and spend some time with the children.

They also believed in a warm supportive environment for their children, for example:

It’s an environment thing … giving them an environment that they feel loved in, that they feel this is their home … It’s a bit of a haven for them … I think what stimulates good health is that they have some self esteem, that they are comfortable in their own environment …

As well as this they demonstrated their ability to seek out information: “… we read a fair bit so we look at a lot of different issues and what’s going on out there … We actively seek information …”

These parents were also committed to joint decision making, for example:
In our family it’s very different ... W is very involved in everything and more often, anything major I discuss ... I don’t want to make some of these decisions on my own. I want it to be debated between us a bit if that’s the case or if we both agree then it’s an easy decision but obviously if W said to me he was not comfortable with something well we wouldn’t go ahead and do it.

Another attribute of these parents was that they were able to discuss strategies they would use for developing things like independence and confidence in decision making in their children:

Well we have a view of the world and a view of health and I guess your view of the world affects your children ... health is a part of that ... it’s really that we want to encourage the children to be independent, question things, confident to take a view on things, understand and make decisions ... they are the key issues for us, I believe.

A further issue for these parents was that they wanted their children to be stimulated by new experiences, in other words: “... I want to expose my children to things that I wasn’t exposed to, give them an opportunity to have a go, encourage them if they enjoy it ... certainly give them the opportunities to try things.”

It did appear that this last parent couple were giving their family the ultimate advantage and opportunity to reach their fullest health potential by engaging in shared decision making, being warm and supportive, actively seeking out information necessary for health related decisions, being committed to providing stimulating experiences for their children and developing their own child rearing strategies deemed necessary for the acquisition of the important, appropriate health values.

Parents who focus on Adapting to Change and Reaching their Full Health Potential

There was also one parent couple who believed that they were focusing on adaption to change as well as that of achieving their full health potential. In this case each parent appeared to be operating differently in terms of health focus. The mother in this instant had her epileptic condition under control but it still influenced her definition of health as being “keeping things under control” or “keeping things on an even keel.” Whereas the father regarded being healthy as: “... maintaining a healthy life style ... and that’s not just exercise but diet as well. Not getting over tired, getting plenty of rest at the right times.”
The mother of the family regarded being in control, and in that way adapting, as an important aspect whereas the father demonstrated his commitment to healthy living. Neither parent was able to exercise the way they would have wanted which was a constraint for them. However, the mother was just beginning to start regular exercise: “She’s just sort of got enthusiastic about getting ... getting healthier and losing a bit of weight ... getting fit and losing a bit of weight ...”

The father was also keen on encouraging and involving his children in some exercise:

We encourage them to play outside and jump on the trampoline out the back and that sort of thing, rather than sit around all the time. We’re not exercise fanatics by any means but we try to exercise as much as we can. Like there’s a big opening out the back here with roads and things and the kids like to go for a bike ride up there on the weekends and we go and walk with them.

Further commitment to exercise was also demonstrated by the parents who: “... are both involved in Little Athletics.” Both parents also appeared to show a particular commitment to a healthy life style for their children:

Educate them properly to prevent problems; you start them on the right track ... you start them on a healthy life style ... you educate them early then they’ve got a better chance of avoiding smoking, alcohol and drug problems.

On the basis of this evidence there was support for the mother operating at a health level which emphasised adaption to change, though she appeared to be aspiring to her highest health potential. The father could be classed as performing at his highest health potential because of his more extensive health commitment and interest in a healthy life style for his family.

6.5.2 Parental Voices Mimic Smith’s (1983) Health Models

As the researcher was especially interested in understanding wellness behaviour she believed it was important to examine this health literature, for example, to investigate Smith’s (1983) health models with its wellness focus in its eudaimonistic model and compare this literature with her data. Not all respondents were asked about where they saw themselves in relation to Smith’s health models. This only occurred in some instances, later on in the interviews. This was because although Smith’s health models appeared to mirror the data and it was usually evident which model was appropriate the
researcher occasionally chose to ask the respondents which model they identified with for the purposes of validation.

When the perceptions of these parents were examined in conjunction with the health literature it was apparent that they were closely aligned with three of Smith’s (1983) health models which have been referred to briefly in Chapter 2.7. Smith’s (1983) four models of health are identified as:

- the narrow, clinical model in which people are viewed as physiological systems and are only considered healthy in the absence of disease;
- the role performance model and the acknowledgement that health is comprised of social, psychological and emotional as well as physical components;
- the adaptive model which emphasises that flexible, effective people in a challenging environment are capable of adapting appropriately; and
- the eudaimonistic model which focuses on acknowledging the capacity of people for continuous growth and creativity and the realisation of their fullest potential.

It has already been noted nearly all parents identified they had a holistic view of health while most parents indicated they were functioning at Smith’s role performance model. In this research role performance was of the utmost importance with the majority of parents evoking images of Smith’s role performance model.

Further support for this model is provided by two examples – one negative example of ‘role overload’, discussed earlier, which was a problem for the stressed mother who appeared to justify her family being situated at Smith’s role performance model because she was fixated on her role performance. In another example a separated mother agreed very strongly that she saw herself functioning in terms of this health model and justified her position, when asked at the end of the interview:

... I just think that role performance would suit me better. I really am into the physical, mental, emotional and social ... every part of it ... I don’t think that being flexible and adaptive is as important. I think that if everything balances physically and mentally and emotionally well you’re going to be an adaptable person anyway ... But I don’t think I’m reaching my highest potential ... I think there is a lot more I could do. I should go and do a St Johns ambulance first aid
course ... I know that ... so I’m not reaching my full potential but um in my limited experience I definitely have to say role performance ... it suits me best.

As well as Smith’s role performance model, Smith’s adaptive model is clearly apparent from the voices of some of the parent sets who address their appropriate adaption to their changing environment. Perhaps the separated mother who uses the word ‘adapt’ frequently when addressing hers and her daughter’s activities noted earlier, provides the best example of effective adaption in the face of change.

The last eudaimonistic model of Smith’s (1983) is also evident from the perceptions of two parent sets but appears very appropriate for one parent couple, especially in terms of ‘acknowledging the capacity of people for continuous growth and creativity’ which is part of reaching one’s fullest potential. This parent couple were keen to spend time with their children, to give their children self esteem and provide them with confidence, independence and stimulate them with new experiences. In the words of these parents who were presented with Smith’s (1983) four health models at the end of their interview, and seemed to feel more comfortable with their compatibility with Smith’s eudaimonistic model:

If you are looking at us to say which one we fitted then obviously the very end Model which seems to cover all the above ... but really that last one because, as you say, each one is a building block which starts from the basics and works upwards ... I guess our view is probably the one that covers all those things at some point ...

It also needs to be noted here that the overlapping parent health perceptions which occurred can also be likened to the overlapping of Smith’s health models. For example, the emphasis on both parent role performance and adaption and change can be equated with these particular parents overlapping Smith’s role performance and adaptive models while a further example of two parents operating differently in their health perspectives – one being focused on appropriate adaption for change and the other emphasising the importance of reaching one’s full potential – can also create the overlap of Smith’s adaptive and eudaimonistic models.
6.5.3 The Multi-Dimensional Nature of Child Health Behaviour

Categorical Connections

Just as categorical connections with the three main sub themes for ‘The Nature of Health’ have been addressed there is a need to identify categorical linkage for the secondary theme ‘The Multi-Dimensional Nature of Child Health Behaviour’ also present in Figure 6.1. This theme is about the tedious, repetitive mixture of child health and child rearing behaviours that parents perform over long periods of time making ‘child health’ complex and confusing for parents when they are asked to talk about it. The category Parental Strategies (PS) emerges as important here as parents need to develop a strategy like routine which helps children and parents organise their world. Nevertheless other strategies are also important such as encouragement and rewards to help parents in their Teaching of Parental Values (TPV), which is another important category. As well, in the midst of the complexities associated with this multi-dimensional concept of ‘child health’ parents have to develop their child’s health values, hence the connection with the Familial Influences (FI), category.

Child and Health Behaviours Integrated with other Child Rearing Behaviours

All parents were adamant that it was impossible to separate out health behaviours you undertake for your child everyday from other kinds of family behaviours. That health behaviours were not discrete or separate in nature was evidenced by:

No, I don’t think health’s separate … no, I think it’s sort of all combined, it’s just a part of life, no … you make sure that everybody’s healthy with everything else that you are doing as well.

Discipline and health behaviours go together because you don’t sort of have this chunk ‘oh well I’m going to have this chunk of discipline, that chunk if for something else, you know ’… it’s all meshed in.

These first two definitions were general and very similar because they agreed wholeheartedly that health was not separated out but very much part of our everyday life and related behaviours, whereas the next definition was more specific:

I think it’s the whole life style thing … health and well-being and as we’ve talked about before we tend to interrelate health and well-being and I don’t think it’s all interrelated...as I said to you before it’s circumstances, things that happen at the time, it’s how we teach our children and then it’s by example by
everything and I think that’s just all interrelated ... we have a view of the world and a view of health and I guess your view of the world affects your children ... health is a part of that ... but it’s only a part, I suspect and it’s really that we want to encourage the children to be independent, question things, be confident to take a view on things and make decisions, understand...they are the key issues for us, I believe.

Child health is ‘a life style thing’ and is ‘meshed’ in with other behaviours which makes it very complex, continuous and difficult for parents, hence the multi-disciplinary nature of child health. As a result parental strategies are needed to assist parents to work towards developing child health values.

**Parental Strategies Important for Developing Child Health Values and Behaviours**

Parents used a variety of strategies to motivate their preschool aged children to undertake health activities and other related activities for the purpose of developing values in their child. An example of strategies to assist motivation, in this case, that of ‘game playing’ is illustrated here:

I’ve got a toilet roll stand near the toilet and, if she’s gone to the toilet, she’ll tell me if that’s empty. She’ll actually stack all the toilet rolls and I’ll get her to count them ... and she loves it ... it’s a game ... it’s motivation to teach her to count to make sure that if there’s no toilet rolls there she’ll see that ... so will I next time I go in there but sometimes I might be in a bit of a hurry and I forget.

The most popular strategy, that of ‘routine,’ was important to many parents, for example:

Routine again being bath time is ‘you bath yourself ... this is bath time ... you are welcome to play in the bath but you wash yourself, you get out of the bath, you dry yourself and you dress yourself and you ... don’t come out here until all that’s done’ ... and she knows that now and she comes out maybe carrying a sock or a hairbrush.

There were also a multitude of other strategies identified by parents such as quiet time, warm environment, education (talking to children beyond their years, encouraging them to express themselves, talking honestly, answering questions immediately, reasoning and questioning), rewards, role modelling, time out, rules, eating behaviours, no eye contact, game playing, real life situations, rephrasing requests and doing jobs. The following examples are related to rewards: “... we have an incentive chart ... we have rewards, treat type things where she’s done the right thing and she can ask for a treat ...” and also reasoning:
I don't want to go to my room. Okay what have you done? He's telling you he's done something before you even found it out. So I don't think that gives us any control over them ... it just makes them aware that certain behaviour is not acceptable and they have to go to bed early and consider the options. When they were younger they'd get smacked, but as they get older you are able to reason with them.

These strategies that parents identified they used helped them to develop the values they considered were important for their children to learn. Parent listed the values that they wanted children to develop as being such things as confidence and self esteem, discipline, life skills, life style values, independence, respect, assertiveness, and responsibility. One value example that parents wanted their children to achieve was confidence:

“... and they just slept over so we could have a ... we went out somewhere and these friends said 'look ... you may as well sleep the night and we'll take care of them ...' The kids were happy when we went to pick them up ... and they didn't want to go home! I think that's a healthy thing ... we feel good about it because we feel that our children are confident to do that ...”

Importance of Routine

Differences emerged between parents who were either for or against routine. At least half the parents favoured and were committed to routine. Out of those parents it was suggested that routine could include rules for the children in order for the children to conform and develop values like responsibility and independence:

I think routine's very important and I think it's important for them to develop their independence and also to develop their own ... I suppose their own little personality and their own self esteem and their own ... you know she is proud of the fact that she can put on her own shoes and do up her own shoe laces and get herself completely dressed.

Routine also assisted with discipline and had organisational features. For example, one family gave the example of what they do on days of the week: “Today’s Monday, that's the first day of school, we have to get ready for school now.” Another family also stated:

Routine. They do have a routine. I find a routine for children very important for them otherwise they don't know whether they're coming or going and it's important for me because with three children I need to do the ironing when he's in bed because he wants to play with the cord. That type of thing.
It was also interesting to note that the interviewer was able to gauge through observation or further questioning that most parents demonstrated some consistency in commitment to a particular health behaviour. To illustrate this point, a parent’s child became upset on the night of her interview because the parent decided not to clean her child’s teeth due to time pressures:

We’re very big on … did you hear her? I forgot to brush the teeth so I put her into bed tonight and she said ‘Mummy, we didn’t brush my teeth’ and I said ‘oh, never mind darling we won’t worry about it tonight.’ And she said ‘I don’t want my teeth to fall out’ in a wailing and crying voice. ‘Darling, I don’t think they’re going to fall out in one night … it’s okay.’

For some parents routine was seen as being relaxed and flexible. There were four parent interviewees, however, who considered that the routine should be more relaxed and flexible. For example, its use should be limited to certain time periods in the day. In the case in question, night time is addressed:

… we have an unstructured routine … again I’m not rigid … some kids need routine … they just don’t function for some reason without it, whereas other kids are quite comfortable so long as they know what their boundaries are … it depends. At night routine sometimes helps kids … my kids sort of know dinner then bath time … then after dinner they have a bath … after bath time it’s either really quiet play reading books … often it’s reading books.

Some parents claimed that whereas a flexible environment would produce an independent child, the reverse was the case if parents had an over emphasis on the use of routine:

Again I’m saying to you I believe that it comes down to the individual and my parenting style is not to put my kids into a strict routine. I always … even as babies, they slept when they were tired … they were awake when they were awake … it didn’t always suit me but I wasn’t going to say ‘my child’s going to sleep from 8 ‘til 12 because that’s when I want that child to sleep.’ To me, to make your child healthy and responsible and self confident you’ve got to go with that child because each child is different and they’re unique … no two children are alike.

A further point of interest was raised when parent discussion turned to the routine breaking down with an ill child. Three parent couples who had sick children discussed this question and noted that they undertook specific child behaviours and not everyday behaviours, for example, getting the humidifier ready and calling their child into the house before it got cold, in direct contrast to the routine and its emphasis on health behaviours and other behaviours. The routine, which was associated with routine health
behaviours that were done for well children and were carried out in a rote way, was non-existent with a sick child because they noted that they were constantly ministering to and focussing their thoughts and efforts on that sick child. One mother responded by saying that she set aside time to think about her sick children’s problems but, she indicated: “You don’t think about everyday health for your kids.” This is reinforced by another mother’s opinion:

It all flows in from one to the other, doesn’t it? ... Make sure he’s dressed properly and make sure he’s fed properly and ... to me it’s just ‘routine’... I don’t stop and think about it ... like ... is this healthy or is this not ... it’s just ‘here’s your food – eat it! If you don’t like it – don’t! Fine, but don’t get anything else.’

The Nature of Health Behaviours

Just as there were different opinions about the importance of routine there were also differences between couples themselves as well as the parent sets interviewed about the importance of health behaviours. Firstly families had varied views on this, ranging from hygiene, emotional health, fitness, feeding, social interaction even through to education. For example, in one family the mother emphasised emotional health whilst the father stated that hygiene was the most important health behaviour: “Honestly I think emotional health ... I would think happiness and emotional well-being is really important. I don’t know that I’d place it as more important than physical well-being and hygiene but I certainly ...”

Some parents had also noted that there were health behaviours such as nutrition, discipline and stimulation that would be considered on a higher level and of more importance than that of teeth cleaning behaviour. Disagreement seemed to surround teeth cleaning in terms of its importance. Two families interviewed considered that teeth cleaning was something you hardly needed to mention because it was unimportant. One family demonstrated that they didn’t worry about teeth cleaning and even had a large lolly jar being consumed on the table. A further example of the status of teeth cleaning was provided:

Oh yeah ... the kids brush their teeth but I’ve never looked at it as a routine...it’s just a lifestyle thing ... It’s something that you do ... you don’t need motivation for it. I think you need motivation for explicit things ... I don’t even think about health care as an issue but I suppose it is part ... but it’s not a critical part in that my kids brush their teeth.
It appeared that in this case teeth cleaning was such a simple, habit forming and rote behaviour but that this was only the case if ones’ child was able to internalise and enact teeth cleaning behaviour. Yet other families had suggested that it was an important health behaviour such as V who considered that it was an important part of her daughter’s health routine: “In the morning … She eats cereal … Make sure she brushes her teeth, combed her hair … then basically make sure she’s bathed and fed and her teeth cleaned again and goes to bed …”

In conclusion the multi-dimensional nature of child health behaviour has been addressed and the various strategies that parents can use to assist the development of child health values. Although the strategy of routine is noted as being important by many parents there are still variations here in the degree of importance of routine for some families. This appears to be consistent with individual preference as does what health behaviours are considered more important by some parents than others.

6.5.4 The Inter-generational Theme

Categorical Connections

The categorical linkage for the secondary theme ‘The Inter-generational Theme’ which identified that the health behaviours and ideas were being transmitted from one generation to another, has, once again, got a strong connection with the category Familial Influences (FI). As the health values and beliefs of one generation of parents (primarily mothers) were transmitted to the current parental generation this category, which involved health values, was prominent. However, although Parental Strategies (PS) and the Teaching of Parental Values (TPV) would be influenced to an extent by current trends and child rearing fads this research did show that they were both influenced by their transmission from one generation to the other.

Generally this theme was supported in this research though with more commitment from some women than others. For example, some women were very aware of it and could articulate it immediately. With respect to hygiene the following quote illustrates this Inter-generational Theme:

How I was bought up (Husband also agrees). A few years ago I would have ... have hated to have said (that). I’m a bigger body than my mother ... but, I’m
starting to do things exactly (emphasised) like she did ... exactly. I don’t know whether it’s because I can see ‘well it worked for us, why shouldn’t it work for our daughter?’

Other women have to search through their experiences to try and make sense of ‘The Inter-generational Theme’:

Oh she does that now ... when she takes her clothes off she puts them in the dirty clothes basket for me and she tidies up her toys. Obviously I must have been taught too to tidy up my toys ... I suppose a lot of it is unconsciously done and I don’t sort of realise where it comes from. It must come from somewhere, I assume, well I suppose it comes from the way I was brought up ...

Altogether the majority of parents identified with ‘The Inter-generational Theme.’ In this research a few women did not perceive that they had learnt anything from their mothers while another small group of women had not grown up with their mothers. All the men in this study were influenced by their mothers in health related matters – their mothers had undertaken their health management as a child. They were often influenced by their own upbringing in terms of what they did for their child. For example, in some cases the fathers had been influenced by their parent’s love of sport and wanted their children to have the same opportunities. A good example of this was presented by this father:

... I think it’s important to get the kids out doing things like my parents did with us ... Like ... I’ve recently just taken fishing up since Christmas, and every chance we get we go out doing the fishing and we go to the caravan park, take the kids’ bikes and ride around the caravan park and all that sort of thing ...

There was reasonable support for the transmission of child health management ideas and behaviours from one generation to the other, especially in the case of the mother’s contribution. It was interesting to note the strong following of male parents for the influence of their mothers in relation to the health behaviours they themselves were undertaking for their children.

6.6 DISCUSSION

6.6.1 The Nature of Health

The researcher has provided an explanation in the research results as to how the main sub themes were associated with the major theme ‘The Nature of Health’ and in what way these sub themes were connected with the interpretive categories of Parental Strategies
(PS), Teaching Parental Values (TPV) and Familial Influences (FI). It was determined that because the interpretive categories were generated from the descriptive categories and arose out of these that it would be appropriate to make connections with the interpretive categories. However, in the case of the sub theme ‘Holistic Health,’ connections were also obvious to ‘Who/What Influences Parents’ Health Ideas’ which was part of the original category Patterns of Behaviour (PB). Category development and its association with the themes and sub themes is interesting and it needs to be commented on that the category that is the prominent one in most cases is Familial Influences (FI). Health values, knowledge and hereditary/genetics are part of this category with the influence of the important ‘health values’ being more strongly supported – they are very influential in regard to the health concepts of parents and the health behaviours they undertake for their children.

Holistic Health

Identification with Smith’s Health Models

This study showed that its parent sets identified with holistic health and regarded health components as being physical, emotional and even social. Smith’s (1983) first clinical model, in which parents had no signs of physiological diseases, does not appear to be reflected in this research. Although most parents did not have physiological problems this did not appear to be relevant for this parent sample. Even though there were two parents who had physiological problems they regarded themselves as ‘healthy.’ In the case of one parent she was fixated on her parental role and her ability to perform her multiple parent roles. The other parent did talk about being in control of herself which could have been related to her physiological condition but this did appear to be outweighed by the notion of adaption and change for her. All parents could be placed within Smith’s higher models of either role performance which had an emphasis on emotional health, or either adaption to change or that of reaching their highest health potential. The majority of parents who fell within the parental role performance sub theme also identified with Smith’s role performance model while there were also some parents who placed themselves within the parental focus of adaption to change sub theme, in line with Smith’s adaption model. Moreover there were two overlapping sub themes ‘Parents Demonstrating an Adaptive Capacity and a strong Role Performance Focus’ and ‘Parents who Focus on Adapting to Change and Reaching their full Health Potential’
which were not compatible with Smith’s health models. Although only a very few families were involved in them this indicated that Smith’s health models did not reflect this sample exactly. Nevertheless in that Smith’s health models lead on to become more totally ‘health’ oriented, in line with one’s health developing a greater health potential, it could be expected that families would not necessarily be situated within a particular model but may be in the process of reaching that model – thus providing an explanation for overlap.

**Lower Level of Parental Health Functioning**

One needs to ask why more parents did not consider they were functioning at a higher health model. Why parents were functioning at a certain health model appeared to be influenced by their past experiences as well as what was important and challenging for them at the time. That most parents perceived they were focused on performance of their roles, emotional health and adaption to change is quite justifiable in the young Australian family context. Performing all the important roles is becoming increasingly difficult for families, especially those who find both parents need to work; tension is an important part of their lives and needs to be controlled, hence the need to embrace emotional health; and change is occurring for many families at a rapid rate in the late 90s and continues relentlessly. Whilst this research showed that some ‘rare’ families were able to rise above these pressures and some how perform at the highest health model, the majority of families were engrossed with performing health at the lower Smith’s role performance model, because many of them perceived they were overcoming certain challenges to their health before they could perform at the capacity of a higher health model. This does suggest that families with young children may need information and assistance, perhaps in the form of counselling, to help them prioritise their lives, especially in terms of their role commitments.

**The Relationship of Parental health Behaviours to Holistic Health**

Although parents held a holistic health perspective the ‘emotional’ health behaviours parents stated they undertook for their child were not very often associated with health. It appears that although parents are operating in a holistic health mode they did not fully identify with it when they undertook health behaviours for their child – in fact only a few parents were able to articulate that the emotional health behaviours they undertook were
associated with health. Perhaps this is to do with the complexities that surround child health behaviour and the associated child rearing behaviours. It also gets back to a difficulty for parents in conceptualising what health and health behaviours are.

Parents Wanting Better Health for Their Children

Other aspects associated with the sub theme ‘Holistic Health’ also need to be addressed. The first issue is that parents wanted better health for their children than they had. Perhaps parents wanted more positive health experiences because of their past experiences, and as well, their health expectations for children were greater now. Nevertheless a number of mothers interviewed were not satisfied with their levels of health as a result of their childhood experiences – they would have liked to have been more active and energetic and to have had more opportunities to try new experiences. Perhaps this is a reflection on the last generation’s upbringing of girls and, as a result, the desire of these mothers to provide more physical activity and learning opportunities for their children. This negative message obviously has implications for the parental health behaviours of the previous generation and perhaps provides a warning for future generations. Interestingly although the association of this finding with holistic health is related to categorical development there are parallels here with ‘The Inter-generational Theme’ in that the negative implications of parental behaviours of the last generation could well be a part of this theme.

Parents Being Healthy but not Fit

As well as the notion of parents wanting better health for their children than they had the issue of parents being healthy but not fit needs to be discussed. Parents were adamant that being able to run in the back yard with your child was ‘healthy’ behaviour, unlike that of being fit. Perhaps parents like those in this research, who have a well rounded, holistic concept of health will not be so concerned about physical activity. Certainly these parents were busy and did not have much time to exercise, as they said, but it does appear that physical activity was not the only consideration for them – emotional health aspects were also of importance. Nevertheless it is important to note here that the parents considered themselves very unfit and had health expectations for themselves which could have been perceived as being realistically too high and which were in dramatic contrast to the low health assessment they gave themselves. Perhaps this ‘fitness hype’, which many
parents perceived as being trendy and intrusive in their already busy lives, could somehow have distorted parents’ perception of their own health to the extent that they considered that they were functioning at a very low physical fitness level.

**Negativity towards the Environment**

Having addressed the issue of parents wanting to be healthy but not fit, a further issue of concern is the negativity that parents expressed towards the environment. Although the families in this research held a holistic health perspective there were only a small number that identified the environment as a stable, positive emotional environment. This usually referred to the home environment, not the outer environment. Perhaps the families’ lack of attention towards the emotional environment was because of the major problems like pollution that they identified. It did appear that families were negative and focused on an unhealthy, physical environment, particularly things like smoking and pollution, and that this was an overwhelming problem for them. Pollution is certainly a problem which needs more planning, monitoring and evaluation so that it can be better controlled.

A final issue that has been addressed and which is also associated with the environment is that of socio-economic differences which can also impact on parents’ health ideas. Although these differences were not present in regard to the parents’ holistic nature of health there did appear to be socio-economic differences in child health behaviours – less sleep, poorer teeth cleaning, more accidents and poorer diet – for one lower socio-economic, Mt Druitt family when this family was compared to a higher socio-economic, Baulkham Hills family. However, these poorer quality child health behaviours could not be substantiated for the two different socio-economic regions when other families were considered. Not withstanding this, on the basis of additional information gathered from some interviews and discounting the two interview comparison, it was found that some Mt Druitt families had poorer quality diets, unlike those families in Baulkham Hills who generally appeared to be conscious and concerned about family dietary habits. On this

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4 The researcher noted in 5.2.10 that in this study it was through purposive theoretical sampling and the use of techniques encouraging theoretical sensitivity, that open coding was established and thus developed the building blocks of the new theory. On this basis the claim that some Mt Druitt families had poorer diets than Baulkham Hills families had some validity because it was supported by interview evidence.
basis the dietary habits of Mt Druitt families of preschool aged children need to be monitored with a view to establishing healthy eating programs.

**Commitment to a Wellness Orientation**

In this study there were some families who appeared more committed to health promotion than illness prevention because they had a more ‘positive’ health focus in terms of educating their children about health. There were some inconsistencies that occurred between the minimal health promotion family advocates obtained through asking about ‘prevention’ and those few educationally committed families obtained through assessment of the interview material. It may be that confusion over definitional terms as well as their own interpretation of the researcher’s meaning of ‘prevention’ and its association with health, may have caused these inconsistencies. However, it was obvious that when asked about prevention these families were more inclined to identify more positive, educational things rather than referring to illness and its avoidance, unlike the majority of families.

Moreover these few families also perceived they were functioning in terms of Smith’s higher health models, were using health promotion strategies – providing children with reasons for wanting to do things; being effective role models so as to teach children about a healthy life style; suggesting that children should be taught in real life situations; teaching children “life skills” to handle things like boredom and road safety and seeking out child health information from health journals – in their wellness orientation and their commitment to healthy living.

The few families who were identified as functioning as ardent health promotion advocates and aspiring to a wellness life style corresponds with the very minimal family representation for Smith’s highest, eudaimonistic health model. In the light of ‘Health for All by the year 2000’ and beyond, and Australia’s commitment to health promotion, concern is expressed that more families with preschool aged children are not involved in a positive health perspective and are committed to health promotion, rather than still being focused on avoiding illness.
6.6.2 The Multi-Dimensional Nature of Child Health Behaviour

The Complexity of Health for Parents

It has been acknowledged that although parents did not appear to have any problems in identifying the health behaviours they undertook for their children such as sleep, exercise, feeding and cleaning/bathing, they do have difficulty with the definition, the complex nature and acknowledging the ‘broadness’ of health. Some reasons given for this are the long hours in the day devoted to repetitive and physical health behaviours like washing hands after toileting, the overlapping child health behaviour and child rearing activities, keeping a mental record of what ones’ child is eating, how much they are sleeping and how much exercise they are getting – all this could impact on parent’s perceptions of their health behaviours they undertake.

Implications for Matching Parenting Styles to Parental Strategies

Just how parents use routine appears to be an interesting point in this research. The data has identified that parents are all individuals and so, what works for one does not necessarily work for the other, as has already been illustrated. Some parents use routine a great deal in their family rearing and have been identified as being rigid or having a rigid or authoritarian parenting style whilst other are considered flexible and have a relaxed, democratic parenting styles according to data gathered in this research.

This research has implications for testing in regard to matching parenting styles with parental strategies. For example if parents have authoritarian parenting styles they will need to use routine as a parenting strategy whereas parents with a democratic parenting style will use a combination of parenting strategies of their choice and a minimal amount of routine. Finally it should be noted here that investigating such aspects as parenting styles, child abuse and neglect lie beyond the scope of this thesis.

6.6.3 The Inter-generational Theme

Although some mothers were unhappy with some health-related aspects their mothers undertook for their family many mothers in the study stated they were doing health related things for their children that their mothers did, although they were probably doing some things that they wanted to do differently to their mothers as well.
It appears from this research that mothers take the things they perceive are good from their mother’s health behaviours and discard the ones they don’t want and which may be associated with changing trends that are not popular in their generation. Although the important factor in ‘The Inter-generational Theme’ is the health behaviour transmission aspect across generations, other factors also making an impact here are the changing knowledge base and the changing trends – changing in association with new health research and knowledge. This means that what occurred in the old generation in terms of child rearing behaviours may be perceived as having negative influences by the new generation. This can explain parents wanting better health for their children than they had when they look at the many opportunities that are available to children today and to which they had no access. It also raises the issue as to whether these parents who have had negative child rearing experiences will pass on their interest to their children to maintain better life style and exercise options in turn, for their future children.

6.7 IMPLICATIONS OF THEMES FOR HEALTH PROFESSIONALS

Firstly the research suggests that the definition of health that parents hold, although limited, is holistic, acknowledging the importance of both physical and emotional health for themselves as well as for their child. Nevertheless most parents don’t see themselves as achieving their full potential in health related activities although some consider that they want this for their children. There may be implications for health professionals here to be more active in encouraging/promoting regular aerobic sports as well as other creative leisure activities for parents as healthy parental life style patterns need to be established to promote healthy living.

This research shows that parents do not have a clear concept of health and illness but think of these two terms as synonymous. The boundaries of health and illness are blurred and come together, almost intercepting each other on many occasions. Furthermore there was one parent who had no knowledge of health education or health promotion. Whilst this may be the way some parents perceive health they may need further education about health and what keeping healthy means.
Although parents seemed to understand what prevention means, for example “getting in early” and “avoiding” and even being “better than cure,” they don’t usually address this topic or the environment in a positive, enthusiastic way. Perhaps more can be done to educate parents on the positive nature of health and the benefits of prevention, certainly in terms of our environment.

By far the major concern emanating from this research is that only a small group of families appeared to be involved in attempting to promote health demonstrated by their commitment to educating and obtaining resources for their families. Apparently it was also these families who were aspiring to the higher Smith (1983) health Models. The involvement of community nursing health professionals is needed here to assist families with preschool aged children from both of these geographical areas in Western Sydney, Australia to more fully understand health promotion and be able to place it into their lifestyle.

All the parents in this study have an autonomous approach to seeking out the best treatment for their sick child. Parents believe they are the experts when it comes to making health-related decisions about their child. This is important information for health professionals who need to be sure they do not infringe the decision making rights of the parents.

As well the research suggests that if family routines are jeopardised by the presence of sickness then health behaviours, as well as other behaviours that parents initiate routinely for their children, may disappear or not even be commenced. ‘Chaotic’ families who tend to lack organisational strategies such as routine (Friedman, 1986) may well be in a similar position. In both kinds of households, the health behaviours of preschool age children may be haphazard or unpredictable. This suggestion needs to be tested further and health professionals such as nurses advised of the outcome so that they can plan approaches to address the health needs of young children in these types of families.

Further considerations for health professionals associated with the multi-dimensional nature of health behaviours are the complex aspects of assessment when a child is referred with health problems or behaviour problems. Because health behaviours are multi-dimensional constructs and not separate constructs the implications for the health
professional are that, instead of looking at a narrow range of behaviours, there is a need to reinforce the importance of examining the parent/s and child’s lifestyle thoroughly, especially focusing on all the parent/s behaviours towards the child.

Other possibilities have presented themselves also in terms of the multi-dimensional nature of health behaviours which are those of testing parental strategy models (briefly described in the discussion) associated with child rearing and which may assist health professionals.

Another interesting aspect to note in this research is that although parents from the two socio-economic areas – Mt Druitt and Baulkham Hills – had the same holistic concept of health, poorer health behaviours were supported for diet – in that children ate more lollies and drank more soft drinks and families ate more salty and fatty food – from Mt Druitt. This is of concern for health professionals like nurses and doctors who need to be aware and monitor these families, especially in terms of dietary intake. It was also stated earlier that Baulkham Hills families were more conscious and concerned about food preparation, dietary knowledge and habits than their Mt Druitt counterparts which indicates a need for educational programs about food, food preparation and dietary knowledge for families in this region. Of course health professionals also need to be able to identify those families living in poverty or ‘at risk’ of this so that they can assist with better nutrition.

Lastly this research seems to be confirming the importance of the Inter-generational transmission of values. Health behaviours that mothers considered important and undertook for their children, were transmitted from mother to daughter and son. In turn, the mother’s health behaviours were being perpetuated by the new parents with their children. In this context, and in the context of the changing nature of families and the increasing poverty and vulnerability of families with young children, it is debatable how successful maternal transmission of such values as health behaviour will be in the future in socially disadvantaged areas of Western Sydney. Health professionals need to work alongside these families and will have to develop special strategies to compensate for the interrupted transmission of health values.
6.8 RESULTS DIRECTING THE QUANTITATIVE STUDY

The three themes of this research were those of ‘The Nature of Health’, ‘The Multi-dimensional Nature of Child Health Behaviour’ and ‘The Inter-generational Theme’. ‘The Nature of Health’ is the more substantial theme on the basis of there being more results to report associated with parents’ notions of health and what they do for their child’s health. Nevertheless the complexities surrounding this research appear in relation to the interpretive category Parental Strategies (PS) (see Figure 6.1) which initially addresses health behaviours and related parental strategies but then leads onto parental strategies associated with child rearing as well as child health. In the parents’ words echoed from the second theme – ‘The Multi-dimensional Nature of Child Health Behaviour’ – child health is part of everything that parents do during the day. This makes it a very complex phenomena and difficult to tease out from child rearing.

However, the research questions that come out of Chapters 3 and 4 are the major focus of this thesis. These questions investigate the health of different kinds of families and whether such families use different kinds of health behaviours. The first major theme ‘The Nature of Health’ provides answers to these questions through the voices of parents, who address health differences for families, especially in terms of wellness health, health promotion and illness prevention. This section is used as the focus for the quantitative study.

In the qualitative study, in conjunction with its aims, the voices of fourteen parent sets have just revealed their perceptions about the health behaviours they undertake for their preschool aged children and they have also identified their concepts of health and the relationship between these and the health practices they undertake for their children.

It now is appropriate to refer to the voices of these parent child health ‘experts’ by identifying their views on child health behaviours and concepts such as illness prevention and health promotion. The authority of these parents about their families’ health and the health behaviours they initiate for their children will provide the framework for the quantitative study (study two) whose results will be addressed in the following Chapter 7. In Chapter 5 it has already been explained briefly how a way of measuring the health concepts of illness prevention, health promotion and wellness health, identified by parents
in the qualitative study, will be determined. Chapter 7 will provide an in depth approach as to how the measurement of health promotion, illness prevention and wellness health will be conceptualised, constructed and analysed in the questionnaire.
CHAPTER 7

METHODOLOGY CONSIDERATIONS/QUANTITATIVE STUDY

At the end of the last Chapter (6.4) a case was made for primarily adopting the results theme ‘The Nature of Health’ from the qualitative study to use as the significant underpinning structure for construction of a questionnaire which forms the quantitative study (Study two). The three themes – ‘The Nature of Health’ about the different health concepts different parents hold and the kind of the health behaviours they undertake for their children, ‘The Multi-dimensional Nature of Child Health’ which addresses the complexity of child health behaviours and the difficulty parents have in separating them out from other kinds of family behaviours and ‘The Inter-generational Theme’ about parents being influenced by their mothers’ health behaviours – all make their own contribution. However, the researcher has argued that ‘The Nature of Health’ is the important theme underlying the thesis and pertinent to the research questions.

It needs to be stated here that parents’ relevant perspective on health which comes out through the theme ‘The Nature of Health’, in line with the researcher’s methodological approach described in Chapter 5, is considered of major importance in informing the quantitative study. In fact these results act as a bridge or a link to the qualitative study which will be addressed in this Chapter.

7.1 CONTRIBUTION OF THE QUALITATIVE STUDY

That these thematic results are important because of their ability to inform and link with the quantitative study should not detract from their contribution in their own right. The qualitative study makes an important contribution to child health because, informed by respondents and therefore sensitive towards the respondents’ position, it accurately reflects the perceptions of parents of preschool aged children about their children’s health and what they do for their child’s health. In fact this study is unusual as it gives expression to parents’ voices and the special contribution they make on the basis that their involvement is believed to be of great value which, in the writer’s experience, is rare for
child health questionnaires. In one method questionnaire research, the voices of parents undertaking questionnaire research about what aspects should be included are more than likely excluded. A further contribution of this study is related to ‘knowledge’ and includes two kinds – the special ‘knowledge’ that parents have is important here as parents provide their own perspective and ‘tell it how it is’ as well as that knowledge that can be identified as coming from literature ‘experts.’ An example that can be used to illustrate parental knowledge is associated with parents and their commitment to decision making:

In our family it’s very different ... W is very involved in everything and more often, anything major I discuss ... I don’t want to make some of these decisions on my own. I want it to be debated between us a bit if that’s the case or if we both agree then it’s an easy decision but obviously if W said to me he was not comfortable with something well we wouldn’t go ahead and do it ...

A major literature contribution by Smith’s (1983) models of health occurs on examination of the data from the theme ‘The Nature of Health’. The concepts identified from parents’ responses appear to parallel three of Smith’s four health models, according to section 6.5.2. As well as the importance of this ‘knowledge’ contribution and the special nature of this research in emphasising the respondents’ perspective, this qualitative study transforms current minimal child health behaviour knowledge through its rich, anecdotal research evidence provided in this example, by parents talking about the kind of home environment they provide for their children:

It’s an environment thing ... giving them an environment that they feel loved in, that they feel this is their home ... It’s a bit of a haven for them ... I think what stimulates good health is that they have some self esteem, that they are comfortable in their own environment.

As health is a very important area which needs further research, especially by nurses (Phillips, 1990), this research is invaluable, especially in the child health area. From the interview data it is possible to identify families with preschool aged children who practice prevention concepts (health associated with preventing illness) rather than being more actively involved in seeking out resources and educating their family on health aspects, in line with health promotion. An example in support of the families identifying more with concepts of illness prevention is supported by one parent couple who stated that prevention meant ‘planning ahead’:
... if you plan ahead, what you are going to do and everything ... it all works out all right. Yeah ... As far as health goes ... Um I think there's a lot you can do to stop yourself, like stop the kids anyway from getting sick. You know ... prevention, you dress them warm, you make sure their rooms and beds are warm and um ... yeah, that's about it. Yeah, that's prevention ...

