OPTIMISING PROFESSIONAL LIFE:
A GROUNDED THEORY OF
DOCTORS’ CAREERS

by

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A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University, 2014.
A STATEMENT OF ORIGINALITY

I certify that the thesis entitled ‘Optimising Professional Life: A grounded theory of doctors’
careers’, submitted for the degree of Doctor of Philosophy of The Australian National
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thesis, this thesis contains no material published elsewhere or extracted in whole or in part from
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ACKNOWLEDGEMENTS

The completion of this thesis would not have occurred without the assistance of many individuals. I wish to acknowledge Professor Marjan Kljakovic who was my Principal Supervisor until his untimely passing in August 2012. I would particularly like to thank Associate Professor Christine Phillips who stepped up as Principal Supervisor for her support, encouragement and patience over the past four years and co-supervisor, Professor Kirsty Douglas for her insights and advice during this PhD process.

I wish to express my appreciation to the GPs who generously gave their time to participate in this research effort and candidly told of their experiences. Without them this thesis would not have been possible.

I owe special thanks to Dr Barney Glaser for the training in grounded theory methodology that I acquired through Dr Glaser’s New York workshop, and for his personal advice and encouragement.

I am also grateful to Dr Michael Rolph for editing this thesis and his generous support.

Finally, but most importantly, thanks Greg, for your understanding and your loving care over the past several years: words feel inadequate to express my gratitude to you. Thank you for always being there, whether to commiserate or to celebrate.

Lesley Piko
Canberra, December 2014.
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ABSTRACT

This thesis presents the Theory of Optimising Professional Life - a new career theory derived from the professional lives of experienced general practitioners (GPs) working in Australia. GP careers involve a portfolio of clinical and non-clinical roles and are most often forged in small, non-hierarchical, private business organisations. This career structure does not conform to the traditional notion of a linear upward progression that underpins many career theories. Furthermore, existing career theories do not reflect the Australian medical context, including the concerns, needs and behaviours of doctors working in Australia.

The Theory of Optimising Professional Life was discovered using Glaser’s grounded theory method and a quantitative analysis of survey responses collected for the ‘Medicine in Australia: Balancing Employment and Life (MABEL)’ study. The Theory is compared and contrasted with Dawis and Lofquist’s Theory of Work Adjustment, Super’s career development theory, Patton and McMahon’s Systems Theory Framework and Arthur’s boundaryless career.

This thesis found that the main concern GPs have when shaping their professional lives is sustainment - a concept encompassing the aspirational nature of GP career development while also recognising the need for self-care and financial reward. Dynamic tension exists among the three elements of sustainment: the need for self-care to sustain well-being, the need for work interest to sustain motivation and the need for financial reward to sustain lifestyle. This research reveals that GPs satisfy these needs by implementing solutions within four dimensions of professional life: clinical work treating patients, structuring the work day, integrating work-life balance and adapting oneself.

The Theory of Optimising Professional Life contributes an occupation specific theory of person-environment fit that includes a dynamic approach to career development where career decisions and events are influenced by previous experiences of vocational adjustment. The Theory can be used by experienced GPs to develop their careers and the way they participate in the clinical workforce. In addition, this Theory provides a new perspective for the design and implementation of GP workforce policy that integrates the structural or organisational dimensions of an issue with the psychological dimensions.
AUTHOR’S PUBLICATIONS RELATING TO THIS TOPIC


Chapter 1: INTRODUCTION

1.1 Research context

Work takes up a large portion of our adult lives and there has been considerable theoretical and research interest in understanding what is important to people as they work, grow and develop. In career development theory, there is a common theme that humans strive to meet psychological and/or biological needs through engagement in work (Blustein, 2006, Brown, 2002a). However, different theorists propose different, sometimes contradictory views about the human condition, leading to different predictions of the motivators, tasks and objectives sought through work. Rather than consider ‘why’, this thesis explains ‘how’ a number of medical professionals working in Australia have shaped and experienced their careers.

My interest in medical professionals working in primary healthcare was sparked by the crucial role general practitioners (GPs) play in Australia’s healthcare sector, with approximately 80% of Australians aged 15 or older visiting a GP each year (Australian Bureau of Statistics, 2010). For most Australians, GPs are usually the first point of contact with the healthcare sector (Standing Council on Health, 2013). Unless emergency treatment is required, in which case ambulances take patients directly to hospitals, referrals from a GP are required for subsidised access to specialists, and to public or private hospitals, and day surgery facilities. In 2011, there were 25,056 GPs working in Australia and, based on a standard week of 40 hours, there were 109.7 full-time equivalent (FTE) GPs per 100,000 population (Australian Institute of Health and Welfare, 2013, p14). While the demand for primary healthcare services continues to rise, recruitment and retention of experienced individuals in the GP workforce will continue to attract the attention of the community and government policymakers.

GPs in Australia are changing their work-life patterns and there has been a trend towards a feminised workforce (Australian Institute of Health and Welfare, 2011a, p9). GPs are choosing to work fewer sessions, increase practice size, decrease solo practice (Britt et al., 2008) and change their participation in clinical work (ACT GP Taskforce, 2009). In 2011, GPs worked mostly in the private sector (Australian Institute of Health and Welfare, 2013, p24). The majority were self-employed, working in predominantly privately owned, autonomous small business structures as independent contractors, solo practitioners, in small partnerships or in groups of associates. Recent studies also suggested a trend towards fewer general practices (Britt et al., 2008, PHC RIS, 2007). Between 1991 and 2003, the proportion of solo practitioners nearly halved (25.5% to 13.7%) and the proportion of GPs in practices of four or more partners increased from 34.3% to 59.8% (Charles et al., 2004).
Chapter 1 identifies the aims, research questions, research method and significant contributions this study makes to the literature and summarises the content of each thesis chapter.

1.2 Aims
In the context of an evolving professional occupation, research was needed to explain contemporary GP behaviour, their needs and options for improving the fit between themselves and their professional work. The dual aims were to contribute to the body of knowledge about how experienced GPs working in Australia develop their careers and to produce theory that could be applied in practice.

1.3 Research questions
A program of research was undertaken to answer the following questions:

What is the main concern that experienced GPs working in Australia have in their professional life?

How do experienced GPs working in Australia resolve this main concern in their professional life?

1.4 Research method

Data about career events were collected from interviews with thirty GPs and seven managers of general practice businesses. The quantitative analysis used 2,255 survey responses, collected as part of the ‘Medicine in Australia: Balancing Employment and Life (MABEL)’ study (Joyce et al., 2010, Yan et al., 2011). Viewed together this approach gave a greater diversity of GP data, with potential for a more complete picture of the matters of interest.