Another parent couple mostly described prevention from an educative point of view and were more focused on health promotion:

... educate them properly to prevent problems You start them on the right track...you start them on a healthy life style ... you educate them early then they've got a better chance of avoiding smoking, alcohol and drug problems ... prevention is being a good role model for your children. You need to set a good example by not drinking and smoking at home. You also need to talk honestly to your children and when they ask questions answer them straight away ...

For all the reasons that have been stated this research makes a significant contribution to child health but special mention should be given to the especially valuable insights of the respondents in informing this questionnaire.

7.2 RATIONALE FOR UNDERTAKING A QUANTITATIVE STUDY

That the rich interview data (the emergent theory) from parent voices be used to develop a questionnaire has already been provided as a rationale in Chapter 5. Further reason was provided by the researcher's interest in understanding family health behaviours as well as the renewed interest in health and health promotion and this provided the impetus for measuring health and health related behaviours that parents undertake for their preschool aged children through the development of a questionnaire. That it would be possible to measure health and the health behaviours that families initiate for their preschool aged children, validated by the rich parent data from Study one, would mean appropriate and reliable understanding about these health concepts and any health concept differences between different kinds of families.

As well as the importance of measuring health concepts for families with preschool aged children a further reason for undertaking a quantitative study is that the technique of method triangulation will improve the credibility of the qualitative study (Lincoln and Guba, 1985). In addition validity is an important reason for the use of a qualitative study approach to inform the quantitative study. The fact that the qualitative study enabled
parental child health 'experts' to construct their own reality about their health and the health behaviours they undertook for their preschool aged children, was the basis for the development of a questionnaire and is supportive of its validity (Polit and Hungler, 1993).

This Chapter will address the quantitative study: its aims, sampling and procedure, questionnaire construction, the development of health domains and their clusters, the piloting of the questionnaire, and the analysis and the description of the sample. Firstly the aims of the quantitative study need to be stated after a brief discussion of further development of the Revised Health Belief Model.

7.2.1 Further Development of the Revised Health Belief Model

The reader will recall that the researcher had decided to measure locus of control and behavioural intention in this study prior to undertaking research on the Revised Health Belief Model (section 4.3.6). The two constructs – locus of control and behavioural intention – were to be an important part of the Revised Health Belief Model which would reflect the likelihood of young families taking health promoting action. On this basis they needed to be trialed in research which reflected the health of young families with different socio-economic backgrounds. The research outcomes of this present study would then be significant for future research development on the Revised Health Belief Model. For example, if there were differences in the initiation of health promoting behaviours for families with different socio-economic backgrounds then further research addressing the three components of the model – parental perceptions, especially in the area of control of environmental factors, economics, competence and time management; modifying factors such as demographic, socio-psychological and structural factors impacting on health and cues to action; and the likelihood of health promoting action – would need to be undertaken.

Above all locus of control was considered a very important construct especially for young families who had some interest in their families' health. Within the present study the reader will see that control for parents over their child's health was measured by using three of the Parental Health Locus of Control scales (PHLOC) (De Vellis et al. 1993) (section 7.6) which were parental influence on child health, health professionals influence on child health and media influence on child health. As there was also a need to
measure the predictive capacity of behavioural intention determined in this study the Perceived Health Competence Scale (PHCS) (Shelton Smith, Wallston, & Smith, 1995) was also chosen as an appropriate measure to adopt. The PHCS claimed to predict behavioural intention as well as relevant behaviours on the basis of its use of efficacy/competence-related constructs.

Although health competence or health self-efficacy was not considered as appropriate a construct for influencing young family health as locus of control, in this study it was determined that the PHCS would be used because not only was it appropriate for the prediction of behavioural intent, it was also important for determining health ‘value’. As will be addressed later, question 35 in the Health Behaviour Questionnaire for Parents about the importance of health goals was about measuring parental health values. However this question was not included because of the concerns about parental answers being socially desirable. The implications of this were that using the PHCS would also be appropriate for solving the social desirability problem.

So the PHCS provided an important contribution in predicting intention and measuring the value of health which were both important in this research. Nevertheless it should be noted that Shelton Smith et al. (1993) were unable to correlate health competence beliefs with internal locus of control beliefs, suggesting that they were quite different concepts. Caution needs to be taken when interpreting these two constructs – health locus of control and health competence – if parents score highly on health locus of control this does not mean to say their perceived health competence is high.

Another concern was that possible weaknesses might exist because parental health locus of control could work in isolation without behavioural intention, unlike in the Theory of Planned Behaviour (Ajzen, 1985) whereby perceived behavioural control and intention worked together. But unlike locus of control, specific scales like the PHLOC have improved the predictive value of locus of control for the performance of parental health behaviours (Allison, 1995).

Finally although it appeared the scales of these two constructs could not be compared it was interesting to have both constructs – parental health locus of control and health competence or health self efficacy – in the same study to determine both their effects for
the two populations of young families. Moreover this information would have implications for future research on Revised Health Belief Model.

7.3 RESEARCH AIMS FOR THE QUANTITATIVE STUDY

Research aims for the Quantitative Study were:

i. develop a measure of health promotion, illness prevention and wellness which would be grounded in parents’ perceptions of family health;

ii. explore the relationship of these measured concepts of health for families with preschool aged children to a range of demographic and family variables. What is the relationship between family characteristics and the families’ attitude to health and health behaviours? and

iii. examine the health beliefs of families from Western Sydney with preschool aged children and their intention to undertake health behaviours for their children.

At this point it is necessary to share the five hypotheses of interest that had been generated by the researcher prior to the conceptualisation of the research methodology for the two studies. Table 7.1 identifies the five original hypotheses and definitions of important, related terms are provided in Table 7.2.
Table 7.1
Examples of some Hypotheses to be examined in the Questionnaire

<table>
<thead>
<tr>
<th>Some Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Families of high socio-economic background in Western Sydney will perceive they are in control of their preschool children’s health and will be more likely to undertake health behaviours for these children than families of low socio-economic background who will perceive they are not in control of their preschool children’s health</td>
</tr>
<tr>
<td>2. Nuclear families living in Western Sydney will perceive they are in control of their preschool children’s health and will be more likely to undertake health behaviours for these children than single parent families who will perceive they are not in control of their preschool children’s health</td>
</tr>
<tr>
<td>3. Non-itinerant families living in Western Sydney will perceive they are in control of their preschool children’s health and will be more likely to undertake health behaviours for their children than itinerant families who will perceive they are not in control of their preschool children’s health</td>
</tr>
<tr>
<td>4. Families of high socio-economic background in Western Sydney will perceive they are in control of their preschool children’s health and will be more likely to have a more positive notion of health which equates with ‘wellness’ behaviour than families of lower socio-economic background who will perceive they are not in control of their children’s health and will be more likely to have a negatively oriented health approach.</td>
</tr>
<tr>
<td>5. Families of high socio-economic background in Western Sydney will have a more positive notion of health which equates with ‘wellness’ behaviour and will be more likely to promote health behaviours for their preschool children than families of low socio-economic background who will be more likely to undertake preventive health behaviours for their preschool children</td>
</tr>
</tbody>
</table>

Table 7.2
List of Definitions Related to Hypotheses

<table>
<thead>
<tr>
<th>Perceived Family Control of Child Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families who have control over resources (i.e. environment, economics, competence and skills) and time and which enable them to undertake health behaviours for their children</td>
</tr>
<tr>
<td>Health Promoting Behaviours</td>
</tr>
<tr>
<td>Health behaviours which emphasise ‘wellness’ behaviour such as exercise and special recreational activities</td>
</tr>
<tr>
<td>Preventive Health Behaviours</td>
</tr>
<tr>
<td>Health behaviours which primarily focus on preventing illness or disease such as immunisation and injury prevention activities</td>
</tr>
</tbody>
</table>

*N.B. For the purposes of this research the term Health Behaviours will include both Health Promoting Behaviour as well as Preventive Health Behaviour*
7.4 SAMPLING: SOURCES AND PROCEDURES

7.4.1 Sampling Frame

For the quantitative study an attempt was made to match the geographical areas in terms of the numbers of long day care centres and preschool/kindergartens sampled in Baulkham Hills and Mt Druitt. Although originally there were five long day care centres and two preschool/kindergartens chosen for sampling purposes in each area within Baulkham Hills the number of long day care centres had to be increased to seven because some of the directors would only take five questionnaires each.

Overall five long day care centres and two preschool/kindergartens were selected from Blacktown Local Government Area (LGA) of which Mt Druitt is a part and seven long day care centres and two preschool/kindergartens were selected from Baulkham Hills LGA, of which Baulkham Hills is a part.

A purposive sample of 75 volunteer parents was chosen from 5-7 long day care centres and 2 preschool/kindergartens (see Table 7.3) in each geographical area making a total of 150 parents from both areas. This provided an adequate sampling fraction of 0.06 on the basis of approximately 21 long day care centres and 20 preschool/kindergartens in total in the two areas (Burns & Grove, 1987; Nieswiadomy, 1987).

7.4.2 Sampling Comments

Sampling Strengths and Weaknesses

This sample needs to be evaluated within the stated aims of the research. As well as developing a measure of health promotion, illness prevention and wellness the purpose of this research was to explore parent’s health beliefs and their perceptions of the health behaviours they initiated for their preschool aged children. No previous research had done this so it was important to develop an understanding by exploratory means. The best way to do this was to go to the experts – the parents themselves – to ask them in interview (qualitative study one) and then validate what they had said by asking them in a questionnaire (quantitative study two). As long as ‘expert’ parents of preschool aged children, who were interested in this research, were involved in these projects this was the most important thing and purposive sampling was the key to this approach.
It was also necessary to obtain a convenience sample of interested, volunteer parents who would answer the 26 page questionnaire. So whilst a purposive rather than a random sample was collected, the sample also reflected diversity (see Chapter 5.2.4), represented an adequate sampling fraction for the geographic areas (Nieswiadomy, 1987) and was collected according to the particular population of parents with preschool aged children either attending preschool/kindergartens or long day care centres.

Sample Exclusions

Criteria concerned with exclusion from the quantitative sample needs to be discussed here. It has just been recalled that family diversity was considered a major consideration in this research – of which the quantitative sample is an important part. A mix of different families such as those who were nuclear, of ethnic origin, itinerant, single female partner families and those of different ages were included in both studies. All parents who volunteered were included in the sample except, as was the case for the qualitative sample, for those families of Non-English speaking background who were excluded because the cost of translating an extensive questionnaire into different languages would be prohibitive. Furthermore the length of the questionnaire, which would need reasonable command of English at 6th grade primary school level, was regarded as being problematic for people who had limited command of English.

7.4.3 Response Rate

The sample for the quantitative study consisted of 103 parents of preschool aged children living in two geographical areas of Western Sydney – both Baulkham Hills and Mt Druitt – who had expressed interest in taking part in a survey about the health behaviours parents undertake for their preschool aged children. It can be seen from Table 7.3 that 150 questionnaires were distributed to parents, of which 103 were returned giving a useable response rate of 68.6%.

7.4.4 Generalisation

This research never did intend to generalise to all parents of preschool aged children. The sample is not considered representative of all parents of preschool aged children, but, on the basis of the reported sample characteristics and their overall congruence with the 1991
and 1996 Census data (Australian Bureau of Statistics, 1991 and Australian Bureau of Statistics, 1996 respectively), it would not be unreasonable to assume that findings were likely to be generalisable to the population of parents with preschool aged children who are literate and interested in health behaviour and whose children attend preschools/kindergartens and long day care centres in Mt Druitt and Baulkham Hills in Western Sydney, Australia.

Table 7.3
Questionnaires Distributed and Returned by Child Care Centres for Baulkham Hills and Blacktown LGA

<table>
<thead>
<tr>
<th>Baulkham Hills LGA</th>
<th>Blacktown LGA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Given out</td>
<td>Returned</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Long day care centres</strong></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>30</td>
</tr>
<tr>
<td><strong>Preschools</strong></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>53</td>
</tr>
</tbody>
</table>

7.4.5 The Sample – Carers/Respondents and Centres by Geographical Area

The sample was drawn from the local government areas of Blacktown and Baulkham Hills depicted in Figure 7.1. 48.54% of the respondents were parent carers of preschool aged children from long day care centres and preschools/kindergartens living in Mt Druitt – predominantly, Emerton, Tregear and Rooty Hill – which is part of the Blacktown Local Government Area (LGA). The researcher was able to sample from three centres in Mt Druitt and four centres in Emerton which have the same postcode as Mt Druitt. The remaining 51.45% of respondents were carers of preschool aged children from long day care centres and preschools/kindergartens predominantly in Baulkham Hills (four centres) but also the carers of two centres from Castle Hill and one centre from Round Corner, West Pennant Hills and Carlingford respectively, all from within the Baulkham Hills LGA (Schooling, 1994).
The researcher's need to apply to Council for carers with their children in long day care centres would explain the increased numbers of children attending long day care centres in this research. Within the Mt Druitt sample there was an over-representation of long day care centres with 76% of carers' children attending five of these centres and only 24% of carers attending two preschools kindergartens. This can be seen in Table 7.4 as it can to a slightly less extent for Baulkham Hills in which there were 64.15% of carers' children going to seven long day care centres and 35.85% of carers' children attending two kindergartens/preschools.

Although the high proportion of carers with children in long day care were not originally intended in this sample, the involvement of carers of preschool children attending long day care was determined as being important when this project was initiated. For example, for the Mt Druitt area there were 14 long day care centres (4 council run, 5 community managed as well as 5 privately run) and 12 preschool kindergartens in the Children's Services Listing for Blacktown City Council (1994) and a reduced but equal proportion of
both these services for children in the Baulkham Hills area (Children’s Services Listing, date unknown).

Table 7.4
Percentage of All Carers with Preschoolers in Long Day Care and Preschool/Kindergarten Centres in Mt Druitt and Baulkham Hills

<table>
<thead>
<tr>
<th></th>
<th>Mt Druitt</th>
<th>Baulkham Hills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Day Care</td>
<td>76%</td>
<td>64.15%</td>
</tr>
<tr>
<td>Preschool/Kindergarten</td>
<td>24%</td>
<td>35.85%</td>
</tr>
</tbody>
</table>

7.4.6 All Carer Personal Characteristics

Interested parent carer respondents needed to be able to read and write English at least at 6th Grade Level to interpret the questionnaire and they needed to have at least one preschool aged child of 3½ years or more attending a Centre. Although the age of children’s carers involved in this research had previously been stated and argued for in Chapter five as four years in some cases slightly younger children were accepted because of a reduced number of four year olds in some centres. It was determined at the beginning of this research that parent respondents would be mothers of preschool aged children who would predominantly be undertaking most of the child care.

Carer Status

Ninety-five percent of the respondents indicated that they were the main carers but there were also 4.9% of respondents who filled in the questionnaire stating that they were not the main carers of their child. One of these questionnaires was filled in by a father and provided information that the mother was at home and not working. It is hard to make assumptions about why the mother did not fill out the questionnaire in this case – she may have been too busy, she may have not been able to read and write English to the appropriate level or it may have been that the father usually filled in these things for the family. Moreover there were three fathers who filled the questionnaire in whose wives were working. This seemed to suggest that with both parents working, jobs such as filling in questionnaires would be undertaken by whomever had the time. There was also one questionnaire which stated that both husband and wife regarded themselves as carers. In this case the husband was unemployed and the wife stayed at home.
Because of this case and the possibility that there may have been other carers with working partners who considered that as couples they contributed equally in the care of their child it was decided to include these 5 male carers and their filled in questionnaires with the other questionnaires. As one couple wrote ‘they contributed together’ and did not fully identify with the concept of ‘main carer.’ Also one could not rule out the possibility of consultation between parent couples. The five ‘male’ respondents may have consulted with their wives whilst filling in this questionnaire. Of these five respondents, only one parent stated that the Papanicolaou (Pap) test was not applicable which seems to suggest he was a male; while the other four questionnaires were filled in as if they had considered the other partner with regard to the question about the Pap test. Perhaps the wives had instructed the husbands here or the husbands had this knowledge and were responding for their wives or the wives had filled this section only in because they were not the main carers. In any case it is impossible to tell except by assumption and this may not be correct, as the sex of the respondent was not required in the questionnaire.

7.4.7 Procedure

Ethics Considerations and Application for Quantitative Study

Ethical approval for this quantitative study was granted by the University of Western Sydney, Nepean. The application was approved subject to extension of a question to obtain more information about the different kinds of families involved in this research. On this basis question one was modified by asking for the name of each family member, their relationship to the main carer and their age. The question example is provided here:

1. How many family members live with you? Please write the number in the space provided ............... people.

Now, in the three columns below please fill in the name of each person who lives with you, their relationship to you and their age. For example, Greg, husband, 33; Sally, sister-in-law, 27; and Harry, son, 4:

<table>
<thead>
<tr>
<th>MY FAMILY: Name</th>
<th>Relationship</th>
<th>Age</th>
</tr>
</thead>
</table>

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Within this study ethical considerations, especially matters about privacy were dealt with appropriately. The researcher’s introductory letter to parents called ‘Participant Information Sheet’ about the ‘Parent Health Behaviour Survey’, was attached to the questionnaire and given to the parent (see Appendix 3). This letter to the parents stressed: the voluntary nature of participation; that anonymity was guaranteed; the importance of their participation in a survey about what they do for their child’s health; that participation or non participation would not influence their child’s care given at the preschool/long day care centre; that a lottery ticket would be provided on return of the survey as a token of appreciation; and that the survey was easy to complete and required about one hour to do.

Contact with Directors

An introductory letter detailing the research project was sent to preschool/kindergartens and long day care centres (Appendix 4) that were known to the researcher. As has already been stated in section 5.2.1, the researcher had contact with these centres through running in-service seminar sessions and had approached them for access to possible interview participants prior to the qualitative study (Study one).

Another contact by ‘phone was made to each centre director approximately 2 weeks later to ensure that the criteria for sample selection and the recruitment of the sample was discussed, that directors were comfortable with giving out and collecting the questionnaires and that a meeting was set up to ensure distribution of the questionnaires and reiteration of the criteria.

It was also considered important to involve the ‘gate keeper’ directors because although the 26 page questionnaire needed participants who were interested they also needed to have an adequate reading level to answer the questions. It is argued and has been confirmed that directors had knowledge of parent literacy levels and which parents would be likely to fill in the questionnaire. In addition, the centre directors stated that they should be the ones to give the questionnaires out because not all children came on the same days and parents also came at unusual and unpredictable hours.

These criteria that were discussed during this telephone conversation and to which the director ‘gate keepers’ agreed to in handing out questionnaires were that the
questionnaires be given to the mothers who were the main caregiver in the family with children aged three and a half years and over and that this person be interested and at least able to read and write English to 6th grade primary school level.

During the next phase it can be seen from Table 7.5 that there were acceptances for involvement from two child care centres and one child care centre refusal from the Baulkham Hills postal code area while there were two child care centre involvement acceptances and no refusals from the Mt Druitt postal code area.

Table 7.5
Initial Number of Child Care Centres Agreeing and Refusing to be Involved in the Child Health Behaviour Research by Postcode

<table>
<thead>
<tr>
<th>Agreed</th>
<th>Refused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baulkham Hills</td>
<td>Mt Druitt</td>
</tr>
<tr>
<td>2 Long Day Care Centres</td>
<td>2 Long Day Care Centres</td>
</tr>
</tbody>
</table>

At this stage it became clear to the researcher that most of the centres would only take 10 questionnaires at maximum, so contact needed to be made with other centres. A further two centres – a child care centre and a preschool kindergarten from Mt Druitt and three preschool/kindergartens from Baulkham Hills also accepted involvement within the post code of each of these areas. Table 7.6 lists by post code all the child care centres that agreed to be involved.

Table 7.6
Number of Child Care Centres Agreeing to be involved in the Questionnaire by Postcode

<table>
<thead>
<tr>
<th>Baulkham Hills</th>
<th>Mt Druitt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Long Day Care Centres</td>
<td>2 Long Day Care Centres</td>
</tr>
<tr>
<td>3 Preschool/kindergartens</td>
<td>1 Child Care Centre</td>
</tr>
<tr>
<td></td>
<td>1 Preschool Kindergarten</td>
</tr>
</tbody>
</table>

Nevertheless it became obvious that in order to obtain sufficient parents access outside the postcodes themselves but within the Blacktown and Baulkham Hills LGAs was
needed for a sample of 75 parents in each demographic area. Application was made to the Blacktown City Council to obtain access to Council run and government subsidised centres which were all long day care facilities within the Blacktown and Baulkham Hills LGAs.

A meeting was held with the ‘gate keeper’ director of children’s services at Blacktown City Council and permission was given to access three council run long day care centres as well as obtaining permission to access four council run long day care services in Baulkham Hills. While the three centres in Blacktown took between 11-15 questionnaires each of those in Baulkham Hills agreed to take between 5-10 questionnaires and followed the same research procedure as the other initial centres.

7.4.8 Distribution of the Questionnaires

At separate meetings, arranged 1-2 weeks after the phone call to directors, the number of questionnaires nominated by the director ‘gate keepers’ were given to the directors. The researcher provided written evidence of ethics approval given by the University of Western Sydney for the quantitative study, reiterated the selection criteria that should be employed and made directors aware of the introductory letter to parents called ‘Participant Information Sheet’ about the ‘Parent Health Behaviour Survey’, previously addressed, which was attached to the questionnaire given to the parents.

7.4.9 Return of Questionnaire

After prior phone contact agreed on with all centres (in some cases centres had to be re-contacted because parents had not responded by the required date) the researcher arrived to collect the returned questionnaires.

7.5 THE PROCESS OF CONSTRUCTING THE HEALTH BEHAVIOUR QUESTIONNAIRE FOR PARENTS

Study two of this research refers to the development of a questionnaire on the basis of the themes that appear about health from the research results of Study one. In the complex and thorough process of questionnaire construction firstly questions were developed from
thematic material, then literature was consulted and related to the identified themes and finally a variable list was developed from interviews and the literature.

It will be recalled that at the beginning of this Chapter, as the theme ‘The Nature of Health’ was acknowledged as the most important and substantial theme to come from the Study one thematic results, it was determined that the questionnaire would primarily be constructed from this theme. In discussing the development of questions from the thematic material a good example was about the relationship between parent’s health concepts and the health practices they undertake for their children: ‘What things best describe the health related things you do for your preschool aged child during the day?’ This question would be followed by a list of physical and emotional health related things such things as toileting, hand washing, feeding, teeth cleaning, disciplining, respecting his/her feelings, exercising and putting down for a rest.

The second theme ‘The Multi-dimensional Nature of Child Health Behaviour’ was primarily about child health behaviours being part of everyday behaviours and the need for organisation of both these behaviours. Although the thematic data highlighted that there were degrees of ‘routine’ that helped some families organise their child and the health behaviours they undertook for it, there were limited questions developed for this theme because it was believed that child health behaviours and family behaviours were difficult to separate, not to mention child health behaviours and child rearing behaviours. These behaviours both featured in the interpretive category ‘parental strategies’ and for this reason it was considered that it would be difficult to develop questions on this complex theme. Nevertheless, having said this, health related material about how families undertake household tasks including child rearing activities, and child rearing material about children’s assistance with these tasks, whether children are given any autonomy in appropriate family decisions and how parents manage their child’s behaviour, needed to be included in the questions developed about this theme.

The third theme ‘The Inter-generational Theme’ was about the importance of mothers transmitting health behaviours from generation to generation. A question which asks: ‘What is an important source of your information about what to do for your preschool aged child’s health?’ asks the carer to rank in order of importance the following twelve sources which are: books, medical dictionary, women’s magazines, newspapers, my
mother, my father, doctor, baby health centre, chemist, from ones’ own experience, friends and health magazines.

As well as addressing question development the relating of the literature to the major theme ‘The Nature of Health’ is now addressed. Because the major theme had identified parent couples having different concepts of health, the way parents perceived their health performance was compared to Smith’s four models of health. Some parents managed to perform at the highest eudaimonistic model whilst the majority performed according to the role performance and adapting to change models. Smith’s eudaimonistic model – reaching ones highest potential – is very similar to that of a wellness orientation family in which the following family characteristics are deemed important – self responsibility for health; self motivation and commitment to a healthy life style and taking control of ones’ health (Ardell, 1977 and 1985; Bruhn, 1988; Kandzari & Howard, 1981). In the same way the concepts of health promotion and illness prevention which came out of the thematic material also needed to be compared with those health concepts in the associated health literature. Definitions of health promotion (Green, 1979; Sindall, 1992; Murray & Zentner, 1993) and illness prevention (Kulbok, cited in Murray & Zentner, 1993; Lawson, 1991), identified in the data, have been found to match those of the health literature (see section 2.1.1).

It needs to be stated here that the major focus is on the theme ‘The Nature of Health’ and its supporting literature although it is obvious that the other themes, for example, ‘The Inter-generational Theme’ is associated with the literature of Elder, Liker, and Cross, (1984) about the Inter-generational transmission of knowledge. In this particular theme the transmission of child health knowledge from the previous parent generation to the current parent generation is of interest and comes through strongly.

Having associated the major theme with the literature the last task was to relate both interview and literature material and develop a variable list from both of these mediums. All variables generated, except for the demographics group, were listed within the three themes although there were theme overlaps for some variables. The groups of variables which related to the theme ‘The Nature of Health’ were those of health, healthy environment, illness prevention, decision making, special things that parents do for children with chronic illness and health professionals that children visit. The theme ‘The
Multi-dimensional Nature of Child Health Behaviour’ involved child health behaviours, parental strategies, values and child rearing ideas, bearing in mind that especially the last two groups were not necessarily supported by child health but child rearing literature. The last theme ‘The Inter-generational Theme’ was associated with parents’ perceptions of their health related child rearing experiences. This material was then sorted into continuous and categorical data and an example of a small part of ‘The Nature of Health’ about family health and fitness is provided in Table 7.7.

**Table 7.7**
Examples from clustering variables for parental health behaviour questionnaire

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>NATURE OF VARIABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy family</td>
<td>Continuous (Ordinal)</td>
</tr>
<tr>
<td>Eats healthy food</td>
<td>(All, most, some &amp; none of the time)</td>
</tr>
<tr>
<td>Exercises</td>
<td></td>
</tr>
<tr>
<td>Is fit</td>
<td></td>
</tr>
<tr>
<td>Sleeps</td>
<td></td>
</tr>
<tr>
<td>Rests</td>
<td></td>
</tr>
<tr>
<td>Has no diseases</td>
<td></td>
</tr>
<tr>
<td>Is stress free</td>
<td></td>
</tr>
<tr>
<td>Feels good about themselves</td>
<td></td>
</tr>
<tr>
<td>Relaxes as a family</td>
<td></td>
</tr>
<tr>
<td>Has a good time</td>
<td></td>
</tr>
<tr>
<td>Family members make equal decisions</td>
<td></td>
</tr>
<tr>
<td>Gets motivated to start project as a family</td>
<td></td>
</tr>
<tr>
<td>Has routine health checks</td>
<td></td>
</tr>
<tr>
<td>Works together to get what they want</td>
<td></td>
</tr>
<tr>
<td>Uses different methods for problem solving</td>
<td></td>
</tr>
<tr>
<td>Learns how to do new things</td>
<td></td>
</tr>
<tr>
<td>Undertakes health related activities for the children</td>
<td></td>
</tr>
<tr>
<td>Look after young children</td>
<td></td>
</tr>
<tr>
<td>Goes to work</td>
<td></td>
</tr>
<tr>
<td>Goes out as a family</td>
<td></td>
</tr>
<tr>
<td>Is involved with other families in community activities</td>
<td></td>
</tr>
</tbody>
</table>
Table 7.7 (cont’d)

<table>
<thead>
<tr>
<th>A Fit Family</th>
<th>Continuous (Ordinal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goes to the Gym with children</td>
<td>(All, most, some &amp; none of the time)</td>
</tr>
<tr>
<td>Goes out walking with the children</td>
<td></td>
</tr>
<tr>
<td>Goes out on bike rides/bush walks with the children at weekends</td>
<td></td>
</tr>
<tr>
<td>Enjoys fitness and wants to share with the children</td>
<td></td>
</tr>
<tr>
<td>Takes part in ‘Little Athletics’</td>
<td></td>
</tr>
</tbody>
</table>

Following the development of a variable list all hypotheses – either existing ones from Table 7.1 or new ones – were rewritten as developing research questions and an example is provided in Table 7.8.

Table 7.8

Developing research questions and the variables that are associated with the parental health behaviour questionnaire

**PREVENTION**

- Parents are inclined to think about prevention in negative, illness oriented terms, rather than addressing its positive side.

- When parents are asked what prevention means to them in terms of their child’s health some provide a positive while others respond with a negative notion of health – getting ahead, planning, educating early and getting in early as opposed to trying to avoid getting sick, getting ill in order to get better, being alert and being aware.

- Parents will be unlikely to visit doctors for health checks unless they have discovered there is something wrong with their child such as the child not growing at an appropriate rate.

**VARIABLES**

1. Healthy families / Unhealthy families

2. Question 7: Understanding prevention

3. Question 13: Asking about health checks and determining if a health promotive approach is used.
7.5.1 Process for Rating Importance of Research Questions and their Variables

Material was gathered from three areas so that the process of rating could commence. The first area was that of the research questions and variables that were associated with the Parental Health Behaviour Questionnaire such as definitions of health (wellness, health promotion and illness prevention) and associated variables including unhealthy and healthy families and demographics. The second area from which material came was that of other research questions which had come about from the results of the first study. For example, a research question about the importance of the role that mothers play in the transmission of health behaviours from one generation to another. Another example of a research question was that sound health practices would be related to regular interaction between husband and wife; the families' regular performance in community activities and the role of flexibility and shared power they demonstrated together. Table 7.8 is also an example of this area. The third area of research questions were the original ones that the researcher had drawn up prior to Study one. For example, families of higher socio-economic status background in Western Sydney will perceive they are in control of environmental, financial, educational and time aspects associated with their preschool aged child's health and will be more likely to undertake health behaviours for their child than families of lower socio-economic background who will perceive they are not in control of their preschool aged child's health.

These 41 research questions in the early draft questionnaire and their associated variables were then rated from low value = 1 to high value = 5 so as to determine whether they would be included in the final questionnaire. Factors were taken into consideration in the rating process. They were firstly that rating importance should be given to ‘The Nature of Health’ Theme because it was the largest theme that emerged from Study one. Moreover this was reflected in the three areas of material just reviewed – they indicated that there were many more research questions and their variables about health and health behaviours like those identified in Table 7.8. So in the final questionnaire (see Appendix 6) there were many more questions about health and health behaviours than there were on child rearing although aspects of health behaviour and child rearing involved questions 16, 18, 19, 20 and 23 and particularly question 27 which contained five scenarios about strategies parents might use themselves and with the management of their preschool aged
child. Like question 27, questions 19 and 20 about how often parents undertook certain health behaviour activity with their children were relevant to the secondary theme ‘The Multi-dimensional Nature of Child Health Behaviour.’ Finally the secondary ‘Intergenerational Theme’ was represented by question 29 asking parents about the sources of their child health information/knowledge.

A second consideration in the rating process was that the questionnaire was about young family health and health behaviours, placing the emphasis on health. The third and final, important aspect was that the questionnaire had to be designed to measure the dimensions of wellness, health promotion and illness prevention and that these dimensions and their associated clusters needed to be accommodated.

On this basis the questions rated as most important were:

- rating what ‘being healthy’ means to you and your family,
- rating the importance of health behaviours you undertake for your child, and
- rating the assistance your child gives you with certain activities.

It was obvious that health was the most important concept that emerged from this rating process. Mostly parental data containing importantly rated ‘health’ variables from the qualitative study were used as a basis for the development of the health concepts – illness prevention, health promotion and wellness – identified through knowledge of the existing health literature. Furthermore questions based on the literature were sometimes used to explore parent’s health concepts. Such an example is exploring Smith’s Health Model with some families and their position towards that of self actualisation which equates with a family wellness orientation.

Variables were rated and sorted into health concepts or domains on the basis of whether they were compatible with measuring wellness, health promotion or illness prevention behaviour, and then they were incorporated into the questionnaire. In the following section the individual variables representing each cluster for the wellness, health promotion and illness prevention domains are outlined and can be referred to in Appendix 5. The reader will find it helpful to consult the questionnaire (Appendix 6). The coding schedule is available on request. Each cluster was developed by building up a related
concept. Some single, global questions were considered separately whilst other variables were combined to form additive scales and Cronbach’s Co-efficient Alpha is reported for each. This index is a measure of internal consistency within composite measures and scales taking into account the number of items combined (Cronbach, 1951). In each case Co-efficient Alpha was derived on the total number of respondents in the sample.

7.5.2 Process of the Formation of Clusters

Guidelines for cluster formation primarily originated out of the wellness literature, namely that of Bruhn (1988) and Ardell (1977). Ardell (1977) describes five independent concepts to do with wellness. In his suggestions for an ‘integrated life’ he acknowledges self responsibility as the key to wellness but also identifies nutritional awareness, physical fitness, stress management and environmental sensitivity (being balanced and harmonious) as being essential elements. In a similar vein Bruhn (1988) talks about seven aspects associated with wellness which he believes are important. They are the ability to learn new skills, being able to exercise choices in problem solving, making use of resources in adapting, engaging in self care activities, exhibiting an internal locus of control (being a self initiator), having an optimistic attitude and a positive self image.

Two other literature sources were investigated. The researcher was especially interested in the healthy family in terms of the wellness end of the health continuum devised in association with Crayton’s (1986) definition of family health. Such aspects as members being well nourished; achieving mental well-being; being free of disease; achieving optimal functioning in areas such as work, recreation and education; initiating self care in the health area; being trustful; being creative; being productive and content and being cohesive and working well toward their goals were emphasised in this account. A further family health definition by Loveland-Cherry (1989) identifies nurturing affection; assisting socialisation of family members; the function of physical maintenance; provision and regulation of economic resources required to meet basic needs and monitoring of social, cultural, political and educational interaction as being key components of family health.

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1 Because this questionnaire was developed as a requirement of a thesis, time constraints precluded the researcher from undertaking further development of reliability and validity measures.
After addressing the literature the next step was for the researcher to draft all the important aspects of the ‘Dimensions of High Level Wellness’ which is a term acknowledged by Ardell (1977). It was determined that the ‘Dimensions of High Level Wellness’ were those of:

- self responsibility or accountability for one’s own and one’s family health. This involves optimal functioning in self care health measures in the areas of rest, sleep, routine health checks, healthy habits and safety aspects
- nutritional awareness
- mental well-being involving positive family image, optimistic attitude, affection and being happy or content
- exercise
- fitness
- optimal functioning in work (being productive)
- optimal functioning in education (learning)
- optimal functioning in recreation
- environmental sensitivity
- disease free
- stress management
- ability to learn new skills
- exercises different ways of problem solving
- uses what they have got to make things work
- gets projects started
- cohesive, and
- adaptable.
From the seven wellness domain clusters identified in appendix 5, it is interesting to note that all clusters and most parts of them are identified in these high level wellness dimensions provided. This confirms that to a greater extent the wellness domain clusters reflect the concepts identified from the literature in the researcher's definition of 'Dimensions of High Level Wellness.' The development of the wellness domain and its seven clusters will soon be addressed and will indicate that the wellness behaviours within the clusters were regarded as those more general health behaviours (like equal family decision making) and there were many more of them whereas health promotion and illness prevention behaviours were more specifically about health and there were less of them. It is also obvious from Appendix 5 that the four clusters of the health promotion domain and the two clusters of the illness prevention domain are also visible from the 'Dimensions of High Level Wellness', but to a lesser extent. Overlap of the domains of wellness, health promotion and illness prevention is addressed later on.

When it came to identifying the health promoting behaviours, the literature (2.1.2) that was important here were the perspectives of Pender (1987) and Murray and Zentner (1993) who view these behaviours as enhancing health and well-being. For the researcher enhancing health and well-being means families enjoying activities together, parents having the knowledge especially about nutritional practices, families being committed to exercise and parents being able to adapt to new challenges like obtaining new health resources and information. These aspects are reflected in the cluster formation.

Alternatively preventive health behaviours (or health protective behaviours) are considered responses to threats to health by Pender (1987), as can be seen in 2.1.2. Harris and Guten (1979) consider these health behaviours are to do with such things as personal health practices, safety practices and avoiding environmental hazards. For this reason the two clusters have a definite prevention focus – accessing resources for one's ill child or the child with a developmental problem, and preventing unhealthy habits and nutritional problems. It is also important to note that these 'working' definitions of wellness behaviour, health promoting behaviour and preventive health behaviour were reflected as being similar in nature to parental health behaviours detected in the interview data in the qualitative study.
7.6 THE IDENTIFICATION OF THE WELLNESS, HEALTH PROMOTION AND ILLNESS PREVENTION DOMAINS

Although wellness had been identified as the way to begin measuring family health there was now a need to determine exactly how the domains of wellness, health promotion and illness prevention would be measured. On the basis of review of the qualitative study themes and the literature it appears that health promotion has a positive health emphasis and is the 'educational' arm of wellness. Health promotion is thus not a discrete domain but overlaps with the wellness domain. It would be expected that a family espousing wellness, as described by Ardell (1977), would also exhibit those properties of health promotion – actively seeking out health information and resources to do the best for their family's health – which are not at odds with educating their children in a healthy lifestyle. On the basis of literature and interview theme material, while the illness prevention domain mostly focuses on avoiding injury or illness, it also contains some educational aspects. These aspects cause it to overlap with health promotion on occasions, so these two concepts cannot be viewed as discrete either. In fact this also means that illness prevention overlaps with the domain of wellness so none of these domains is discrete but interrelated with each other as Figure 7.2 demonstrates.

![Diagram of the Three Health Domains and their Relationship](image)

Figure 7.2
The Three Health Domains and their Relationship
7.6.1 Development of the Wellness Domain and its Seven Clusters

To start with it appeared that the attributes of a wellness orientation family, which are also the attributes of the wellness domain, needed to be clearly established. A measure of health which addressed the notion of a wellness orientation family (Ardell, 1977; Bruhn, 1988; Kandzari & Howard, 1981) needed to be constructed so that health could be measured as it had been reflected in the interview data. The domain of wellness referred to families taking self responsibility for their health and their self motivation and commitment toward leading a healthy life style and taking control of their own health (Ardell, 1977). Certainly a responsibility for their health and that of their child, the ability to take control of their own and their child’s health and a commitment to leading a healthy life style were strongly supported by those parents who appeared to be following a family wellness orientation. Although Ardell talks about ‘high level wellness’ when addressing the components of a wellness orientation, in this thesis, rather than talking about a ‘high level wellness’ oriented family, reference will be made to a wellness family orientation. The health behaviours of families who espoused wellness appeared to be related to seven dimensions which will be referred to as clusters, each measuring a different aspect of the domain of wellness.

In order to come to terms with the measurement of the domain wellness and its seven clusters a strategy was used which identified wellness as consisting of general behaviour to do with family life style. However, it was also determined that specific behaviours should be included as well because there would be instances when they were relevant. In some cases it was important to ask a general question which would hopefully be supported by more specific aspects. For example, within the cluster ‘cohesion,’ in which decision making and problem solving are believed to reflect cohesion within the wellness domain, families were asked specific questions about their decision making behaviours: ‘Who decides about spending large amounts of money?’

These families were also asked a general question about decision making: ‘In general, who makes most of the decisions in your family?’

It could also be the case that within wellness behaviour a general question was the best approach. For example, within the cluster being ‘well adapted’ within the wellness
domain it was necessary to ask two general questions about the family’s preschool aged child and his/her ability to adapt: ‘How well did your preschool aged child adjust on first attending the centre? How well is your preschool aged child adjusted now?’

It is necessary now to fully address the seven clusters – cohesion, initiation, mental health, well-being, healthy practices, resourceful and well adapted – that comprise the wellness domain. An explanation of these clusters, their sub-constructs and their measurement is set out in Table 7.9.

**The Cohesion Cluster**

The first cluster of Cohesion involves parents in discussing sharing tasks and equal/shared decisions about health-related matters and other aspects of family life. The sub-construct ‘family members making equal decisions’ was measured by two single, global variables about how much decisions are shared between partner and carer *sharing of family decisions generally* and also about how much involvement the child has in decision making *child involvement in decision making*. It was decided that it was important to gauge from families how they go about their decision making in general.