1.5 Contribution to careers literature
The research questions were answered by a new Theory of Optimising Professional Life, which states that experienced general practitioners working in Australia are concerned about the sustainability of their professional life. To resolve this concern each practitioner makes a series of assessments and enacts a series of choices, iteratively throughout their career, to optimise their personal situation.
By focusing on the needs and behaviours of a single defined professional occupation, this study contributes to the body of research on careers and career decision-making in the following areas:

- the Theory of Optimising Professional Life is offered as a career theory for professional adults who work in relatively flat, non-hierarchical career structures;
- a dynamic and specific theory of person-environment fit is presented which pays attention to multiple environments that may simultaneously influence how a GP’s professional career is iteratively shaped;
- career development behaviour in a professional occupation is viewed through the lens of career theory; and
- the concept of sustainment is offered as an overarching career value for doctors that encompasses the need for self-care to sustain well-being, staying interested in the work to sustain work interest and the need for financial reward to sustain lifestyle.

The traditional notion of career which forms the basis of many extant career theories assumes a linear upward trajectory of work positions, usually within a particular profession or organisation, with increasing income, status, power and security (Holland, 1973, Super, 1953, Smith and Sheridan, 2006). Career patterns in the community have changed in the past 50 years and the career concept has become more flexible, with a focus on careers outside of organisations and non-linear discontinuous career paths (Arthur, 1994, Hall, 1996a, Sullivan, 1999, Jones and Green, 2006, Smith and Sheridan, 2006, Sullivan and Mainiero, 2008). Traditionally, general practice has had a flat career structure with few opportunities for advancement once the doctor becomes fully vocationally registered. The traditional linear career path was sometimes observed in this study, with individuals working within an organisation progressing to become a practice principal. However, the non-hierarchical nature of this profession forces most GPs to find other career pathways which combine clinical and non-clinical jobs, split the week between two or more workplaces, allow for movement in and out of clinical work, or involve lengthy breaks from the work. The manner in which study participants optimised their professional life and shaped their career varied because each career path was influenced by the decisions individual GPs made to satisfy their particular needs.

Super (1990) theorised that humans adapt and change over the course of their lifetime as they seek to meet basic human needs through involvement in work. The general presumption of Super’s career stage theory was that as people grow older and gather experience in their work and home life, they go through distinct stages of occupational development. Despite research being generated on these concepts to gain a greater understanding of the behaviours of a wide
range of occupational groups, there has been little empirical research to investigate the relevance of these concepts to the professions and specifically, to the medical profession. Furthermore, while considerable effort has been directed toward understanding career decision-making and work behaviours, a comprehensive explanation was lacking of how individuals in professional occupations, with relatively flat, non-hierarchical career structures, experience their careers.

This study emphasises that GPs take an iterative and incremental approach to career development, rather than highlighting an evolution of career stages. The basic idea behind this approach is that career decision-making within a profession is repeated (iterative) and builds on previous experience (incremental), allowing individuals to take advantage of what has been learned during earlier parts of their working life. The literature suggests that disequilibrium or dissatisfaction (for example, with work situation, work-life balance or intellectual interest) can trigger the need for an adjustment (Dawis, 2005). During my data analysis, it became evident that the behaviour, which I named Optimising Professional Life, typically occurred more than once in a GP’s career, thereby establishing recurrence as a feature of this career-enhancing behaviour. The optimising behaviour was most likely experienced for the first time when doctors made their career choice to enter general practice, then recurred as GPs developed various facets of their professional life. These career decisions occurred in the context of multiple environments (patients, family and workplace). Existing career theories tend to be primarily concerned with a single environment and my research was able to make a significant addition to the literature by exploring GP behaviour in response to multiple environments interacting with each other and changing over time (Dawis, 2005, Patton and McMahon, 2006).

This thesis contributes to our understanding of a working life by distinguishing between general practice as a profession and general practice as a career. A profession is a relatively static concept, defined through its body of specialised knowledge, a commitment to service, autonomy and strategies to determine the boundaries of the profession (for example, through training programs) (Western et al., 2006). A career, on the other hand, is dynamic and individual, encapsulating a life-long sequence of attitudes and behaviours associated with work-related experiences and activities (Hall, 1976). This thesis provides a perspective of career development behaviour in a professional occupation viewed through the lens of career theory.

The main career concern of study participants was named *sustainment*. This concept encompasses the aspirational nature of GP work interest in career development while also recognising the need for self-care to sustain well-being and financial reward to sustain lifestyle. Dynamic tension exists among the three elements of *sustainment*: the need for self-care, to stay
interested in the work and financial reward. These needs are satisfied by implementing solutions within the four dimensions where GP professional life unfolds: in treating patients, in structuring the work day, in integrating work and personal life and in adapting oneself. This thesis emphasises the relevance of autonomy to individuals in developing their career as autonomy provides individuals with the capacity to manage their affairs independently and to implement the best solution for their personal circumstances.

### 1.6 Contribution to GP workforce policy and practice

The main contribution of this research to GP workforce policy and practice is the development of a contemporary understanding of GP professional life in Australia, thereby providing insights into GPs’ needs and options for improving the fit between individuals and their professional work. A search of the literature found limited discussion of career theories in the Australian medical context, and existing career theories do not reflect this context. Therefore, a new theory was needed to explain the concerns and behaviours of experienced GPs working in Australia who operate autonomously in small organisations and lack upward career progression. Addressing this gap would help policymakers and the profession deal with GP workforce issues.

Research has linked low GP satisfaction to poorer patient outcomes and poorer GP health and well-being, raising concern about GPs’ happiness and satisfaction with their career decisions (Clode, 2004, Elliott et al., 2010, Walker and Pirotta, 2007, Wallace et al., 2009). My literature search revealed studies of GP stress, work-life imbalance, lack of intellectual stimulation and job dissatisfaction issues that could trigger decisions to make changes to one’s career. An Australian study of 296 urban GPs in 1996 reported the main stressors were time pressures to see patients, too much work to do in a limited time, earning enough money, clinical factors and the effect of work on outside life (Schattner, 1998). In 2010, an examination of the retirement intentions of 280 older Australian GPs found one-third planned early retirement. The reasons cited included pressure of work, exhaustion and burnout, increasing bureaucracy, lack of job satisfaction, disillusionment with the medical system and increasing patient demands (Brett et al., 2010). On the other hand, GPs seek variation in their work and benefit from intellectual stimulation and increased job satisfaction (Wilkinson et al., 2005, Thomson et al., 2011, Thomson et al., 2009). A qualitative study of 27 part-time GPs found that in addition to their sessional work in mainstream general practice, participants filled a number of diverse roles within the healthcare system, including medical education, policy, research, clinical subspecialties and serving clinical populations with special needs (Douglas et al., 2010).