There are also four scales based on measuring the sharing of family decisions. The first one *sharing of different family decisions* is a four variable scale which measures the amount of sharing in decision making for partners in such things as deciding about spending large amount of money or deciding about your child’s health when there is something serious to be decided. High scores represent more sharing behaviour and the scale demonstrates a co-efficient alpha of 0.86. The second scale is the five variable *ideal sharing of family decisions* measuring what carers believe is their ideal with regard to family members sharing such decisions as deciding about spending large amounts of money, deciding where to go on an outing and deciding about what food to buy. As with the previous measure for sharing decisions a high score represents greater sharing behaviour. This scale has a co-efficient alpha of 0.73. The next scale *the difference between actual and ideal sharing of decision making* measures the derived ‘gap’ variable (ideal minus actual) between deciding about spending large amounts of money, deciding

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2 All variables are identified in italics.
Table 7.9
Measurement of the Wellness Domain and Its Seven Clusters

| Cohesion      | parents making equal/shared decisions about health-related matters and other aspects of family life.  
|              | measures: the sub-constructs of ‘family members making equal decisions’, ‘sharing household tasks’ and ‘works well together and gets what they want’. |
| Initiation    | parents initiating activities, especially those to do with their child’s health.  
|              | measures: the sub-constructs of ‘in control of their child’s health’, and ‘gets motivated to start family projects’. |
| Mental Health | parents enjoy activities with the family, get pleasure from activities with their children and do things together as a family.  
|              | measures: the sub-constructs of ‘feels good about themselves’, ‘shows affection towards each other’ and ‘the amount of family tension’. |
| Well-being    | parents are happy, content and optimistic.  
|              | measures: the sub-construct of ‘has a positive approach to life’. |
| Healthy Practices | parents were asked about how healthy they were as well as the health habits they and their children undertook.  
|              | measures: the sub-constructs of ‘our resistance to illness is good’ and ‘has healthy habits’. |
| Resourceful   | parents are able to identify the resources they need.  
|              | measures: the sub-construct of ‘using what they’ve got to make things work for them’. |
| Well adapted  | parents and their children being able to learn new tasks, not only in a developmental sense but also associated with learning about or adapting to a healthy life style, and also by being able to problem solve effectively.  
|              | measures: the sub-constructs of ‘learning how to do new things’ and ‘using different methods of problem solving’. |

about where to go on an outing and deciding about a serious child health problem. Co-efficient alpha for this scale is 0.64. Positive scores represent more sharing, negative scores are indicative of less sharing and a zero score indicates there is no sharing difference. The final decision making scale is the five variable including the child’s view. Some of the items involving children’s opinions are deciding what my child wants for
dinner, deciding what to buy from the supermarket and deciding about what friends to have over to play. Co-efficient alpha for this scale is 0.73.

The sub-construct ‘sharing household tasks’ is measured by two scales, the first being a six variable scale sharing family tasks to gauge the amount of sharing between carers and partners in bathing and dressing children, cleaning children’s teeth, cooking, housework and doing the laundry. For this scale the co-efficient alpha is 0.72. The second eight variable scale child helping with tasks, measures the degree to which preschool aged children help with tasks like putting dirty clothes in the laundry basket/washing machine, making their own bed, dressing themselves and bathing/showering themselves and like the last scale, it equates high scores with increased helping behaviour. This scale demonstrates a co-efficient alpha of 0.73.

The final sub-construct for the cohesion cluster ‘works well together and gets what they want’ consisted of four single variables about your family budget and how it is working, how praising your child’s behaviour works, how well your child takes your advice and how much you use a calendar to assist you. These four variables were removed because there was concern about what they were measuring.

The Initiation Cluster

The second cluster of Initiation is primarily about parents initiating activities for their child’s health, considered important for parents concerned about their child’s health (De Vellis, 1991; De Vellis et al. 1993; Tinsley & Holtgrave, 1989). It is also in line with the work on health and locus of control and having an internal locus of control (Wallston, Wallston, Kaplan, & Maides, 1976; Wallston & Wallston, 1978; Wallston, Wallston, & De Vellis, 1978) which is identified as an appropriate part of wellness behaviour (Bruhn, 1988). The relevant sub-constructs were ‘in control of their child’s health’ and ‘gets motivated to start family projects.’

The first sub-construct ‘in control of their child’s health’ was measured by two modified existing instruments. Firstly from the Parent Health Locus of Control scales (PHLOC) (De Vellis et al. 1993), chosen because it has a health promotion focus in determining parents beliefs about their control over their child’s health, fourteen out of thirty variables comprising the three scales about beliefs in the influence of the media media influence on
child health, health professionals influence health professionals influence on child health and parents influence on child health parental influence on child health were included. Co-efficient alphas for media influence, parental influence and professional influence are 0.91, 0.85 and 0.79 respectively. Although there were six scales in the PHLOC only three, identified above, were chosen on the basis that parental, health professional and media influence would be more likely to play a significant part in child’s health than fate, divine intervention or that of young children positively influencing their health.

At least five validation samples with appropriate populations have been undertaken on the PHLOC. Internal consistency reliabilities above 0.70 were reported for all scales and samples whilst test-retest reliabilities were all above 0.71 except for that of The Parental Influence Scale which was still able to show a high recognition of parental influence. Whilst De Vellis et al. (1993) are also reasonably confident in support of validity for this scale they were unable to confirm empirically that sample participants and non-participants were equivalent. Nevertheless, Kraft and Loeb (1996) took up De Vellis et al’s need to generalise the PHLOC to other minority groups by undertaking a large Norwegian study and showing that there was adequate internal consistency reliability as well as general support of reliability and construct validity for the PHLOC. This study also suggested that better educated parents perceived the media influence and the parental influence to be more important while fate and the professional influence were less important than would be the case for less well educated parents. It will be possible to test out media influence, parental and professional influence and their relationship with education in this quantitative study.

As well as the PHLOC Scale the second modified instrument the Perceived Health Competence Scale (PHCS) (Shelton Smith et al, 1995) is able to measure the intentions of parents to initiate health behaviours for their child. The seven variables comprising the PHCS, taken from its eight variables, are about the degree to which parents feel capable of managing their child’s health. This instrument appeared to be appropriate to use because it was brief, easily administered and could be adapted to specific situations such as the need in this case to adapt the scale to refer to a child’s health rather than the parent’s health. The variable ‘no matter how hard I try, my health just doesn’t turn out the way I would like’ was left out because it was considered difficult to reinterpret for ‘my child’s health.’ Examples of some of the variables included were: handling myself
well with respect to my child’s health, success in the projects I undertake to improve my child’s health and generally able to achieve my goals with respect to my child’s health. The co-efficient alpha for this scale is 0.72.

Although Shelton Smith et al. (1995) note that lack of correlation between the PHCS and PHLOC is due to the ambiguous nature of the locus of control construct, the PHLOC has been justified as important in this research and has an adequate reliability and validity status. The contribution of the PHCS is its ability to predict behavioural intention. In the words of Shelton Smith et al. (1995): “The PHCS will predict health behaviour intentions and actual health behaviours such that perceived health competence will be associated with an individual’s tendency to both plan and enact a variety of health promoting behaviours” (p. 54).

At this point in time confusion surrounds the nature of health value, health competence and behavioural intentions. One study suggests that either health value or health competence produces intentions of performing health promoting behaviours while another study suggests that health competence and not health value is related to intended and enacted health behaviours. Moreover, a further theory implicates both health value and health competence in producing behavioural intentions. On the basis of this confusion it was considered necessary to go with one hypothesised position – that health competence is significant in predicting behavioural intentions – especially as one of the aims in the research was to measure the parents’ health beliefs and their intention to undertake health promoting behaviour. This became a more expedient option when it was considered that question 35, which asks carers about their health values, should not be included in the results because of social desirability problems with constructing this question on health values.

Nevertheless there are unresolved reliability and validity issues for the PHCS. Shelton Smith et al. (1995) note that for five samples from three diverse populations the scales show good internal consistency reliability co-efficients ranging from 0.82 to 0.90 and demonstrate examples of both short and long term stability and, in addition, the PHCS is consistently correlated with health status in the range of 0.4 to 0.5 to provide some support for construct validity. However, the authors also state that sample sizes are small.
there are research issues like whether people overestimate their health competence and there is a need to determine reliability and validity on different populations.

The second sub-construct ‘gets motivated to start family projects’ consists of six variables from the scale family planning activities about family activity planning for such occasions as special outings, family celebration or giving your preschool aged child a special treat. High scores represent greater amounts of planning. Co-efficient alpha is 0.70.

**Mental Health Cluster**

The third cluster Mental Health, which involves assessing family functioning and the amount of family stress which was evident in the interview data and is deemed important to control in wellness behaviour (Ardell, 1977), was measured by the following sub-constructs of ‘feels good about themselves’, ‘shows affection towards each other’ and ‘the amount of family tension.’ The first two sub-constructs ‘feels good about themselves’ and ‘shows affection towards each other’ are measured by using the five variable getting on with your family. Involved in this variable which is represented by the Family Apgar Scale (Smilkstein, 1978, 1993), is that of measuring family functioning in decision making and nurturing responsibilities, problem solving in stressful situations, physical and emotional maturation and self fulfilment and caring family relationships and devoting time to family members. According to Mott, Fazekas, & James (1985) this Scale has the ability to assess the whole family in the areas just nominated. It should be noted here that the Family Apgar Scale also measures problem solving and decision making which will also be measured in the well adapted and cohesion clusters. High scores for the scale mean great satisfaction for the carer in getting along with her family. Co-efficient alpha for this scale is 0.88.

Whilst validation studies have produced high correlations for Family Apgar with other instruments (Smilkstein, 1978; Smilkstein, Ashworth, & Monaro, 1982) and two large sampled, additional studies have been instrumental in providing a high co-efficient alpha and evidence of scale reliability and validity, there appear no recent studies which suggest that this scale has been superseded. However, Smilkstein (1993) notes that the content validity of the Family Apgar comes into question for individuals from ‘enmeshed’ or ‘psychosomatic’ families who produce a false high score. Nevertheless the researcher has
adopted the five choice response format which is meant to provide more stability psychometrically for the Family Apgar (Smilkstein et al. 1982; Smilkstein, 1993).

The last sub-construct ‘the amount of family tension’ is measured in amount of family stress through the use of nominated and modified variables from the Family Health Impactors I: Self Perceptions instrument (Curran, 1985; Mischke-Berkey, Warner, & Hanson, 1989). As families in the interviews seemed to have to cope with the stress of normal family life this was supported by the most frequent stressors identified by Curran’s (1983, 1985) research into ‘healthy’ families. Curran (1985) appears to have a different perspective of stress to family experts like Olson, Sprenkle, and Russell, (1979) and McCubbin and Patterson (1983) because she acknowledges that families need stress, but not ‘distress’ to operate.

Finally eight variables, considered appropriate for families with preschool aged children, and taken from Curran’s final survey of 450 men and women were economic/finances/budgeting, children’s behaviour/discipline/sibling fighting, insufficient couple time, lack of shared responsibility in the family, communication with the children, insufficient ‘me’ time; spousal relationship and an overscheduled family calendar. Four more variables were added – unsatisfactory housing, concerns about the environment, concerns with family health and family members not feeling appreciated – as they were also supportive of interview data. However, the final twelve variables chosen for the scale were in some cases rewritten because they were too Americanised. The twelve were communicating with my child; insufficient time together with partner; family members not feeling appreciated; children’s behaviour rewritten as your preschool aged child’s behaviour; insufficient time for yourself; overscheduled family calendar rewritten as doing too many activities; lack of shared responsibility; relationship with partner/husband rewritten as unsatisfactory relationship with partner; concerns about family health; unsatisfactory housing; concerns about the environment and budgeting. The co-efficient alpha for this scale was 0.83.

Although for the purposes of this research the Family Health Impactors I: Self Perceptions instrument was considered most appropriate for measuring stress, this instrument was designed to be completed by all family members, which may have been a limitation because in this research only one ‘expert’ carer was asked for her perceptions
on the basis that they were the most accurate. In terms of reliability and validity Mischke-Berkey et al. (1989) were the only sources that could be obtained to state that Curran and Neuman were in the process of determining reliability and validity for this instrument. Furthermore according to Mischke-Berkey et al. content and construct validity was established by a panel of experts.

The Well-Being Cluster

It was decided that family members being content, happy and optimistic was more to do with well-being and as this was also an important part of wellness it should be measured separately in the fourth cluster of Well-being with the sub-construct ‘has a positive approach to life’. This sub-construct contains a random sample of 20% or ten single variables – six true and four false – out of the 44 variables from the Californian Psychological Inventory (CPI) Scale ‘Sense of Well-being’. Some examples of these single, variables were: several times a week feeling something dreadful is about to happen; sometimes crossing the road to avoid meeting someone; if you are willing and able you have a good chance of success and remembering ‘playing sick’ to get out of something. Three variables were modified, for example, in the case of one variable ‘I have very few quarrels with my family’ one parent suggested that the variable should be ‘I have very few quarrels with my family with whom I live’ because she considered this variable was ambiguous. It was determined that as only two variables – hardly ever feeling any pain in the back of my neck and having very few quarrels with my family – were moderately associated at 0.35 all the variables should be treated as single variables.

The Sense of Well-being Scale is one of the eighteen standard scales of the CPI which has been designed to distinguish psychiatric patients and so called ‘normal’ clients and is well reputed in its reliability and validity measures. Although sampling only ten items from the Sense of Well-being or Dissimulation Scale may compromise its validity, according to Megargee (1977) the scale has demonstrated that on a number of occasions it has reliably reflected differences that were created by different criteria.

The Healthy Practices Cluster

The fifth cluster – that of Healthy Practices – about the way families practice health, is also considered an important part of wellness behaviour. This cluster consisted of the
sub-constructs ‘our resistance to illness is good’, ‘family members have healthy habits’ and ‘family members: nutritional awareness’ and ‘family members: resting habits.’

The first sub-construct ‘our resistance to illness is good’ is measured by the three variable scale family resistance to illness which contains variable statements asking families about their health and, for example, whether they got more than one bout of flu a year. Coefficient alpha for this scale is 0.74. Another single, global variable how healthy is your family compared to others asking about when you compare your family with others, how healthy are you – was also part of this sub-construct. High scores for this item mean that carer’s families are very healthy when compared to the health of other families.

For the sub-construct ‘family members have healthy habits’ the two variable scale family members healthy habits ($r = .32; p<.001$) includes a variable asking whether any family member smokes cigarettes, cigars or pipes as well as a variables asking whether any family member drinks more than five cups of tea and/or coffee or cola per day.

In considering the healthy practices of families the final sub-constructs ‘family members: nutritional awareness’ and ‘family members: resting habits’ are each measured by single variables – How often does your family sit down together for a meal and How often does your family relax together, respectively. High scores for the first one means that family members are sitting down to a meal just about every day while high scores for the second means that families are relaxing together most of the time.

**The Resourceful Cluster**

Cluster six – the Resourceful cluster – is about being resourceful, an attribute identified in the interviews and acknowledged by Bruhn as being part of the wellness orientation. It contains the sub-construct ‘using what they’ve got to make things work for them’ and measurement of this sub-construct is undertaken by three small scales. The first two variable scale getting assistance from other people ($r = .70; p<.000$) is about getting assistance for a problem in your life and who can look after my child when I am sick.

The next two variable scale parental developmental tasks ($r = .54; p<.000$) firstly asks parents about their success in juggling their preschool child’s and their own activities while the second variable asks about parents’ success in making time for themselves, high scores being associated with success for each variable. The final two variable scale our
family is environmentally sensitive \( (r = -0.26; p<0.006) \) involves the family in demonstrating their environmental awareness, for example, do they recycle their glass and paper. In this case high scores reflect the increased environmental sensitivity of families.

The Well Adapted Cluster

The seventh and last cluster of Well adapted was about families and their children being able to learn new tasks, not only in a developmental sense but also associated with adapting to a healthy lifestyle and being able to problem solve as well. Support for this cluster was found in the interviews and reinforced as being part of a wellness orientation (Bruhn, 1988).

The first sub-construct ‘learning how to do new things’ is measured by two, single variables we sleep through the night and I am able to rest while my preschool aged child does other things. These variables are included on the basis that parents and their young children need to adjust to being able to rest and sleep through the night and if families are able to achieve rest and sleep all the time, high scores are satisfied. As well two single, global variables how well did your preschool aged child first adjust to the centre and how well is your child adjusted to the centre now are included here because they are associated with the adjustment of the preschool aged child, in that if the child receives high scores on these variables they are well adjusted.

The last sub-construct ‘using different methods of problem solving’ was measured by five problem solving scenarios that parents may encounter. Four of these scenarios are about caregivers’ problem solving different situations with their children, for example, the first scenario is asking the care giver what she would do when her child is very tired and does not respond to her wishes. High scores are the more developmentally appropriate ones such as diverting your child’s attention to something else or ignoring your child. The third, fourth and fifth scenarios also need to be briefly addressed. The third one asks the caregiver what she would do if she is having difficulty getting her child into bed and the high score answer is to discuss the problem with your child. The fourth situation asks the caregiver what she would do if her child behaved badly in a shopping centre and continues to do so after a reprimand, with the high score answer being to threaten to withhold a treat. The final fifth scenario asks the caregiver what she would do if her child is still unhappy at their child care centre after working out a new plan of action with the
director. The high score answer is to turn around and change the plan again. The somewhat different second scenario is asking parents what they would do if they are having difficulty negotiating a solution to a problem. The high score is associated with getting someone you trust to help you negotiate rather than keeping on trying to negotiate or give up the struggle because the problem is too hard.

7.6.2 Developing the Domain of Health Promotion and its Four Clusters

On the basis of the qualitative study, and with the support from the literature, health promotion was defined as health behaviour families undertook such as maintaining health by exercising and relaxing, educating their preschool aged children about health activities and actively seeking out information about their children’s health. Health promotion was also regarded as part of the behaviour that families with a wellness orientation undertook and thus there was some overlap between the domains of wellness and health promotion.

Health promotion was determined to be specifically about educating and includes four clusters of variables dealing with specific behavioural questions about educating in terms of such things as exercise, nutrition, recreation and ‘life skills’. The latter is a term which has been used by interviewees to identify that their children learnt such things as appropriate and ‘safe’ behaviour for getting in and riding in a car or that they learned to cross the road safely with an adult. Health promotion emphasises not only parents educating themselves and their child continually about health matters but parents also actively seeking out information and other resources to do the best for themselves and their child.

The four clusters that comprise the health promotion domain are those of promotion of mental health, promotion of nutrition, promotion of healthy practices and promotion of being well adapted. An explanation of these clusters and the sub-constructs they measure is set out in Table 7.10.
Table 7.10
Measurement of the Health Promotion Domain and Its Four Clusters

<table>
<thead>
<tr>
<th>Promotion of Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>parents enjoy activities with the family, get pleasure from activities with your children and do things together as a family.</td>
</tr>
<tr>
<td>measures: the sub-construct of ‘has a good time’.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Promotion of Nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>parents bring to bear nutritional knowledge to help them in the practices of preparing and eating food.</td>
</tr>
<tr>
<td>measures: the sub-construct of ‘family members: nutritional awareness’.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Promotion of Healthy Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>parents being committed to exercise and educating their children nutritionally.</td>
</tr>
<tr>
<td>measures: the sub-constructs of ‘family members: exercising’ and ‘family members: nutritional awareness’ from a health promotional perspective.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Promotion of Being Well adapted</th>
</tr>
</thead>
<tbody>
<tr>
<td>parents and their children being able to learn new tasks that will assist the development of their preschool child, and also identifying and obtaining the resources they needed to assist their child’s health.</td>
</tr>
<tr>
<td>measures: the sub-constructs of ‘learning how to do new things’ and ‘using what they’ve got to make things work for them’ from the perspective of health promotion.</td>
</tr>
</tbody>
</table>

**Promotion of Mental Health Cluster**

This cluster was based on maintaining family health by relaxing and enjoying oneself. The sub-construct of the Promotion of Mental Health cluster ‘has a good time’ is measured by asking about the frequency and the enjoyment derived from family activities. The cluster includes variables such as playing a game together, or going out on an outing, watching their preschool aged child play in the park, going on a picnic and enjoying going to friends or relatives places. High scores on this scale mean that these families have a high score on often undertaking and enjoying these activities together and the co-efficient alpha for this scale is 0.79.

Four single variables were also part of this construct. They were how often the preschool aged child performs a concert at home; how often families go out with other families for a BBQ; how often families go to friends/relatives and how often they go to a coffee shop. The reason that they were not included in the previous nine variable scale was because these variables had between 6 – 20 ‘not applicable’ answers which were converted to
missing values and reflected on the response rate for these variables. They were analysed separately by ANOVA.

**Promotion of Nutrition**

The Promotion of Nutrition cluster examines the nutritional practices that parents bring to bear to help them in terms of their preparing and eating food. The sub-construct ‘family members: nutritional awareness’ is measured by six variables. All these variables require parents to document their eating habits but they also identify their knowledge and commitment to healthy eating. *Parents healthy eating knowledge* ($r = .59; p < .000$) contains two variables which are how often does your family cook with oil and how often does your family cook with salt. Responses for these variables range from every day to hardly ever while high scores mean that families hardly ever cook with oil or salt. The five other single variables ask how often the family eats take away food, eats different food such as meat or chicken, bread or pasta, how often does the family eat fatty, fried food and how often does your family eat biscuits or cakes. Responses for these variables also range from every day to hardly ever while high scores mean that families hardly ever eat take away, snacks, fatty, fried food and biscuits or cakes but that families eat different food just about every day.

**Promotion of Healthy Practices**

The third cluster Promotion of Healthy Practices focuses on maintaining health by exercising and nutritional awareness. The sub-construct ‘family members: nutritional awareness’ is measured by one four variable scale *parents educating their children nutritionally* and includes explaining to my child why she needs to eat healthy food; we eat healthy food to encourage my child to do this; my child goes to the supermarket to help me select food for the family and we discuss television advertising with my child when asked to buy a new brand of food advertised on television. High scores on this scale mean that parents are appropriate role models for their children’s food choices and they are also actively discussing and explaining to children about food choices. Coefficient alpha for this scale is 0.60.

The other sub-construct ‘family members: exercising’ is measured by the six variable scale *your family taking part in exercise*, which asks families about their involvement in
exercise; family bike riding or walking; being involved with your preschool aged child in organised sport; exercising in the back yard and going for short walks. High scores on your family taking part in exercise mean that parents and their preschool aged children are actively engaged in exercise all the time. Co-efficient alpha for this scale is 0.66. There is a further variable about partners jogging around the block without getting puffed which had reduced responses and was treated separately for that reason.

Promotion of Being Well Adapted

The fourth and last cluster in the Health Promotion Domain is Well Adapted and measures the sub-constructs of ‘learning how to do new things’ and ‘using what they’ve got to make things work for them’. Parents indicated that learning to check their child’s progress at the preschool or child care centre as well as learning to provide a stimulating and a safe environment for these children, is part of health promotion behaviour.

The sub-construct ‘learning how to do new things’ is measured by two scales and two single variables about parents learning to provide stimulating activities for their child and also parents learning to provide a safe environment for their child. The scale providing stimulating activities for your child (t = .45; p < .000) consists of two variables which are doing indoor activities as well as playing outdoors during the day with your child. Within this sub-construct there are also two single variables which are about carers rating how much time would you spend reading to your child as well as how much time would you spend watching TV with your child. High scores on this sub-construct mean that parents are busy providing a stimulating environment for their child.

The other part of the sub-construct ‘learning how to do new things’ is measured by one three variable scale ‘providing a safe environment for your child’ in which parents are asked how often they would explain to their child about crossing the road safely, how often they would talk to their child about safety issues like pets and spiders and how often they would get their child to repeat their names, addresses and phone numbers. Co-efficient alpha for this scale is 0.60 and high scores on this scale mean that parents spend every week day explaining safety issues like crossing the road, being safe with pets/animals and teaching children their addresses and phone numbers. Another single variable, associated with this sub-construct and whose high score demonstrates carer
satisfaction, is asking carers to rate their own ability at being able to determine their child’s progress at their preschool/long day care centre.

The second sub-construct ‘using what they’ve got to make things work for them’ is measured by a nine variable scale an important source of your child health information. In this scale parents are asked to rate how important the sources of books, medical dictionaries, health and women’s magazines, newspapers, my mother, my father, doctor, chemist, baby health centre, from my own experience and friends – are in helping them look after their child’s health. If parents respond with high scores then they believe that many of these child health information sources are important. Co-efficient alpha for this scale is 0.77.

7.6.3 Developing the Domain of Illness prevention and its Two Clusters

The illness prevention domain, like that of health promotion, was of a specific nature which meant that within this domain there was a need to include specific preventive health behaviours as variables. Examples of preventive health behaviours were those parental health behaviours which concentrated on avoiding the illness of their preschool aged child rather than parental health behaviour which demonstrated a commitment to child health education. Such a variable example, demonstrating the specific nature of illness prevention, is: ‘Our family has routine dental checks every six months’.

However, although the domains of health promotion and illness prevention were quite different in their approach to health there was sometimes overlap between them also. For example, parents who primarily operated in a illness prevention mode were not as committed to educating their children as those parents were who operated in the health promotion mode. These parents went out of their way to explain to and educate their children and were very keen in reading up on health magazines and journals as well as asking their doctor so that they could apply the latest health information. For example, one family interviewed had found out that sunburn creams with SPF were unsafe for children under 12 months of age and they applied this knowledge in their health practices. Although health promotion commitment for this family is strong it can be seen there is some overlap with illness prevention in the practice of avoiding the application of
sunburn cream to young babies. Furthermore this example shows that this wellness orientated family engaged in health promotion as well as illness prevention behaviours.

At this point the two clusters of the illness prevention domain – Prevention for being Well Adapted and Prevention for Healthy Practices – need to be fully addressed in terms of their sub-constructs and the way they were measured, as can be seen in Table 7.11.

Table 7.11
Measurement of the Illness prevention Domain and Its Two Clusters

<table>
<thead>
<tr>
<th>Prevention for Being Well Adapted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents and their children learning how to do new things like watch/supervise their children and being able to get access to the resources they need when their child is sick or has a problem with his/her growth or development.</td>
</tr>
<tr>
<td>measures: the sub-construct of ‘family members provide a safe environment’ and ‘using what they’ve got to make things work for them’ from a illness prevention perspective.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prevention for Healthy Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents and their children addressing healthy family habits and nutritional awareness.</td>
</tr>
<tr>
<td>measures: the sub-construct of ‘family members have healthy habits’ and ‘family members: nutritional awareness’ with a healthy prevention focus.</td>
</tr>
</tbody>
</table>

Prevention for being Well Adapted

This cluster measures both the sub-constructs of ‘family members providing a safe environment’ and ‘using what they’ve got to make things work for them’. The first sub-construct is represented by two variables. One variable asks parents how often they watch/supervise their children at home and the other variable asks them this same question if they take their child to a park. Parent watching/supervising behaviour is aligned with illness prevention, especially injury prevention. The sub-construct ‘using what they’ve got to make things work for them’ is measured through two single variables about the resource people that families have to help them if they are concerned about either their child’s health or their child’s growth and development. These two variables are focused on concern about the child and therefore about illness prevention.

Prevention for Healthy Practices

This cluster consists of the sub-construct ‘family members: nutritional awareness’ as well as that of ‘family members have healthy habits’. The first sub-construct consists of a
descriptive item asking carers to list their preschool aged child’s food intake for the day. Although there are aspects of health promotion within this question its major emphasis is from the perspective of illness prevention because it is an important way of assessing the adequacy and appropriateness of a child’s fluid and food intake.

The second sub-construct ‘family members have healthy habits, considered appropriate for illness prevention behaviours, consists of a four variable scale family members health checks which consists of how often families have dental checks, whether families clean their teeth twice a day and how often families have regular health checks and Pap smears. High scores on this scale indicate that families are regularly undertaking health and dental checks and cleaning their teeth twice a day while co-efficient alpha for this scale is 0.47. There were also two additional, single variables – does your preschool aged child have routine checks with the doctor or clinic about his/her growth and development and has your preschool aged child had all her/his immunisations – considered appropriate to be measured in the illness prevention domain.

As a sequel to the discussion of the health domains of wellness, health promotion and illness prevention and their clusters Figure 7.3 provides a representation of the three health domains and the clusters within these domains, surrounded by demographic variables. This figure conveys the importance of the demographic variables and their possible influence on the health domains and their clusters.
7.6.4 Strengths and Weaknesses Section of the Health Domains and their Clusters

The development of this child health questionnaire has strengths because it is unique in its approach. The questionnaire has been informed by an important group of people – the parents who initiate health behaviours for their preschool aged child – who have special knowledge about this phenomena. This questionnaire is sensitive to the position of the parents because it is based on the parents’ explaining and stating their point of view and their beliefs about their health and their child’s health.

The three health domains – that of wellness, health promotion and illness prevention – have been discussed and the different clusters for each domain defined and explained in
terms of their sub-constructs and measurement of these sub-constructs. It has been identified that all the health domains could overlap. The health promotion domain underpins the wellness domain whilst health promotion and illness prevention could be considered as overlapping in some cases. The possibility of overlap could be considered a weakness because this means that the domains are not discrete. It could be argued that some clarity may be lost because of this. However, although there could be possible overlap, within this research all examples have been substantiated by interview material and definite cases have been provided for whether questions should be located, for example, in the illness prevention or the health promotion domains. Clarity does not appear to be compromised in this research because of the level of argument and substantiation for single variables or variables constituting a scale or scales that make up each sub-construct, cluster and finally domain. Furthermore it is also apparent from the literature that health promotion and illness prevention are not discrete constructs and have different definitions, especially health promotion. This makes them difficult phenomena to measure anyway. However, this valuable child health research makes its contribution by logically building up a valid picture of the domains of illness prevention and health promotion for families undertaking health behaviours for themselves and their preschool aged children. What this research does is provide definitions that have expert literature support as well as their being supported from the exploratory data from the qualitative study. This is a strong basis for developing authentic knowledge about these wellness, health promotion and illness prevention domains.

Critics may support the impossibility of accurate measurement of sub-constructs contained in clusters of health domains that overlap. Nevertheless the basis for such measurement has been well argued and well supported by the use of a logical approach. Rich thematic data and literature support the family wellness orientation and the involvement of the domains of wellness, health promotion and illness prevention. As the reader can see the processes in the development of this questionnaire have been logical, comprehensive and meticulous. The structure of the questionnaire has been informed by the thematic outcomes of the qualitative study and every care taken to ensure that the fine detail, which is part of such a structure, reflects the valuable perspective of these respondents. This has ensured that the logical foundations of this study have provided strong support on which to base a statistical analysis.
7.6.5 The Demographic Cluster

The demographic cluster consists of fifteen variables which are about carers and their partners. These variables also cover two broad areas:

i. *carer and partner background* (family size, carer age and partner age, accommodation (house or other), *homeownership* (owning or renting), *number of times moved* (in last five years), *carer educational status* and *partner educational status* (secondary, technical or tertiary), *carer country of birth* and *partner country of birth* (Australia or other); and *carer's marital status* (married or unmarried), and

ii. *carer’s occupational status* and *partner’s occupational status* (very high, high, medium or low); *carer’s employment status* and *partner’s employment status* (working or not working) and *financial adequacy*. The rationale for including some of these variables as well as other comments about them are necessary here.

In this research there was a need to determine different kinds of families so the researcher needed to know the size of the family, the kinds of family members and their relationship to each other. Question one asks the carers for the number of family members living together, as well as asking them to list their first names, relationship and age. As well as this the number of single parent families needed to be established hence question six was included asking carers about their marital status. In addition to this question eight and nine, which asks both carers and partners about their country of birth and the number of years they have lived in Australia, identifies families in terms of their ethnicity and the amount of time they have lived in Australia.

It was also necessary to gauge whether there were socio-economic differences between the two regions in this research. Originally it was determined that some kind of measure of socio-economic position would be necessary such as computing a measure based on educational and occupational status. However, this seemed to be problematic because when a decision had to be made about whether to measure the carer or the partner, carer and partner data were different with the partner data appearing to represent a more accurate picture of educational and occupational indicators for socio-economic purposes. Not all carers had partners, however. Finally, it was determined that the best way to understand if there were any socio-economic differences between the regions was to base
this on the factors identified by the literature (Census material) such as family composition, occupational status, educational status, homeownership and financial adequacy, so there was a need to include demographic questions relating to these areas.

Financial adequacy. Due to this being an important socio-economic indicator in the literature it was decided to ask carers about how they perceived the adequacy of their financial situation by using a single, global measure. Also it seemed that this question about how adequate the carers perceived their finances to be would be less invasive than asking them directly about their income levels. In fact this variable/question which should be interpreted as a measure of the adequacy of the family’s financial status was answered by all but one carer.

Occupational status. The carers were coded for the occupations that they and their partners had held for most of their working life and/or what occupation they are currently training for, according to Daniel (1983). Question ten asks carers to state theirs and their partner’s present employment status but does not ask them to state what that job is, unless they are currently working in the family home only or undertaking home duties.

Women appeared to be difficult to classify because some had worked prior to marriage but not after marriage. Most women were working part-time/casual in paid employment during their married life. Women in this situation were coded for the particular job they nominated in question 11, unless it was stated that they were currently working in the family home only and had been performing home duties for most of their lives, in which case they were coded as "housewives". If the women stated that they were currently working part-time but nominated that they had performed home duties for most of their lives then they were also coded as ‘housewives’.

It should also be noted here that one of the demographic questions which asks carers whether they are satisfied with their work, was not included as a demographic variable. It can be argued that this question is not really a true demographic question but more to do with work satisfaction and the effect of work on carer’s well-being and would possibly have been better placed in another section of the questionnaire. In fact this question was not included in the analysis because it was difficult to interpret or even ambiguous, due to
the different combinations of work as well as home duties that many women undertook rather than work.

7.7 PILOTING THE QUESTIONNAIRE

7.7.1 Pre-Testing

The questionnaire was pilot tested on two occasions. The first pilot was given to five parents with preschool aged children in an upper socio-economic area similar to Baulkham Hills and the second pilot was given to ten parents with preschool aged children in Mt Druitt.

Only one of the parents took the opportunity to list the positive and negative aspects of the questionnaire. They were that: the tone was friendly and unthreatening; the use of the first person made it sound more personal; use of bold type made it user friendly and the variety of methods of completion helped make it less tedious to complete, although it was acknowledged that the major drawback would be the length of the survey which would be difficult for working mothers with young children to complete due to their many distractions.

The parents involved in the first pilot test were asked to record the time taken to fill in the questionnaire. Out of five parents, the time taken was on average from forty to sixty minutes. On the basis of the comments for the five returned questionnaires for the first pilot, the following modifications were made to the questionnaire:

Question 13: My financial position is about average. (I do not have to struggle). This item was changed to: My financial position is about average. I can make ends meet, on the basis that a carer commented that this was a strange question.

Question 15: One question asked the parent if they gave their preschool aged child a special treat after she/he had helped you tidy the house: yes or no response. On the basis of comments from four parents primarily about the question not really applying or needing a treat the question was changed to: Do you praise your preschool aged child after she/he has helped you tidy her/his room? If you ticked yes, how well is this way of getting your preschool child’s room tidy working for you?
Question 16 about sharing tasks was changed to sharing tasks on week days only. Two carers stated that week ends were different to weeks for sharing tasks. Also question 21 about sharing decisions when it came to buying a car was taken out on the basis that two parents commented about irrelevance – they were never in a position to buy a car.

Question 25 about involving your preschool aged child in decision making was changed from a three to a four response answer to give more response variation.

For question 27, it was stated by one parent there could be more choices available for 27(a), 27(c) and 27(d) so changes were made to include ‘ignore your child’ for 27(a) and 27(d) as well as the inclusion of ‘just put your child to bed’ for 27(c).

Question 38: Does you family eat fatty food? was clarified by changing the question to ‘Does your family eat fatty or fried foods (like hot chips)’. Also the three response levels were changed to five to provide more response variation.

Ranking of answers proved difficult to the important sources of child health information for question 29. The grid diagram was removed and one column for the answers, suggested by a parent, improved the accuracy of interpretation.

Question 34: ‘Any man who is able and willing to work hard has a good chance of succeeding’ was changed to ‘If you are able and willing to work hard you have a good chance of succeeding’, on the basis that the original statement was commented on as being sexist language and hard to identify with for a carer.

On the basis of these modifications the second pilot was undertaken with seven parents from Mt Druitt. Ten questionnaires were given out but only seven were returned. The significant things that came out of this pilot were:

1. Question 29 was still problematic in the second pilot, so rather than asking parent to rank the sources in importance parents were asked to circle how important each source was in helping them look after their child’s health.

2. Question 30, which asked parents to indicate the amount of stress involved in certain situations included a ‘not applicable’ statement to cater for single parents who found
that they were unable to respond to the statements ‘insufficient time together’ and ‘unsatisfactory relationship.’

Although no parents had identified any problems with question 15, for the second pilot the researcher was still concerned about the new, ambiguous wording at the end of the question: ‘If you ticked Yes (Y), how well is this way of getting your preschool child’s room tidy working for you?’ There was also some concern about how applicable this example was to all preschool aged children and their parents. For this question the format was changed to: ‘Does praising your child help with his/her behaviour?’ with the response format: most of the time; some of the time; very little and never. This simplified and modified the question so that it was relevant to more preschool aged children.

On the basis of these two pre-tests and the information obtained through comments of the main carers, modifications were made as stated and incorporated into the questionnaire.

7.8 OVERVIEW OF ANALYSIS OF DATA: MULTIVARIATE ANALYSIS OF COVARIANCE

After a general description of the subjects in the sample, the main research questions were answered with multivariate analysis using the computer package SPSS.

According to Huck, Cormier and Bounds (1974), MANOVA is a generalisation of analysis of variance which includes a number of dependent variables, permitting a test of the possible interactions among multiple dependent variables that cannot be evaluated if each dependent variable is treated in isolation. Unlike a series of ANOVAs, where one ANOVA is undertaken for each dependent variable, MANOVA is ideal for the analysis of large amounts of data. Firstly it protects against Type 1 error (Tabachnick & Fidell, 1983) or the possibility of jumping to false conclusions which can be a problem when a number of ANOVAs are undertaken separately. Secondly MANOVA also maximises group differences thereby revealing differences not shown in separate ANOVAs (Bennett, 1989; Norusis, 1994, 1985; Tabachnick & Fidell, 1983). Because MANOVA accounts for interrelations among the dependent variables it is possible to examine whether independent variables are significantly affecting an optimal linear combination of dependent variable means.
In survey work multivariate analysis of covariance (MANCOVA) which is the multivariate extension of analysis of covariance (ANCOVA), is a useful technique. By reducing extraneous variation in the dependent variable ANCOVA (analysis of covariance) decreases the error sum of squares and increases the power of the test and the probability that a significant result will be found. In this quantitative study the multivariate extension of ANOVA known as MANCOVA was used to achieve statistical matching between regions.

7.8.1 Assumptions Underlying Multivariate Techniques

Multivariate Normality

The first assumption of MANCOVA is that of multivariate normality, on which MANCOVA is based. Multivariate normality is defined by Tabachnick and Fidell (1983) as meaning that sampling distributions of the means of the various dependent variables in each cell are normally distributed.

When the box plots for the variables in this study were examined some of them were not normally distributed. This was due to the use of rating scales which represented valid meanings, with responses sometimes falling at either end of the response range. Whilst it is true that there are some instances of extreme values in this research which could meet the statistical definition of “outlier”, it is argued here that outliers are not present in this research. All the variables used defined responses with valid meanings unlike a variable such as height or weight which may contain an extreme or rare value which does not fall within the normal distribution.

Mardia (1971, cited in Tabachnick and Fidell, 1983) draws attention to the robustness of MANOVA even when modest violations of normality occur as a result of skewness rather than the presence of outliers and also when there is a sample of size 20 with few dependent variables.