The Theory of Optimising Professional Life developed here can benefit GPs when faced with career challenges. The theory provides a framework that can assist a GP to understand the
reasoning and strategies of colleagues in seeking career development. This study has the potential to encourage self-awareness among experienced doctors, which would be particularly useful for GPs who are dissatisfied with aspects of their professional life. They would be better able to examine their needs and explore ways that allow them to improve their situation, thereby improving their level of satisfaction. Furthermore, this study can provide medical students considering a career in general practice with an improved understanding of their likely long-term career concerns and options, which could in turn lead to improvements in medical education and healthcare as a whole.

As work needs and satisfaction are central components of a GP’s career experience, it follows that the results of this study could increase understanding of GP workforce participation and workforce development. The fresh understanding of the career experience of GPs working in Australia that the Theory of Optimising Professional Life offers could be used by policymakers and service delivery organisations to design and implement initiatives that improve the efficiency and effectiveness of primary healthcare.

1.7 Contribution to research method

This thesis offers a new combined approach to GP career research method: using the inductive investigative process of grounded theory based on the early work of Glaser and Strauss (1967) and Glaser’s subsequent work (Glaser, 1978, Glaser, 1998) to understand how GPs experience their careers, and using the deductive approach of quantitative analysis to test concepts which emerged from the qualitative analysis.

While having its research roots in sociology, Glaser’s grounded theory method is transdisciplinary in its application and has been used extensively in the health professions (Thulesius et al., 2004, Thulesius et al., 2007, Schwarz, 2005), management (Jones and Alony, 2011, Fei, 2009, Rosenbaum, 2008) and organisational behaviour (Holton, 2006, Fernandez, 2003). Grounded theory is primarily an inductive investigative process in which the researcher formulates a theory about a phenomenon through systematically gathering and analysing relevant data (Glaser and Strauss, 1967). Data are collected in the light of the emerging theory using a process known as theoretical sampling, which controls the data collection process. Distinct from other research methods, the purpose of this approach is to build theory, rather than to test theory. Thus this method provides a means of understanding (rather than measuring) inter-related issues that elucidate GP career development and career decision-making, and is an effective and appropriate way of studying behaviour from the participant’s stance.
This thesis benefits from a fresh approach to the topic through the use of Glaser’s research method. Grounded theory is not preconceived with a priori assumptions that could have the effect of forcing misaligned assumptions upon the analysis (Glaser, 1978, p31). Accordingly, the literature review for this project was driven by the concepts found in the data and was conducted after the new Theory of Optimising Professional Life was developed to explain what is happening in the area (Glaser, 1998, p 67-73). This ordering allowed me to commence the work ‘with as few predetermined ideas as possible’ (Glaser, 1978, p 3) and to ‘remain open to what is actually happening’ (Glaser, 1978, p 3, p 31) – an advantage for an exploratory study where new concepts and relationships were uncovered.

Glaser’s approach to grounded research proved to be efficient for this study because it was guided by the theoretical relevance of each additional slice of data. After the main categories had been developed, time was saved by only collecting data that were relevant to those categories. This focus was different from other qualitative methods that strive for thick description, regardless of theoretical relevance. For example, rather than focusing on a comparison of participants (for example, by age), grounded theory would use that comparison as a starting place to explore key elements that might enhance or hinder the emerging process and then theoretically sample for those elements.

1.8 Thesis structure

The thesis is organised into seven chapters, illustrated in Figure 1.1. Chapters 1 and 2 set the scene while chapters 3, 4 and 5 build the theory. The thesis concludes with discussion in Chapters 6 and 7.

Chapter 1 introduced the reader to the research problem, the research questions and the significant contributions this study makes to the literature. The following summary of the chapters briefly introduces the study’s methodology and the emergent theory.

Chapter 2 offers the results of a literature review and provides a contextual overview for situating this study. I discuss five psychological-based career theories and two systems-based career theories in terms of the contribution they could provide to answering my research questions: Holland’s theory of vocational personalities and work environments (Holland, 1997), Dawis and Lofquist’s theory of work adjustment (Dawis and Lofquist, 1984), Super’s self-concept theory of career development (Super, 1980), Gottfredson’s theory of circumspection and compromise (Gottfredson, 1981), Lent et al’s social cognitive career theory (Lent et al., 2002), Patton and McMahon’s systems theory framework (Patton and McMahon, 2006) and Pryor and Bright’s chaos theory for understanding career development (Pryor and
Bright, 2007). I found very few examples of career theories situated in the Australian medical context.

Figure 1.1 Thesis structure

Chapter 3 describes the research design and how the research was conducted. It begins with a discussion of the research design and the rationale for the chosen design. A mixed-method approach with two sequential parts was applied. Part 1 used grounded theory methodology based on the early work of Glaser and Strauss (1967) and Glaser’s subsequent work (Glaser, 1978, Glaser, 1998) to develop a theory. Part 2 provided a quantitative analysis of survey
responses, drawn from the ‘Medicine in Australia: Balancing Employment and Life (MABEL)’ study, which investigated clinical workforce participation patterns and their determinants using a survey of Australian doctors (Joyce et al., 2010, Yan et al., 2011). The chapter continues with a description of how I used the grounded theory method, including the sampling process; how the data were collected, coded and analysed for patterns of behaviour and how concepts were integrated into a theory. The final section of Chapter 3 introduces the quantitative analysis, which is described more fully in Chapter 5.

Chapter 4 explains the emergent grounded Theory of Optimising Professional Life and its three-stage psychological process – discomfort, assessment and resolution. A stage of discomfort caused by unsatisfied need progresses to a stage of assessment when the discomfort is confronted and a solution identified, followed by resolution of the discomfort when the GP implements that solution which provides the most satisfactory circumstance. The theory presentation continues with an explanation of the stage of discomfort where GPs’ concerns about self-care, staying interested in the work and financial reward are identified and explored. This is followed by an explanation of the stages of assessment and resolution. The concepts of satisfaction, autonomy and recurrent behaviour as they relate to the Theory of Optimising Professional Life are explored. The section on resolution is structured around four dimensions: technical in treating patients, business in structuring the work day, work-life balance in integrating work and personal life, and personal effectiveness in adapting oneself. These dimensions are dynamic and interact, reflecting a system of environments within which GPs enact professional life.

Having established my Theory of Optimising Professional Life based on interview data, Chapter 5 presents the results of a quantitative analysis of secondary data, designed to determine whether there is any evidence that the broader population of GPs working in Australia is behaving in a manner consistent with my Theory of Optimising Professional Life. The chapter objectives are: firstly, to establish whether GPs in the selected sample of MABEL participants are concerned about the sustainment of their professional life and, secondly, to seek evidence that GPs are implementing actions to satisfy their need for sustainment and optimise their situation. Survey variables are examined to produce a set of factors that summarise underlying relationships contained in the survey data. I found four factors that are consistent with the concept of sustainment reported in Chapter 4. To assess whether GPs optimise their professional situation, the connection between these sustainment factors and a GP’s professional situation is investigated, as is the influence of autonomy on the level of satisfaction.
Chapter 6 highlights the contribution that the Theory of Optimising Professional Life makes to careers literature, research method and GP workforce policy and practice. Contributions to careers literature are presented in five key areas. The Theory of Optimising Professional Life is offered as a career theory for professional adults with defined constructs, together with propositions that describe how these constructs interact with each other and with the three stages of the Optimising process. Professional life in general practice is viewed through the lens of career theory, in order to focus on the sequence of an individual’s vocational experiences over time. Sustainment is put forward as an overarching career value for doctors. The Theory of Optimising Professional Life is positioned within the extant career theory through conceptual links, shared and distinguishing features, and a discussion of five psychological-based career theories introduced in Chapter 2. Finally, Humphreys’ et al conceptual model of a decision-making process, developed for GPs working in rural locations in Australia (Humphreys et al., 2001), is considered in relation to the Theory of Optimising Professional Life. This project’s new combined method approach to GP career research is discussed, and the chapter concludes with consideration of how the Theory of Optimising Professional Life can contribute to current policy issues in terms of its potential impact on GP recruitment, workforce retention and the efficiency and effectiveness of primary healthcare.

Chapter 7 provides recommendations for future research and suggestions for the broader applicability of the theory. This thesis has implications not only for further theory development in the area of GP careers but also in other fields of research, including organisational development, sociological aspects of professions and family studies.
Chapter 2: LITERATURE REVIEW AND CONTEXTUAL OVERVIEW

2.1 Introduction
This chapter presents a critical analysis of the literature and provides a contextual overview for situating this study. The chapter begins with an exploration of general practice as a profession and general practice as a career.

Professions theory adds a sociological perspective to the problem while career theory is mainly based in psychology with the perspective of an individual. I discuss five psychological-based career theories and two systems-based career theories in terms of the contribution they can make to answering my research questions: Holland’s theory of vocational personalities and work environments (Holland, 1997), Dawis and Lofquist’s theory of work adjustment (Dawis and Lofquist, 1984), Super’s self-concept theory of career development (Super, 1980), Gottfredson’s theory of circumspection and compromise (Gottfredson, 1981), Lent et al’s social cognitive career theory (Lent et al., 2002), Patton and McMahon’s systems theory framework (Patton and McMahon, 2006) and Pryor and Bright’s chaos theory for understanding career development (Pryor and Bright, 2007).

Next this chapter examines the literature in the Australian context. I found very little research of career theories in the Australian medical context. However, relevant studies of GP issues that could trigger decisions to make changes to one’s career, such as stress, work-life imbalance and lack of intellectual stimulation, are presented. The literature review revealed optimising as a decision-making strategy and the way in which this approach could be relevant to career decision-making is discussed.

2.2 Professions theory
Work has been viewed as a critical factor in social organisation, as well as a means by which individuals meet their basic material and economic needs (McClelland, 1961). Professions theory provides sociological-based explanations of professional life that are relevant to understanding the influence of institutions on career decisions, professional culture, status attainment and location in the social structure (Johnson and Mortimer, 2002). For this investigation, I distinguished between general practice as a profession and general practice as a career.

A profession is a relatively static concept, defined through its body of specialised knowledge, a commitment to service, and strategies to determine the boundaries of the profession (for
example, through training programs) (Western et al., 2006). The work of a professional primarily requires the application of specialised knowledge to problems which fall within their province. According to McClelland, professionals should be most satisfied when they are able to solve a problem with the knowledge they have systematically acquired or memorised (McClelland, 1961, p260). A career, on the other hand, is dynamic, encapsulating a life-long sequence of attitudes and behaviours associated with work-related experiences and activities (Hall, 1976), sometimes encompassing strategies for advancement.

Since the professions emerged in post-industrial societies in the nineteenth century, they have been studied extensively, primarily by sociologists. United States and United Kingdom researchers dominate the sociological literature exploring medicine and law as prototypical professions, with studies from other countries emerging in more recent years (Bourgeault et al., 2009). In the 1950s and 1960s, researchers focused on the problem of defining the difference between professions and occupations and came to regard both as similar social forms that share many common characteristics, particularly in respect of occupational socialization, identity reinforcement and client trust’ (Evetts, 2006a, p519). In the literature, professions are generally regarded as predominantly providing a service and as involving mastery of a body of knowledge, strong ethics and altruism (Christian et al., 2008, Cruess et al., 2002, Evetts, 2006b, Irvine, 2004). Sometimes professional groups are also elites with strong political links, while some professional practitioners are licensed in a way that limits competition from those outside the elite (Evetts, 2006b, Freidson, 1970b, Freidson, 1970a, Freidson, 1973, Freidson, 1975, Freidson, 1986).

Occupational groups, including professions, play a role in attaining and maintaining status and income for their members. Two differing approaches to member benefits can be found in the literature – one based on collegiality and trust providing reward in return for professionalism in client relations (Evetts, 2006b) and the other based on the monopoly supply of expertise and service, from power, dominance and autonomy, in the economic market place (Evetts, 2006b, Freidson, 1970a, Freidson, 1970b, Freidson, 1973, Freidson, 1975, Freidson, 1986, Larson, 1977). Sociologists interested in career choice and development are primarily concerned with work as a determinant of an individual’s status within the community, income and style of life. These factors can be influenced by professional membership as an individual moves through the life course. However, insofar as the individual’s work needs are considered, these sociological studies tend to focus on vertical (prestige) placement in the socioeconomic structure (Johnson and Mortimer, 2002).
Maintaining a balance between professional self-interest and public interest is the responsibility of individual professionals. However, concerns about possible conflict-of-interest issues within organised medicine (including commercial, corporate and government medicine) have prompted efforts to reframe professionalism as a collective/organisational responsibility (Hafferty and Levinson, 2008). Hafferty argued that since the early 1980s individual motives and behaviours have been shaped by a tension between commercialism, reflecting the core values of competition and the profit motive, and professionalism, reflecting the values and practices of service, advocacy and altruism (Hafferty, 2003).

The career behaviour of recruits and individual practitioners may be influenced by a shared professional identity, generally associated with common vocational experiences and ways of operating, and reproduced through educational backgrounds, professional training and membership of an occupational association (local, regional, national and international) (Evetts, 2006a). Because of their role in Australia’s healthcare system, GPs have a strong vocational identity, suggesting that work by career theorists on vocational personality (Holland, 1997) and self-concept (Savickas, 2002) could help this thesis.

Finally, GP development may be moderated through regulation by their professional organisation. Professions normalise occupational behaviour and use normalisation to reproduce the authority of professional experts (Evetts, 2006a, Evetts, 2006b, Freidson, 2001, Freidson, 2003). Individual professionals perform their duties within a community of peers in ‘a form of work organization with a central regulatory body to ensure the standard of performance of individual members’ (Scott and Marshall, 2009). In defining common ways of working and balancing individualism against the needs of the community, professions have a normative value in maintaining social order in work and occupations, and stability in state and economic dealings.