In this quantitative study it has been argued that outliers are not present, that there are: minimal examples of non-normal and skewed distributions and adequate sample sizes ranging from 78 – 91 although a large number of dependent variables are present.
Homogeneity of Variance – Covariance Matrices

Norusis (1994 and 1985) outlines the second assumption of MANCOVA which is that of variance-covariance matrices in each cell of the design being sampled from the same population variance-covariance matrix. Box’s M test determines the homogeneity of variance-covariance matrices in each cell of the design. Box’s M test was used on all cells before proceeding with the multivariate analysis and in some cases Box’s M test was rejected at \( p < .001 \) and in other cases came close to rejection. This is not surprising as Norusis (1989) notes that “this test is very sensitive to departures from normality” (p. 239). Nevertheless even in the presence of the failure of this assumption, MANOVA is regarded as relatively robust. It should also be noted that when sample sizes are larger, as they are in this research, assumption inadequacy on a small scale is more likely to be detected, than if the samples were small.

Levels of Measurement

In these analyses both interval or ratio level measurement is acceptable and is used for measurement of the dependent variables. As well as this some ordinal variables are also included because they can be interpreted in the analyses. In a few cases categorical variables with two possible responses only are used because they provide meaningful interpretation.

7.8.2 Further Analytic Issues

Assessment of the adequacy of the analytic approach in this project also means that two other issues need to be considered.

Cell Sizes

In survey work if the number of dependent variables exceeds the number of cases in each cell then the power of the analysis will be lowered. In this project the potential number of dependent variables is very large. As a result strategies for reducing the number of dependent variables are outlined below and in the resultant analyses the number of dependent variables never exceeds the smallest cell size.
Missing Data

As missing data contributes to the reduction of sample sizes in each cell within the computer package SPSS, any missing data on any variables is deleted from the analysis. The cumulative effect of this procedure can be noticeable as in this case, when there are a large number of dependent variables. Variables which contained missing data needed to be examined in terms of the number missing and a reason provided for their exclusion from the analysis. If it was deemed that the missing data was randomly missing, the mean value among the rest of the sample for that cell of the design was inserted. In the analyses reported here the percentage of missing data never exceeds five per cent for any of the variables.

7.8.3 Analysis of the Three Health Domains

The variables of interest in a quantitative study are multiple measures of three superordinate groups – the wellness health variable domain; the health promotion variable domain and the illness prevention variable domain – which comprise 7, 4 and 2 clusters respectively. The wellness health domain which is associated with a ‘wellness’ family life style, includes variables from the cohesion (family sharing), initiation (involvement in family and child health related activities), mental health, well-being, resourceful, well adapted and healthy practices clusters. The health promotion domain which focuses on families educating themselves and their children in health issues as well as having access to health information, includes variables from the promotion of mental health, promotion of being well adapted, promotion of nutrition and promotion of healthy practices cluster. The illness prevention domain focuses on preventing illness by supervising your preschool aged children’s activities as well as undertaking family health checks and immunisation. This domain includes variables from the prevention for being well adapted and the prevention for healthy practices clusters.

Some system was needed for selecting which variables from each cluster would be included in the three domains. Although the number of variables differ proportionally with more variables being available in the wellness health domain with 7 clusters than that of the health promotion or illness prevention domain with 4 and 2 clusters respectively, the number of variables available within each domain is large. In order to assist with variable selection two criteria – logical and statistical – were used.
**Logical selection.** Within each cluster certain variables more readily capture the focus of the cluster than others. For instance, the stress levels that families perceive they have doing certain activities is an important part of the mental health cluster for the wellness health domain. Similarly, how the family gets on and functions together is also central to family well-being, and therefore also an important part of the well-being cluster for the wellness health domain. On the basis of this, each cluster within each domain needed to be examined to determine what variables were logically required for the cluster to retain face-validity.

**Statistical selection.** In order to eliminate from each cluster those variables which did not appear to maximise the differences between each region, each cluster was subjected to MANCOVA analysis. If variables were unable to show univariate differences for the regions, were unable to show relatively high weight on the standardised discriminant function (sdf) or the structure coefficients, then they were dropped from the variable cluster.

### 7.8.4 Identification of Covariates

In the analyses undertaken for clusters in each domain, the independent variable was geographic region and the parent health behaviours (for example, the healthy habits of the family) the dependent variables. A review of relevant literature as well as the results of the qualitative study indicated that demographic variables are relevant but now the effects of these variables need to be controlled. Multivariate analysis of variance (MANOVA) is used to determine whether any of the demographic variables are having a different influence on the two regions, before undertaking the analyses of each cluster in each of the health domains. These demographic variables are then termed the covariates and are statistically incorporated, with the remaining dependent variables, into the final analyses using the multivariate analysis of covariance (MANCOVA).

The process of identifying these covariates needs to be more fully described and illustrated here. Matching needed to be undertaken between the two regions on certain key demographic variables such as carer’s birth year and carer’s country of birth because the two regions were already different for both of these variables. The carers in Baulkham Hills were older than those in Mt Druitt, whilst more families from Mt Druitt
originally came from overseas than those families in Baulkham Hills. In this case, carer’s birth year and carer’s country of birth (both of which show a significant univariate difference between the regions in the sample) would be introduced into the MANCOVA model as covariates. This means that any significant effects can be interpreted as not being due to carer’s birth year or carer’s country of birth because they have been controlled for by introducing them as covariates.

In summary covariates were determined by examining the demographic cluster for differences on the independent variable – that of region. When significant differences were discovered these variables were examined as to their suitability for inclusion as covariates.

7.8.5 Analysis Procedure

The logical and statistical criteria (determined above) was the basis on which the variables were selected for each cluster so that they could be included in the analysis of the wellness health, health promotion and illness prevention domains.

After the covariates had been identified from the demographic variables, the dependent variables comprising the domains were examined using MANCOVA. Due to the relatively large number of variables which made up each domain, an a priori decision rule was used when interpreting the results. Multivariate significance was set at $p < .1$ as evidence of a significant linear combination of dependent variable means. When there was a significant multivariate effect the number of dependent variables was reduced to provide a subset or model which explained the important aspects of each health domain. The procedure for reducing the dependent variables was:

1. examination of univariate findings for all variables and inclusion of these in the reduced model if the observed F-value led to rejection of the Null Hypothesis at around alpha = .05;

2. examination of the discriminant function co-efficients was used to assess the importance of the dependent variables in relation to an independent variable in terms of their relative weights (Tabachnick and Fidell, 1983). However, Norusis (1985)
points out that when variables are correlated they can ‘share’ the same discriminant weights (p. 214);

3. examination of the structure coefficients is important to determine the dependent variables that correlate highly with the linear combination of dependent variables that maximises group differences as well as the dependent variables themselves. Norusis (1985) suggests that the structure coefficients are less likely than the discriminant coefficients to be strongly influenced by correlations between the variables; and

4. testing the adequacy of the reduced model, determined by the procedures just stated, by the following procedure. Introducing variables comprising the subset as covariates was followed and if the subset was sufficient no multivariate significance was observed among the remaining variables. An additional requirement that would provide further explanation of the domains, was that no remaining dependent variable should now demonstrate univariate significance. If a remaining dependent variable demonstrated univariate significance then this would indicate that one or more variables in the reduced model subset had been acting like a suppressor variable.

The final model comprised a reduced and adequate subset of the dependent variables. After this the reduced variable model was examined for its multivariate significance and predictive capacity. This was undertaken by refitting the reduced subset as the dependent variables with the existing covariates and the independent variable of region, to determine the significance of regional differences for the dependent variable subset.

7.9 DESCRIPTION OF SAMPLE

The sample of carer mothers (n = 103) of preschool aged children in Mt Druitt and Baulkham Hills will be addressed first as ‘all carers’; this will then be followed by a description of the larger group of carers with partners (n = 91) who shall be known as ‘the carers’ and then the smaller group of carers without partners or single carers (n = 11). This section outlines some of the characteristics of respondents in the sample, and contrasts these with more generally available population figures, in order to establish the generalisability of the findings.
7.9.1 All Carer Personal Characteristics

All Carer Age and Sex

The ages of all carers ranged from 25 – 51 years, the mean age being 34.13 years (sd = 5.05). These age distributions are set out in Figure 7.4 where it can be noted that carers in Mt Druitt tend to be younger than those in Baulkham Hills.

![Figure 7.4: Proportional Age Distribution of All Carers (n = 99)^3](image)

Marital Status – Carer and Partner

Most carers were either married or living in a de facto relationship (87.4%) compared with the much lower proportions of single or never married (5.8%), separated or divorced (3.9%) and widowed (1.9%) respondents. Only 2.9% of respondents do not live with their husband/partner.

---

^3 Missing data accounted for the drop in all carer numbers from n = 103 to n = 99.
It is important to note here that almost all the carers in this exploratory sample were partnered. As one of the research aims was to examine parental health behaviours between different family types this was going to be hard to achieve with such a small proportion of other family types such as single carers. That there were inadequate numbers of single carers (n = 11) for statistical purposes meant that they would be discussed briefly then excluded from the main analysis which would comprise the results for the carers (n = 91).

**Educational Status**

**Carers**

As can be seen from Table 7.12, the carers in this study were mostly at the level of completion of upper secondary education, having completed four or more years of high school. However, while 43.68% of carers had completed upper secondary a considerable number were also close behind in numbers, having either completed or being in the process of completing a college or university degree (33%). The numbers of carers who were undertaking or had completed a technical trade certificate (17.47%), who had completed lower secondary or three years or less of high school (4.85%) or who had completed primary school (0.97%) were in the minority.

**Partners**

Educational status for partners is quite different to that of the respondents. In Table 7.12, instead of predominantly falling into the category of having completed four or more years of secondary school, more partners have completed a trade/tech certificate (31.11%) with almost equal numbers of partners having completed the two educational categories – that of a university degree (31.11%) and that of upper secondary school (28.88%) – with the completion of lower secondary school (8.88%) remaining. Although there is quite a different picture of male partners which appears to be associated with their greater involvement in full time work as ‘bread winners’ it is interesting to note that a slightly greater percentage of carers (33.00%) than partners (31.11%) are attending or have completed university.
Table 7.12
Educational Levels for All Carers (n = 103) and Partners (n = 91)

<table>
<thead>
<tr>
<th></th>
<th>All Carers</th>
<th></th>
<th>Partners</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percentage</td>
<td>n</td>
<td>Percentage</td>
</tr>
<tr>
<td>University Degree – completion or in process</td>
<td>34</td>
<td>33.00</td>
<td>28</td>
<td>31.11</td>
</tr>
<tr>
<td>Completion of Trade Certificate</td>
<td>18</td>
<td>17.47</td>
<td>28</td>
<td>31.11</td>
</tr>
<tr>
<td>Completion of Upper Secondary School</td>
<td>45</td>
<td>43.68</td>
<td>26</td>
<td>28.88</td>
</tr>
<tr>
<td>Completion of Lower Secondary School</td>
<td>5</td>
<td>4.85</td>
<td>8</td>
<td>8.88</td>
</tr>
<tr>
<td>Completion of Primary School</td>
<td>1</td>
<td>0.97</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Country of Origin**

**Carers**

70.6% of the main carers in this sample were born in Australia, with small numbers from the United Kingdom (9.8%) and New Zealand (3.9%). Among those not born in Australia the period of residence was quite lengthy ($\bar{X} = 16.7$, sd = 10.4).

**Partners**

Partners are also primarily Australian born (76.7%) with the United Kingdom (5.6%) and India, Sri Lanka and Pakistan (4.4%) accounting for the majority of the remainder. The number of years resident in Australia for those not born here was again quite lengthy ($\bar{X} = 14.7$, sd = 10.3).

**Employment Status**

**Carers**

Employment status is set out in Table 7.13. Carers are equally working in casual employment or home work (34.65%) with only 25.74% in full time work.

**Partners**

However, Table 7.13 also indicates that most partners are working full-time in paid employment (91.20%) with a minimal percentage of men doing home work (3.29%).
being a full-time student (1.09%), working part-time casual (1.09%), being unemployed (1.09%) and being retired (2.19%).

### Table 7.13

<table>
<thead>
<tr>
<th>Employment Status for All Carers (n = 101) and Partners (n = 91)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>All Carers</strong></td>
</tr>
<tr>
<td><strong>n</strong></td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Working full-time in paid employment</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>Retired now, not working at all</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>Unemployed</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>Working part time casual in paid employment</td>
</tr>
<tr>
<td>35</td>
</tr>
<tr>
<td>A full-time student</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Work in the family home with home duties</td>
</tr>
<tr>
<td>35</td>
</tr>
</tbody>
</table>

### Occupational Status

#### Carers

In this sample the majority of all carers in Table 7.14 were at the occupational level 4 or exhibiting high occupational status (53.39%) which includes such professional categories as teaching, nursing, computing assistant and that of administrator while only 2.91% of carers held very high occupational status jobs (Daniel, 1983)⁴. Other occupational levels that appear to be important also are that of level 3 or medium occupational status (26.21%) which includes such job categories as secretary, telephonist and clerk. To a lesser extent level 1 and 2 or low occupational status (17.5%) which involves such jobs as process worker, sales person/co-ordinator and marketing was also evident for all carers.

#### Partners

For partners the results in Table 7.14 show a different story. Although high occupational status or level 4 job categories (39.56%) such as electrician, draughtsman and other jobs

---

⁴ Classification of occupational status according to the Daniel scale meant that low, medium, high and very high status occupations were rated as 1-2, 3, 4 or 5-6 respectively.
identified previously in this category for all carers were in the majority, medium occupational status or level 3 (26.37%) which includes jobs such as milkman, motor mechanic and pastry cook and very high occupational status or levels 5 and 6 (18.68%) identifying jobs such as engineer, pilot, accountant and builder were also important occupational status ratings for partners.

Table 7.14
Occupational Status of All Carers (n = 103) and Partners (n = 88)

<table>
<thead>
<tr>
<th></th>
<th>Carers</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percentage</td>
</tr>
<tr>
<td>Very High Occupational Status (levels 5 &amp; 6)</td>
<td>3</td>
<td>2.91</td>
</tr>
<tr>
<td>High Occupational Status (level 4)</td>
<td>55</td>
<td>53.39</td>
</tr>
<tr>
<td>Medium Status (level 3)</td>
<td>27</td>
<td>26.21</td>
</tr>
<tr>
<td>Low Status (levels 1 &amp; 2)</td>
<td>18</td>
<td>17.50</td>
</tr>
</tbody>
</table>

7.9.2 Family Socio-economic Data for all Carers

Homeownership

Among carers three quarters of families (75.7%) owned or were buying their own homes with the remainder (24.3%) renting. Among single parent families nine of the eleven single parent carers (81.81%) were renting their accommodation. Single parent carers account for 39% of the rental accommodation in this sample.

Number of times moved in the last five years

When carers were asked about the number of times they had moved in the last five years almost half of them (49.5%) indicated that they had not moved. Ten families (9.7%) indicated that they had moved from 3 – 6 times in the last five years. Once again it appears that this can be attributed to a number of single carer families, with 58% stating that they had moved from two to four times in the last five years.

Accommodation

Most families in this sample said that they lived in houses (90.3%) with a smaller number living in town houses (4.9%). A much reduced number of families were living in flats or
units (1.9%) and only three families (2.9%) nominated that they lived in accommodation different to the categories already stated.

Financial Status

As Table 7.15 illustrates, when carers were asked about how adequate their financial situation was there were no families who indicated that their financial status was very inadequate. Most families indicated that their financial position was average. Nevertheless a reasonable number of families stated that their financial position was somewhat inadequate and that they were not well off.

| Table 7.15 |
| Financial Status of All Carers (n = 103) |
| n | % |
|----------------------------------------|
| My financial position if somewhat inadequate. I am not well-off | 19 | 18.4 |
| My financial position is about average. I can make ends meet | 76 | 73.8 |
| My financial position is very adequate. I am well-off | 8 | 7.8 |

7.9.3 Present family composition

Most families were of the nuclear structure in this sample with the addition of a small number of extended family types. Although up until now no other regional comparisons have been made it is useful to examine the extended family types for regional differences.

For Baulkham Hills there were six non-traditionally structured families, three of which had parents who had been born overseas. Two were smaller and consisted of single parents living with their older parents while the other four extended families ranged in size from 6 – 10 people and consisted of a nuclear family with an extension to include elderly parents or relatives.

Although the seven, non-traditionally structured Mt Druitt families were similar in that they contained five extended, similarly structured families of 5 – 8 people and two smaller, single parent families living with elderly parents, half of these seven families were more financially disadvantaged and only two families had parents of ethnic origin, unlike those extended Baulkham Hills families.
Number of Children

The number of children per family ranged from 2 to 10 with the sample reflecting that half its families had four children (51.5%), with smaller but notable percentages for three (22.3%) and five (15.5%) children families also.

Characteristics of Single Carer Families

In this sample there were eleven families (10.78%) who were single families or carers without partners. It should be noted here that one family was regarded as missing due to an inability of the carer to provide information about whether she was partnered or unpartnered. The interesting socio-economic characteristics of these families, identified in Table 7.16 were that 45.45% of them were not born in Australia (they were not recent arrivals, however, because they had been in Australia from 9 to 37 years); ten out of twelve families (81.18%) were renting; seven of the families (approximately 50%) had moved 2 to 4 times in the last five years; three families (approximately 25%) said they had a somewhat inadequate financial situation and these carers’ educational levels were reasonably low with a secondary or trade/technical educational background and a low to medium occupational status.

Characteristics of Carer Families

In this sample there are 91 families (89.21%) with partners. In contrast to the single carer families illustrated in Table 7.16, the families with partners demonstrate the following characteristics in this sample:

- fourteen families (14.4%) were renting their accommodation;

- at least half the families (52.22%) had not moved and 31 families (34.44%) only having to move once with only 13 families (14.28%) having to move 2 to 6 times in the last five years;

- financial problems still seemed present for 18 families (19.8%); and

- 32 families (35.16%) had come from countries other than Australia and three family couples had only been in Australia for five years or less;
• women (36.6%) exceed the number of men (31.1%) going to university in this sample by five percent but also have a larger number of whom have only completed secondary education (41.1%) whereas for men university (31.1%), trade/tech (31.1%) and secondary education (28.8%) are fairly equally weighted.

While more than half the carers are employed in high status occupations which is quite a contrast to single carers at approximately 20%, there are still 40% of carers who are in the low to medium occupational status bracket, as can be seen from Table 7.16. On the other hand, most partners of carers enjoy medium to high occupational status jobs, unlike either the single carer or carer groups.

These two groups of single carers and carers appear to have a similar employment pattern except for carers’ involvement in more full time employment, unlike the partners of carers who appear to have a preoccupation with full time employment. The traditional notion of the ‘young’ family with the male partner as ‘bread winner’ and the female partner involved in part time work is supported here.

Table 7.16
Characteristics of Single Carer and Carer Families

<table>
<thead>
<tr>
<th></th>
<th>Single Carers</th>
<th>Carers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Born in Australia</td>
<td>6</td>
<td>54.5</td>
</tr>
<tr>
<td>Renting</td>
<td>9</td>
<td>81.8</td>
</tr>
<tr>
<td>Moved 2–6 times in last 5 years</td>
<td>6</td>
<td>54.5</td>
</tr>
<tr>
<td>Financial inadequacy</td>
<td>3</td>
<td>27.3</td>
</tr>
<tr>
<td>Carers who only have secondary education</td>
<td>8</td>
<td>72.7</td>
</tr>
<tr>
<td>Carers with low to medium occupational status</td>
<td>9</td>
<td>81.8</td>
</tr>
<tr>
<td>Carers with high occupational status</td>
<td>2</td>
<td>18.2</td>
</tr>
<tr>
<td>Carer part time employment Status</td>
<td>4</td>
<td>36.3</td>
</tr>
<tr>
<td>Carer involvement in home duties</td>
<td>5</td>
<td>45.4</td>
</tr>
<tr>
<td>Carer employed in full time work</td>
<td>1</td>
<td>9.1</td>
</tr>
</tbody>
</table>
**Summary of Differences between Single Carers and Carers**

*Table 7.16* alerts the reader to the need for caution when considering the sample sizes between carers (n = 91) and single carers (n = 11). It is obvious from the data that there are considerable socio-economic differences in terms of renting and number of times moved in the last five years. Single carers are six times more likely to rent than carers and almost three times more likely to move 2 – 6 times in the last five years than carers. While financial inadequacy appears to be a problem for both groups and occupational status is quite a different picture in the high status category there are some similarities for the other aspects as is the case for educational status and employment.

In terms of educational status carers are even more likely to attend university than their husbands but like single carers there are still significant numbers of carers who have only undertaken education at secondary level. Furthermore employment patterns have some similarities with 45.45% of single carers involved in home duties and 36.36% in part time casual work whilst 27.7% carers undertake home duties and 30% are involved in part time casual work. Full time work differences are noticeable with only 9% of single carers undertaking full time employment and 26.6% carers involved in full time employment.

Moreover when it came to family health it was interesting to note that the eleven single carer families appeared to have more problems than carer families. Although caution needs to be taken when comparing inadequate statistical numbers, single carer families (X = 3.36) were watching even more TV with their child than carers (X = 2.85), in fact 57% of single carers watched TV with their child ‘a lot of the time’. As well single carers smoked even more and drank more coffee (X = 5.09) than either those carers from Mt Druitt (X = 5.83) or Baulkham Hills carers (X = 8.24).

Out of this small single carer sample dietary deficiencies were also noted for 43% of families. Such problems were that: four children had gaps in their food intake either related to not recording food or no intake; two children had no drinks all day; one child had breakfast at 10.30 a.m; one child’s snacks were inadequate; another child had no fruit all day; another child had a lolly and a biscuit after lunch while another child had a Milkyway bar at 10 am then hot chips and sauce for lunch with a further child having coke for dinner.
7.10 SUMMARY

This Chapter outlined the method used to construct a questionnaire to be used to measure the health behaviours that parents undertake for their preschool aged children in the two regions – Mt Druitt and Baulkham Hills – in Western Sydney. Of central importance were the methodological considerations discussed that were deemed essential for this quantitative study. They were the research aims, sampling sources, the process of constructing the health behaviour questionnaire for parents and the identification and development of the wellness, health promotion and illness prevention domains and clusters so central to health measurement. Other aspects addressed were the demographic cluster, piloting the questionnaire, an overview of data analysis and a description of the samples of all respondents as well as the carer and single carer samples.

The next Chapter 8 moves on to present the results of the analysis of the quantitative study for the carer sample. First the results for the demographic cluster are presented then the results for each cluster within each health domain of wellness, health promotion and illness prevention are presented. Finally, at the end of the Chapter, the results of the quantitative study (study two) will be discussed.
CHAPTER 8
QUANTITATIVE STUDY RESULTS

This Chapter presents the results of the analysis of the quantitative study. It builds on Chapter 7 which sets out the methodology, along with an explanation how measures of wellness, health promotion and illness prevention were introduced for use in this questionnaire based study. The scaffolding which supports the methodology accompanying this result Chapter was the thematic outcomes of the qualitative study reported in Chapter 6 – that of the major theme of ‘The Nature of Health’ and the other themes of ‘The Multi-dimensional Nature of Child Health Behaviour’ and ‘The Inter-generational Theme.’

In presenting the results for the quantitative study, this Chapter investigates the demographic cluster and then examines how the wellness, health promotion and illness prevention domains differ between two markedly different socio-economic strata – Mt Druitt and Baulkham Hills. The wellness domain focuses on what was considered wellness behaviour for preschool aged children and their families and contains the seven clusters: cohesion, initiation, mental health, well-being, healthy practices, resourceful and well adapted. It also comprises the health promotion domain which reflects meaningful health promotion concepts for parents and their preschool aged children consisting of mental health, nutrition, healthy practices and well adapted clusters. Finally, the illness prevention domain is represented by the clusters of well adapted and healthy practices, which are deemed appropriate for measuring illness prevention associated with health behaviours of parents towards their preschool aged child. Quantitative data for all these clusters and the variables are presented for carers – defined as mothers with a partner who undertake most of the caring for their preschool aged child.

In accordance with the above definition of a carer, the reader will note that in Chapter 7.9.3 an examination of the sample of 91 carers – 41 from Mt Druitt (45.05%) and 50 from Baulkham Hills (54.94%) – was undertaken. While the major focus for the quantitative study is on carers from Mt Druitt and Baulkham Hills, it should also be noted
that the total sample \( n = 103 \) consisted of carers \( n = 91 \) as well as single carers \( n = 11 \), defined as mothers caring for their preschool aged child without a partner.

On the basis that socio-economic differences were found for the regions of Mt Druitt and Baulkham Hills in the 1991 Census and were supported by the 1996 Census (see sampling rationale in Chapter 5.2.1), the comparison study of carers in the two was undertaken. In addition, because Census material also supported socio-economic differences between single parents and two parent families, carers \( n = 91 \) were compared with single parent carers \( n = 11 \) in Chapter 7.9.3 to note any differences between these groups, especially those of a socio-economic nature. It is also noted here that one of the carers did not provide information about whether she was partnered or unpartnered so she was regarded as missing from this analysis.

### 8.1 Exploring the Demographic Cluster and Determining the Demographic Covariates

In seeking factors that differentiate the families of carers in Mt Druitt from the families of carers in Baulkham Hills on the three domains — wellness, health promotion and illness prevention — an initial investigation of the cluster of demographic variables was undertaken. Such an examination is important for two reasons. Firstly, the demographic variables are foundational and structural, and have important influences on an individual’s life course. Demographic variables that discriminate between the two regions are of interest in their own right. Secondly, it is desirable to account for any differences on these demographic variables between regions in order to statistically control for these differences in the subsequent analyses of the three health domains. With this in mind the demographic cluster is explored to identify covariates to be used in the subsequent analyses undertaken on the clusters of the wellness, health promotion and illness prevention domains.

#### 8.1.1 Results: Investigation of the Demographic Cluster

The demographic variables associated with carers were examined by multivariate analysis of variance for region (as previously described in Chapter 7.6.5).
The results of the MANOVA analysis of the demographic cluster indicate that there is a significant multivariate relationship (Wilks Lambda $F = 7.45; \text{df} = 15, 72; p < .000$) as is set out in Table 8.1.

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>$F (15, 72)$</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.39</td>
<td>7.45</td>
<td>.000</td>
<td>.971</td>
<td>-.02</td>
</tr>
<tr>
<td>Family size</td>
<td>.00</td>
<td>.971</td>
<td>-.02</td>
<td>-.00</td>
<td></td>
</tr>
<tr>
<td>Accommodation (House or Other)</td>
<td>.58</td>
<td>.447</td>
<td>-.03</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>Homeownership (Owning or Renting)</td>
<td>.90</td>
<td>.344</td>
<td>-.30</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Number of Times Moved (In the last five years)</td>
<td>.06</td>
<td>.798</td>
<td>-.06</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Financial adequacy</td>
<td>6.27</td>
<td>.014</td>
<td>-.08</td>
<td>-.21</td>
<td></td>
</tr>
<tr>
<td>Carer age</td>
<td>15.97</td>
<td>.000</td>
<td>.64</td>
<td>.34</td>
<td></td>
</tr>
<tr>
<td>Partner age</td>
<td>8.98</td>
<td>.004</td>
<td>.07</td>
<td>-.26</td>
<td></td>
</tr>
<tr>
<td>Carer country of birth (Australia or Other)</td>
<td>13.08</td>
<td>.001</td>
<td>.63</td>
<td>.31</td>
<td></td>
</tr>
<tr>
<td>Partner country of birth (Australia or Other)</td>
<td>4.08</td>
<td>.046</td>
<td>.26</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>Carer educational status (Secondary, Technical or Tertiary)</td>
<td>11.67</td>
<td>.001</td>
<td>-.36</td>
<td>-.29</td>
<td></td>
</tr>
<tr>
<td>Partner educational status (Secondary, Technical or Tertiary)</td>
<td>14.11</td>
<td>.000</td>
<td>-.17</td>
<td>-.32</td>
<td></td>
</tr>
<tr>
<td>Carer occupational status (High, Medium or Low)</td>
<td>19.96</td>
<td>.000</td>
<td>-.43</td>
<td>-.38</td>
<td></td>
</tr>
<tr>
<td>Partner occupational status (High, Medium or Low)</td>
<td>39.84</td>
<td>.000</td>
<td>-.31</td>
<td>-.54</td>
<td></td>
</tr>
<tr>
<td>Carer employment status (Working or Not Working)</td>
<td>.19</td>
<td>.663</td>
<td>-.29</td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Partner employment status (Working or Not Working)</td>
<td>2.07</td>
<td>.154</td>
<td>.42</td>
<td>.12</td>
<td></td>
</tr>
</tbody>
</table>

After missing data was accounted for by the variables carer age, partner age, carer country of birth and partner country of birth the sample size dropped from n = 91 to n = 88.
Variables were examined in order of apparent contribution to the multivariate result. Inspection of the univariate results along with the discriminant function and structure coefficients suggests that nine demographic variables — partner occupational status, carer occupational status, carer age, partner educational status, carer country of birth, carer educational status, partner age, financial adequacy and partner country of birth — are differentiating the regions of Baulkham Hills and Mt Druitt.

The adequacy of these variables as a reduced subset was tested by introducing them as covariates. There is still multivariate significance observed among the remaining variables (Wilks Lambda F = 2.23; df = 6, 72; p< .049) and clearly one or more of the demographic covariates is creating an enhancement effect for the variables partner employment status (F = 5.48; df = 1, 88; p< .022) and homeownership (F = 4.02; df = 1, 88 p< .048). Examination of the way partner employment status significantly covaries with carer country of birth (t = -2.58; p< .012) and with partner occupational status (t = -2.34; p< .022) as well as homeownership significantly covarying with carer country of birth (t = 2.29; p< .025) are most likely responsible for the enhanced univariate results.

It should be noted here that this enhancement effect created by the covariate relationships of carer country of birth and partner employment status, partner occupational status and partner employment status and homeownership and partner employment status, is the reason that the nine demographic variables have been chosen as covariates rather than undertaking further reduction of these variables.

The nine variable Reduced Model was re-fitted and is significantly related to the dependent variable set at the multivariate level (Wilks F = 10.05; df = 9, 78; p< .000). The results reflect a very strong result with 53% of the variability between regions ($\omega = .53$) being explained by the multivariate combination of these nine variables. Each variable comprising the reduced model is now addressed, alongside an examination of internal covariance.

---

$\omega$ is an indication of the proportion of variance which is explained by the linear combination of the dependent variables. $\omega$ comes from (1-WILKS LAMBDA VALUE).
Partner and Carer Occupational Status

*Partner and carer occupational status* are examined together. They are positively correlated ($r = .34; p < .001$) and the occupational status of both carers ($F = 19.96; df = 1$, 86; $p < .000$) and partners ($F = 39.84; df = 1$, 86; $p < .000$) show significant univariate results. The average occupational status of carers in Baulkham Hills ($X = 3.89$) is somewhat higher than that of those carers living in Mt Druitt ($X = 3.09$). This is even more marked for partners living in Baulkham Hills ($X = 4.11$) who have a relatively high employment status compared to that for partners living in Mt Druitt ($X = 2.99$) who have more of a medium rated employment status.

**Carer Age**

Baulkham Hills carers are older on average ($X = 36.12$ years) than those carers in Mt Druitt ($X = 32.55$ years) ($F = 15.98; df = 1$, 86; $p < .000$).

*Carer age* also significantly covaries with a number of other demographic variables. The younger the carer the more they would have been likely to move in the last five years ($t = 2.32; p < .023$); the more likely they are to have been born overseas ($t = -2.02; p < .046$) and the smaller their family size ($t = -1.99; p < .049$).

**Partner and Carer Educational Status**

*Partner educational status* also differentiates between Mt Druitt and Baulkham Hills ($F = 14.11; df = 1$, 86; $p < .000$) in that the average educational status of partners in Baulkham Hills at ($X = 2.16$) is higher at the trade/technical educational level than that of those partners in Mt Druitt ($X = 1.55$) who are more inclined to have completed only secondary education.

*Carer educational status* differences are also apparent between regions ($F = 11.68; df = 1$, 86; $p < .001$). The regional mean carer differences were slightly smaller but similar for partners because carers living in Baulkham Hills had a higher educational status ($X = 2.14$) associated with trade/technical education than the Mt Druitt carers ($X = 1.52$) who were more likely to have completed secondary education only ([Figure 8.1]).
Furthermore *partner educational status* has a reasonably strong association with *partner occupational status* \( (r = .45; p < .000) \) as does *carer educational status* with *carer occupational status* \( (r = .44; p < .000) \) which indicates that the higher the educational level is for partners and carers the higher their occupational status.

**Figure 8.1**

**Mean Scores for Baulkham Hills and Mt Druitt Carers (n = 88)**
on Educational Status

![Graph showing educational status comparison between Baulkham Hills and Mt Druitt carers]

**Carer Country of Birth**

There are significantly more Australian born carers living in Baulkham Hills \( (X = 1.12) \) than in Mt Druitt \( (X = 1.45) \) \( (F = 13.08; df = 1, 86; p < .001) \) (See Figure 8.2). As would be expected carer country of birth is correlated with the country of birth of their partners \( (r = .36; p < .000) \).
Figure 8.2
Mean Scores for Mt Druitt and Baulkham Hills Carers (n = 88) on Country of Birth

Partner Age

The partners of carers in Baulkham Hills are older (X = 38.42 years) than those partners of carers in Mt Druitt (X = 34.38 years) (F = 8.98; df = 1, 86; p < .004). A further moderate correlation of interest is that of partner age and partner occupational status (r = .30; p < .004). The older the partner the higher the partner occupational status.

Financial Adequacy

In terms of financial adequacy, families are somewhat more likely to be financially well-off if they live in Baulkham Hills (X = 3.03) compared to the financial adequacy of families living in Mt Druitt (X = 2.88) (F = 6.28; df = 1.86; p < .014).

Both the variables partner occupational status and carer occupational status have a reasonable, positive association and share the same correlation with financial adequacy (r = .35; p < .001). Partner educational status (r = .29; p < .005) is also positively correlated with financial adequacy. Low occupational status among carers and partners and low educational status among partners are associated with low financial status. As well, larger families tend to have lower financial status.
Partner Country of Birth

Australian born partners are more likely to be located in Baulkham Hills ($X = 1.14$) than they are in Mt Druitt ($X = 1.32$) ($F = 4.08; \ df = 1, 86; p< .046$). As would be expected partner country of birth is moderately to strongly associated with carer country of birth ($r = .36; p< .000$).

Summary of Demographic Cluster Analysis

Nine variables – partner occupational status, carer occupational status, partner educational status, carer educational status; partner country of birth, carer country of birth, partner age, carer age, financial adequacy – differentiate the two regions (Wilks $F = 7.45; \ df = 15, 72; p< .000$). In Mt Druitt, carers and their partners have lower occupational and educational status, carers are younger, less likely to be Australian born and have a less adequate financial situation. Partners in Mt Druitt are also younger and less likely to be Australian born than respondents in Baulkham Hills.

8.1.2 Use of Demographic Variables as Covariates

These nine demographic variables which differ between the two regions were used as covariates in all subsequent analyses of variable domains and clusters, in accordance with Section 7.8.

Cluster Reduction

In line with Section 7.9.5, after the identification of covariates from the demographic variables the next step was to examine the dependent variables comprising the clusters which made up the three domains by using the technique of MANCOVA. The procedure for reducing the dependent variables for each cluster was the examination of the univariate findings for all variables and their inclusion in the reduced model if the observed $F$-value led to rejection of the Null Hypothesis at $\alpha = .05$ and examination of the size of the discriminant function co-efficients and the structure co-efficients to select dependent variables as covariates for inclusion in the subset. A reduced model for

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$^3$ It should also be noted that, unless stated otherwise, all the reported means for the following analyses are the adjusted means that are required to be reported when undertaking the technique of covariance.
each cluster was determined along with the influence of the specific demographic variables, introduced as covariates.\textsuperscript{4}

The adequacy of the reduced model was tested if no multivariate significance was observed among the remaining variables and if no remaining dependent variables demonstrated univariate significance.

8.2 THE WELLNESS HEALTH DOMAIN

Are there any variables in the Wellness Health Domain that differentiate between health behaviours that families undertake in the two regions of Mt Druitt and Baulkham Hills? The Wellness Health Domain consisting of seven clusters – cohesion, initiation, mental health, well-being, resourceful, healthy practices and well adapted – was examined. The reader is referred back to 7.6 for a full explanation of the procedure by which the clusters were developed.

8.2.1 The Cohesion Cluster

The cohesion cluster measures the amount of sharing of family decisions and sharing of family tasks/activities. Family sharing behaviour particularly in terms of decisions and tasks is considered an important aspect in determining if families follow a wellness lifestyle approach. According to Table 8.2 when region is analysed as an independent variable with the cohesion cluster it is multivariately significant (Wilks Lambda F = 2.91; df = 8, 82; p< .006).

\textsuperscript{4} Reference should also be made here to the \textit{a priori} rule (see Chapter 7) that had set the level of alpha at 0.1 for all multivariate analyses
Table 8.2
Multivariate Analysis of Variance for Variables forming the Cohesion Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (8, 82)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.88</td>
<td>2.91</td>
<td>.006</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child involvement in decision making</td>
<td>.59</td>
<td>.441</td>
<td>-.28</td>
<td>.15</td>
</tr>
<tr>
<td>Sharing of family decisions generally</td>
<td>2.28</td>
<td>.134</td>
<td>.51</td>
<td>.30</td>
</tr>
<tr>
<td>Including the child’s view</td>
<td>5.08</td>
<td>.028</td>
<td>.83</td>
<td>.44</td>
</tr>
<tr>
<td>Sharing of different family decisions</td>
<td>.68</td>
<td>.412</td>
<td>-.39</td>
<td>-.16</td>
</tr>
<tr>
<td>Ideal sharing of family decisions</td>
<td>4.45</td>
<td>.038</td>
<td>.33</td>
<td>.42</td>
</tr>
<tr>
<td>Difference between actual and ideal sharing of decision making</td>
<td>.00</td>
<td>.984</td>
<td>.28</td>
<td>.00</td>
</tr>
<tr>
<td>Sharing family tasks</td>
<td>6.68</td>
<td>.011</td>
<td>.80</td>
<td>.51</td>
</tr>
<tr>
<td>Child helping with tasks</td>
<td>.21</td>
<td>.648</td>
<td>-.08</td>
<td>.09</td>
</tr>
</tbody>
</table>

Reducing the Cohesion Cluster and Re-fitting the Reduced Cohesion Model

On inspection of the p-values, standardised discriminant function and structure coefficient, the variables sharing family tasks and including the child’s view appeared sufficient as a reduced model. No multivariate significance was observed among the remaining variables (F = 1.68; df = 6, 82; p< .150) when these two variables were included as covariates. The reduced two variable model for the cohesion cluster was refitted (Wilks F = 5.68; df = 2, 84; p< .005). The reduced cluster explains (ω = 0.13) or 13% of the variability between the regions.

Sharing Family Tasks

Partners of families who live in Mt Druitt are relatively more likely to be involved in sharing family tasks (X = 9.31) than those partners of families in Baulkham Hills.
(X = 8.36) (Wilks F = 6.68; df = 1, 89; p < .011). It can be seen clearly in Figure 8.3 that for both regions partners are involved in some sharing of family tasks.  

Figure 8.3
Amount of Sharing of Family Tasks by Partners by Region.
Carers (n = 91)

This variable, sharing family tasks, in which high scores indicate more sharing, is a summed score comprising such tasks: as bathing and dressing your preschool aged child, cleaning your preschool aged child’s teeth, cooking dinner, and doing the housework and the laundry. As can be seen in Table 8.3, when each item is analysed separately partners of families from Mt Druitt were relatively more likely to share bathing their preschool aged child (X = 1.70) than those partners of families from Baulkham Hills (X = 1.50) (t = -2.03; df = 89; < .046). Furthermore family partners from Mt Druitt were also somewhat more likely to share doing the laundry (X = 1.44) than those family partners in Baulkham Hills (X = 1.20) (t = -2.52; df = 89; p < .014).