From this examination of professions theory, medical practice is clearly an occupation that exhibits the distinguishing features of a profession. The advanced education and training, the organised group and the calling are common elements that distinguish a profession from other occupations (Australian Medical Workforce Advisory Committee, 2005, Evetts, 2006a, Evetts, 2006b, General Practice Education and Training Ltd, 2007, Jones and Fisher, 2006, Jones and Green, 2006, Laurence and Elliott, 2007, Shadbolt and Bunker, 2009, Smith and Sheridan, 2006, Thistlethwaite et al., 2008, Tolhurst and Stewart, 2004, Walker and Pirotta, 2007). GP vocational behaviour is influenced by a shared professional identity, their professional culture and the benefits of group membership in attaining and maintaining status and income.
The interaction between a GP’s profession and career is affected by the changing circumstances of GP professional life and work. No longer are GPs required to only apply existing specialised knowledge. They are more apt to be involved in new or challenging problems, personally and professionally, in which there are unknowns and they must improvise new solutions. The majority of experienced GPs working in Australia are self-employed, working in predominantly privately-owned business structures, and this fosters a need to move ahead economically. This study is concerned with a notion of the processes that intervene between the starting and end points of a medical career and how GPs act in pursuit of a career. While professions theory provides valuable background for the context of GP professional life, it does not focus on the development of adult professional life over time (Piko and Phillips, 2010). For that I turn to career theory to explore what individual professionals need from work and how those needs are satisfied.

2.3 Career theory

There is considerable theoretical and research interest in understanding what is important to people as they work, grow and develop throughout their lives. This interest has crossed several academic disciplines including sociology, psychology and economics. I conducted a review of the literature published in English, from 1980 to 2013 for relevant issues of career development and career decision-making. Information was sought particularly from countries with similar structure, culture and history to Australia (UK and Western Europe, New Zealand, Canada and United States).

Generally, researchers give more attention to the initial career choice and entry into work than to the progression, adjustment and transition in adult life, with vocational psychologists doing much of this research on early career behaviour. Studies of adult career behaviour are taken up within organisational behaviour, industrial/organisational psychology, management and occupational psychology (and to some degree the professions literature sits here also). The perspectives from these disciplines bring different approaches to the examination of individual behaviour. While vocational psychologists are concerned with individual traits and behaviours, researchers with sociological or organisational perspectives focus on sociological and organisational issues such as culture, economic cycles, labour markets and structure of organisations impacting on careers (Collin and Patton, 2009, Osipow, 1996, Swanson, 2003, Arthur, 1994, Hall, 1996a).

In career development theory there is a common theme that humans strive to meet innate psychological and/or biological needs through engagement in work. However different theorists propose different, sometimes contradictory explanations of the human condition, leading to
varying predictions of the motivators, tasks and objectives sought through work. This section introduces career patterns found in the literature and examines work values and needs as they relate to this study. I discuss five psychological-based career theories and two systems-based career theories in terms of their contribution to answering my research questions.

Organisations theorist, Douglas T Hall (1976) defines career as ‘the individually perceived sequence of attitudes and behaviours associated with work-related experiences and activities over the span of the person’s life’. However, since the early 20th century, the study of careers has been dominated by psychological-based theories – a variety of personality, person-environment fit, developmental and social-cognitive perspectives - which give emphasis to the personality characteristics that predispose an individual to seek a career of a given type (Brown, 2002a, Price, 2009, Smith-Ruig, 2009).

Much of career theory is based on the idea that satisfaction is the result of a good match of the individual with their environment. The literature suggests that disequilibrium or dissatisfaction (with work situation, work-life balance, intellectual interest and so on) triggers an adjustment. However this has not been proven within the medical occupations, including general practice. Further, it has been theorised that even if there is not a good match, the individual may be satisfied because of extrinsic rewards (Blustein, 2006) but this has not been proven within medicine. While reports indicate that experienced GPs working in Australia are satisfied (Hills et al., 2012, Harris et al., 2007, Joyce et al., 2011, Walker and Pirotta, 2007), little is known of the processes involved or the distinction between being satisfied and very satisfied.

Career patterns in the community have changed in the past 20 years. In the early 1950s and 1960s, the concept of career implied a linear upward trajectory of work positions, usually within a particular profession or organisation, with increasing income, status, power and security (Holland, 1973, Super, 1953, Smith and Sheridan, 2006). The career concept evolved from static to dynamic and by the 1970s and 1980s, career progression implied a linear but not necessarily upward or orderly trajectory of movement through all of an individual’s occupational roles in a series of transitions (Ginzberg, 1972, Hall, 1996a, Holmes and Cartwright, 1994, Louis, 1980, Super, 1980). Super (1980) defined career broadly to include both work and non-work roles, which interlinked over a person’s life span (Super, 1990). From the GP literature, balancing personal and professional life is an important issue for GPs (Kilmartin et al., 2002, Shrestha and Joyce, 2011), suggesting that Super’s idea of intermingling work and non-work roles may help in understanding GP professional life.
Since the mid-1990s the idea of progression along a career path in one or two organisations with a focus on extrinsic rewards and organisational career management (Sullivan and Baruch, 2009) has been augmented by dynamic patterns, with a focus on careers outside of organisations and non-linear discontinuous career paths (Sullivan, 1999). These different career patterns include boundaryless (Arthur, 1994, Smith and Sheridan, 2006), protean (Hall, 1996b), portfolio (Jones and Green, 2006) and kaleidoscope careers (Sullivan and Mainiero, 2008).

The boundaryless career embodies physical and psychological mobility as individuals are no longer tied to one organisation (Arthur, 1994), drawing marketability from outside their present organisation. However, I could find no empirical research of the boundaryless career in an Australian medical context. The protean career is an extreme form of the boundaryless career where the careerist also possesses strong individual values and strong internal motivations for success (Hall, 1996a). In this model career progression reflects a process of individuals finding the best fit that allows them to pursue their interests. Yet as Sullivan (2009) noted, there has been relatively little research into the protean career.

Sullivan and Mainiero’s kaleidoscope career (2008) combines authenticity (being true to one’s self), balance (equilibrium between work and non-work demands) and challenge (stimulating work and career advancement), with the relative strength of each aspect changing at different times in an individual’s working life. Their research, based on a sample of more than 3,000 individuals from a variety of occupations, used a multi-method research design to uncover different gender patterns. Men focused on challenge from early to mid-career, then authenticity, then balance later in career; women followed a pattern of challenge early in their careers, then balance, and finally authenticity.

Research focusing on the concept of career in general practice is scant. Decisions to study medicine and become a GP have generated interest with researchers in Australia (Alexander and Fraser, 2005, Australian Medical Workforce Advisory Committee, 2005, Laurence and Elliott, 2007, Thistlethwaite et al., 2008, Tolhurst and Stewart, 2004), Canada (Cujec et al., 2000), Finland (Virtanen and Koivisto, 2001), The Netherlands (Maiorova et al., 2008, Maiorova et al., 2007, Soethout et al., 2008), Norway (Tyssen et al., 2009), Switzerland (Buddeberg-Fischer et al., 2009), United Kingdom (Jones and Fisher, 2006, Lambert et al., 2006, Lambert et al., 2002, McManus et al., 2003, McManus et al., 2006, Petrides and McManus, 2004, Sinclair et al., 2006, Goldacre and Lambert, 2000, Johnson et al., 1998), and the United States (Bland et al., 1995, Nieman and Gracely, 1999). These studies focussed on predictors of a medical career, career choice, stability and change in career choice, career path, well-being, educational needs, factors influencing career choice, flexibility, career intentions, satisfaction, stress, work-life
balance, work responsibility, and personal attributes. However, they did not investigate medical professional life over time.

One of the very few studies of GP careers is the British Medical Association (BMA) cohort study, a 10-year longitudinal study which followed the career paths of 544 doctors who graduated from UK medical schools in 1995 (Jones and Fisher, 2006). Researchers found that although general practice was initially unpopular as a career choice, it became popular in later years as doctors were attracted by the hours of work and working conditions. Drawing on interviews with 20 early-career GPs from the BMA cohort, Jones and Green (2006) examined the changing role of professionals in the provision of primary healthcare. They reported a portfolio career structure linked to the pursuit of ‘nice work’ and the social values of balance with the rest of life. Their reported career structure has a range of flexible job experiences that can be tailored to changing personal and family circumstances and to interesting work.

These different forms of career – linear, boundaryless, protean portfolio and kaleidoscope – provide a framework for comparing how GP professional life evolves into a career. While the organisation and culture of professions influences the working life of individual professionals, insofar as a GP’s work needs and satisfaction are considered, sociological studies do not focus on the development of adult professional life over time at an individual level. With the changing circumstances of GP life (ACT GP Taskforce, 2009, Britt et al., 2010, Charles et al., 2004, Jones and Green, 2006) there is increasingly a career approach to this professional occupation. The next section examines the careers literature for examples of what individuals need from work and how those needs are satisfied.

2.3.1 Work needs and work values

The literature on work needs and work values including how they relate to the Australian medical context, provides a useful basis for understanding what might be important to GPs as they work, grow and develop. In general, growth theories (including career development) assume that people are achievers who accumulate financial resources, knowledge, experience and recognition over time. Because they provide a sense of purpose to engage in activities that satisfy psychological and physical needs, work needs and work values have been identified as critical variables in developmental or growth theories of behaviour (Super and Sverko, 1995, Hartung, 2009, Duffy et al., 2009). Super distinguished between values, needs and interests—values were the work goals to satisfy needs, whereas interests were the activities undertaken to attain goals and thus satisfy needs (Robinson and Betz, 2008, Super and Sverko, 1995).
For doctors, the work values found by previous studies to be important were autonomy (to have freedom, independence and control over clinical decision-making, work style and lives), service (caring for and contributing to the welfare of others regardless of financial gains or other rewards), prestige (to be recognised by others as a top physician, social status, and financial compensation), financial reward, scholarly pursuits (to engage in research and teaching activities), management (to supervise and have responsibility for others, leadership, and administrative responsibility), and lifestyle (to have a predictable and stable work schedule, hours worked, work demands and time for leisure, family and friends) (Bouwkamp, 2008, Western et al., 2006, Hartung, 2004). These values were examined using a sample of Australian medical students, with the researchers finding that students who valued autonomy were more likely to choose the primary care specialty (Rogers et al., 2010, Rogers and Searle, 2010a, Rogers and Searle, 2010b). A study of work values and job satisfaction of experienced family physicians working alone and in a variety of settings, reported that family physicians endorse the following work values in decreasing order of importance: autonomy, service, lifestyle, scholarly pursuits, management, and prestige (Bouwkamp, 2008).

For many people, work determines their overall quality of life, and it is in a work setting that a range of human needs and drives are satisfied (Blustein, 2006, Brown, 2002b, Buddeberg-Fischer et al., 2008, Lepnurm et al., 2006). Maslow’s hierarchy of needs theory (Maslow, 1943) identified physiological, safety, social, esteem and self-actualisation needs that individuals strive to satisfy while McClelland’s learned needs theory identified needs for achievement, power and affiliation (McClelland, 1961). In cases where there might not be a good psychological fit between the individual and work environment, Blustein (2006) predicts that if an individual is sufficiently rewarded extrinsically, they will be satisfied participating in the work. However, if there is not a good fit and work is not extrinsically rewarding, poor satisfaction will ensue.

Blustein’s concept of quality of work incorporates decent pay, possibilities for advancement, meaning to life and identity, and he encompasses working as a means to satisfy needs: for survival and power, social connection and self-determination (Blustein, 2006). Survival refers to extrinsic rewards, primarily money, which is used for shelter, food, and sustenance. By developing systematic access to resources necessary for survival, the individual can consolidate greater power within a given community or culture. Thus, work has the potential to confer social status, which may enhance prestige and power. For individuals with access to the power structure and greater opportunity to access education and reasonably secure jobs, the need for survival may be less of a concern. However, should the individual not be able to hold onto what is being achieved, there may be a reassessment of the importance of working and its
contribution towards survival and power, thereby leading to a work adjustment. Blustein argues that working connects people to their social context, interpersonal relationships and bonds, and to broader cultural economic and political systems of their society, and offers self-determination as a third function of work, borrowing from Maslow’s self-actualisation and fulfilment theory (Maslow, 1943, Blustein, 2006) and Ryan and Deci’s self-determination theory (Ryan and Deci, 2000).

While this analysis of the literature suggests work values are relatively stable with the long-term adoption of a particular lifestyle, this has not been proven for experienced GPs working in Australia. Indeed their changing circumstances, referred to previously, suggest that what GPs value and need from their professional life may diminish or disappear while new needs are added.

2.3.2 Psychological-based career theories
To understand how GPs shape and experience their careers, this section provides an overview of five psychological-based career theories which explain different aspects of how people develop through work and how these developments influence career behaviour (Savickas, 2002).

Occupational choice is a lifelong process of decision-making for those who seek major satisfaction from their work. This leads them to reassess repeatedly how the y can improve the fit between their changing career goals and the realities of their world of work.