5 In order to ensure that the relativity of the group difference with respect to the measurement scales is always clear, graphs and figures will be presented systematically to illustrate the difference between two means.
Table 8.3
Results of Independent T Tests for the Regions of Mt Druitt and Baulkham Hills for Six Single Items in the Variable Sharing Family Tasks
Carers (n = 91)

<table>
<thead>
<tr>
<th>Item</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathing your preschool aged child</td>
<td>-2.04</td>
<td>.046</td>
</tr>
<tr>
<td>Dressing your preschool aged child</td>
<td>1.86</td>
<td>.060</td>
</tr>
<tr>
<td>Doing the laundry</td>
<td>-2.46</td>
<td>.014</td>
</tr>
<tr>
<td>Cooking the dinner</td>
<td>-1.58</td>
<td>.120</td>
</tr>
<tr>
<td>Housework</td>
<td>-1.53</td>
<td>.129</td>
</tr>
<tr>
<td>Cleaning your preschool aged child's teeth</td>
<td>.10</td>
<td>.921</td>
</tr>
</tbody>
</table>

Including the Child’s View

The next significant variable for the cohesion cluster was that of including the child’s view (F = 5.08; df = 1, 89; p< .028). Carers in Mt Druitt are relatively more likely to include their child’s views (X = 13.23) than those families in Baulkham Hills (X = 11.84) (F = 5.08; df = 2, 89; p< .028). Nevertheless, Figure 8.4 makes the point that in a relative sense families in both regions sometimes include their child in decision making situations.

Figure 8.4
Including the Child’s View by Region
Carers (n = 91)
The variable including the child's view contained such items as deciding about what my child wants to do on a special outing, deciding what friends to have over to play, deciding what my child wants for dinner, deciding what to buy in the supermarket and deciding what time my child goes to bed. As can be seen from Table 8.4, carers in Mt Druitt were somewhat more likely to include their child's views in a decision about what to have for his/her dinner (X = 2.81), than those carers in Baulkham Hills (X = 2.40) (t = -2.48, df = 89; p < .015). Once again those carers in Mt Druitt were relatively more likely to include their child in the decision about what to buy from the supermarket (X = 2.39) than those carers from Baulkham Hills (X = 1.92) (t = -2.83; df = 89; p < .006) and carers from Mt Druitt were also slightly more likely to include their child in the decision about what time she/he went to bed (X = 2.09) than those carers from Baulkham Hills (X = 1.60) (t = -2.71; df = 89; p < .008).

Table 8.4
Results of Independent T Tests for the Regions of Mt Druitt and Baulkham Hills for Five Single Items in the Variable Including the Child's View Carers (n = 91)

<table>
<thead>
<tr>
<th>Item</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciding about what my preschool aged child wants for dinner</td>
<td>-2.48</td>
<td>.015</td>
</tr>
<tr>
<td>Deciding about what to buy from the supermarket</td>
<td>-2.83</td>
<td>.006</td>
</tr>
<tr>
<td>Deciding about what time my preschool aged child goes to bed</td>
<td>-2.71</td>
<td>.008</td>
</tr>
<tr>
<td>Deciding what my preschool aged child wants to do on a special outing</td>
<td>.45</td>
<td>.658</td>
</tr>
<tr>
<td>Deciding about what friend/friends to have over to play</td>
<td>-.43</td>
<td>.666</td>
</tr>
</tbody>
</table>

Covariates for each Variable in the Reduced Cohesion Cluster

Can the regional differences be explained for this cluster by the underlying structural differences previously identified in the demographic cluster? When the nine significant demographic variables were introduced as covariates there was still multivariate significance remaining in the cohesion cluster (F = 2.98; df = 2, 86; p < .058). It appears that whilst some combination of the demographic covariates is sufficient to explain the differences between the regions for including the child's view this is not the case for sharing family tasks which is still univariately significant (F = 4.14; df = 1, 88; p < .045)
as can be seen from Table 8.5. It therefore appears that sharing family tasks is the variable that is not accounted for by the demographic variables.

Table 8.5
Multivariate and Univariate Analysis of Variance for Region by Reduced Cohesion Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Multivariate Test Wilks Lambda</th>
<th>Value</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>F (2, 76)</td>
<td>.92</td>
<td>2.97</td>
<td>.057</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>-.30</td>
<td>.764</td>
</tr>
<tr>
<td>Partner Age</td>
<td>-.59</td>
<td>.558</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>.84</td>
<td>.402</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>.14</td>
<td>.891</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>.06</td>
<td>.951</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-2.71</td>
<td>.008</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>1.36</td>
<td>.179</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>-2.22</td>
<td>.029</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>-.43</td>
<td>.666</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate F Value (df = 1, 77)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Including the child's view</td>
<td>1.45</td>
<td>.232</td>
<td>.56</td>
</tr>
<tr>
<td>Sharing family tasks</td>
<td>4.14</td>
<td>.045</td>
<td>.88</td>
</tr>
</tbody>
</table>

The two demographic variables that significantly covary with sharing family tasks (see Table 8.5) are partner occupational status (t = -2.22; p< .029) and carer country of birth (t = -2.81; p< .008). This result is strongly supported by the correlation which states that the higher the partner’s occupational status, the less sharing of family tasks and Australian born carers are less likely to be involved in sharing family tasks, unlike overseas born carers.

Many Australian born carers have Australian born partners (r = .36; p< .000). Do Australian born partners exclude themselves from family tasks, more so than overseas born partners? Or is it that Australian born partners are more involved in higher occupational status jobs which take them away from the family tasks? The latter may be more likely and is supported by noting that the higher the partner occupational status the
less sharing of family tasks takes place ($r = -.32; p < .002$). As occupational status is significantly higher on average for partners in Baulkham Hills than in Mt Druitt, there is support for lower occupational status partners in Mt Druitt being more involved in family tasks. Whether this is due to these lower occupational status partners working shift work and therefore being home earlier or working more flexible and shorter hours so that they have more time to assist with the family tasks during the week is not able to be determined.

Unlike the variable *sharing family tasks*, the variable *including the child’s view* is no longer significant as can be seen from Table 8.5. The regional differences for *including the child’s view* can be fully explained by structural differences inherent in the nine demographic covariates. A pattern emerges of younger partners, but older carers; lower occupational status partners and carers; lower educational status carers, but higher educational status partners; Australian born partners and carers and more financially adequate families including their child’s view more.

### 8.2.2 The Initiation Cluster

The initiation cluster includes variables which measure wellness behaviour of families and involves initiating family activities such as planning for certain family activities as well as examining carers’ intentions and the likelihood of their initiating health behaviours for their children. According to Table 8.6, when region is analysed as an independent variable with the initiation cluster it is multivariately significant (Wilks Lambda $F = 2.30; df = 5, 85; p < .052$).
Table 8.6
Multivariate Analysis of Variance for Variables forming the Initiation Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (5, 85)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Co-efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.88</td>
<td>2.30</td>
<td>.052</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Family planning for activities | 1.88 | .174 | -.43 | -.39 |
| Media influence on child health | .15  | .698 | -.26 | .11  |
| Health professionals’ influence on child health | 6.43 | .013 | -.81 | -.83 |
| Parental influence on child health | .00  | .947 | .12  | .01  |
| Parental initiation of child health activities | 3.64 | .060 | -.48 | -.55 |

Reducing the Initiation cluster and re-fitting the Reduced Initiation Cluster

Inspection of univariate results, the discriminant function and the structure co-efficients suggested that health professionals’ influence on child health could be a single variable sufficient in the reduced model. When introduced as a covariate no multivariate significance was observed among the remaining variables (F = 1.25; df = 4, 85; p< .296). The reduced one variable model for the initiation cluster was refitted (Wilks F = 6.44; df = 1, 89; p< .013) and explains 7% of the variability between regions.

Health Professionals’ Influence on Child Health

Carers of families in Baulkham Hills are somewhat less likely to agree that health professionals have an influence over their child’s health (X = 21.84) than those family carers from Mt Druitt (X = 19.49) (F = 6.43; df = 1, 89; p< .013). High scores on health professionals’ influence on child health represent disagreement with health professionals influencing child health. As Figure 8.5 suggests, both carer groups somewhat agree that health professionals have an influence over their child’s health, but this is relatively stronger in Mt Druitt.
Covariates for each Variable in the Reduced Initiation Cluster

As can be seen from Table 8.7 when the nine demographic covariates were introduced, no univariate significance was observed in the remaining variable of health professionals’ influence on child health (F = .00; df = 1, 86; p< .988). It appears that the regional differences can be explained for the reduced initiation cluster by structural differences identified in the demographic cluster.

Health professionals’ influence on child health is approaching covariate significance with partner country of birth (t = 1.78; p< .079) in that carers with Australian born partners are more likely to agree with health professionals influencing their child’s health than carers of overseas born parents (r = -.28; p< .008). This finding appears to be inconsistent since it has already been shown that there are more Australian born partners and carers in Baulkham Hills. Clearly a complex covariate relationship is at work here.
Table 8.7
Univariate Analysis of Variance for Region by Reduced Initiation Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>-.00</td>
<td>.995</td>
</tr>
<tr>
<td>Partner Age</td>
<td>.04</td>
<td>.962</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>-.14</td>
<td>.885</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>.85</td>
<td>.395</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-.88</td>
<td>.383</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>-1.78</td>
<td>.079</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>.86</td>
<td>.393</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>.66</td>
<td>.512</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>1.55</td>
<td>.125</td>
</tr>
</tbody>
</table>

Univariate F Value (df = 1, 86)
P<

Health professionals’ influence on child health | .00 | .988

Secondary Results

*Parental Initiation of Child Health Activities*

The variable *parental initiation of child health activities* should also be noted because it is approaching significance in differentiating the regions at the univariate level (F = 3.64; df = 1, 89; p< .060). Carers from Baulkham Hills are somewhat more likely to agree that they initiate effective child health activities for their child’s health (X = 32.89) than those carers from Mt Druitt (X = 31.16).

8.2.3 The Mental Health Cluster

The third cluster to be reviewed is that of mental health deemed important in a wellness lifestyle. This cluster measures how the family gets on with each other as well as the amount of stress that the family experiences. When region is analysed as an independent variable with the mental health cluster it is multivariately significant (Wilks Lambda F = 2.88; df = 2, 88; p< .068). Full results are set out in Table 8.8.
Table 8.8
Multivariate Analysis of Variance for Variables Forming the Mental Health Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (2, 88)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.94</td>
<td>2.77</td>
<td>.068</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting on with your family</td>
<td>.05</td>
<td>.821</td>
<td>-.86</td>
</tr>
<tr>
<td>Amount of family stress</td>
<td>2.98</td>
<td>.088</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Reducing the Mental Health Cluster and Re-fitting the Reduced Mental Health Cluster

Inspection of the univariate results along with the discriminant function and the structure co-efficients suggested that it is the variable *amount of family stress* which is the critical variable and when introduced as a covariate no multivariate significance is observed among the remaining variable (F = 2.52; df = 2, 88; p< .116).

The reduced model for the mental health cluster was re-fitted (Wilks F = 2.98; df = 1, 89; p< .088). It is a relatively weak model and explains only 3% of the variability between the regions.

*Amount of Family Stress*

Families from Baulkham Hills are likely to have less family stress (X = 28.46) than those families who come from Mt Druitt (X = 26.56). Relatively, both groups experience some family stress as is illustrated in Figure 8.6.
The amount of family stress was a summed score from nine items. When examined individually (Table 8.9) regional differences were only noted for stress from an unsatisfactory relationship with a partner. Carers in Baulkham Hills were relatively less likely to suffer with stress from an unsatisfactory relationship with their partner ($\bar{x} = 3.64$) than those carers in Mt Druitt ($\bar{x} = 3.26$).

Table 8.9
Results of Independent T Tests for the Regions of Mt Druitt and Baulkham Hills for Nine Single Items in the Variable Amount of Family Stress Carers (n = 91)

| Item                                | t-Value | p<  
|-------------------------------------|---------|-----
| Unsatisfactory relationship with your partner | 2.02    | .048 
| Communicating with my preschool aged child/children | 1.88    | .089 
| Lack of shared responsibility in the family | 1.81    | .083 
| Insufficient time together with partner | -.02    | .982 
| Family members not feeling appreciated | 1.04    | .303 
| Your preschool aged child's behaviour | 1.34    | .218 
| Insufficient time for yourself | .55     | .588 
| Doing too many activities | .48     | .635 
| Concerns about family health | 1.28    | .209 

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Covariates for each Variable in the Reduced Mental Health Cluster

Can the regional differences be explained for this cluster by underlying structural differences previously identified in the demographic cluster? Again, when the nine demographic variables were introduced as covariates it could be seen from Table 8.10 that no univariate significance was observed (F = .20; df = 1, 86; p< .660). It seems that regional differences in the amount of family stress can be fully explained in terms of structural differences contained in the demographic cluster.

Table 8.10
Univariate Analysis of Variance for Region by Reduced Mental Health Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>.16</td>
<td>.883</td>
</tr>
<tr>
<td>Partner Age</td>
<td>.85</td>
<td>.455</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>.62</td>
<td>.538</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>-.94</td>
<td>.351</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-1.48</td>
<td>.141</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>-.22</td>
<td>.825</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>1.05</td>
<td>.294</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>-.84</td>
<td>.403</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>1.84</td>
<td>.069</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Univariate F Value (df = 1, 86)</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of family stress</td>
<td>.20</td>
<td>.660</td>
</tr>
</tbody>
</table>

Financial adequacy covaries with amount of family stress (t = 1.84; p< .069). Financially adequate families tend to be lower in family stress (r = .22; p< .036).

8.2.4 The Well-being Cluster

Three clusters which are part of the health wellness domain have been examined to date. The fourth cluster to be addressed is that of well-being. It is argued that a sense of well-being as well as that of sound mental health, is important for wellness behaviour. The well-being cluster consists of ten randomly selected items from the forty-four item Well-being scale of the Californian Psychological Inventory (CPI) (see Chapter 7). The
variables were unable to be summed because their Cronbach alpha results were too low at 0.07. On this basis it was determined that the items should be fitted as individual items to measure the notion of carer well-being. There is no difference in the two regions of Mt Druitt and Baulkham Hills for these items forming the well-being cluster (Wilks Lambda $F = 1.39; \ df = 10, 80; p < .199$) see Table 8.11.

Table 8.11
Region by the Well-Being Cluster with Nine Covariates
Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (10, 80)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.85</td>
<td>1.39</td>
<td>.199</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>I usually expect to succeed in the things I do</td>
<td>.81</td>
<td>.380</td>
<td>.62</td>
<td>.23</td>
</tr>
<tr>
<td>Several times a week I feel as if something dreadful is about to happen</td>
<td>5.01</td>
<td>.028</td>
<td>.63</td>
<td>.58</td>
</tr>
<tr>
<td>I get all the sympathy I should</td>
<td>1.85</td>
<td>.189</td>
<td>-.19</td>
<td>-.33</td>
</tr>
<tr>
<td>Sometimes I cross the street just to avoid meeting someone</td>
<td>1.63</td>
<td>.205</td>
<td>.29</td>
<td>.32</td>
</tr>
<tr>
<td>I usually feel that life is worthwhile</td>
<td>.60</td>
<td>.438</td>
<td>-.20</td>
<td>-.19</td>
</tr>
<tr>
<td>If you are able and willing to work hard you have a good chance of succeeding</td>
<td>.48</td>
<td>.492</td>
<td>-.28</td>
<td>-.18</td>
</tr>
<tr>
<td>When I am feeling very happy and active, someone who is blue or low will spoil it all</td>
<td>3.44</td>
<td>.068</td>
<td>.38</td>
<td>.48</td>
</tr>
<tr>
<td>I remember ‘playing sick’ to get out of something</td>
<td>.96</td>
<td>.328</td>
<td>.22</td>
<td>.25</td>
</tr>
<tr>
<td>I hardly ever feel pain in the back of my neck</td>
<td>.52</td>
<td>.483</td>
<td>-.03</td>
<td>-.18</td>
</tr>
<tr>
<td>I have very few quarrels with members of my family with whom I live</td>
<td>.13</td>
<td>.818</td>
<td>-.08</td>
<td>-.09</td>
</tr>
</tbody>
</table>

To ensure that there was no enhancement of differences between the regions the nine demographic covariates were introduced and the multivariate results remained non-significant ($F = 1.56; \ df = 10, 68; p < .136$).
It should also be noted that the variable *several times a week I feel as if something dreadful is about to happen* is able to differentiate the regions at the univariate level \( (F = 5.01; \text{df} = 1, 89; p < .028) \). Mt Druitt carers are more likely to describe themselves as feeling as if something dreadful is about to happen several times a week \( (x = .22) \) than those carers from Baulkham Hills \( (x = .06) \).

### 8.2.5 The Healthy Practices Cluster

The fifth cluster deemed important for health wellness was that of healthy practices associated with family lifestyle. The items and the multivariate results are reported in Table 8.12. The healthy practices cluster demonstrates multivariate significance (Wilks Lambda \( F = 4.13; \text{df} = 5, 85; p < .002 \)).

#### Table 8.12

**Multivariate Analysis of Variance for Variables from the Healthy Practices Cluster by Region. Carers (n = 91)**

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (5, 85)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Co-efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.80</td>
<td>4.13</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family members’ resistance to illness</td>
<td>( F \text{ Value (df = 1, 89)} ) 6.25</td>
<td>.014</td>
<td>-.40</td>
<td>-.53</td>
<td></td>
</tr>
<tr>
<td>Family members’ health habits</td>
<td>18.13</td>
<td>.000</td>
<td>-.80</td>
<td>-.89</td>
<td></td>
</tr>
<tr>
<td>How healthy is your family compared to others</td>
<td>2.60</td>
<td>.110</td>
<td>-.03</td>
<td>-.35</td>
<td></td>
</tr>
<tr>
<td>How often does your family relax together</td>
<td>.14</td>
<td>.804</td>
<td>.08</td>
<td>-.08</td>
<td></td>
</tr>
<tr>
<td>How often does your family sit down for a meal</td>
<td>.92</td>
<td>.339</td>
<td>-.28</td>
<td>-.20</td>
<td></td>
</tr>
</tbody>
</table>

#### Reducing the Healthy Practices Cluster and Refitting the Reduced Healthy Practices Cluster

Inspection of the univariate results along with the discriminant function and the structure co-efficient suggests that it is the variable *family members' health habits* that should be fitted as a covariate in the model. There was no multivariate significance observed among the remaining variables \( (F = .90; \text{df} = 4, 85; p < .463) \). It is concluded that this variable is a sufficient reduction.
The reduced one variable model for the healthy practices cluster was re-fitted (Wilks F = 17.13; df = 1, 89; p < .000) and explains 16% of the variability between the regions.

Family Members' Health Habits

Family members in Baulkham Hills are relatively more likely to have healthy habits (X = 8.24) than family members from Mt Druitt (X = 5.83) (F = 18.13; df = 1, 89; p < .000). The relativity of the means is demonstrated in Figure 8.7.

Figure 8.7
Family Members' Health Habits by Mt Druitt and Baulkham Hills Carers (n = 91)

Regional differences occurring for both smoking and caffeine drinking behaviour (the two items forming this variable) confirm these results (See Table 8.13). Family members in Mt Druitt were somewhat more likely to smoke (X = 2.75) than family member from Baulkham Hills (X = 3.66) (t = 3.81; df = 89; p < .000). Similarly family members from Mt Druitt were also relatively more likely to drink more than five cups of coffee or tea per day (X = 3.08) than family members from Baulkham Hills (X = 3.58) (t = 2.66; df = 89; p < .009).
Table 8.13
Results of Independent T Tests for the Regions of Mt Druitt and Baulkham Hills for Two Single Items of the Variable Family Members’ Health Habits Carers (n = 91)

<table>
<thead>
<tr>
<th>Item</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does any family member smoke cigarettes, cigars or pipes</td>
<td>3.81</td>
<td>.000</td>
</tr>
<tr>
<td>Does any family member drink more than five cups of tea and/or coffee or cola per day</td>
<td>2.66</td>
<td>.009</td>
</tr>
</tbody>
</table>

Covariates for each Variable in the Reduced Healthy Practices Cluster

As can be seen in Table 8.14, when the nine covariates were introduced, there was still univariate significance observed (F = 3.15; df = 1, 86; p< .080). Regional factors other than the nine demographic covariates appear to be influencing the observed differences on family members’ health habits.

Table 8.14
Univariate Analysis of Variance for Region by the Reduced Healthy Practices Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>.29</td>
<td>.884</td>
</tr>
<tr>
<td>Partner Age</td>
<td>.80</td>
<td>.422</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>2.08</td>
<td>.042</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>.43</td>
<td>.668</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-.12</td>
<td>.902</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>.08</td>
<td>.942</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>-.28</td>
<td>.886</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>.22</td>
<td>.825</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>.23</td>
<td>.815</td>
</tr>
<tr>
<td>Univariate F Value (df = 1, 86)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family members’ health habits</td>
<td>3.15</td>
<td>.080</td>
</tr>
</tbody>
</table>

Carer educational status significantly covaries with family members’ health habits (t = 2.08; p< .042). The higher a carer’s educational status, the healthier the family members’ health habits (r = .38; p< .000).
Secondary Results

*Family Members’ Resistance to Illness*

While not necessary in the reduced model the variable *family members’ resistance to illness* is able to univariately differentiate the two regions of Baulkham Hills and Mt Druitt. Family members in Baulkham Hills rate themselves as somewhat more resistant to illness (\( \bar{X} = 9.26 \)) than family members living in Mt Druitt (\( \bar{X} = 8.36 \)) (\( F = 6.25; \) df = 1.89; \( p < .014 \)).

For the three items comprising the variable *family members’ resistance to illness*, regional differences were confirmed for two of them (See Table 8.15).

<table>
<thead>
<tr>
<th>Item</th>
<th>t-Value</th>
<th>( p &lt; )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our family only gets one bout of flu a year</td>
<td>2.88</td>
<td>.005</td>
</tr>
<tr>
<td>When other children get a virus my child stays well</td>
<td>1.25</td>
<td>.213</td>
</tr>
<tr>
<td>Usually we stay well</td>
<td>2.08</td>
<td>.042</td>
</tr>
</tbody>
</table>

Baulkham Hills carers agreed that their family members were more likely to only get one bout of flu (\( \bar{X} = 2.98 \)) whereas Mt Druitt carers were not so definite in their agreement of this statement (\( \bar{X} = 2.51 \)) (\( t = 2.88; \) df = 89; \( p < .005 \)). As well Baulkham Hills carers referred to their family as usually staying well somewhat more often (\( \bar{X} = 3.30 \)) than those Mt Druitt carers did (\( \bar{X} = 3.04 \)) (\( t = 2.08; \) df = 89; \( p < .042 \)).

8.2.6 The Resourceful Cluster

The resourceful cluster consists of items such as recycling glass and paper as well as conserving water by turning off taps appropriately; also families are asked about the number of resource people they have to assist them and finally they are asked to comment on making time for themselves and being able to juggle their activities with those of their preschool aged child. According to Table 8.16 when region is analysed as an independent variable with the resourceful cluster it is multivariately significant (Wilks Lambda \( F = 2.88; \) df = 3, 88; \( p < .045 \)).
Table 8.16
Multivariate Analysis of Variance for variables forming the Resourceful Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (3, 88)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.91</td>
<td>2.88</td>
<td>.045</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Co-efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental developmental tasks</td>
<td>.22</td>
<td>.633</td>
<td>-.33</td>
<td>-.16</td>
</tr>
<tr>
<td>Our family is environmentally aware</td>
<td>2.38</td>
<td>.126</td>
<td>-.39</td>
<td>-.53</td>
</tr>
<tr>
<td>Getting assistance from other people</td>
<td>6.20</td>
<td>.015</td>
<td>.86</td>
<td>.85</td>
</tr>
</tbody>
</table>

Reducing the Resourceful Cluster and Re-fitting the Reduced Resourceful Cluster

From the inspection of the univariate results, the discriminant function and the structure co-efficients there was evidence that the variable getting assistance from other people be fitted as a covariate in the model. No multivariate significance was observed among the remaining variables (F = 1.08; df = 2, 88; p< .346). It is concluded that this variable is a sufficient reduction.

The reduced one variable model for the resourceful cluster was refitted (Wilks F = 6.21; df = 1, 89; p< .015). The reduced cluster, although weak, explains (ω = .06) or 6% of the variability between the regions.

Getting Assistance from other People

Carers in Mt Druitt state that they are relatively more likely to have more people to assist them when they have a problem in their life or when they are concerned about who can look after their child when he/she is sick (X = 5.00) than those carers who live in Baulkham Hills (X = 4.22) (F = 6.20; df = 1, 89; p< .015). When Figure 8.8 is referred to, the results tend to indicate that most carers in both regions have a few resource people to assist them with a problem or with their child’s illness.
Covariates for each Variable in the Reduced Resourceful Cluster

When the nine demographic covariates were introduced there was no univariate significance observed as is indicated in Table 8.17 (F = 1.67; = 1, 86; p < .200).

Table 8.17
Univariate Analysis of Variance for Region by Reduced Resourceful Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>.09</td>
<td>.929</td>
</tr>
<tr>
<td>Partner Age</td>
<td>-.06</td>
<td>.952</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>.16</td>
<td>.873</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>-.11</td>
<td>.907</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-.90</td>
<td>.369</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>.25</td>
<td>.803</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>1.15</td>
<td>.251</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>-1.77</td>
<td>.080</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>-.17</td>
<td>.867</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate F Value (df = 1, 86)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting assistance from other people</td>
<td>1.67</td>
</tr>
</tbody>
</table>
The only demographic covariate that approaches significance is partner occupational status ($t = -1.77; p < .080$). An inspection of the correlation indicates that the higher occupational status of the partner is associated with less assistance from other people ($r = -.31; p < .002$).

### 8.2.7 The Well Adapted Cluster

Being able to adapt well is regarded as an essential element in the promotion of a wellness lifestyle. Table 8.18 demonstrates that when region is analysed as an independent variable with the well adapted cluster it has no multivariate significance (Wilks Lambda $F = .61; df = 4, 86; p < .650$) nor is any single variable significant at the univariate level.

<table>
<thead>
<tr>
<th>Table 8.18</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multivariate Analysis of Variance for Variables Forming the Well Adapted Cluster</td>
<td>by Region. Carers (n = 91)</td>
</tr>
<tr>
<td>Multivariate Test</td>
<td>Value</td>
</tr>
<tr>
<td>Wilks Lambda</td>
<td>.97</td>
</tr>
<tr>
<td>Univariate F Value (df = 1, 89)</td>
<td>P&lt;</td>
</tr>
<tr>
<td>How well did your child first adjust to the centre</td>
<td>.73</td>
</tr>
<tr>
<td>How well is your child adjusted to the centre now</td>
<td>.25</td>
</tr>
<tr>
<td>I am able to rest while my preschool aged child does other things</td>
<td>.79</td>
</tr>
<tr>
<td>We sleep through the night</td>
<td>.87</td>
</tr>
</tbody>
</table>

To ensure that there was no enhancement of regional differences due to the effect of the demographic variables they were introduced into the analysis, with a continuing non-significant result ($F = .50; df = 4, 74; p < .738$).

### Analysis of Variables not Amenable to Analysis of Variance

The problem solving variables which lie within the well adapted cluster were unable to be analysed using MANOVA and were analysed with the Chi Square test. Parents were asked to provide a solution to five situations (see Table 8.19). Of the four possible
solutions provided – speak sternly to your child; reason with your child; ignore your child and divert your child’s attention to something else – only the first tabled problem showed significance ($X^2 = 7.18; df = 2; p < .027$). Parents from Baulkham Hills were significantly more likely to divert their child’s attention to something else than Mt Druitt parents who were more inclined to reason with their child or speak sternly with their child, when their child was very tired and did not respond to what they wanted.

<table>
<thead>
<tr>
<th>Item</th>
<th>$X^2$</th>
<th>$p&lt;$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your child is very tired and doesn’t respond to what you want. What would you usually do?</td>
<td>7.18</td>
<td>.027</td>
</tr>
<tr>
<td>You are having difficulty trying to negotiate a solution to a problem with your husband/partner. What would you usually do?</td>
<td>2.90</td>
<td>.233</td>
</tr>
<tr>
<td>You are having difficulty getting your child into bed at nights. What would you usually do?</td>
<td>.53</td>
<td>.765</td>
</tr>
<tr>
<td>Your child is badly behaved in a shopping centre. You speak to your child sternly but the bad behaviour continues. What would you usually do?</td>
<td>4.28</td>
<td>.118</td>
</tr>
<tr>
<td>Your child is unhappy at his/her preschool/long day care centre and you and the Director work out a plan of action. After a week the plan is still not working. What would you usually do?</td>
<td>2.21</td>
<td>.137</td>
</tr>
</tbody>
</table>

### 8.2.8 Final Summary for the Wellness Health Domain

The Wellness Health Domain is important in distinguishing the regions of Mt Druitt and Baulkham Hills on the five clusters of cohesion, initiation, mental health, healthy practices and being resourceful.

Through cluster analysis the following six variables were identified as critical – *sharing family tasks* and *including the child’s view* (cohesion cluster); *health professionals’ influence on child health* (initiation cluster); *amount of family stress* (mental health); *family members’ health habits* (healthy practices cluster) and *getting assistance from other people* (resourceful cluster). In addition, a chi square analysis of the problem solving scenarios (also a part of the well adapted cluster) confirmed that there was only one scenario out of five which revealed differences for the regions and therefore not enough support for differences in problem solving approaches between the regions.
Investigation of the Model

Model Reduction

The six variable model for the Wellness Health Domain was fitted and reduced. The variables sharing family tasks; including the child’s view; family members’ health habits and getting assistance from other people were introduced as covariates and no multivariate significance was observed among the remaining variables (F = 2.27; df = 2, 84; p< .109). It is concluded that these four variables are a sufficient reduction. Accordingly a four variable reduced model was investigated as displayed in Table 8.20.

Table 8.20
Reduced Subset of Four Dependent Variables for the Wellness Health Domain by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (4, 86)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.72</td>
<td>8.23</td>
<td>.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing family tasks</td>
<td>6.68</td>
<td>.011</td>
<td>-.35</td>
<td>-.44</td>
</tr>
<tr>
<td>Including the child’s view</td>
<td>5.07</td>
<td>.027</td>
<td>-.46</td>
<td>-.38</td>
</tr>
<tr>
<td>Family members’ health habits</td>
<td>17.13</td>
<td>.000</td>
<td>.70</td>
<td>.70</td>
</tr>
<tr>
<td>Getting assistance from other people</td>
<td>6.20</td>
<td>.015</td>
<td>-.40</td>
<td>-.43</td>
</tr>
</tbody>
</table>

Accepted Model

The four variables of sharing family tasks; including the child’s view; family members’ health habits and getting assistance from other people form a highly significant multivariate subset (Wilks F = 8.23; df = 4, 86; p< .000). Together they suggest a moderately strong association between group variability (two regional groups of Mt Druitt and Baulkham Hills) and the Wellness Health Domain (ω = .27).

8.3 THE HEALTH PROMOTION DOMAIN

Having investigated the Wellness Health Domain it is now necessary to examine the Health Promotion Domain to see if there are any health promoting behaviours that families undertake differently in the regions of Baulkham Hills or Mt Druitt. The second health domain of Health Promotion with its four clusters – promotion of mental health,
promotion of nutrition, promotion of healthy practices, and promotion of being well adapted – will now be investigated. For an explanation of cluster formation in this domain the reader is referred to Chapter 7.6.2.

### 8.3.1 Promotion of Mental Health Cluster

The first cluster to be examined for the Health Promotion Domain was the promotion of mental health cluster. Recreational activities (leisure activities) and the family having a ‘good time’ together are perceived as playing an important health promotion role in family life. Items involved are shown in Table 8.21 which also demonstrates that when region is analysed as an independent variable with the promotion of mental health cluster it has no multivariate significance (Wilks Lambda F = 1.03; df = 5, 75; p< .406). There is no difference between the regions of Baulkham Hills and Mt Druitt for the promotion of mental health cluster.

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (5, 75)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.93</td>
<td>1.03</td>
<td>.406</td>
</tr>
</tbody>
</table>

#### Table 8.21

Multivariate Analysis of Variance for Variables forming the Promotion of Mental Health Cluster by Region. Carers (n = 81)

<table>
<thead>
<tr>
<th>How often do you spend doing family activities and how enjoyable are these activities</th>
<th>.04</th>
<th>.838</th>
<th>.05</th>
<th>-.09</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often does your family go to friends/relatives places</td>
<td>.57</td>
<td>.449</td>
<td>-.09</td>
<td>-.32</td>
</tr>
<tr>
<td>How often does your family go out with other families for a barbecue</td>
<td>3.70</td>
<td>.058</td>
<td>-.75</td>
<td>-.82</td>
</tr>
<tr>
<td>How often does your preschool aged child perform a concert at home</td>
<td>1.17</td>
<td>.282</td>
<td>-.32</td>
<td>-.46</td>
</tr>
<tr>
<td>How often do we go to a coffee shop</td>
<td>.98</td>
<td>.325</td>
<td>.48</td>
<td>.42</td>
</tr>
</tbody>
</table>

To ensure that the regional differences were not enhanced by the demographic covariates they were fitted and the multivariate analysis remained non-significant (F = 1.26; df = 5, 63; p< .292).

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Nor was there any difference for families in the different regions in terms of the amount of enjoyment they experienced in doing activities such as going with other families to a BBQ, watching my preschool aged child perform a concert at home, going to a coffee shop, and going to friends and/or relatives places.

### 8.3.2 Promotion of Nutrition Cluster

As nutritional practices and the knowledge behind them are viewed as important in health promotion, carers were asked about the nutritional behaviours of their families such as: whether they eat a range of different foods from the five food groups, whether they eat snacks between meals, their eating of fatty or fried foods, their eating of biscuits or cakes, whether they eat take away food during the week, and whether they cook with salt and oil. According to Table 8.22, when region is analysed as an independent variable with the promotion of nutrition cluster multivariate significance is observed (Wilks Lambda $F = 1.96; \text{df} = 6, 84; \text{p}< .080$).

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>$F (6, 84)$</th>
<th>$P&lt;$</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.87</td>
<td>1.96</td>
<td>.080</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8.22
Multivariate Analysis of Variance for Variables forming the Promotion of Nutrition Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Univariate F Value (df = 1, 89)</th>
<th>$P&lt;$</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often does your family eat different foods such as protein (chicken, meat), carbohydrates (bread, pasta, rice or potatoes), vegetables, fruit and dairy products</td>
<td>.10</td>
<td>.742</td>
<td>.00</td>
<td>.09</td>
</tr>
<tr>
<td>How often does your family eat snacks between meals</td>
<td>.02</td>
<td>.889</td>
<td>-.23</td>
<td>-.04</td>
</tr>
<tr>
<td>How often does your family eat fatty or fried foods (like hot chips)</td>
<td>5.75</td>
<td>.019</td>
<td>-.52</td>
<td>-.68</td>
</tr>
<tr>
<td>How often does your family eat biscuits or cakes</td>
<td>.73</td>
<td>.395</td>
<td>.49</td>
<td>.24</td>
</tr>
<tr>
<td>How often on average does your family eat take away food during the week</td>
<td>3.37</td>
<td>.070</td>
<td>-.56</td>
<td>-.52</td>
</tr>
<tr>
<td>Parent’s healthy eating knowledge</td>
<td>2.70</td>
<td>.104</td>
<td>-.48</td>
<td>-.46</td>
</tr>
</tbody>
</table>
Reducing the Promotion of Nutrition Cluster and Re-fitting the Reduced Promotion of Nutrition Cluster

On inspection of univariate results, the discriminant function and the structure coefficients the variable *how often does your family eat fatty or fried foods* was fitted as a covariate in the model. There was no multivariate significance observed among the remaining variables ($F = 1.19; \text{df} = 5, 84; p < .318$). It is concluded that this variable is a sufficient reduction.

The reduced one variable model for the promotion of nutrition cluster was re-fitted (Wilks $F = 5.75; \text{df} = 1, 89; p < .019$). The reduced cluster explains only 6% of the variability between the regions.

**How often does your Family Eat Fatty or Fried Foods**

Relatively speaking families in Baulkham Hills will eat less fat in their diet ($X = 3.18$) than families living in Mt Druitt ($X = 2.88$) ($F = 5.75; \text{df} = 1, 89; p < .019$) with families of most carers usually eating fatty or fried foods once a week, with those carers of Baulkham Hills families indicating that this may be slightly less for them.

**Covariates for each Variable in the Reduced Promotion of Nutrition Cluster**

When the nine covariates were introduced, the univariate significance for *how often does your family eat fatty or fried foods* drops out of significance ($F = .25; \text{df} = 1, 86; p < .618$) as can be seen in Table 8.23. One demographic covariate, *carer country of birth*, comes close to approaching significance with *how often does your family eat fatty or fried foods* ($t = -1.71; p < .090$) and the two variables are moderately correlated at -0.22. This suggests that families of Australian born carers will eat more fatty or fried food than families of overseas born carers.
Table 8.23
Univariate Analysis of Variance for Region by the Reduced Promotion of Nutrition Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>.15</td>
<td>.883</td>
</tr>
<tr>
<td>Partner Age</td>
<td>1.27</td>
<td>.206</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>.91</td>
<td>.365</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>-.32</td>
<td>.749</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-1.71</td>
<td>.090</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>.37</td>
<td>.712</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>1.19</td>
<td>.235</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>-.24</td>
<td>.812</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>-.02</td>
<td>.983</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate F Value (df = 1, 86)</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often does your family eat fatty or fried foods</td>
<td>.25</td>
</tr>
</tbody>
</table>

8.3.3 Promotion of Healthy Practices Cluster

The third cluster that needs to be examined within the Health Promotion Domain is that of promotion of healthy practices. The involvement of the whole family in exercise is perceived as an important aspect of health promotion and is addressed in the item your family taking part in exercise whilst the other item parents educating their children nutritionally, asks parents about whether they address aspects with their children considered important for child nutritional education. As can be seen from Table 8.24, when region is analysed as an independent variable with the promotion of healthy practices cluster, it has no multivariate significance (Wilks Lambda F = 1.13; df = 2, 88; p< .326), nor is any individual variable univariately significant.
Table 8.24
Multivariate Analysis of Variance for Variables forming the Promotion of Healthy Practices Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (2, 88)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.97</td>
<td>1.13</td>
<td>.326</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Co-efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your family taking part in exercise</td>
<td>2.14</td>
<td>.147</td>
<td>1.08</td>
<td>.96</td>
</tr>
<tr>
<td>Parents educating their children nutritionally</td>
<td>.05</td>
<td>.816</td>
<td>-.28</td>
<td>.15</td>
</tr>
</tbody>
</table>

To ensure that there was no enhancement of differences due to the demographic variables they were included as covariates, and the multivariate results remained non-significant (F = .58; df = 2, 76; p < .562).

8.3.4 Promotion of Being Well Adapted Cluster

The fourth and final cluster to be investigated is that of promotion of being well adapted. Such items as parents providing stimulating activities like playing inside and outside as well as reading and watching TV; parents providing a safe environment in terms of teaching road safety, animal and pet safety and getting their child to repeat her/his name and address, were all perceived as important in promoting health associated with the well adapted family. The remaining two items perceived as important for family adaption in a health promotion sense were about parents being satisfied with the way they could check their child’s progress at the child care centre and parents acknowledging the importance of sources of child health information to them. As Table 8.25 indicates, when region is analysed as an independent variable with the promotion of being well adapted cluster, it is multivariately significant (Wilks Lambda F = 3.70; df = 6, 77; p < .003).
Table 8.25
Multivariate Analysis of Variance for Variables forming the Promotion of Being Well Adapted Cluster by Region. Carers (n = 84)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (6, 77)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.77</td>
<td>3.70</td>
<td>.003</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>An important source of your child health information</th>
<th>Univariate F Value (df = 1, 82)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.85</td>
<td>.018</td>
<td>.39</td>
<td>.49</td>
</tr>
</tbody>
</table>

| Providing a safe environment for your child | 6.51 | .013 | .39 | .52 |
| Providing stimulating activities for your child | .06 | .800 | -.39 | .05 |
| How satisfied are you with the way you are able to check your preschool aged child’s progress at the centre | .90 | .343 | -.23 | -.19 |

| How much time would you spend reading to your child | .55 | .459 | -.13 | -.15 |
| How much time would you spend watching TV with your child | 14.51 | .000 | .71 | .79 |

Reducing the Promotion of Being Well Adapted Cluster and Re-fitting the Reduced Promotion of Being Well Adapted Cluster

When inspection of the univariate results, the discriminant function and the structure coefficients were undertaken there was evidence that how much time would you spend watching TV with your child, be fitted as a covariate and no multivariate significance was observed among the remaining variables (F = 1.46; df = 5, 77; p< .212). It is concluded that this variable is a sufficient reduction.