Holland’s theory of vocational personalities and work environments
Holland developed a trait-oriented explanation of vocational choice with the underlying premise that career choice is an expression of one’s vocational personality and that people search for situations which satisfy their personality, abilities and values (Holland, 1997, Savickas and Gottfredson, 1999, Spokane et al., 2002). When a perceived fit is no longer optimal, individuals change situations.

Holland documented six personality-interest types that categorize individuals and their preferred activities, beliefs, abilities, values and characteristics: realistic, investigative, artistic, social, enterprising and conventional (RIASEC types) (Holland, 1997). Most people resemble a combination of these types. Likewise, work environments can be categorized by their resemblance to a combination of the RIASEC types. The interaction of types with specific environments predicts and explains the behaviour that occurs in these environments (Holland, 1997, Spokane et al., 2002).
The key constructs of Holland’s theory are congruence, differentiation, consistency and identity (Swanson and Fouad, 2010). Congruence describes the match between a person and the work environment so that the greater the congruence, the greater the predicted job satisfaction. Differentiation refers to how clear the distinction is between what an individual likes and dislikes, where well-differentiated interests predict more stable occupational choices. Consistency pertains to how similar or coherent the individual’s top interests are, such that consistent interests predict more stable occupational choices. Identity provides an estimate of the clarity and stability of the person’s interests, abilities and values. Individuals who have high ratings for congruence, differentiation, consistency and identity are predicted to be more satisfied and better adjusted to their work than individuals who have low ratings for these elements (Swanson and Fouad, 2010).

Support for Holland’s theory has been demonstrated over many years (Spokane et al., 2005, Fouad, 2007). However, less support has been found for the predicted outcomes of a good person-environment fit (congruence) such as greater job satisfaction and length of time on the job (Spokane et al., 2000, Tsabari et al., 2005). My literature review failed to find any studies which tested Holland’s theory using experienced male and female medical professionals, although the investigative, social and artistic types (ISA) are thought to be common among family physicians (Antony, 1998, Petrides and McManus, 2004). Additional research and theoretical integration is needed to explore the influence of Holland’s vocational personality types on GP career development and test the hypothesis that the greater the congruence between work personality and environment, the greater the job satisfaction, (Nauta, 2010). That work is beyond the scope of this thesis.

Theory of work adjustment
The theory of work adjustment (TWA) (Dawis and Lofquist, 1984, Dawis, 2002, Dawis, 2005), like Holland’s theory, is based on person-environment fit, focusing on needs and abilities to facilitate the match. As individuals look for work environments that provide rewards to satisfy their needs, the work environment in turn looks for people who have the abilities that meet the organisation’s needs. When there is no longer a perceived fit, TWA emphasises vocational adjustment and accommodation until satisfaction is achieved or until the person (or the environment) abandons the interaction.

The key constructs of TWA are needs, values, correspondence, abilities, reinforcers, satisfaction and satisfactoriness. Needs are deficits of some kind such as biological needs to do with a person’s survival and psychological needs to do with a person’s well-being (Dawis, 2002). Values represent a grouping of needs. Dawis (2005) defined six crucial values: achievement
(using one’s abilities and feeling of accomplishment), comfort (feeling comfortable and not being stressed), status (recognition and being in a dominant position), altruism (harmony with, and being in service to, others), safety (stability, order and predictability) and autonomy (being independent and having a sense of control). Correspondence describes the match between a person and the work environment so that the greater the correspondence then the greater the predicted job satisfaction. Abilities refer to acquired skills. Reinforcers are rewards. Satisfaction is how well an individual’s needs are met by the job while satisfactoriness pertains to how well an individual’s abilities and skills meet what the job or organisation requires.

Using TWA to understand the career environment of GP professional life focuses attention on reciprocal influences between the GP’s values and abilities and correspondence with their work environment. TWA offers an explanation for how adult workers seek a satisfactory fit between their interests, abilities and values, and the world of work, through continual processes of adjustment and accommodation initiated by dissatisfaction. The length of time spent in a job depends on an individual’s level of satisfaction with the job and their ability to do the job satisfactorily (Dawis, 2005). Career progression reflects the acquisition of needs and skills through experience and training, becoming relatively stable during adulthood (Dawis, 2002).

The theoretical structure of TWA and its constructs of needs, values, abilities, reinforcers, correspondence and satisfaction could be applied to GPs to identify misalignment between GPs and their situations and to identify opportunities for adjusting the work environment or themselves. If needs and rewards correspond, then the GP is satisfied. If abilities provided and abilities required correspond, then the GP is satisfactory.

Empirical support for TWA using samples of adults or, more specifically, medical professionals, was not found during the literature review. However, as a process which could explain how GPs change their situation to improve their fit with an environment, TWA provides a framework for understanding GP career development.

**Self-concept theory of career development**

A fundamental aspect of the self-concept theory of career development formulated by Super and expanded by Savickas is that career choice and development is a process of developing and implementing one’s self-concept (Super, 1980, Salomone, 1996, Savickas, 2002). Through

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physical and mental growth, experiences and interaction with one’s environment, individuals seek a good match with work, which is predicted to increase work satisfaction.

The key constructs of this theory are self-concept, career construction, stages (growth, exploration, establishment, maintenance/management and disengagement), developmental tasks, life roles, work role salience, life space and life span. Self-concept refers to how people see themselves in society and is formed by an evolving vocational identity comprised of the individual’s work values, interests and abilities that change over time. Career construction is the development and implementation of self-concept through vocational choices and competencies. Stages are a series of steps that individuals typically go through in constructing a career, though not everyone progresses through these stages in the same manner or at fixed ages. These career stages represent clusters of distinctive attitudes, motivations, and behaviours that arise in sequence over development (Salomone, 1996). Developmental tasks are the characteristic career concerns to be mastered at each stage. Life roles are the roles individuals have in their lives: child, student, parent, worker, citizen. Individuals hold multiple roles, which may interact and hold different levels of importance to the individual throughout life. Work role salience refers to the importance of the work role in relation to the other potential roles in an individual’s life. Life space corresponds to the roles that one fulfils at various times in life, and life span denotes the developmental stages (Super, 1980, Super, 1990).

Self-concept theory of career development highlights five stages: growth, exploration, establishment, maintenance/management and disengagement. The subjects of this thesis were experienced GPs aged between 35 and 59. While career stages relate to psychological fit rather than chronological age, broadly speaking, the age of these individuals conforms to the establishment and maintenance stages. Individuals within the establishment stage could be between 25 and 45 and in the maintenance stage between 46 and 65 (Savickas, 2002).