The reduced one variable model for the promotion of being well adapted was re-fitted (Wilks F = 14.91; df = 1, 89; p< .000). The reduced cluster explains 14% of the variability between the regions of Mt Druitt and Baulkham Hills, a respectable result for a one-variable model.

How Much Time Would You Spend Watching TV With Your Child

Carers in Mt Druitt are somewhat more likely to spend more time watching TV with their child (X = 3.18) than carers in Baulkham Hills (X = 2.58) (F = 14.52; df = 1, 82; p< .000).
It can be seen in Figure 8.9 that most carers usually spend some time watching TV with their child, as opposed to very little time or a lot of time viewing TV with their child.

**Figure 8.9**
Amount of Time Carers Spend with their Preschool Aged Child Watching TV by Region. Carers (n = 91)

![Graph showing time spent watching TV by region](image)

1 – No time  
2 – Very little time  
3 – Some time  
4 – A lot of time

**Covariates for each Variable in the Reduced Promotion of Being Well Adapted Cluster**

When the nine covariates of *carer age, partner age, carer educational status, partner educational status, carer country of birth, partner country of birth, carer occupational status, partner occupational status* and *financial adequacy* were introduced, there was no univariate significance observed (F = 1.60; df = 1,86; p< .210) according to Table 8.26.

The variable *how much time would you spend watching TV with your child*, does not significantly covary or approach significance when it covaries with any of the demographic covariates (Table 8.26). Interestingly though, *how much time would you spend watching TV with your child* is reasonably correlated with four demographic variables – *carer occupational status* (r = -.27; p< .010), *partner educational status* (r = -.30; p< .003), *partner occupational status* (r = -.28; p< .006) and *carer educational status* (r = -.26; p< .011). These results reflect that there is an association between lower education and occupation for both carers and partners and watching more TV with your child. It appears that the variable *how much time would you spend watching TV with your child* is capturing the cross variability of education and occupation.
Table 8.26
Univariate Analysis of Variance for Region by Reduced Promotion of Being Well Adapted Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>.27</td>
<td>.788</td>
</tr>
<tr>
<td>Partner Age</td>
<td>.22</td>
<td>.827</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>-1.11</td>
<td>.268</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>-1.17</td>
<td>.245</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>.15</td>
<td>.881</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>1.20</td>
<td>.235</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>-.27</td>
<td>.787</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>-.13</td>
<td>.891</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>-.24</td>
<td>.810</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How much time would you spend watching TV with your child</th>
<th>Univariate F Value (df = 1, 86)</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.60</td>
<td>.210</td>
</tr>
</tbody>
</table>

More evidence is provided for lower partner educational status (r = -.20; p< .052) and lower financial adequacy (r = -.22; p< .031) being associated with more need for and importance placed on the nominated sources of child health information. On this basis it appears that those more financially adequate families whose partners have higher educational status are more able to be critical of their child health information and have greater expectations about this information. Because they are more able to access extra information themselves, they can be more discerning and have adequate child health knowledge, which means that they do not need to be so reliant on the important sources of health information identified.

Secondary Results

Providing a Safe Environment for your Child

The second most significant variable to univariately differentiate the regions of Mt Druitt and Baulkham Hills is that of providing a safe environment for your child (F = 6.51; df = 1, 82; p< .013). Baulkham Hills carers tell their children about road safety, spider and pet issues as well as getting their child to repeat address information at least once a
week (X = 8.86) whereas Mt Druitt carers undertake these tasks more than once a week (X = 10.15) (F = 6.51; df = 1, 82; p < .013).

An Important Source of Your Child Health Information

Carers from families in Mt Druitt consider that the sources of information on their child’s health such as: the Baby Health Centre, the chemist, their fathers and health magazines were somewhat more important for them (X = 30.92) than for those carers and their families living in Baulkham Hills (X = 28.00) (F = 5.85; df = 1, 82; p < .018). It should be noted here that computerised information, health information from the child care centres, as well as the notion of television being an important source of child health information had been overlooked from the questionnaire. Furthermore, there is support for the correlation that the more you watch TV with your child, the more important it is as a source of child health information (r = .23; p < .026). To follow up on this it would have been interesting to find out how important both of the regions perceived TV to be as a child health information medium.

8.3.5 Final Summary for Health Promotion Domain

The Health Promotion Domain is important because it distinguishes the regions of Baulkham Hills and Mt Druitt on two clusters of promotion of nutrition and promotion of being well adapted.

Through cluster analysis the following variables were identified as critical – how often does your family eat fatty or fried foods (health promotion of nutrition cluster) and how much time would you spend watching TV with your child (health promotion of being well adapted).

Investigation of the Model

Model Reduction

The two variable model for the Health Promotion Domain was fitted and reduced. The variable how much time would you spend watching TV with your child, was introduced as a covariate and no multivariate significance was observed among the remaining variables
(F = 2.05; df = 1, 89; p< .156). It is concluded that this variable is a sufficient reduction. Accordingly, a one variable model was investigated as demonstrated in Table 8.27.

<table>
<thead>
<tr>
<th>Table 8.27</th>
<th>Reduced Subset of One Dependent Variable for the Health Promotion Domain by Region. Carers (n = 91)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Univariate F Value (df = 1, 89)</td>
</tr>
<tr>
<td>How much time would you spend watching TV with your child</td>
<td>14.91</td>
</tr>
</tbody>
</table>

Accept Model

The variable of how much time would you spend watching TV with your child, is the highly significant variable which makes an impact on regional differentiation (Wilks F = 14.91; df = 1, 89; p< .000). This variable accounts for a moderate association between group variability (two regional groups of Mt Druitt and Baulkham Hills) and the Health Promotion Domain (ω = .14).

8.4 THE ILLNESS PREVENTION DOMAIN

To date we have addressed the two domains of Wellness Health and Health Promotion and have identified the critical variables, associated with health promoting behaviour, that are differentiating the two regions of Mt Druitt and Baulkham Hills. It remains in this section to examine the Illness Prevention Domain to determine what health behaviour variables associated with illness prevention are able to differentiate the regions. The third health domain of illness prevention which has the two clusters of prevention for healthy practices and prevention for being well adapted, will now be examined and the reader can refer to section 7.6.3 for clarification of cluster development.

8.4.1 Prevention for Healthy Practices Cluster

The first cluster to be investigated for the Illness Prevention Domain is that of prevention for healthy practices. This cluster focuses on prevention activities such as health checks, dental checks and immunisation. According to Table 8.28, when region is analysed as an
independent variable with the healthy practices cluster multivariate significance is observed (Wilks Lambda $F = 3.84; \text{df} = 3, 87; p<.012$).

**Table 8.28**
Multivariate Analysis of Variance for Variables forming the Prevention for Healthy Practices Cluster by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>$F (3, 87)$</th>
<th>$P&lt;$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.88</td>
<td>3.84</td>
<td>.012</td>
</tr>
<tr>
<td>Family members’ health checks</td>
<td>7.54</td>
<td>.007</td>
<td>1.05</td>
</tr>
<tr>
<td>Does your preschool aged child have routine checks with the doctor or clinic about his/her growth and development</td>
<td>.66</td>
<td>.419</td>
<td>-.65</td>
</tr>
<tr>
<td>Has your preschool aged child had all his/her immunisations</td>
<td>.58</td>
<td>.448</td>
<td>.00</td>
</tr>
</tbody>
</table>

**Reducing the Prevention for Healthy Practices Cluster and Re-fitting the Reduced Prevention for Healthy Practices Cluster**

When the univariate results, the discriminant function and the structure co-efficients were examined they provided evidence that the variable *family members’ health checks*, be fitted as a covariate. This demonstrated that there was no multivariate significance observed among the remaining variables ($F = 1.92; \text{df} = 2, 87; p<.153$). It is concluded that this variable is a sufficient reduction.

The reduced one variable model of the prevention for healthy practices was re-fitted ($F = 7.54; \text{df} = 1, 89; p<.007$). The reduced cluster explains 8% of the variability between regions.

**Family Members’ Health Checks**

Families who live in Baulkham Hills are slightly more likely to have health and dental checks as well as clean their teeth twice a day ($X = 12.38$), than those families who live in Mt Druitt ($X = 11.10$) ($F = 7.54; \text{df} = 1, 89; p<.007$). **Figure 8.10** indicates the relative mean differences for these health, dental and teeth cleaning checks.
This variable comprises four items which include asking whether families have regular dental checks, clean their teeth twice a day, have regular health checks and have regular Pap smears. Regional differences for the items *does your family have regular dental checks* and *does your family clean their teeth twice a day* are observed, as can be seen from Table 8.29. Family members in Baulkham Hills were more likely to have dental checks most of the time (X = 2.81) whereas family members from Mt Druitt were more likely to have dental checks some of the time (X = 2.24) (t = 3.10; df = 89; p< .003). Similarly, family members from Baulkham Hills were more likely to clean their teeth twice a day (X = 3.40) whereas family members from Mt Druitt were more likely to clean their teeth less than this (X = 2.90) (t = 2.71; df = 89; p< .008).

### Table 8.29
Results of Independent T Tests for the Regions of Mt Druitt and Baulkham Hills for Four Single Items in the Variable Family Members’ Health Checks.
Carers (n = 91)

<table>
<thead>
<tr>
<th>Item</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your family have regular dental checks</td>
<td>3.10</td>
<td>.003</td>
</tr>
<tr>
<td>Does your family clean their teeth twice a day</td>
<td>2.71</td>
<td>.008</td>
</tr>
<tr>
<td>Does your family have regular health checks</td>
<td>.02</td>
<td>.986</td>
</tr>
<tr>
<td>Do you have regular Pap smears</td>
<td>1.27</td>
<td>.207</td>
</tr>
</tbody>
</table>
Covariates for each Variable in the Reduced Prevention for Healthy Practices Cluster

Can the regional differences be explained by underlying structural differences previously identified in the demographic cluster? It can be seen from Table 8.30, when the nine demographic covariates are introduced, there was still multivariate significance ($F = 4.69$; $df = 1, 86$; $p < .033$). It appears that the demographic covariates are not able to explain the differences between the regions for *family members’ health checks*. Differences may exist between the regions that are not explained by the demographic variables.

**Table 8.30**

*Univariate Analysis of Variance for Region by Reduced Prevention for Healthy Practices Cluster with Nine Covariates. Carers (n = 88)*

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>p&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>-.15</td>
<td>.881</td>
</tr>
<tr>
<td>Partner Age</td>
<td>.51</td>
<td>.612</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>-.59</td>
<td>.557</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>-.12</td>
<td>.903</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>-.08</td>
<td>.935</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>-.35</td>
<td>.729</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>-.25</td>
<td>.800</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>.34</td>
<td>.735</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>-1.25</td>
<td>.216</td>
</tr>
</tbody>
</table>

There are no demographic covariates that are significant or approaching significance for the variable *family members’ health checks*. It appears that there are influences, other than the demographic covariates, that are impinging on this four item variable *family members’ health checks*.

**Analysis of Variables not Amenable to Analysis of Variance**

Another descriptive item from this questionnaire was part of the healthy practices cluster for the Illness Prevention Domain and needs reporting on here. Carers were asked to write down what their preschool aged child had for breakfast, lunch, dinner and the three
possible snack times in between, such as after breakfast, after lunch and after dinner. When the two regions are generally compared for food intake, noticeable qualitative differences for children in the two regions were that:

i. food was more sophisticated and there was a greater range in Baulkham Hills than in Mt Druitt. For example, Baulkham Hills children ate Ryvita and Vegemite; dip, Jatz and carrot; dried fruit or buttered bun compared with more basic things that children in Mt Druitt ate like cheese and biscuits; toast and Vegemite or sandwiches;

ii. on a daily basis there was more fruit consumed at Baulkham Hills (n = 63) compared with Mt Druitt (n = 46). After lunch it was also noted that Baulkham Hills children consumed more vegetables (such as carrot, tomato and cucumber) compared to no vegetables mentioned in Mt Druitt;

iii. more water was consumed by children at Baulkham Hills (n = 12 glasses) compared with those Mt Druitt children (n = 1 glass) after breakfast. This difference is similar for the children of these regions at lunch time as well. For example in Baulkham Hills eleven children had water compared to only two for Mt Druitt; and

iv. when discussing the consumption of ‘junk’ food, especially in between main meals, it appeared that there were more problems in Mt Druitt than in Baulkham Hills. For example, after breakfast in Mt Druitt one child had biscuits and lollies, a further child had chips and lollies after lunch and Coke for dinner; one child had two packets of chips in one day; another child had Diet Coke after lunch and at dinner and a further child had diet coke and a Freddo Frog after lunch. When a further comparison of ‘junk’ food eating between the regions was made after lunch, there were more lollies (n = 3); chocolate frogs (n = 3); lolly snakes (n = 5) and one muesli bar consumed by Mt Druitt children compared with two muesli bars; two snickers bars and one chocolate by Baulkham Hills children.

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6 Junk food included such foods as lollies, chocolate bars, salted snack foods such as chips/crisps and hot chips.
**Breakfast**

When it came to breakfast, which is often regarded as the most important meal of the day, there were more commonalities than differences between Mt Druitt and Baulkham Hills. The most common breakfast for preschool aged children from Mt Druitt was *Weetbix* (n = 15), toast (n = 24) and milk (n =27) whereas in Baulkham Hills it was *Weetbix* (n = 14), toast (n = 14), milk (n = 33) as well as apple juice (n = 16). However, there were some differences for the regions. Firstly, Baulkham Hills carers occasionally mentioned high fibre white bread or wholemeal toast but this was not the case for Mt Druitt. Secondly, Mt Druitt parents listed the breakfast cereal – *Coco Pops*, which has limited nutritional value and mostly contains sugar, as being eaten by eight children but there was no mention of this for Baulkham Hills children. There were also more very sweet cereals\(^7\) such as *Froot Loops* (n = 1) *Crunchy Mix* (n = 1) and *HoneyWheats* (n = 1) and *Coco Pops* (n = 8), not to mention *Nutrigrain* (n = 5), which is probably an average breakfast cereal but also contains quite large amounts of sugar, eaten by children in Mt Druitt but not those children in Baulkham Hills.

**Lunch**

There was more ‘junk’ food eaten at Mt Druitt such as hot chips for two children; chips for two children; a party pie for another child; a packet of *M&Ms* for another child and a *Fruity Bix* for a further child. In comparison with Mt Druitt there was no ‘junk’ food recorded for Baulkham Hills. Once again, lunch reflected that there was a greater range of food in Baulkham Hills than in Mt Druitt. While in both regions the children mostly ate sandwiches with a small number of children eating hot meals (possible ten children in Mt Druitt compared to five in Baulkham Hills), there appeared to be more variety consumed in Baulkham Hills. For example, such foods were sausage sandwiches; pappadams; a salad roll and a combination of baked beans, cheese and bread.

---

\(^7\) The food categories for cereals in this questionnaire were high fibre breakfast food such as muesli or *Weetbix*; average cereal breakfast food such as *Corn Flakes*, *Rice Bubbles* or *Nutrigrain* and very sweet cereal such as *Coco Pops*, *Honey Wheats* and *Froot Loops*. 

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Dinner

While similar numbers of hot meals consisting of chicken, sausage, steak/beef, rissoles, chops, pork, veal and fish with rice/potatoes/noodles and vegetables/salad were the usual kinds of food consumed, it was again of concern that, with regard to Mt Druitt, there was reference to such ‘junk’ food as two lots of hot chips, one lot of hamburgers and one take away meal. There was also reference to a Coke and a Diet Coke being given to Mt Druitt children at dinner.

8.4.2 Prevention for Being Well Adapted Cluster

The next and final cluster to be examined is that of being well adapted. This cluster examines parents’ ability to adapt to taking preventive activities like watching their children when they are in the park or playing at home. It also addresses the resource people that carers believe they have when they have a problem with their child’s growth and development or when they are worried about their child’s health. According to Table 8.31 when region is analysed as an independent variable with the healthy practices cluster multivariate significance is observed (Wilks Lambda F = 4.32; df = 4, 86; p< .003).

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (4, 86)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.83</td>
<td>4.31</td>
<td>.003</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate F Value (df = 1, 89)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often would you watch/supervise your child playing in parks/playgrounds</td>
<td>2.97</td>
<td>.088</td>
<td>-.57</td>
</tr>
<tr>
<td>How often would you watch/supervise your child playing at home</td>
<td>.80</td>
<td>.371</td>
<td>.08</td>
</tr>
<tr>
<td>How much assistance would you get from other resource people for concerns about your child’s growth and development</td>
<td>1.68</td>
<td>.197</td>
<td>-.61</td>
</tr>
<tr>
<td>How much assistance would you get from other resource people for concerns about your child’s health</td>
<td>9.53</td>
<td>.003</td>
<td>1.28</td>
</tr>
</tbody>
</table>

Table 8.31
Multivariate Analysis of Variance for Variables forming the Prevention for Being Well Adapted Cluster by Region. Carers (n = 91)
Reducing the Prevention for Being Well Adapted Cluster and Re-fitting the Reduced Prevention for Being Well Adapted Cluster

When the univariate results, the discriminant function and the structure co-efficients were examined they provided evidence that *how much assistance would you get from other resource people for concerns about your child’s health*, be fitted as a covariate. This revealed that there was still multivariate significance observed among the remaining variables ($F = 2.43; \text{df} = 3, 86; p< .071$). When the univariate results, the discriminant function and the structure co-efficients were examined again there was adequate evidence that *how often would you watch/supervise your child playing in playgrounds*, also be fitted as a covariate and there was no further multivariate significance observed among the remaining variables ($F = 1.21; \text{df} = 2, 86; p< .301$). It is concluded that these variables are a sufficient reduction.

The reduced two variable model for the prevention for being well adapted cluster was re-fitted ($F = 7.38; \text{df} = 2, 88; p< .001$). The reduced cluster explains 14% of the variability between the regions.

**How much Assistance would you get from other People for Concerns about your Child’s Health**

Carers in Mt Druitt are more likely to say they have assistance from quite a lot of people for concerns about their child’s health ($\bar{X} = 2.88$) compared to those carers living in Baulkham Hills who say they have a moderate number of persons to assist them with their child health concerns ($\bar{X} = 2.38$) ($F = 9.53; \text{df} = 1, 89, p< .003$). Figure 8.11 shows that the range of responses for carers falls between having a few resource people to help to having quite a lot of these people to help.
Figure 8.11
Amount of Assistance Carers can get from People for their Family when they need it by Region. Carers (n = 91)

How often would you Watch/Supervise your Child Playing in Parks/Playgrounds

Although the variable how often would you watch/supervise your child playing in parks/playgrounds does not appear to univariately differentiate the two regions on initial inspection (F = 2.97; df = 1, 89; p< .088) with the cluster reduction this is different. When how much assistance would you get from other resource people for concerns about your child’s health is chosen as a covariate it enhances the effect of how often would you watch/ supervise your child playing in parks/playgrounds so that it is becomes univariately significant at p<.031.

Families who live in Baulkham Hills are more likely to watch/supervise their child playing in parks/playgrounds more than once a week (X = 3.19) whereas families in Mt Druitt are likely to watch/supervise their child playing in parks/playgrounds less than once a week (X = 2.72) (F = 4.83; df = 1, 88; p< .031). The highest score for carers for this single item five response variable how often would you watch/supervise your child playing in playgrounds or parks is that of watching/supervising your child playing in playgrounds or parks every day in the week. Figure 8.12 demonstrates that on average carers usually watch their child playing in playgrounds or parks at least once a week.
Covariates for each Variable in the Reduced Prevention for Being Well Adapted Cluster

Can the regional differences be explained for the reduced well adapted cluster by underlying structural differences previously identified in the demographic cluster? According to Table 8.32, when the nine covariates of carer age, partner age, carer educational status, partner educational status, carer country of birth, partner country of birth, carer occupational status, partner occupational status and financial adequacy were introduced, there was still multivariate significance left ($F = 3.72; df = 2, 76; p < .029$). It appears that while the demographic covariates are sufficient to explain the differences between the regions for how much assistance you can get from other resource people for concerns about your child’s health, this is not possible for how often would you watch/supervise your child playing in parks/playgrounds because this variable is still univariately significant ($F = 4.93; df = 1, 77; p < .029$). As how often would you watch/ supervise your child playing in parks/playgrounds is the variable that is not completely accounted for by the demographic covariates, unexplained differences may exist between the regions of Mt Druitt and Baulkham Hills.

The only demographic variables which are correlated with how much assistance would you get from other resource people for concerns about your child’s health are that of partner educational status ($r = -.25; p < .014$) and partner occupational status ($r = -.30$;
p<.004). It is carers with lower educational and occupational status partners who believe they have more resource people to assist them in the event of a problem with their child’s health – a feasible result given the increased numbers of carers on average with lower educational and occupational status partners in Mt Druitt.

**Table 8.32**  
Region by the Reduced Prevention for Being Well Adapted Cluster with Nine Covariates. Carers (n = 88)

<table>
<thead>
<tr>
<th>Covariates</th>
<th>Value</th>
<th>F (2, 76)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.91</td>
<td>3.72</td>
<td>.029</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Covariates</th>
<th>t-Value</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carer Age</td>
<td>-.70</td>
<td>.484</td>
</tr>
<tr>
<td>Partner Age</td>
<td>-1.10</td>
<td>.274</td>
</tr>
<tr>
<td>Carer Educational Status</td>
<td>-1.79</td>
<td>.081</td>
</tr>
<tr>
<td>Partner Educational Status</td>
<td>-.65</td>
<td>.517</td>
</tr>
<tr>
<td>Carer Country of Birth</td>
<td>.65</td>
<td>.519</td>
</tr>
<tr>
<td>Partner Country of Birth</td>
<td>.81</td>
<td>.421</td>
</tr>
<tr>
<td>Carer Occupational Status</td>
<td>-1.43</td>
<td>.157</td>
</tr>
<tr>
<td>Partner Occupational Status</td>
<td>1.67</td>
<td>.099</td>
</tr>
<tr>
<td>Financial Adequacy</td>
<td>-1.64</td>
<td>.104</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Univariate F Value (df = 1, 77)</th>
<th>P&lt;</th>
<th>Std Discrim. Function</th>
<th>Structure Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often would you watch/supervise your child playing in parks/playgrounds</td>
<td>4.93</td>
<td>.029</td>
<td>.93</td>
</tr>
<tr>
<td>How much assistance would you get from other resource people for concerns about your child’s health</td>
<td>1.30</td>
<td>.257</td>
<td>-.60</td>
</tr>
</tbody>
</table>

It is also interesting to note the correlation between *an important source of your child health information* and *how much assistance you can get from other resource people for concerns about your child’s health*. The more important the sources of health information are the more assistance families will get from other resource people for concerns about their child’s health (r = .37; p< .000). The question is raised as to why carers in Mt Druitt perceive they have more support from resource people for their children’s health than those carers in Baulkham Hills? Is it because there are more public health clinics for children in Mt Druitt than for children in Baulkham Hills or is it because
carers from Mt Druitt have a different notion of what people helping with their health concerns is to those carers in Baulkham Hills? Are the carers from Baulkham Hills slower to concede they have been given help because they have access to more knowledge, are more critical and not as accepting as those carers in Mt Druitt? The data does show, as can be seen from Table 8.33, the carers from Mt Druitt families considered the chemist ($\bar{X} = 3.14$), their fathers ($\bar{X} = 2.59$), Baby Health Centres ($\bar{X} = 3.00$) and health magazines ($\bar{X} = 2.07$) as important sources of child health information, unlike those carers of Baulkham Hills families who were not so inclined to view the chemist ($\bar{X} = 2.72$), their fathers ($\bar{X} = 1.95$), Baby Health Centres ($\bar{X} = 2.55$) and health magazines ($\bar{X} = 1.63$) as important sources of child health information.

Table 8.33
Results of Independent T Tests for the Regions of Mt Druitt and Baulkham Hills for Twelve Single Items in the Variable an Important Source of Your Child Health Information. Carers (n = 84)

<table>
<thead>
<tr>
<th>Item</th>
<th>t-Value</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the Baby Health Centre an important source of your child health information</td>
<td>-1.91</td>
<td>.059</td>
</tr>
<tr>
<td>Is the Chemist an important source of your child health information</td>
<td>-2.28</td>
<td>.025</td>
</tr>
<tr>
<td>Is your father an important source of your child health information</td>
<td>-3.23</td>
<td>.002</td>
</tr>
<tr>
<td>Are health magazines an important source of your child health information</td>
<td>-2.36</td>
<td>.020</td>
</tr>
<tr>
<td>Are books an important source of your child health information</td>
<td>0.54</td>
<td>.589</td>
</tr>
<tr>
<td>Is a medical dictionary an important source of your child health information</td>
<td>-0.09</td>
<td>.926</td>
</tr>
<tr>
<td>Are women’s magazines an important source of your child health information</td>
<td>-0.55</td>
<td>.586</td>
</tr>
<tr>
<td>Are newspapers an important source of your child health information</td>
<td>-1.32</td>
<td>.192</td>
</tr>
<tr>
<td>Is your mother an important source of your child health information</td>
<td>-0.93</td>
<td>.354</td>
</tr>
<tr>
<td>Is the doctor an important source of your child health information</td>
<td>0.65</td>
<td>.517</td>
</tr>
<tr>
<td>Is your own experience an important source of your child health information</td>
<td>-0.39</td>
<td>.696</td>
</tr>
<tr>
<td>Are friends an important source of your child health information</td>
<td>0.17</td>
<td>.869</td>
</tr>
</tbody>
</table>
8.4.3 Final summary for the Illness Prevention Domain

The Illness Prevention Domain is important in distinguishing the regions of Baulkham Hills and Mt Druitt on the two clusters of prevention for healthy practices and prevention for being well adapted.

Through cluster analysis the following three variables were identified as critical – *family members’ health checks* (prevention for healthy practices cluster), *how often would you watch/supervise your child playing in parks/playgrounds*, and *how much assistance would you get from other resource people for concerns about your child’s health* (prevention for being well adapted cluster). As well, assessed responses for the descriptive item question 39 (also part of the prevention for healthy practices cluster) indicated that differentiation of the two regions on qualitative grounds was supported when it came to parents describing what food and drink their preschool aged child consumed for a 24 hour period. Baulkham Hills parents stated that they were more aware of introducing healthy food and drink to their children. Baulkham Hills children had more water and fruit, whole grain bread and sugar reduced cereals and less ‘junk’ food than Mt Druitt children. This information is consistent with and supportive of the result that families in Baulkham Hills had slightly more dental and health checks and slightly better teeth cleaning behaviour and also fits with the result that Baulkham Hills families ate slightly less fatty food than Mt Druitt families.

Investigation of the Model

*Model Reduction*

The three variable model for the Illness Prevention Domain was fitted and reduced. The variable *family members’ health checks* and *how much assistance would you get from other resource people for concerns about your child’s health* were introduced as covariates and no multivariate significance was observed among the remaining variables ($F = 2.76; df = 1, 89; p< .100$). It is concluded that these two variables are a sufficient reduction. Accordingly a two variable reduced model was examined as can be seen in Table 8.34.
Table 8.34
Reduced Subset of Two Dependent Variables for the Illness Prevention Domain by Region. Carers (n = 91)

<table>
<thead>
<tr>
<th>Multivariate Test</th>
<th>Value</th>
<th>F (2, 88)</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks Lambda</td>
<td>.81</td>
<td>9.89</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Univariate F Value (df = 1, 89)</td>
<td>P&lt;</td>
<td>Std Discrim. Function</td>
</tr>
<tr>
<td>The assistance you can get from other resource people for concerns about your child’s health</td>
<td>9.53</td>
<td>.003</td>
<td>-.80</td>
</tr>
<tr>
<td>Family members’ health checks</td>
<td>7.53</td>
<td>.007</td>
<td>.73</td>
</tr>
</tbody>
</table>

**Accepted Model**

The two variables of how much assistance would you can get from other resource people for concerns about your child’s health and family members’ health checks form a highly significant multivariate subset (Wilks F = 9.89; df = 2, 88; p< .000). Together they suggest a moderate association between group variability (two regional groups of Mt Druitt and Baulkham Hills) and the Illness Prevention Domain (ω = .18).

### 8.5 DISCUSSION OF QUANTITATIVE STUDY

In this section the results of the quantitative analysis are linked with a discussion about their meaning and their usefulness. An overview of the results will be presented first, followed by a section on the health models and then the thematic development of the results and their implications.

A quantitative study was undertaken to examine parents’ concepts of health and their health related behaviours towards their preschool aged children in two different socio-economic areas in Western Sydney. A questionnaire was designed to measure parents’ health habits and their health behaviours towards their children in terms of the domains of wellness, health promotion and illness prevention to see how families living in Mt Druitt and Baulkham Hills differed on these health concepts.

Within each health domain there were relevant clusters which measured each domain. The wellness domain contained seven clusters – cohesion, initiation, mental health, being
resourceful, well-being, healthy practices and being well adjusted. The health promotion domain contained four clusters – promotion of mental health, promotion of nutrition, promotion of being well adjusted and promotion of healthy practices. Lastly, the illness prevention domain was made up of two clusters – prevention for healthy practices and prevention for being well adjusted. The questionnaire was given to 150 parents of preschool aged children from long day care centres and preschool/kindergartens in Mt Druitt and Baulkham Hills. The original sample size of 103 parents included eleven carers without partners. As the large majority of carers had partners and their numbers were statistically viable, multivariate analyses were undertaken for these ninety-one carers. The results of this study have just been addressed and will now be discussed.

8.5.1 Overview of results

Review of Cluster and Health Domain Contributions

Model reduction of the wellness domain revealed that *sharing family tasks; including the child’s view; family members’ health habits; and getting assistance from other people* formed a highly significant multivariate subset, suggesting a strong association between regional group variability and the wellness domain. Lower socio-economic Mt Druitt families performed better on the clusters of cohesion considered part of a family wellness orientation because they were more cohesive in sharing family tasks and including their children in certain kinds of decision making situations. Mt Druitt carers also believed they had a greater capacity to tap into resource people for a problem in their life or when they needed someone to look after their child when they were ill. However, Ardell (1977) noted that for a family wellness orientation such families would have to demonstrate their active seeking out of health promotion and resources as well as providing healthy life style education for their children, which could be difficult for the Mt Druitt carers. On the other hand, higher socio-economic Baulkham Hills carers engaged in slightly less smoking and caffeine drinking behaviour which seemed to fit with lower socio-economic parents disregarding health activities as important (Koos, 1954).

The model accepted for the health promotion domain was a one variable model *how much time would you spend watching TV with your child* which accounted for a moderate association between the two regional groups and the health promotion domain. Mt Druitt
carers watched slightly more TV with their children than Baulkham Hills carers. Although the activity of watching TV with a child may not be problematic in itself and may satisfy that of a health promotion variable, there was support that suggested that the sedentary activity of TV viewing may be associated with negative health habits for Mt Druitt carers and not associated with health promoting behaviour, due to these carers’ increased caffeine intake and smoking behaviour.

The illness prevention domain was a two variable model family members’ health checks and the assistance you can get from other resource people for concerns about your child’s health, which formed a highly significant multivariate subset and resulted in a moderate to strong association between regional group variability and the illness prevention domain. On the basis of these results, and supportive descriptive research evidence from the questionnaire relevant to healthy child eating and drinking practices, Baulkham Hills families were somewhat more health conscious in terms of dental hygiene and dental checks than Mt Druitt families. This is consistent with the work of Green (1979b) and Harris (1993). On the other hand, Mt Druitt families perceived that they have slightly more assistance from resource people for a problem with their child’s health and were also more confident than Baulkham Hills families that they had resource people available to assist with their sick child.

On the basis of the strength of the health models in their ability to discriminate the regions and the important variables that are part of the three health models developed for the wellness, health promotion and illness prevention domains, the message appeared to be that Mt Druitt families performed better on wellness health behaviours associated with sharing, being inclusive of their children and obtaining resource people for their problems. However, Baulkham Hills families appeared to be better able to perform on the wellness health behaviours of reduced smoking and caffeine drinking. Moreover for health promotion and illness prevention behaviours Baulkham Hills families were engaged in less TV watching with their children and more regular cleaning of teeth and dental checks respectively.

Strength of the results

The researcher was very confident of the strength of the findings given that they surfaced over and above the effect of the demographics.
8.5.2 Demographics

Determining the Covariates

It has already been stated that the demographic variable cluster was central to this analysis because these variables were structural and this research focused on the impact that the socio-economic differences had on family health behaviours in the regions of Mt Druitt and Baulkham Hills. Furthermore, when the demographic cluster was analysed with region the multivariate results were highly significant and explained a substantial amount of the variability between the regions.

The reader will recall that the initial covariate reduction of the demographic variables precluded their use as demographic covariates because of enhancement effects associated with homeownership and partner employment status. The demographic covariates chosen were selected because they were univariately significant in the MANOVA for the demographic cluster and included carer age, partner age, carer country of birth, partner country of birth, carer educational status, partner educational status, carer occupational status, partner occupational status and financial adequacy. A very brief review of the influence on and contribution of these demographic covariates to the clusters which made up the three health domains, will now be provided.

The Contribution of the Demographic Covariates

In terms of making an impact across clusters partner occupational status had the most influence, followed by carer educational status, with carer country of birth having some small effect. There were three demographic variables – partner occupational status, carer educational status and financial adequacy – which contributed to explaining the wellness domain. For the health promotion domain, carer country of birth provided some explanation, while for the illness prevention domain partner occupational status and carer educational status made an impact with partner educational status providing a smaller influence. Interestingly, the demographic variables – partner occupational status, carer educational status and partner educational status provided educational and occupational cross variability and thus a clearer explanation of the influences which differentiated the two regions.
8.5.3 Thematic Development pertaining to results

Nature of the Results

The notion of health as being broad and including physical, mental and psychosocial phenomena was evident from the results. A physical and mental health theme and a psychosocial health theme were both visible. In addition, the psychosocial health theme can be further categorised into two areas in terms of family health behaviours and family beliefs/perceptions about health.

As has already been suggested, the direction of some of the results was unexpected for two different socio-economic groups of families from Western Sydney. The results which related to both physical and mental health aspects for the two regions – health habits, dental checks and teeth cleaning behaviour, nutritional preferences, stress, how much TV parents watch with their child, and how often a child is supervised/watched playing in the park (the latter two being associated with exercise) – appeared to be mostly running in the direction that could have been expected. However, this was not generally the case for the psychosocial health results. The physical and mental health theme will be addressed in the next section in more detail.

The psychosocial health theme was more about control over and initiation of child health matters, sharing and decision making as well as the resources that families believe they have and will be addressed in ‘The Psychological Health Theme Associated with Family Health Behaviour’ which follows ‘The Physical and Mental Theme Associated with Family Health Behaviours.’ After this ‘The Psychological Health Theme Associated with Family Perceptions/Beliefs’ about intentions about control over and initiation of child health matters and adequacy of resources will be addressed. The final theme to be presented is that of the recurrent theme of overlap.

The Physical and Mental Health Theme Associated with Family Health Behaviours

The lower socio-economic group of Mt Druitt families were slightly more compromised than higher socio-economic Baulkham Hills families with regard to smoking and tea/coffee drinking habits, dental checks and cleaning their teeth, family stress, and eating fatty or fried foods as the literature indicates (Koos, 1954; Harris, 1993). On the other hand, exercising was the same for both regions except for the rather puzzling result of Mt
Druitt families being more involved in the sedentary behaviour of watching TV with their child. This appeared to be a lower socio-economic activity due to its association with lower educational and occupational status. The result that Baulkham Hills families take their child to the park more, may be explained by lower educational status carers and higher occupational status partners being characteristic of those higher socio-economic background Baulkham Hills families who take their child to parks more.

**Thematic Physical Health Aspects**

In addressing the physical health results of low socio-economic families – that Mt Druitt carers smoked more and drank more than five cups of coffee/tea per day and families also undertook slightly less dental health checks and cleaned their teeth slightly less often than Baulkham Hills families – these were suggesting that Mt Druitt families had reduced health habits in the healthy practices clusters. As if to support these results, the variable *family members’ resistance to illness* differentiated the regions at the univariate level, concluding that Baulkham Hills families said they were somewhat healthier or had somewhat more resistance to illness than Mt Druitt families. Perhaps the poorer resistance of Mt Druitt families to infection had something to do with Mt Druitt carers smoking more often and watching more TV with their children who, in turn, were affected by more passive smoking and therefore more susceptible to upper respiratory tract infections.

Although both the variables *family members’ health habits* (healthy practices cluster, wellness domain) and *family members’ health checks* (prevention for healthy practices, illness prevention domain) have a negative association with watching TV with your child, it is not entirely clear why this is the case for *family members’ health checks*. Although the slight regional differences for Mt Druitt and Baulkham Hills for dental checks and cleaning teeth twice a day was consistent with the literature on low socio-economic families and preventive dental health practices (Harris, 1993; Pratt, 1976), perhaps an explanation may have been available if the dentist and TV had been included as sources of child health information.

The second physical health result for the variable *how often does your family eat fatty or fried foods*, stated that Mt Druitt carers’ families ate slightly more fatty or fried foods like chips in their diet (promotion of nutrition cluster, health promotion domain). This
variable was supported by the variable how often does your family eat take away food during the week, which univariately discriminated the two regions and indicated that Mt Druitt families were slightly more likely to eat take away food once a week than their counterparts in Baulkham Hills. A feasible explanation was that Baulkham Hills carers were more health conscious than Mt Druitt carers due to higher status carer occupation in Baulkham Hills.

Thematic Mental Health Aspects

It appeared hard to relate the important demographic variable, financial adequacy, to the results that Mt Druitt families, rather than Baulkham Hills families, were slightly more stressed because they were more likely to suffer from an unsatisfactory relationship with their partner (mental health cluster, wellness domain).

Variables such as an unsatisfactory relationship with your partner need to be examined because their general nature creates ambiguity which means that there are many reasons why the relationship is unsatisfactory. The questionnaire was able to discriminate the regions for amount of family stress; however, the relevance of the modified Curran’s (1985) Family Health Impactors I: Self Perception, used to measure stress, is now questioned. This instrument was chosen because it measured the stress of normal family life but it was researched on healthy American families. Only some items were chosen and reworded by the researcher. The only variable concerning financial adequacy used in the questionnaire was that of ‘budgeting’ which some families may not have regarded as representing their financial problems, with the result that there was a weakening of the influence of financial adequacy. Moreover an instrument measuring major stressful events, such as Sandler and Block’s (1979) modification of Coddington’s Life Stress Inventory (used by Silburn et al. 1996 in their Western Australian Child Health Survey) may have given more objective evidence about stress, but the nature of the present study demanded the use of an existing instrument which reflected stressors of normal, healthy families.

Another point of interest was that the other remaining variable of the cluster getting on with your family (Family Apgar Scale) provided no differences between the two regions. As getting on with your family measured satisfaction, problem solving and decision making, the results suggested there were no differences for these three components of the
variable. The lack of regional differences in shared family decision making and in shared
decision making in different situations (cohesion cluster) as well as for problem solving
(well adapted cluster) appeared to support the non-significant differences for getting on
with your family (mental health cluster).

None-the-less the Family Apgar Scale can be problematic in that families with chronic,
psychosomatic health problems like asthma can produce false high scores. Scores for the
five variables making up getting on with your family (or the Family Apgar Scale)
indicated a preference for a high score on each variable. Even though the incidence of
chronic illness due to asthma in Australian children is reasonably high (Robertson,
Bishop, Sennhauser, & Mallol, 1993) it is difficult to assume that many of these Western
Sydney families had psychosomatic problems without further supporting evidence of
participants’ children suffering from high levels of asthma or other psychosomatic
problems. Moreover, it should also be remembered that an attempt was made by the
researcher to increase the psychometric stability of the Family Apgar Scale by using a
five choice response format (Smilkstein, 1993).

The Psychosocial Health Theme Associated with Family Health Behaviours

The psychosocial health results addressing family behaviours such as families sharing
family tasks sharing family tasks (cohesion cluster, wellness domain) were puzzling
because they indicated that Mt Druitt partners were slightly more cohesive in sharing
family tasks and thus exhibited more wellness behaviour in this regard than Baulkham
Hills families. Baulkham Hills partners were working longer hours than Mt Druitt
partners, which could make sharing of tasks more difficult. As Mt Druitt families were
sharing more tasks it would be reasonable to suggest that they were sharing more
household decisions which had correlation support, while this was also corroborated by
their univariately higher, idealised scores for sharing certain family decisions.

A further psychosocial behaviour result for the variable including the child’s view (also
from the cohesion cluster, wellness domain), showed that Mt Druitt families included
their child more in decision making for certain situations such as what to have for dinner.
The descriptive child food intake question provided some evidence that Baulkham Hills
parents were more aware of controlling their child’s food intake and providing them with
a healthier diet. The literature (Koos, 1954) suggested that child nutrition and child
sleeping behaviours were unimportant to lower socio-economic background families which may mean that Mt Druitt parents were perceived as providing more autonomy in their children’s choosing dinner and going to bed early for this reason. However, the conflict with healthy child outcomes and wellness behaviour associated with autonomy provided in these cases should not be ignored. It is important to ask how appropriate these variables are for measuring family wellness behaviour. Some parents may regard these ‘training’ child behaviours about nutrition and sleep patterns as inappropriate in allowing a child too much autonomy.

The Psychosocial Health Theme Associated with Family Perceptions/Beliefs

The results about higher socio-economic background parents believing they have more control over child health matters as well as perceiving that they are more able to initiate child health promoting activities (for the initiation cluster, wellness domain) were of great interest in this research. These results indicated that the constructs ‘behavioural control’ and ‘intention’ were important in influencing parents’ health behaviours towards their children. These two constructs were measured by the Parental Health Locus of Control scale (PHLOC) (De Vellis et al. 1993) and the Perceived Health Competence Scale (PHCS) (Shelton Smith et al. 1995) respectively. Interestingly the latter instrument, primarily chosen for its ability to predict behavioural intention, was measuring health competence or health self-efficacy which was deemed to be of less importance and relevance for the study participants. However the results of this study suggest that both health competence or health self-efficacy and parental locus of control are probably important constructs to include in a research study focusing on the Revised Health Belief Model. The reader will remember that exploring and trialing these constructs was important for their possible use in a Revised Health Belief Model which addressed health promotion and health promoting behaviours.

There was also an association with financial adequacy and health professionals’ influence over child health which was consistent with Baulkham Hills parents having more disagreement with health professionals having control over their child’s health due to their having more financial security and choices at their disposal. However, the reasons behind the results of child health initiation and control – that of overseas born carers being more likely to initiate child health behaviours and carers with Australian born
partners having less control over their child’s health – appeared to be inconsistent and contradictory of the results.

As parental locus of control was an important part of this research it is necessary to note that in this study the multivariate result for the modified Parent Health Locus of Control scale (PHLOC) (De Vellis et al. 1993) which measured parental beliefs about control over health, corresponded to the results of Kraft and Loeb’s (1996) study. They also found that less well educated parents were more likely to agree with health professionals’ control over their child’s health.

The other instrument previously referred to, and also included in the questionnaire, was the modified Perceived Health Competence Scale (PHCS) (Shelton Smith et al. 1995) which demonstrated that at the univariate level higher socio-economic background Baulkham Hills carers had slightly higher scores on parental intentions to positively manage outcomes for their child’s health. Although a multivariate result for parental initiation would have been more convincing for Baulkham Hills families, reasons for this happening may have been that leaving out one question as well as modifying the health competence questions may have created distortions in the modified PHCS. The result that Baulkham Hills were slightly more likely to initiate child health promoting activities was validated by Baulkham Hills families being slightly more likely to undertake dental checks and to clean their teeth twice a day, and was reinforced by Green (1979b).

It is also necessary to revisit the PHCS (Shelton Smith et al. 1995) which focused on health competence and was chosen as part of the questionnaire because health competence was consistently implicated in predicting behavioural intentions and performance of health promoting behaviours and also because there was concern for health values being problematic. Shelton Smith and Wallston (1992) noted the lack of clarity about the relationship between health competence, health promoting behaviours and relative health value. Although Ardell (1985) considered health values important, examining and analysing health values was worrying because of the difficulty of doing this (Shelton Smith and Wallston, 1992) due to the problem of social desirability for such a question as ‘Do you consider health important?’ On this basis, it was decided that question 35 about health goals be left out and not analysed.
Another lot of results which were initially puzzling and need to be addressed included the resourceful cluster (wellness domain) which identified that carers from Mt Druitt perceived they had slightly more people to assist them when they had a problem or when they needed child care and they were sick, than those carers who lived in Baulkham Hills. A further result associated with the prevention for being well adapted cluster (illness prevention domain) again demonstrated that carers in Mt Druitt perceived they were able to get assistance from quite a lot of people for their child health concerns compared to those Baulkham Hills carers who perceived they could get a moderate amount of help. The wording of question 28 emphasises the number of people as being important for assistance. This raises the possibility that more people may not necessarily mean ‘better quality’ assistance which was where the number of people could have become confused with the quality of assistance. Having said that, however, Mt Druitt carers obviously perceived they had more people to assist them than did those Baulkham Hills carers.

In both these cases, carers whose partners had lower educational status perceived they could get more resource assistance which seemed to indicate that families whose partners had less education were less critical or have lower expectations of their resources. Moreover Mt Druitt carers considered such child health sources as the Baby Health Centre, their fathers, the chemist and health magazines as more important than did Baulkham Hills carers. On reflection, Baulkham Hills carers may have access to additional information – perhaps through networks, contacts and their computers – more easily than Mt Druitt carers. If the demographic influence of partner educational status is to be acknowledged then it appears that Mt Druitt carers and their families are disadvantaged (more so than Baulkham Hills families) due to lack of more sophisticated child health resource options which Baulkham Hills families have.

The Recurrent Theme of Overlap

Overlap in the health domains probably occurred because there was an extension of the wellness domain, representing broad, general life style variables, into the more specific health behaviours of the domains of health promotion and illness prevention. Although it appeared from this that the nature of health was that of overlap and being non-discrete, as had previously been demonstrated, some cohesion was created by the linking of the variable how much do you watch TV with your child with the variables family members’
health habits and family members' health checks, both representing healthy practices clusters.

Nevertheless, there were problems associated with overlap – not only for domains but for clusters. For example the cluster promotion of healthy practices (health promotion domain), consisting of variables about family exercise patterns and parental, nutritional education of the child, was non-significant, which could have been caused by inexact cluster measurement. The descriptive child food question (healthy practices cluster, illness prevention domain) could also have been used in parents educating their child nutritionally (health promotion of healthy practices, health promotion domain) and some of the variables about family activities/ outings (part of the promotion of mental health cluster) could also be relevant to this cluster involved in measuring family exercise patterns. This raised the issue of measuring variables twice – in each cluster that overlaps the other – thus overstating their influence.

8.5.4 Implications

The significance of the findings and the resulting themes of this quantitative study need to be acknowledged as making an important contribution towards the development of an instrument to measure the health of families with preschool aged children. Nevertheless, the discussion surrounding the results and their themes has identified six problem areas that will now be addressed and which will lead to the need for modifications to the existing questionnaire. These particular concerns are that:

i. some variables from including the child's view may need to be removed and others added because they may conflict with parents' ideas about their child’s health;

ii. the variables from getting assistance from other people and the assistance you get from other resource people for concerns about your child’s health need to be modified because they may not necessarily reflect the quality of the assistance;

iii. more specific variables for measuring health domains like health promotion need to be added;

iv. clearer, unambiguous variables need to replace such possible stressor variables as ‘budgeting';
v. an improved measure of relative health value needs to be added; and

vi. additional variables about the sources of child health information such as TV, the dentist and computers need to be included.

The first two problems are raised due to their association with the wellness rating of low socio-economic families which is puzzling and inconsistent. Low socio-economic families perform better than high socio-economic families on sharing behaviour and perceptions about resources but are less effective in providing education for their families associated with a healthy life style. This rather conflicting picture needs to be reassessed and, in doing so, more appropriate variables reflecting wellness behaviour need to be chosen for including the child’s view to replace the variables of a child’s involvement in choosing their dinner and also in choosing when they go to bed. Children may not necessarily choose ‘healthy’ food to eat and also parents may feel that bed times need to be enforced by them.

There is also a concern that the second problem of measurement of families’ perceptions about their resources may be caused by not clarifying whether or not a carer is satisfied with the few resources she has because they provide all the assistance she wants. As well as asking about the number of people assisting, variables need to be inserted about the amount of assistance and whether carers are satisfied with the quality of this assistance.

Problem three which involves overlap between the clusters of health domains – not necessarily the domains themselves, and more associated with the previously noted more ‘specific’ health promotion and illness prevention domain – raises the issue of designing more specific variables for measuring the clusters within the ‘specific’ health domains like the health promotion domain. For example, if one is measuring parents educating their child nutritionally from the cluster health promotion of healthy practices, then designing variables about the regularity of family members sitting down to watch TV with snack food like chips or parents indicating how often they talk to their children about eating healthy and unhealthy food, perhaps would be more appropriate.

The last three concerns associated with questionnaire modification were firstly, that clearer, unambiguous, new variables appropriate for replacing such variables as ‘unsatisfactory relationship’ and ‘budgeting’ are necessary if a variable which more
accurately reflects family stress is to be developed. Secondly, the relationship between the concepts of health competence, health promoting behaviours and relative health value needs to be further explored – hence the inclusion of a revised measure of health value. Associated with these aspects is the need to also reconfirm regional differentiation at the univariate level for the variable *initiation of child health activities*. The final concern of including the neglected variables of TV, the dentist and computers as sources of child health information may assist in explaining regional differences for some results like those for *family members' health checks* associated with dental checks and cleaning teeth twice a day.

8.6 RESULTS INFORMING THE TRIANGULATED STUDY

This Chapter has presented the results for the quantitative study (study two). In doing so it has provided evidence of a strong demographic cluster and has also determined moderate to strong regional variability for the models of wellness, health promotion and illness prevention. In the final section Chapter 8 has reviewed the cluster and health domain contributions, the contribution of the demographic variables and their covariates, the health models for the domains, the critical analysis of the thematic patterns that have emerged and implications that have arisen from that critical thematic discussion.

Chapter 9 reviews the thesis in its totality. A discussion of the quantitative study will be continued in that the contribution of this study and that of the qualitative study (study one) will be determined and addressed in terms of the thesis overall. In the final sections judgements will be made, based on the research evidence as to the limitations of the project, the recommendations for future research and the implications for the practice of health professionals.
CHAPTER 9

DISCUSSION OF THE TRIANGULATED STUDY

This thesis has explored the health of different kinds of families with preschool aged children with a particular focus on low socio-economic background families and their health promotion needs. Initially it recommends that community nurses be more active in their health promotion role with such disadvantaged families. The thesis has also provided an overview of family health and health promotion models with particular reference to the Health Belief Model (HBM). In this case it argues for the inclusion of two constructs ‘behavioural control’ and ‘intention’ in the HBM from two theories with similar philosophical bases (Fishbein and Ajzen’s Theory of Reasoned Action and Ajzen’s Theory of Planned Behaviour), which will enable a health promotion focus and is more suited to families with preschool aged children.

The thesis moves on to justifying the undertaking of a qualitative study (study one) using a modified grounded theory approach. Fourteen volunteer parent sets from Mt Druitt and Baulkham Hills in Western Sydney, whose preschool aged children attended child care centres, were given in depth interviews and were asked to discuss their families’ health as well as the health behaviours they undertook for their children. The voices of these parents emerged from the data as rich themes. The substantial major theme of ‘The Nature of Health’ and the themes of ‘The Multi-dimensional Nature of Child Health Behaviour’ and ‘The Inter-generational Theme’ formed the foundation of the parental health questionnaire which constituted the second, quantitative study (study two). This questionnaire, given to 150 volunteer parents from two regions, measured the health concepts of wellness, health promotion and illness prevention and explored the relationship of these health concepts to a range of demographics and variables about the health of families with preschool aged children. The results of the quantitative study, based on 91 carer families, revealed a strong demographic cluster and models of wellness, health promotion and illness prevention which demonstrated a moderately strong relationship with group variability. Furthermore, for the lower socio-economic background, Mt Druitt carer families, their physical and mental health behaviours and
health beliefs were of concern. They confirmed the need for the initial recommendations that community nurses be more active in their health promotion role for these families.

The present Chapter seeks to discuss the thesis in its totality, paying attention to its overall contribution, through the contribution of both the qualitative and quantitative studies. In doing so, any limitations of the study will be addressed; validity and reliability issues will be discussed; any recommendations for future research noted, and finally the implications for practice will be presented.

9.1 THE CONTRIBUTION OF THIS RESEARCH

At the beginning of this thesis the writer noted the limited nature of the research in this topic area of parental health behaviours towards preschool aged children. Whilst Pratt (1976) undertook a similar study, her research was based on an older child sample, it was American and was also over twenty years old. Other authors such as De Vellis et al. (1993) have developed an important instrument (the Parental Health Locus of Control scale) to measure the parental health beliefs about parental control over child health but it does not take other aspects of child and family health measurement into account. While some studies have examined specific parental health behaviours such as immunisation (Roden, 1992) or even parental health behaviours for other age groups such as babies (Green, 1979) this study makes a unique contribution because it is informed by parents’ opinions in its quest to examine the broad range of parental health behaviours for the specific preschool child age group. In doing so it is acknowledged that this thesis informs the literature – especially the Australian literature – in the understanding of family health and the health behaviours that parents initiate towards their preschool aged children.

Moreover this thesis has demonstrated that the health of families with preschool aged children is very important, especially for the health of their young children who are at a formative stage of their health values and who need parental guidance to establish effective health values for themselves and for the next generation. The thesis has thus informed health research associated with family health and health behaviour in which it has been acknowledged limited research has been undertaken. As well it has added to the body of knowledge about measuring health concepts such as wellness, health promotion and illness prevention and provided direction for further research. In addition the
researcher has made a major contribution with the development of a questionnaire which has enabled the measurement of family health and has contributed to the important and growing family research area. A final, significant contribution of the thesis has been that it has informed the health literature. By applying the health concepts of wellness, health promotion and illness prevention to parent samples from two different socio-economic areas in Western Sydney, Australia it has been able to establish that there are different health behaviours manifesting themselves as health deficits for the lower socio-economic background sample.

In the next section the contribution of both the qualitative and quantitative study will be addressed.

9.2 CONTRIBUTION OF THE QUALITATIVE AND QUANTITATIVE STUDIES

In order to emphasise the particular contribution of the research studies to the thesis this section will be addressed in three parts – that of a triangulated study, the importance of parents’ voices informing the questionnaire and the rigorous quantitative investigation undertaken.

9.2.1 A Triangulated Study

A major strength of this thesis is the triangulated approach that has been adopted in this research. Some of the benefits of this approach – the qualitative study ensuring justifiable face and content validity; the beneficial approach associated with the use of both a qualitative and quantitative research paradigm and the links that are present between the two studies – will be addressed in a little more detail.

The first benefit of face and content validity arose through the valuable contribution of the qualitative study. That face and content validity were established occurred as a result of the generation of rich thematic data from ‘expert’ parents which was used to construct the questionnaire.

The second benefit was that the combination of the different philosophical perspectives of qualitative and quantitative research paradigms appeared to have had a beneficial effect,
rather than creating any problems. In this research using the qualitative study and its rich
data to inform the questionnaire had been a definite advantage. It also made sense to
explore the concept of ‘health’ first before devising an instrument to measure it.

The third benefit was derived from the identifiable links, suggesting support and
connectedness, that exist between the two studies. Although it could be argued that this
may have been expected in such a triangulated study, an identifiable link was present in
the two studies even though their aims were different. The qualitative study entailed
searching from among the data for the attributes deemed important for a wellness
orientated family or a family equated with self actualisation, while the quantitative study
had a different approach in that it was interested in investigating whether the seven
wellness clusters for each region were significantly different and, if so, why? Although
these two studies were different in their aims it was interesting to note that there were
examples of similarity between both study results. For example, the holistic nature of
health which was an important part of the qualitative study’s thematic approach, was also
present in the thematic development of the quantitative study. A further example of the
linkage between the two studies was apparent in the concept of overlap, deemed
important for both the studies. Defining the broad concept of ‘health’ had proved as
difficult for the parents in the qualitative study as it had for the researcher encountering
overlap between clusters and domains in the quantitative study. The overlap that was
common for both these studies highlighted the need for this researcher, and other future
researchers, to be careful in obtaining from respondents accurate definitions of a concept
such as ‘health’ as well as being able to find ways to overcome the overlap problems that
existed between clusters and domains.

9.2.2 The Importance of Parents’ Voices Informing the Questionnaire

Another important strength of this thesis is its ability to command authority through the
use of rich, thematic data generated by ‘expert’ parents in the qualitative study. This
enabled the questionnaire to be authentic because of its sensitivity towards the parents’
position, to accurately reflect the parents’ perceptions and to identify the importance and
value of the contribution that parents’ made in undertaking health behaviours for their
preschool aged children. The researcher considered that involving parents in an
understanding of what they do for their child’s health was of paramount importance and
that all too often the voices of people like parents are neglected in the construction of this kind of family health questionnaire.

Moreover this thesis has identified that the special knowledge that parents have needs to be reflected on, in association with the health literature. Although the rich anecdotal evidence of parents takes precedence, in this case the health literature has been used as a comparison with the thematic data, in an attempt to find similar patterns which have arisen, for example, in the case of Smith (1983) and her health models. The health literature has also been used in association with the important parental data, in order to redefine hypotheses.

9.2.3 A Rigorous Quantitative Investigation

A further strength of this thesis is the rigorous quantitative investigation that was undertaken. The researcher specifically refers to the procedure of obtaining the demographic variables, considered of great importance because of their structural and foundational nature, which discriminated between the two regions. These demographic variables were statistically controlled by choosing demographic covariates from them and using these covariates in the analyses of the clusters of the three health domains. This enabled the influence of the demographic variables to be determined and controlled for each cluster within each domain.

The study results of this questionnaire are notable because the demographic cluster, which has important influences on a person’s life, reflects a strong relationship with variability between regions. In addition the quantitative study boasts accepted models of wellness, health promotion and illness prevention which all reflect a moderate to strong relationship with variability between Mt Druitt and Baulkham Hills. Overall the study demonstrates that there are considerable family and child health related differences, previously identified, in favour of better health outcomes of the high socio-economic region.¹ Nevertheless it is interesting to note that higher socio-economic families did not

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¹ This study involved the development of a questionnaire in a triangulated research paradigm. This was quite different to an experimental research paradigm with control groups. In so far as the study results are generalisable, they only apply to the triangulated paradigm and would not be relevant to any other paradigm.
demonstrate cohesive qualities or resourceful qualities to the same extent as lower socio-economic families. That high socio-economic parents were more in control of their child’s health and initiated more health promoting behaviours than lower socio-economic parents, also provide support for the inclusion of behavioural control and intention in the HBM, as well as confirming the importance of these constructs in relation to health promoting behaviours of families with preschool aged children. These quantitative results are important because they provide the basis for the validation of a Revised Health Belief Model which includes the constructs of ‘behavioural control’ and ‘intention,’ identified in Figure 4.4.

In final support of this study it should also be noted that although the capacity of the quantitative study to generalise its results is not possible the demographic study results are closely aligned with those demographic findings of the 1991 and 1996 Census information (Australian Bureau of Statistics, 1991 and 1996 respectively) for Mt Druitt and Baulkham Hills.

9.3 LIMITATIONS OF THE STUDY

Although there are many strengths of this study it is important to acknowledge that there may have been some limitations. While it was found that the data was able to be placed in a measurable and meaningful format in the questionnaire, construction was hard work and designing unambiguous items which measured specific constructs was time consuming and difficult. The writer has referred to some concerns which may have occurred in question construction. This 26 page questionnaire needed further refining which was not possible when only two pilot runs could be undertaken, as is usually the case in such a piece of work. More work was also needed to deal with the difficulty associated with statistically measuring ‘problem solving’ and measuring the food parents provided for their preschool aged child, as well as being able to gauge the nutritional adequacy of their child’s food intake. Further development of questions is needed which could be analysed using MANOVA, rather than using less powerful statistical measures.

9.3.1 Validity and Reliability Issues

It has been stated in Chapter 7 that the final product of this research – the questionnaire – underwent two small pilot tests. However, there have been no further validity and
reliability studies undertaken on this instrument so caution needs to be exercised when interpreting the study results.

Whilst it has been noted that the questionnaire has justifiable face and content validity, construct validity needs to be discussed further. The reader will recall that a logical process was used to develop the questionnaire. Questions were asked of the data and pre-data hypotheses were examined in relation to data hypotheses whilst all the time the literature was used in conjunction with this process. During questionnaire construction it could be argued that instrument validity was present because it did appear that there was consideration of logical analysis and testing of hypotheses on the basis of theoretical considerations which evolved from the literature (Polit and Hungler, 1993).

With regard to the issue of reliability, Cronbach Alphas have been undertaken on all the small clusters of variables in this questionnaire. There are also five global variables and twenty seven single variables which were unable to be tested this way.

A further mention also needs to be made of the use of existing instruments in the development of this questionnaire. In only one case – that of the Family Apgar Scale – were all the items used, whilst for the other four instruments some items were deleted and modified as was the case for example, for the PHLOC scale (De Vellis et al. 1993). Although most of these instruments have had reliability and validity studies undertaken on them, the PHCS (Shelton Smith et al. 1995) has not. On this basis further reliability and validity studies are recommended on the researcher’s questionnaire.

In summary it appears that using the Family Apgar should be non-problematic because it has incurred no changes. This should also be the case for the PHLOC which, although it has had some modifications, in this questionnaire it has produced some results corresponding to those expected of certain populations. Nevertheless caution does need to be extended to the use of those instruments – the CPI, PHCS and Family Health Impactors I: Self Perceptions – which, although justified initially in their use along with the other instruments, do need further testing.
9.4 RECOMMENDATIONS FOR FUTURE RESEARCH

There are four main recommendations for further research:

- the importance of studying single carer families;
- the need to modify some existing questionnaire variables;
- the need to investigate reliability and validity issues; and
- the necessity of developing a Revised Health Belief Model.

First there are implications which arise from this thesis for further quantitative research into single carer families who are even more socio-economically compromised than carer families in that:

- 81.18% of such families rent;
- 50% have moved two to four times in the last five years;
- 35% state they had a somewhat inadequate financial situation;
- single carer educational levels were lower with a secondary or trade/technical background; and
- single carers have a low to medium occupational status.

Although there were insufficient numbers to provide statistically meaningful conclusions, there were indications that family health problems were developing with the eleven single carers who watched more TV with their child and smoked and drank more tea and coffee than carers. As well nutritional dietary deficiencies were obvious for the children of 43% of single carer families.

In view of their apparently more compromised health status and greater socio-economic disadvantage, a larger follow-up study of single carers needs to be undertaken to determine whether they are suffering from such health deficits as have been identified from the analysis of the quantitative study. In retrospect, it is clear that the researcher needed a larger sample size of single carer families, for both regions so as to be able to make statistical determinations about their health limitations in comparison with the carer
sample. Although the aim of the present research was exploratory in nature and for this reason the emphasis was on sampling all different kinds of families, a larger sample of single carer families would have provided a more adequate picture of families experiencing greater social disadvantage. In addition, although there were small numbers of itinerant families surveyed in this research, the need for a statistically viable sample is suggested.

In hindsight, although justification for the samples has been provided, sampling parents whose children did not attend preschool would also probably have led to a greater proportion of economically deprived families.

An important argument for including parents whose children do not attend a centre is that in 1996, just before this quantitative study instrument was handed out to parents, the Federal government significantly reduced its funding commitment to long day care (Department of Parliamentary Library, 1997-98; Australian Parliament Senate. Community Affairs References Committee, 1998). Due to increased costs and other factors, long day care numbers have declined and more families have had to forego long day care options. This has resulted in more women staying at home with their children without access to child care.

It appears that many of those who are able to remain in long day care may well be considered the ‘privileged’ families with preschool children in this current climate. Unless additional preschool-kindergarten placements are secured in an already compromised preschool education system (Kronemann, 1998) there is an increasing risk of more Mt Druitt preschool aged children being unable to attend preschool/kindergarten. So it can be seen that there may be a case for those families who are unable to access preschool education being more socio-economically disadvantaged than those carer families attending preschool/kindergarten and in turn they should be involved in a further study.

It is also recommended that in conjunction with any further research, greater attention be given to reliability and validity issues and additional piloting, modifying and refining of the questionnaire be undertaken on the basis of suggested changes in Chapter 8.
A further recommendation from this research is to continue work on the development of a Revised Health Belief Model which, as has already been noted, needs updating with the new constructs ‘behavioural control’ and ‘intention,’ successfully trialed in this study. More work should be undertaken on the old constructs, in conjunction with the health promotion focus of a Revised Health Belief Model and the relationships between wellness, health promotion and illness prevention further explored, so that they can be successfully incorporated into this model.

A final recommendation is also made here for the undertaking of possible future research about the importance of parenting styles and behavioural issues. In undertaking this it would be necessary to pursue a different theoretical paradigm to that of the present study.

9.5 IMPLICATIONS FOR PRACTICE

The qualitative study provides evidence that most families with young preschool aged children living in Western Sydney need assistance from health professionals, such as community nurses, in order to understand health promotion and place it within their life style. On the basis of this it appears that there is a ‘young’ family health promoting role generally for Western Sydney community nurses.

Having said that and reflecting on the results of the second, quantitative study, of major concern for practising health professionals are the poor health related findings for Mt Druitt carers and their families. Although Mt Druitt carers agreed that health professionals have more influence over their child’s health, they were more likely than Baulkham Hills carers to agree that:

- they initiate fewer health promoting behaviours for their child;
- their family suffers from more stress;
- they have more unhealthy habits like higher smoking and caffeine intake;
- their family eats more fatty or fried foods, as well as more take away food (this result was supported by the qualitative study);
- they spend more time watching TV with their child;
• their children had reduced resistance to illness; and

• their family is less diligent with teeth cleaning and dental checks.

The first two results about health professionals having more influence over child health and parents initiating fewer child health promoting behaviours, have implications for all health professionals. However, the first recommendation is mainly directed to doctors who are most likely to be visited by these families, as it is important for them to realise that lower socio-economic carers will be less certain about handling their child’s health and less involved in initiating health activities for their child. That Mt Druitt lower socio-economic carers were not as effective as Baulkham Hills higher socio-economic carers at initiating and promoting health behaviours has been supported by their reduced attention to teeth cleaning and dental checks. Yet these Mt Druitt carers felt they had more people to assist them when their child had a health problem than Baulkham Hills carers. These results do appear to reflect lower socio-economic carers’ disinterest with health promotion and their interest in assisting their child when he/she is ill.

Even though it has been perceived by mothers that doctors’ health promotion roles are not as important as their management of illness (Cheng et al. 1996), it is necessary for doctors to be alert to the need to encourage such parents in their child health promoting role and build up their capacity to assist their children’s health, more so than for higher socio-economic parents. Parents do not just need important child health immunisation information but they also need extra health teaching and assistance with pertinent child health information presented, for example, as videos in the waiting room as well as pamphlet materials about healthy family life style. There certainly would also be a health promotion role along these lines for nurses employed to assist these doctors.

A second recommendation for the involvement of Baby Health Centre or early childhood nurses is also identified here. Somehow the challenge for all health professionals, not just doctors, is to get disadvantaged parents to understand the importance of health promoting behaviours. For this to happen, however, health professionals themselves (including Baby Health Centre and community nurses) need to be convinced about the importance of health promotion. Moreover as Baby Health Centre nurses were shown to be important sources of child health information for the lower socio-economic carers from Mt Druitt,
this points to them being the appropriate health professionals to ‘sell’ health promotion to lower socio-economic carers. This would appear to be a logical progression for Baby Health Centre nurses now involved with young families in the “Families First” (NSW Department of Health, 1999) initiative, referred to earlier in 3.5.1. These health professionals are already involved with young families from birth to six months, so extending their commitment with these families would appear to be a solution to improving the health of Mt Druitt families who already consider these nurses an important source of child health information.

Nevertheless for both low and high socio-economic background carers alike, commitment to health promotion is of central importance because only a few parent couples in the qualitative study demonstrated their capacity to be involved in family health promoting behaviours. Generally Western Sydney carers need to be more actively involved in seeking out resources and educating their child and themselves on health promotion aspects. This may also mean that community nurses need to be on the alert in their health promotion role for all Western Sydney families with young children, although this role would have a somewhat lower priority than the one proposed for those families in Mt Druitt.

There is a need for another recommendation which identifies child care nurses (of whom Baby Health Centre nurses are a part) and community nurses in a committed family health promotion role. It appears that child health nurses will need support and assistance from community nurses in their challenge to maximise community wellness through applying the principles of the Ottawa Charter, addressed in Chapter 2. In line with the ‘middle course’ family health promotion approach these nurses can reorient their health services (in partnership with other health professionals) to assist lower socio-economic families as well as be involved in creating more supportive social and natural environments which will help to empower parents and their preschool aged children. Community nurses need to assist families to identify community development projects in which they are interested in working, in line with Vinson and Power (1999, June). In conjunction with this it is proposed that child care centres – preschool/kindergarten and long day care – within the Mt Druitt area take some responsibility for family health management programs, addressed in Chapter 3, which could well be run by community nurses.
Such effective family health management programs would involve modifying television watching behaviour of these families by suggesting and monitoring alternative leisure and educational activities; assisting with the implementation of quit smoking programs and the provision of information about passive smoking; providing nutritional and other health education guidelines which may reduce the intake in fatty foods; and attention to involving families in stress reduction programs. Moreover to the extent that these new programs will be applied to low socio-economic carers in Mt Druitt, on the basis of this research it appears important to also extend this program to Mt Druitt single carers because they are even more socio-economically compromised than Mt Druitt carers and appear to exhibit equally unhealthy habits associated with increased smoking and coffee drinking and increased TV viewing with their children.

The support and collaboration of other health professionals such as doctors will also be necessary in these programs, especially as child health and community nurses will need to provide information or may need to refer family members to their local doctor or other doctors. This also reinforces that Western Sydney community nurses may detect other health problems and that their health assessment and screening role, which appears to be mostly untapped during the preschool years, is vital. Vimpani (1998) notes that health visitor programs are of importance in assisting disadvantaged families. He suggests that through these programs community nurses can link families up to their community as well as assist in keeping in contact with and monitoring such families. It is also envisaged that families involved in the family health management programs will be followed up by an allocated health visitor (preferably a child health or community nurse) and that when children are eligible for school there would be a hand over process between the child care centre and school. This would ensure that child health and community nurses are still able to continue to monitor families at risk in their life style behaviours.

A further recommendation stems from the fact that the qualitative study showed very definitely that parents believe they are the experts when it comes to making health related decisions about their child’s health. In addition, in the quantitative study approximately 77% of parents always made decisions about their child’s health together. Of the remaining carers approximately 22% sometimes shared this health decision with their partners while there was only one parent who never shared this decision. (Interestingly there were no regional differences noted for child health decision making in the
For these reasons health professionals need to find practice styles which capitalise on parents' desires and support rather than infringe their decision making rights and responsibilities.

An additional recommendation about health professionals needing to take heed of the vital role of mothers in the transmission of health values, is perceived as important in both the qualitative and quantitative studies. Changing family composition and poverty and vulnerability may result in the loss of health value transmission from each generation to the new one. The challenge will be for health professionals like nurses to ensure they develop creative strategies so that families are able to maintain and develop their health values.

The final recommendation is that all health professionals, especially those in the child and family health area, be involved in lobbying for changes in healthy public policy related to increasing the percentage of television dedicated to the provision of appropriate family health information, especially for families with preschool aged children.

9.6 CONCLUSION

This Chapter has reinforced the valuable contribution of the thesis. This has been made firstly through its ability to inform health research associated with family health and health behaviour. Secondly, it has added to the body of knowledge about measuring health concepts such as wellness, health promotion and illness prevention and has provided direction for further research. Thirdly, it has contributed to the family research and health literature. It has also addressed the strengths of the thesis, especially associated with that of using a triangulated approach, as well as that of being informed by the 'expert' voices of parents and finally discusses the rigorous nature of the quantitative study.

Mention is also made of the minor limitations of the study – namely those related to refinement of the questionnaire – and reliability and validity issues have been addressed. Moreover there are important recommendations for future research and implications for practice which arise from this thesis. The call for further research is extended to include single carer families, sampling from all preschool aged children within the regions of Mt
Druitt and Baulkham Hills and is urgently needed, as is the need to continue further research work with the constructs of the HBM. Implications for practice identify community nurses and doctors as having significant health professional roles which are of vital importance to the promotion of health in families with preschool aged children, especially those disadvantaged, low socio-economic background families, living in Western Sydney.
APPENDICES

Appendix 1

UNIVERSITY OF WESTERN SYDNEY
NEPEAN (Letterhead)

FACULTY OF NURSING AND HEALTH STUDIES

Phone: (02) 9685 9020
Fax: (02) 9685 9023

29 May 1996

INFORMATION SHEET FOR PARENT/PARENTS
TAKING PART IN RESEARCH PROJECT BEING UNDERTAKEN
BY JANET RODEN

Dear Parent/Parents

I am a lecturer in the area of child and family health in the Faculty of Nursing and Health Studies at University of Western Sydney, Nepean. I am also undertaking my PhD at the University of Western Sydney, Nepean, in the topic “The Health Behaviours of Families with Preschool Children living Western Sydney”.

I am asking for your assistance as I need the support of parents like yourselves. I need to interview parents in order to understand the health behaviours that parents undertake for their preschool children and why they undertake these behaviours. I need to be guided particularly by your opinions and ideas about these matters.

As remaining healthy is very important in our community now, the health beliefs of parents and the health of their preschool children is an important, but neglected area that needs further research.

The purpose of this research is to assist health professionals in providing more information and assistance about health and health behaviours to parents with preschool children.

If you would like to be part of this important health research, please tick the underlined section over the page. I need to interview either one parent in the case of a one parent family or both parents together if you are a two parent family. I am happy to come to your home for the interview if this is convenient at a time nominated by you. The length of the interview would be no longer than 1½ hours.

As a way of thanking parents for their participation, a $20 Grace Bros Gift Voucher is provided after each interview.
For your further information the research data gathered from this project will be published in a form that does not identify any of the participants.

SECTION TO BE FILLED IN:

I would like to take part in the 1¾ hour interview. I understand that if my family is a 2 parent family, both parents will be interviewed.

Please indicate “Yes” in the box: ☐
And provide details of your name, address and phone number below.

NAME: .................................................................
ADDRESS: ..........................................................

.................................................................... PHONE NO. ......................

If you need to speak to me further I can be contacted on telephone number 449 8715 (Home) or 685 9020 (Work – message) or 0411 227 465.

Would you kindly return these forms to your preschool Child care centre Director by June 12, 1996.

Yours sincerely,

Janet Roden
Lecturer
University of Western Sydney, Nepean
Original Interview Questions

1. What do you understand the term “health” to mean? Please give some examples (prompt for further examples).

2. What does being healthy/well mean for you?

3. Do you do anything to stay healthy?

4. What does the word “well” / “healthy” mean for you and your family? Please give some examples (prompt for further examples).

5. Would you describe your family as healthy/well? Why?

6. Could you describe the healthy things you do for your preschool children?
Appendix 3

UNIVERSITY OF WESTERN SYDNEY
NEPEAN (Letterhead)

FACULTY OF NURSING AND HEALTH STUDIES

Phone: (02) 9685 9020
Fax: (02) 9685 9023

2 September, 1997

PARTICIPANT INFORMATION SHEET

PARENT HEALTH BEHAVIOUR SURVEY

Dear Parents,

I am a student undertaking my PhD in the Faculty of Nursing and Health Studies and am conducting a study to find out how parents think of their health and their preschool aged child’s health as well as what they consider they do for their child’s health. This is important research that needs to be undertaken since the findings will assist parents and health professionals to understand better what they can do to help families to keep young children of preschool age healthy.

As your opinion is very important, I would be most grateful if you would agree to take part in my study by answering the questions in my survey.

Your participation in this research study is voluntary and the decision not to participate will in no way influence your child’s care given at the preschool/long day care centre. Return of the survey will be understood to be your consent to take part in this study.

A survey will be given to you by the Director and will take about one hour to do. The survey is easy to complete because there are instructions with each question and most only need the answers to be circled or ticked but some require you to write. You can do the survey in stages. When it is completed please return it to the Director in the envelope provided and I will come and collect it as soon as possible.

Some of the questions are about your private matters (e.g. your occupation and source of income). I would be very appreciative if you would fill them in, but if you think them too personal please leave out those answers and complete the rest. You are not asked to give your name and address. The results of this survey will be kept confidential to me. No names or identifying information will be published.

If you have any questions or concerns about this research please contact me on telephone (02) 9685 9116.
I would like to thank parents for their participation and time by providing a lottery ticket on receipt of their survey. These can be collected from the Director.

As soon as I have finished this study I will let the Preschool/Kindergarten/Long Day Care Centre have a copy so that you can know the results.

Thank you for your assistance.

Janet Roden
LECTURER
Appendix 4

UNIVERSITY OF WESTERN SYDNEY
NEPEAN (Letterhead)

FACULTY OF NURSING AND HEALTH STUDIES

Ph: (02) 9449 8715 (Home)
Ph: (02) 9685 9016 (Work)
Ph: 0411 227 465 (Mobile)

4 August 1997

Dear Director [of Preschools and Long Day Care Centres]

I am a lecturer in the area of child and family health in the School of Nursing and Health at the University of Western Sydney, Nepean. I am undertaking my PhD at this University in the topic: "The Health Behaviours of Families with Preschool Aged Children living in Western Sydney."

My reason for doing this study is that more importance needs to be given to understanding healthy behaviours that parents undertake for their young children of preschool age. Through undertaking this research I hope to assist health professionals in providing more information and assistance about health and health behaviours to families with preschool aged children.

I am hoping you will be interested in this project and will provide me with some assistance in accessing possible interested parents for this project. I need to be able to speak to parents of your four year old children (and older) to gauge who may be interested in doing a survey about the healthy things they do for their child.

In addition to this, you may also know whether parents may wish to help me and also whether some parents would have difficulty in filling in a survey which takes 20 minutes and requires them to be able to understand English at the sixth grade level. I do need to be guided by your knowledge about these aspects.

I will phone you in two weeks time to see whether you are interested in taking part in this exciting project. If you are interested, I will then make a short appointment to come and discuss the finer details with you – primarily about how the surveys will be distributed and collected and address any queries that you may have. I also need to show you that this research project has ethics clearance through the University of Western Sydney, Nepean.
I look forward to talking with you and hope you will be keen to assist me in this research about the health of families with preschool aged children.

Yours sincerely

Janet Roden
Lecturer
### Appendix 5

**Variable list for Wellness, Health Promotion and Illness prevention**

**Wellness**

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Who decides about spending large amounts of money?</td>
<td>Family members make actual decisions</td>
</tr>
<tr>
<td></td>
<td>Who decides about where to go on outings?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Who decides about child health when there is something serious to decide?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Who decides about what food to buy?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Who decides about what restaurant to go to?</td>
<td>√</td>
</tr>
<tr>
<td>22</td>
<td>Ideally how should decisions be made about spending large amounts of money?</td>
<td>Family members make ideal decisions</td>
</tr>
<tr>
<td></td>
<td>Ideally how should decisions be made about where to go on outings?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Ideally who decides about child health when there is something serious to decide?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Ideally how should decisions be made about what food to buy?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Ideally how should decisions be made about what restaurant to go to?</td>
<td>√</td>
</tr>
<tr>
<td>23</td>
<td>Deciding what my preschool child wants to do on a special outing</td>
<td>Family members make equal decisions</td>
</tr>
<tr>
<td></td>
<td>Deciding what my preschool child wants for dinner</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Deciding about what friends to have over to play</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Deciding about what to buy from the supermarket</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Deciding about what my preschool child wants to watch on TV</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Deciding about what time my preschool aged child goes to bed</td>
<td>√</td>
</tr>
<tr>
<td>25</td>
<td>My preschool aged child is involved in decision making</td>
<td>√</td>
</tr>
<tr>
<td>16</td>
<td>Bathing your preschool aged child</td>
<td>Family members share</td>
</tr>
<tr>
<td></td>
<td>Cooking the dinner</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Housework</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Dressing your preschool aged child</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Cleaning your preschool aged child's teeth</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Doing the laundry</td>
<td>√</td>
</tr>
</tbody>
</table>
### Cohesion (COH)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Putting dirty clothes in laundry basket/washing machine</td>
<td>Family member/ preschool child helps</td>
</tr>
<tr>
<td></td>
<td>Tidying the room</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Making own bed</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Dressing him/herself</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Cleaning own teeth</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Feeding him/herself</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Taking clean clothes and other things to different rooms if asked</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Bathing/showering him/herself</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Putting toys away when asked</td>
<td>✓</td>
</tr>
<tr>
<td>24</td>
<td>In general, who makes most of the decisions in your family?</td>
<td>Family members make equal decisions</td>
</tr>
</tbody>
</table>

### Adaptability (WADP)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>Your child is tired and doesn't respond to what you want</td>
<td>Family members' problem solving ability</td>
</tr>
<tr>
<td></td>
<td>You are having difficulty negotiating a solution to a problem with your partner/husband</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>You are having difficulty getting your child into bed at nights</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Your child is behaving badly in the shopping centre</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Your child is unhappy at his/her preschool care centre and you work out a plan of action with the Director</td>
<td>✓</td>
</tr>
<tr>
<td>32</td>
<td>How well did your child adjust on first attending the Centre?</td>
<td>Family members learn new things</td>
</tr>
<tr>
<td>33</td>
<td>How well is your child adjusting now?</td>
<td>✓</td>
</tr>
<tr>
<td>42</td>
<td>We sleep through the night</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Able to rest while preschool child does other things</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Resourceful

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>How successfully do you juggle your time between your preschool aged child's activities and your own?</td>
<td>Using what they’ve got to make things work for them</td>
</tr>
<tr>
<td></td>
<td>How successful are you at making time for yourself/yes?</td>
<td>✓</td>
</tr>
</tbody>
</table>
### Resourceful (cont’d)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>We save water by turning the bathroom tap off while we brush our teeth</td>
<td>Using what they’ve got to make things work for them</td>
</tr>
<tr>
<td></td>
<td>We collect our vegetable and fruit peelings to make compost to put on our garden</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Our family recycles all its glass and paper</td>
<td>✓</td>
</tr>
<tr>
<td>28</td>
<td>How many people do you have to help you with a problem in your life?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>How many people do you have to help you look after your child when you are sick?</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Initiation (INIT)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>We plan for holidays</td>
<td>Family planning for activities</td>
</tr>
<tr>
<td></td>
<td>We plan for special outings</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>We plan when buying big household items</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>We plan for family celebrations</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>We plan when giving our preschool aged child a special treat</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>We plan when having friends over</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>We plan when having other people's children over to play</td>
<td>✓</td>
</tr>
<tr>
<td>37</td>
<td>Health professionals keep my child from getting sick</td>
<td>Parental health initiation/ locus of control</td>
</tr>
<tr>
<td></td>
<td>I have the ability to influence my child's well-being</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>My child can avoid illness with regular professional care</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>What my child sees on TV commercials can affect my child's health</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Having regular contact with a doctor is the best way for my child to avoid illness</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Some of the videos around today can affect my child's health</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Only trained health professionals can influence my child's health</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>I can do a lot to prevent my child from getting sick</td>
<td>✓</td>
</tr>
</tbody>
</table>
### Initiation (INIT) (cont’d)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>My child's safety depends on me</td>
<td>Parental health initiation/locus of control</td>
</tr>
<tr>
<td></td>
<td>I can do a lot to prevent my child from getting hurt</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What my child sees on TV programs can affect my child's health</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>The things I do at home with my child are an important part of my child's well-being</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Health professionals control my child's well-being</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>I can do a lot to help my child stay well</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>I can do a lot to help my child be strong and healthy</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>I handle myself well with respect to my child's health</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>It is difficult for me to find effective solutions to the health problems that come my child's way</td>
<td>![ ] Parental health competence</td>
</tr>
<tr>
<td></td>
<td>I succeed in the projects I undertake to improve my child's health</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>I am generally able to achieve my goals with respect to my child's health</td>
<td>![ ] Parental health competence</td>
</tr>
<tr>
<td></td>
<td>I find my efforts to change things I don't like about my child's health are ineffective</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Typically, my plans for my child's health don't work out well</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>I am able to do things for my child's health as well as other people</td>
<td>![ ]</td>
</tr>
</tbody>
</table>

### Mental Health (MH)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Family members' amount of tension</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Communication with my preschool aged child</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Budgeting</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Insufficient time with my partner</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Family members not feeling appreciated</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Your preschool aged child's behaviour</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Insufficient time for yourself</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Doing too many activities</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Lack of shared responsibility in the family</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Unsatisfactory relationship with partner</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Concerns about family health</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Concerns about the environment</td>
<td>![ ]</td>
</tr>
<tr>
<td></td>
<td>Unsatisfactory housing</td>
<td>![ ]</td>
</tr>
</tbody>
</table>
### Mental Health (MH) (cont’d)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Satisfied with the help I receive from my family when something is troubling me</td>
<td>Family members help each other</td>
</tr>
<tr>
<td></td>
<td>Satisfied with the way my family discusses items of common interest and problem solves with me</td>
<td>Family APGAR</td>
</tr>
<tr>
<td></td>
<td>Family accepts my wishes to take on new activities or make changes in my life style</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Satisfied with the way my family expresses affection and responds to my feelings of anger, sorrow and love</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Satisfied with the amount of time my family and I spend together</td>
<td>√</td>
</tr>
</tbody>
</table>

### Well-being (WB)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>I usually expect to succeed in what I do</td>
<td>Family members' positive approach to life</td>
</tr>
<tr>
<td></td>
<td>Several times a week I feel something dreadful is about to happen</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I usually feel life is worthwhile</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Sometimes I cross the street to avoid meeting someone</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I get all the sympathy I should</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I hardly ever feel pain in the back of my neck</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>If you are able and willing to work hard you have a good chance of succeeding</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>When I am feeling happy and active someone who is blue or low will spoil it</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I remember playing sick to get out of something</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I have very few quarrels with my family with whom I live</td>
<td>√</td>
</tr>
</tbody>
</table>

### Healthy Practices (HPR)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 f</td>
<td>How often does your family sit down together for a meal?</td>
<td>Family members' nutritional awareness</td>
</tr>
<tr>
<td>36</td>
<td>When you compare your family to others, how healthy is your family?</td>
<td>Our resistance to illness is good</td>
</tr>
<tr>
<td></td>
<td>When other children at the preschool/long day care centre get a virus my child stays well</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Our family gets only one bout of flu a year</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Usually we stay well</td>
<td>√</td>
</tr>
<tr>
<td>Question</td>
<td>Items</td>
<td>Construct</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>42</td>
<td>Does any family member take medications/tablets regularly?</td>
<td>Family members' have healthy habits</td>
</tr>
<tr>
<td></td>
<td>Does any family member smoke cigarettes, cigars or pipes?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Does any family member drink more than 5 cups of tea, coffee or cola per day?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Does any family member drink more than 3 glasses of alcohol per day?</td>
<td>✓</td>
</tr>
<tr>
<td>15</td>
<td>How often does your family relax together?</td>
<td>Family members' resting habits</td>
</tr>
</tbody>
</table>
Illness prevention

Adaptability (WADP)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>How often would you watch/supervise your child playing at home?</td>
<td>Family members' provide a safe environment</td>
</tr>
<tr>
<td></td>
<td>How often would you watch/supervise your child playing in playgrounds or parks?</td>
<td>✓</td>
</tr>
<tr>
<td>28</td>
<td>How much assistance would you get from other resource people for concerns about your child’s growth and development</td>
<td>Using what they’ve got to make things work for them</td>
</tr>
<tr>
<td></td>
<td>How much assistance would you get from other resource people for concerns about your child’s health</td>
<td>✓</td>
</tr>
</tbody>
</table>

Healthy Practices (HPR)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>Write down for the day what your child eats for breakfast, lunch, dinner/tea and in between meals</td>
<td>Family members' nutritional awareness</td>
</tr>
<tr>
<td>42</td>
<td>How often does your family have regular dental checks?</td>
<td>Family members' healthy habits</td>
</tr>
<tr>
<td></td>
<td>Does your family clean their teeth twice a day?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Does your family have regular health checks?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Does your preschooler have regular checks with a doctor/clinic about his/her growth &amp; development?</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Do you have regular Pap smears?</td>
<td>✓</td>
</tr>
<tr>
<td>43</td>
<td>Please tick whether your preschool aged child has all her/his immunisations</td>
<td>✓</td>
</tr>
</tbody>
</table>
# Health Promotion

## Mental Health

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>How often do you play a game together and how enjoyable is this activity</td>
<td>Has a good time</td>
</tr>
<tr>
<td></td>
<td>How often does your family go to friends/relatives places and how enjoyable is this</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often does your family do out with other families for a barbeque and how enjoyable is this</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often does your preschool aged child perform a concert at home and how enjoyable is this</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often do you go to a coffee shop and how enjoyable is this</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often do you go on an outing and how enjoyable is this</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How often do you watch your preschool aged child play in the park and how enjoyable is this</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How often do you go on a picnic and how enjoyable is this</td>
<td></td>
</tr>
</tbody>
</table>

## Healthy Practices (HPR)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>I explain to my child why she needs to eat healthy food</td>
<td>Family members' nutritional awareness</td>
</tr>
<tr>
<td></td>
<td>One of the reasons we eat healthy food is to encourage my child to do this</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>My child goes to the super market to help select food for the family</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>We discuss TV food advertisements with my child when asked to buy a brand of food advertised on TV</td>
<td>√</td>
</tr>
<tr>
<td>44</td>
<td>We all go bike riding or walking together</td>
<td>Family members exercising</td>
</tr>
<tr>
<td></td>
<td>We take part in organised sport with our preschool aged child</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>We encourage our preschool aged child to exercise in the backyard</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>We take my/our preschool aged child for short walks</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I do active exercise for at least 20 minutes every day</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>I do active exercise for 20 minutes twice a week</td>
<td>√</td>
</tr>
</tbody>
</table>
**Nutrition**

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>How often on average does your family eat away food during the week?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How often on average does your family eat snacks between meals?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often on average does your family eat snacks between meals?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often on average does your family eat biscuits or cakes?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often does your family cook with salt?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often does your family use oil in their cooking?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often on average does your family eat different foods such as meat or chicken (protein); bread, pasta, rice or potatoes (carbohydrates); vegetables and fruit and dairy products</td>
<td>√</td>
</tr>
</tbody>
</table>

**Adaptability (WADP)**

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>How satisfied are you with the way you are able to check your preschool aged child's progress at the centre?</td>
<td>Learning how to do new things</td>
</tr>
<tr>
<td>19</td>
<td>Reading to your child</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Doing indoor activities with your child</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Watching TV with your child</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Playing with your child outside during the day</td>
<td>√</td>
</tr>
<tr>
<td>20</td>
<td>How often weekly would you explain to your preschool aged child about crossing the road safely?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often would you make your child aware of safety issues like pets and spiders?</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>How often would you get your child to repeat his/her name, address and telephone number?</td>
<td>√</td>
</tr>
</tbody>
</table>
Adaptability (WADP) (cont’d)

<table>
<thead>
<tr>
<th>Question</th>
<th>Items</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Sources of information – my mother</td>
<td>Using what they’ve got to make things work for them</td>
</tr>
<tr>
<td></td>
<td>My father</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Doctor</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Baby Health Centre</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Chemist</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Just from my own experience</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Health magazines</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Books</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Medical Dictionary</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Women’s Magazines</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Newspapers</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Friends</td>
<td>√</td>
</tr>
</tbody>
</table>
Appendix 6

HEALTH BEHAVIOUR QUESTIONNAIRE FOR PARENTS

Dear Parent or Caregiver

Are you the main carer for your children?  
Yes  [ ]  No  [ ]

Do you have a preschool aged child/children?  
Yes  [ ]  No  [ ]

This questionnaire is about your preschool aged child who attends preschool/ kindergarten/ long day care and who is three and a half (3 1/2) years or more. Write this child’s first name in the space below:

..............................................................................................................

SECTION 1: YOUR PRESENT FAMILY SITUATION

In this first section I would like to ask some general questions about your present situation and some of your family history.

1. How many family members live with you? Please write the number in the space provided ............................................. people.

Now, in the three columns below please fill in the name of each person who lives with you, their relationship to you and their age. For example, Greg, husband, 33; Sally, sister-in-law, 27; and Harry, son, 4:

<table>
<thead>
<tr>
<th>Name</th>
<th>Relationship</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. In what year were you born? I was born in 19......

3. What sort of accommodation do you live in? Please **tick** the ONE answer below that best describes your current **accommodation**:
   - flat or unit □ 1
   - house □ 2
   - caravan park □ 3
   - town house □ 4
   - other (**please write**) ......................................................... 5

4. **Do you own or rent your current accommodation?** Please **tick** the one box below:
   - I OWN (or am buying) my accommodation □ 1
   - I RENT my accommodation □ 2

5. How many times have you moved residence/accommodation in the last five (5) years (not counting holidays)? Please **circle** the number of **moves** you have had in the **last five years**.
   0 1 2 3 4 5 6 7 8 9 10+

6. I would like to know some details about your **present marital status**. Listed below are four statements. There is one statement in each box labelled A, B, C and D. Please **tick** ONE of these boxes, either A or B or C or D. Then answer any other question in your box. What is your marital status? **Tick** A or B or C or D.

   **A.** I am SINGLE and have NEVER MARRIED □ 1

   **B.** I am SEPARATED or DIVORCED □ 2
       I have been separated/divorced for ........... years.

   **C.** I am WIDOWED □ 3
       I have been a widow for ........... years.

   **D.** I am presently MARRIED (or living in a de facto relationship) □ 4
       I have been married for ........... years.
7. What is the highest level of education you and your partner have completed? Please tick ONE answer from the list below that best describes the highest level of education you and your partner have completed. If you are a single parent please answer for yourself only.

<table>
<thead>
<tr>
<th></th>
<th>Self</th>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed primary school</td>
<td>☐ 1</td>
<td>☐ 1</td>
</tr>
<tr>
<td>Completed lower secondary (3 years or less high school)</td>
<td>☐ 2</td>
<td>☐ 2</td>
</tr>
<tr>
<td>Completed upper secondary (4 years or more high school)</td>
<td>☐ 3</td>
<td>☐ 3</td>
</tr>
<tr>
<td>Completed/am completing a technical trade certificate</td>
<td>☐ 4</td>
<td>☐ 4</td>
</tr>
<tr>
<td>Completed/am completing a college or university degree</td>
<td>☐ 5</td>
<td>☐ 5</td>
</tr>
</tbody>
</table>

8. What is the country of your birth? Please write down the country you and your partner were born in. If you are a single parent, please answer for yourself only.

Self ..............................................  Partner ..............................................

9. If you were NOT born in Australia, how long have you lived in Australia? Please write down how long you and your partner have been in Australia. If you are a single parent, please answer for yourself only.

Self ..............................................  Partner ..............................................

10. What is you and your partner’s present employment status? Please tick ONE statement below that best answers this question. Tick ONE answer only. If you are a single parent, please answer for yourself only.

<table>
<thead>
<tr>
<th></th>
<th>Self</th>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>working full-time in paid employment</td>
<td>☐ 1</td>
<td>☐ 1</td>
</tr>
<tr>
<td>retired now, not working at all</td>
<td>☐ 2</td>
<td>☐ 2</td>
</tr>
<tr>
<td>unemployed</td>
<td>☐ 3</td>
<td>☐ 3</td>
</tr>
<tr>
<td>working part-time/casual in paid employment</td>
<td>☐ 4</td>
<td>☐ 4</td>
</tr>
<tr>
<td>a full-time student</td>
<td>☐ 5</td>
<td>☐ 5</td>
</tr>
<tr>
<td>work in the family home only/home duties</td>
<td>☐ 6</td>
<td></td>
</tr>
</tbody>
</table>
11. Could you tell me something about the sort of work you and your partner have done in your lives. Please write very briefly what the main job/occupation has been for you and your partner for most of your working life (or what job/occupation you are currently training for). Describe this job as much as possible. If you have performed home duties for most of your life write “home duties”. If you are a single parent, please answer for yourself only.

Your Occupation ........................................................................................................
..............................................................................................................................
Partner’s Occupation ...................................................................................................
..............................................................................................................................

12. How much satisfaction do you get out of working? Would you please circle the appropriate response in the next statement for you.

Very Satisfied Satisfied Somewhat Satisfied Not At All Satisfied
Satisfied

13. How adequate is your financial situation? Please tick ONE answer only.

My financial position is very adequate. I am well-off □;

My financial position is about average. I can make ends meet □;

My financial position is somewhat inadequate. I am not well-off □;

My financial position is very inadequate. I can’t make ends meet □;

Thank you for completing Section one. Section two is about how your family manages to do things.
SECTION 2: HOW THE FAMILY MANAGES ITS ACTIVITIES

In this second section I would like to ask you about how your family manages its activities. Many of the questions in this section ask you to choose how you and your family undertake certain family activities. There are no right or wrong answers.

14. Please indicate how the following things work in your family. Could you comment about how well you manage the following activities? Please circle the appropriate response for all the examples below:

How successfully do you juggle your time between your preschool aged child’s activities and your own activities?

Very Successfully  Successfully  Somewhat Successfully  Not Very Successfully

How successful are you at making time for yourself/ves?

Very Successful  Successful  Somewhat Successful  Not Very Successful

How satisfied are you with the way you correct your preschool aged child’s behaviour?

Very Satisfied  Satisfied  Somewhat Satisfied  Not Very Satisfied

How satisfied are you with the way you are able to check your preschool aged child’s progress at the Centre?

Very Satisfied  Satisfied  Somewhat Satisfied  Not Very Satisfied

15. Please indicate whether the following things work or happen for you and your family. Please circle the appropriate response for each question.

How well is your family budget working?

Very Well  Mostly Well  Sometimes Well  Not Very Well  No Family Budget

How often does your family relax together?

Most of the Time  Some of the Time  Very Little  Never

How well does your preschool aged child usually take your advice?

Very Well  Mostly Well  Sometimes Well  Not Very Well
Does praising your child help with his/her behaviour?

Most of the Time    Some of the Time    Very Little    Never

Do you usually look at the calendar to check what's on each day?

Most of the Time    Some of the Time    Very Little    Never    Don't use a calendar

16. Listed below are some household tasks that are undertaken in families with young children. I would like to know who undertakes the household tasks during the week. Please circle the best answer below that indicates whether on average each task is shared.

*Bathing your preschool aged child*

Yourself Only    Your Partner Only    Shared Between Myself and Partner

*Cooking the dinner*

Yourself Only    Your Partner Only    Shared Between Myself and Partner

*Housework*

Yourself Only    Your Partner Only    Shared Between Myself and Partner

*Dressing your preschool aged child*

Yourself Only    Your Partner Only    Shared Between Myself and Partner

*Cleaning your preschool aged child’s teeth*

Yourself Only    Your Partner Only    Shared Between Myself and Partner

*Doing the laundry*

Yourself Only    Your Partner Only    Shared Between Myself and Partner
17. Listed below are some examples of what families with preschool aged children may do when they are relaxing together. Could you indicate **how often** you spend doing the following activities by **circling** the best response **above** the line. Then indicate **how enjoyable** you find these activities by **circling** a response **below** the line.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very Often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Not Very Often</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>We go out with other families to a BBQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very</td>
<td>Enjoyable</td>
<td>Sometimes</td>
<td>Not Very</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We play a game together</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very</td>
<td>Enjoyable</td>
<td>Sometimes</td>
<td>Not Very</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We go on an outing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very</td>
<td>Enjoyable</td>
<td>Sometimes</td>
<td>Not Very</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our preschool aged child performs a concert at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very</td>
<td>Enjoyable</td>
<td>Sometimes</td>
<td>Not Very</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We watch our preschool aged child play in the park</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very</td>
<td>Enjoyable</td>
<td>Sometimes</td>
<td>Not Very</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We go on a Picnic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very</td>
<td>Enjoyable</td>
<td>Sometimes</td>
<td>Not Very</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td></td>
</tr>
</tbody>
</table>
We go to a coffee shop

<table>
<thead>
<tr>
<th></th>
<th>Very Often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Not Very Often</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Not Very Enjoyable</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

We go to friends/relatives place

<table>
<thead>
<tr>
<th></th>
<th>Very Often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Not Very Often</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Enjoyable</td>
<td>Not Very Enjoyable</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

18. Does your preschool aged child help in the following tasks? For each of the following tasks, please circle the best answer below that indicates how much help your child gives.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidying the room</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Making own bed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Dressing him/herself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Cleaning own teeth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Feeding her/himself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Taking clean clothes and other things to different rooms when asked</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Bathing/showering him/herself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Putting toys/books away when asked</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
19. Life is busy and there’s never enough time. On average how much time would you spend with your **preschool aged child** doing **each** of the following things. Please **circle** the relevant box for each activity.

<table>
<thead>
<tr>
<th>Reading to your child</th>
<th>1. A lot of the time</th>
<th>2. Some time</th>
<th>3. Very little time</th>
<th>4. No time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing indoor activities with your child</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Helping your child clean their teeth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Watching TV with your child</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Helping your child dress</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Playing with your child outside during the day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Helping your child to bath/shower</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

20. When you have a preschool aged child life can be extremely busy. On average how often would you do the following things with/for your **preschool aged child**. Please **circle** how often you would do **each** of these **activities** every week.

<table>
<thead>
<tr>
<th>How often would you watch/supervise your child playing at home?</th>
<th>1. Every day in the week</th>
<th>2. Every couple of days in the week</th>
<th>3. At least once a week</th>
<th>4. Less than once a week</th>
<th>5. Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often would you help your child to learn to write his/her name?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often would you explain to your child about crossing the road safely?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often would you help your child to pack away his/her toys?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often would you watch/supervise your child playing in playgrounds or parks?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often would you make your child aware of safety issues like pets and spiders?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often would you help your child make something to eat?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How often would you get your child to repeat his/her name, address and telephone number?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
21. Below are some examples which indicate how family members could make decisions in various situations. Who makes the decisions about these things in your family? Please circle for all examples below who makes the decisions.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Who decides about where to go on outings?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Who decides about your child’s health when there’s something serious to be decided?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Who decides about what food to buy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Who decides about what restaurant to go to?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

22. Could you examine the following examples about the way families make decisions in certain situations. If you lived in an ideal world which decisions would you suggest should be shared? For each example please circle whether you believe the decision should be shared.

<table>
<thead>
<tr>
<th>Ideally how should the decision be made about spending large amounts of money?</th>
<th>1. Always shared</th>
<th>2. Sometimes shared</th>
<th>3. Never shared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideally how should the decision be made about where to go on outings?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ideally how should the decision be made about child health when there’s something serious to be decided?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ideally how should the decision be made about what food to buy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ideally how should the decision be made about what restaurant to go to?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
23. The following situations provide examples which could lead to children being asked their opinions about what they want to do. Could you indicate whether your preschool aged child is given a say in these situations. Circle the response that best indicates whether your child’s views are included in each of the following situations.

<table>
<thead>
<tr>
<th>Deciding what my preschool aged child wants to do on a special outing</th>
<th>1. Always included</th>
<th>2. Often included</th>
<th>3. Sometimes included</th>
<th>4. Rarely included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deciding about what my preschool aged child wants for dinner</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Deciding about what friend/friends to have over to play</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Deciding about what to buy from the supermarket</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Deciding about what my preschool aged child wants to watch on Television</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Deciding about what time my preschool aged child goes to bed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

24. In most families different people make different decisions about most things. Even though it may be difficult could you tell me who makes most decisions in your family? Please tick the response that best fits your family.

In general, who makes most of the decisions in your family?

- Yourself □
- Yourself and your partner □
- Your partner □

25. In many cases it is not appropriate for preschool aged children to be involved in decision making. However on certain occasions you may find it appropriate to involve your preschool aged child so that he/she can also have some choices. Could you indicate if you involve your child in this kind of decision making by circling the response that is best for your family situation.

My preschool aged child is involved in decision making in our family:

- Always
- Mostly
- Sometimes
- Rarely
- Never
26. Please consider the situations below and indicate whether or not your family usually plans for these situations. Please circle the number on each line which best indicates how your family usually plans for things.

<table>
<thead>
<tr>
<th>We plan for holidays</th>
<th>1. All the time</th>
<th>2. Most of the time</th>
<th>3. Sometimes</th>
<th>4. None of the time</th>
<th>5. Never do this activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>We plan for special outings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We plan when buying a big household item</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We plan for family celebrations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We plan when giving our preschool aged child a special treat</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We plan when having friends over</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We plan when having other people's children to play</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

27. Below are some situations about parents with young children. Please read each one and tick the response that comes closest to your solution for the situation.

(a) Your child is very tired and doesn’t respond to what you want. What would you usually do?

- Speak sternly to your child [ ]
- Reason with your child [ ]
- Ignore your child [ ]
- Divert your child’s attention to something else [ ]

(b) You are having difficulty trying to negotiate a solution to a problem with your husband/partner. What would you usually do?

- Keep on trying to negotiate [ ]
- Get someone you trust to help you negotiate [ ]
- Give up the struggle because the problem is too hard to work out [ ]
(c) You are having difficulty getting your child into bed at nights. What would you usually do?

Talk sternly to your child  □ 1
Let your child run around the house until she/he is tired  □ 2
Discuss the problem with your child  □ 3
Just put your child into bed  □ 4

(d) Your child is badly behaved in a shopping centre. You speak to your child sternly but the bad behaviour continues. What would you usually do?

Continue to speak sternly  □ 1
Smack your child  □ 2
Threaten to withhold a treat  □ 3
Ignore your child  □ 4

(e) Your child is unhappy at his/her preschool/long day care centre and you and the Director work out a plan of action. After a week the plan is still not working. What would you usually do?

Change the plan  □ 1
Stay with the original plan for longer  □ 2
Leave the Centre  □ 3

28. Please indicate how much assistance you can get from other people for your family when you need it. You need to state whether you have lots of people to help you or only a few if the following situations were to occur.

<table>
<thead>
<tr>
<th>Concerns about my child’s growth and development</th>
<th>1. Many people</th>
<th>2. Quite a lot of people</th>
<th>3. A few people</th>
<th>4. No-one</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerns about my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Concerns about a problem in my own life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Concerns about who can look after my child when I am sick</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
29. What is an important source of your information about what to do for your preschool aged child’s health? Please circle how important each source below is in helping you look after your child’s health.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Dictionary</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Women’s Magazines</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Newspapers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My Mother</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My Father</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Doctor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Baby Health Centre</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Chemist</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Just from my own experience</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Health Magazines</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Thank you for completing Section 2 about family activities and how you manage these. Section 3 begins over the page and is about how the family manages its health.
SECTION 3: HOW THE FAMILY MANAGES ITS HEALTH

In this third section I would like to ask you about how the family manages its health.

30. Each of the situations below deal with aspects of normal family life for families with preschool aged children. I am interested in how these situations affect your family life. Please circle the response which best indicates the amount of stress you experience for each of these situations.

<table>
<thead>
<tr>
<th>Communicating with my preschool aged child/children</th>
<th>A great deal of stress</th>
<th>Considerable stress</th>
<th>Some stress</th>
<th>Not very much stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgeting</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Insufficient time together with partner</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Family members not feeling appreciated</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Your preschool aged child’s behaviour</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Insufficient time for yourself</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Doing too many activities</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Lack of shared responsibility in the family</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Unsatisfactory relationship with partner</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Concerns about family health</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Concerns about the environment</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
<tr>
<td>Unsatisfactory housing</td>
<td>A great deal of stress</td>
<td>Considerable stress</td>
<td>Some stress</td>
<td>Not very much stress</td>
</tr>
</tbody>
</table>
31. Could you indicate below whether your family with whom you live responds to your needs. For each statement you need to circle the best answer that describes the way your family gets on with you.

<table>
<thead>
<tr>
<th>I am satisfied with the help that I receive from my family when something is troubling me</th>
<th>1. Always</th>
<th>2. Usually</th>
<th>3. Sometimes</th>
<th>4. Rarely</th>
<th>5. Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I am satisfied with the way my family discusses items of common interest and shares problem solving with me</th>
<th>1. Always</th>
<th>2. Usually</th>
<th>3. Sometimes</th>
<th>4. Rarely</th>
<th>5. Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I find that my family accepts my wishes to take on new activities or make changes in my lifestyle</th>
<th>1. Always</th>
<th>2. Usually</th>
<th>3. Sometimes</th>
<th>4. Rarely</th>
<th>5. Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I am satisfied with the way my family expresses affection and responds to my feelings, such as anger, sorrow and love</th>
<th>1. Always</th>
<th>2. Usually</th>
<th>3. Sometimes</th>
<th>4. Rarely</th>
<th>5. Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

32. Different children settle into new situations in different ways. When your preschool aged child first began attending preschool/long day care, how well did your child adjust? Please circle the best response for your child.

| Very well | Quite well | A little | Not at all |

33. Think about your preschool aged child and his/her adjustment to the Centre now. How well is your child adjusted? Please circle the best response for your child now.

| Very well | Quite well | A little | Not at all |
34. These questions are ABOUT YOURSELF and the way you view life. Please answer whether the following statements are true or false by ticking the response which best fits how you feel about yourself.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>I usually expect to succeed in things I do</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Several times a week I feel as if something dreadful is about to happen</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I usually feel that life is worthwhile</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sometimes I cross the street just to avoid meeting someone</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I get all the sympathy I should</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I hardly ever feel pain in the back of my neck</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>If you are able and willing to work hard you have a good chance of succeeding</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>When I am feeling very happy and active, someone who is blue or low will spoil it all</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I remember ‘playing sick’ to get out of something</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I have very few quarrels with members of my family with whom I live</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

35. Could you tell me what things are really important in your life? Firstly, could you rate how much each of the goals matters to you by circling how important each one is for you.

<table>
<thead>
<tr>
<th>Being healthy</th>
<th>1. Very important</th>
<th>2. Quite important</th>
<th>3. Somewhat important</th>
<th>4. Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being happy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Being able to juggle all your roles</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Enjoying yourself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Would you also please indicate which of the **behaviours are important** in **reaching** each of the **goals** by **circling** the best response for you. Now please go on and show how much each of the following behaviours **matters to you** by **circling** how important each one is for you.

**GOAL - Being Healthy**

<table>
<thead>
<tr>
<th>How important is exercising in reaching this goal?</th>
<th>1. Very important</th>
<th>2. Quite important</th>
<th>3. Somewhat important</th>
<th>4. Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>How important is eating a balanced diet in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is having regular health checks in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is getting adequate sleep and rest in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is getting relaxation in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is feeling happy in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**GOAL - Being happy**

<table>
<thead>
<tr>
<th>How important is getting on with others in reaching this goal?</th>
<th>1. Very important</th>
<th>2. Quite important</th>
<th>3. Somewhat important</th>
<th>4. Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>How important is relaxing in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is doing things you like in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is going out in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is working in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is exercising in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
**GOAL - Being able to juggle all your roles**

<table>
<thead>
<tr>
<th>How important is managing your time well between yours and your preschool child's activities in reaching this goal?</th>
<th>1. Very important</th>
<th>2. Quite important</th>
<th>3. Somewhat important</th>
<th>4. Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>How important is making time for yourself/selves in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is making time to relax as a family in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is making time to exercise as a family in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**GOAL - Enjoying yourself**

<table>
<thead>
<tr>
<th>How important is relaxing on your own in reaching this goal?</th>
<th>1. Very important</th>
<th>2. Quite important</th>
<th>3. Somewhat important</th>
<th>4. Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>How important is having friends over in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is going out in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is exercising in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>How important is working in reaching this goal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

36. When you compare your family to others, how healthy is your family? Please circle the best response below to show how healthy your family is.

Very healthy  Healthy  Unhealthy  Very Unhealthy

Your family may be more likely to get sick than other families. Could you respond by circling the best answer for your family in the three situations below:

<table>
<thead>
<tr>
<th>When other children at the preschool/long day care centre get a virus my child stays well</th>
<th>1. Strongly agree</th>
<th>2. Agree</th>
<th>3. Disagree</th>
<th>4. Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our family only gets one bout of flu a year</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Usually we stay well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
37. Parent’s views about their child’s health are very important to know. Please keep your preschool aged child in mind when you are answering these statements. Would you please circle the best response for each of the following statements.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I have the ability to influence my child’s well being</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My child can avoid illness with regular professional care</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>What my child sees on TV commercials can affect my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Having regular contact with a doctor is the best way for my child to avoid illness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Some of the videos around today can affect my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Only trained health professionals can influence my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I can do a lot to prevent my child from getting sick</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My child’s safety depends on me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I can do a lot to prevent my child from getting hurt</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>What my child sees on TV programs can affect my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>The things I do at home with my child are an important part of my child’s well being</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Health professionals control my child’s well being</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I can do a lot to help my child stay well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I can do a lot to help my child be strong and healthy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>------------------</td>
<td>---------</td>
<td>-----------------</td>
<td>------------------</td>
<td>-------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>It is difficult for me to find effective solutions to the health problems that come my child’s way</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I succeed in the projects I undertake to improve my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am generally able to achieve my goals with respect to my child’s health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I find my efforts to change things I don’t like about my child’s health are ineffective</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Typically my plans for my child’s health don’t work out well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am able to do things for my child’s health as well as most other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

38. Could you comment on the following statements about food and eating for your family. Could you tick the response for each statement that fits the best for you and your family.

How often on average does your family eat take away food during the week?
Please indicate by ticking the appropriate box below:

Just about every day ☐

Every second or third day ☐

Once a week ☐

Hardly ever ☐
How often on average does your family eat different foods such as meat or chicken (protein); bread, pasta, rice or potatoes (carbohydrates); vegetables and fruit and dairy products. Please indicate by ticking the appropriate box below:

- Just about every day  □ 1
- Every second or third day  □ 2
- Once a week  □ 3
- Hardly ever  □ 4

How often does your family eat snacks between meals. Please indicate by ticking the appropriate box that refers to your response below.

- Between every meal  □ 1
- Once a day  □ 3
- Every second or third day  □ 3
- Once a week  □ 4
- Hardly ever  □ 5

How often does your family eat fatty or fried foods (like hot chips). Please indicate by ticking the appropriate box below.

- Just about every day  □ 1
- Every second or third day  □ 3
- Once a week  □ 3
- Hardly ever  □ 4

How often does your family eat biscuits or cakes. Please answer by ticking the appropriate box that relates to your response.

- Just about every day  □ 1
- Every second or third day  □ 2
- Once a week  □ 3
- Hardly ever  □ 4

How often does your family sit down together for a meal? Please answer by ticking the appropriate box that relates to your response.

- Just about every day  □ 1
- Every second or third day  □ 2
- Once a week  □ 3
- Hardly ever  □ 4
How often does your family **cook with salt**? Please answer by **ticking** the appropriate box that refers to your response.

- Just about every day [ ]
- Every second or third day [ ]
- Once a week [ ]
- Hardly ever [ ]

How often does your family **use oil** in their **cooking**? Please answer by **ticking** the appropriate box that relates to your response.

- Just about every day [ ]
- Every second or third day [ ]
- Once a week [ ]
- Hardly ever [ ]

39. I am interested in what **your preschool aged** child had for **breakfast, lunch** and **dinner/tea** yesterday. Could you **list down** the **food** your child ate for these three meals and any extra snacks in between meals. Please **write them down** under the following headings:

**Breakfast**

...........................................................................................................................................

...........................................................................................................................................

...........................................................................................................................................

**After breakfast**

...........................................................................................................................................

...........................................................................................................................................

...........................................................................................................................................

**Lunch**

...........................................................................................................................................

...........................................................................................................................................

...........................................................................................................................................

**After lunch**

...........................................................................................................................................

...........................................................................................................................................

...........................................................................................................................................

379
Dinner/tea

After dinner/tea

40. Which of the following statements is more correct about food and eating for you and your preschool aged child. Please circle the number for each of the statements to indicate the most appropriate response for you and your family.

<table>
<thead>
<tr>
<th>I explain to my child why she needs to eat healthy food</th>
<th>1. All of the time</th>
<th>2. Most of the time</th>
<th>3. Some of the time</th>
<th>4. None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>One of the reasons we eat healthy food is to encourage my child to do this</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My child goes to the supermarket to help me select food for the family</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>We discuss television food advertising with my child when asked to buy a new brand of food advertised on television</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

41. Could you comment if the following statements about the environment apply to your family by circling the appropriate response.

<table>
<thead>
<tr>
<th>Our family recycles all its glass and paper</th>
<th>1. All of the time</th>
<th>2. Most of the time</th>
<th>3. Some of the time</th>
<th>4. None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>We save water by turning the bathroom tap off while we brush our teeth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>We collect our vegetable and fruit peelings to make compost to put on our garden</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
42. I would like to know something about the health habits of your family. Please answer by circling the best response to each item.

<table>
<thead>
<tr>
<th>Does any family member take medications/tablets regularly</th>
<th>1. All of the time</th>
<th>2. Most of the time</th>
<th>3. Some of the time</th>
<th>4. None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does any family member smoke cigarettes, cigars or pipes</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Does any family member drink more than three (3) glasses of alcohol per day</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Does any family member drink more than five (5) cups of tea and /or coffee or cola per day</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Does your family have regular dental checks</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Do your family clean their teeth twice a day</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Does your family have regular health checks</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Do you have regular Pap smears</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Does you preschool aged child have routine checks with the doctor or clinic about his/her growth and development</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>I am able to rest while my preschool aged child does other things</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>We sleep through the night</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

43. Please tick the appropriate response as to whether your preschool aged child has had all her/his immunisations.

My preschool aged child has had:

- **ALL** of his/her immunisations □ 4
- **SOME** of his/her immunisations □ 3
- **NONE** of his/her immunisations □ 2
- I am **UNSURE** about my child’s immunisations □ 1
44. When you think about your family as a whole would you say they took part in exercise? For all the examples please circle the best response for your family.

<table>
<thead>
<tr>
<th></th>
<th>1. All of the time</th>
<th>2. Most of the time</th>
<th>3. Some of the time</th>
<th>4. None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do active exercise for at least 20 minutes every day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I do active exercise for 20 minutes twice a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My partner could jog around the block without getting puffed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>We all go bike riding or walking together</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>We take part in organised sport with my/our preschool aged child</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>We encourage my/our preschool aged child to exercise in the back yard</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>We take my/our preschool aged child for short walks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Would you now please put the questionnaire in the envelope provided and hand it to the Director of the Centre who will pass it on to me.

Thank your for your assistance in answering this questionnaire about your family. I am most grateful that you took the time to give me information about this subject.
REFERENCES


Australian Community Health Association (1986, November) Review of the community health program. (2nd ed.). Bondi Junction, Australia: Author.


Department of the Parliamentary Library. *Childcare in Australia: Current provision and recent developments*, (Background Paper No. 1997-98), Canberra, ACT.


Kretzmann, J.P. & McKnight, J.L. (1993). Building communities from the inside out. A path towards finding and mobilizing a community’s assets. Chicago: ACTA Publications.


Australia in association with the Australian Community Health Association.