The establishment stage is characterised by three sub-stages – stabilising, consolidating, and advancing. Stabilising involves settling down, becoming self-sufficient, and developing a lifestyle that maximises the use of one’s abilities and interests. Consolidating is where the individual attempts to establish status within their occupation, and security may be their primary objective. As individuals settle down, work tasks become easier, and individuals become more comfortable and autonomous at their work. Advancing involves progression. In a hierarchical organisation this can mean promotion within the traditional organisational hierarchy, but for other situations it can mean expanding influence and responsibility or achieving financial goals (Savickas, 2002, Super et al., 1988, Super, 1957, Cairo et al., 1996). In this establishment stage individuals attempt to achieve their work related goals, which may involve changing jobs or
situations with a view to furthering their career and prospects (Ornstein et al., 1989, Slocum and Cron, 1985). Once individuals have established themselves in their career and have achieved their lifestyle and performance goals, they move to the next stage which is maintenance.

In the maintenance stage the focus is on preserving one’s status and position within the chosen occupation or professional field. Three sub-stages of maintenance are holding, updating and innovating (Super et al., 1988). Holding is concerned with holding onto, or improving one’s situation in the face of competition from others, technological changes, or perhaps evolving family demands (Cairo et al., 1996). Updating relates to staying current in one’s occupation or profession. Innovating focuses more on an expectation that experienced individuals, when they reach a certain standing within their field, will break new ground or make a unique contribution to their occupation. Views of the maintenance stage differ: a time when many individuals face changing work conditions and circumstances that require adaptive behaviours (Cairo et al., 1996, Super et al., 1988); job tasks become routine (Slocum and Cron, 1985); individuals look to more innovative and creative ways to perform career and work related tasks (Perrone et al., 2003); or increased pressure and stress to update and maintain skills.

Super (1990) argued that the timing of the transition from one developmental stage to another was more a function of the individual’s personality, circumstances and psychological development than a function of chronological age. For example, decisions to extend higher education, as is the case for GPs who may not be fully qualified to practise until their early 30s; to experience a variety of career options before settling into a choice; to delay career entry until after childrearing; or to change careers may lengthen the time that it takes to pass through the exploration stage (Smart and Peterson, 1997).

Many aspects of Super’s theory are attractive to understanding the career environment of GP professional life. The theory focuses attention on how GPs view themselves, continually self-evaluate within their social context and seek work roles that fit their self-concepts. This theory offers an explanation for how adults seek a satisfactory fit between their evolving self (based on their interests, values and abilities) and work, through continual processes of self-evaluation and mastery of developmental tasks. Career progression reflects these processes, combining the individual’s current self-schema with a longitudinal view of themes that have developed throughout a working life.

This developmental approach brings roles outside of work into consideration, including their relative importance to the professional role of a GP (work role salience) and how those life roles have evolved over the GP’s work history. Career decisions may be based on a discrepancy.
between work and non-work roles, an inability to cope with the demands of multiple roles and a need to balance personal and professional commitments. Savickas, in extending Super’s model, theorised that careers are constructed rather than unfold, driven by adaptation to an environment (Savickas, 2002). Career adaptability is an individual’s readiness and resources to complete the developmental tasks. Consequently, career choice and development become a process of negotiations and compromises in which both the self and one’s environment have to be consulted (Leung, 2008, p122). GPs develop career pathways in an environment influenced by families, government, profession and patients, suggesting that their careers are suitable for analysis by the self-concept theory of career development.

In the 20 year period 1971 to 1990, Chartrand and Camp (1991) located 22 empirical studies in which career stage was a major variable. My search of the literature from 1980 to 2010 found 44 relevant studies (Table 2.1). These studies indicate general support for Super’s model (Hackett et al., 1991). In Australia, the theory has been applied in many school career education and counselling programs (Hughes and Thomas, 2005). However, only a limited number of researchers have sought to test this theory using the medical workforce. Recent studies have provided only partial support for Super’s model, raising questions about whether Super’s career stages may have limited validity in today’s society (Bragg, 2003, McGuigan, 2010, Ornstein and Isabella, 1990).

Table 2.1 Published studies exploring career development stages experienced by individuals, 1980-2009

<table>
<thead>
<tr>
<th>FOCUS</th>
<th>YEAR OF PUBLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>General practitioners</td>
<td>0</td>
</tr>
<tr>
<td>Other health professionals</td>
<td>0</td>
</tr>
<tr>
<td>Professionals other than health</td>
<td>6</td>
</tr>
<tr>
<td>Gender specific studies</td>
<td>4</td>
</tr>
<tr>
<td>Occupation not specified</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
</tr>
</tbody>
</table>

One UK study examined stress in 41 female GPs during the career establishment stage and found a connection between this career stage and increased daily pressures of balancing work and family. This study attempted to make a link between behaviour and development stage but was limited by choosing only subjects in the 25 to 35 age range (White et al., 1997). In a quantitative study of 414 Australian professional women (dieticians) in the age range 21 to 63 years, Super’s career stages were examined in relation to attitudes toward work. Satisfaction with pay and job involvement were lowest in the exploration stage. Women in the establishment stage were significantly more satisfied with pay and less willing to relocate for promotion compared to women in the exploration stage, while women in the maintenance stage
were more committed to their profession and more involved in their careers than women in the establishment and exploration stages (Smart, 1998).

The subjects of this thesis were experienced GPs, most of whom were aged over 35, an age group which conforms to Super’s maintenance development stage. Williams and Savickas (1990) suggest an additional stage of midlife career renewal, characterised by recycling through some of the tasks required for development. While it may no longer be unusual for adults to alter the course of their career by changing organisations, jobs or occupations, and in their 30s, 40s, or 50s recycling back to the exploratory stage (Bejian and Salomone, 1995, Smart and Peterson, 1997, Super, 1984), it is not evident from the literature whether this is a feature of contemporary career patterns shaped by professional workers including GPs.

**Gottfredson’s theory of circumscription and compromise**

Gottfredson’s theory of circumscription and compromise (Gottfredson, 1981, Gottfredson, 2002) is a developmental theory of occupational aspirations based on the implementation of the social self (ahead of the psychological self). Hence, social variables, such as gender or social class are given priority over psychological variables like interest and values. The underlying premise of Gottfredson’s theory is that people look for compatible career choices within those that seem accessible or those that provide a good match with their three preferred dimensions of gender, prestige level and field of interest. When a perceived fit is no longer optimal, individuals change situations or compromise.

The key constructs of Gottfredson’s theory are circumscription, compromise, cognitive growth, self-creation, zone of acceptable alternatives, sex type and prestige (Swanson and Fouad, 2010). *Circumscription* is the process by which children narrow their occupational alternatives by eliminating those that are not acceptable in prestige or sex type. *Compromise* is the process by which preferred alternatives are sacrificed because they are inaccessible. *Cognitive growth* describes the development of increasingly complex cognitive ability during childhood, which influences the cognitive occupational map and the self-concept. *Self-creation* refers to how the experiences that one chooses build upon biologically based characteristics of an individual. *Zone of acceptable alternatives* comprises the occupations remaining after an individual eliminates occupations due to sex type, intolerably low prestige, or intolerably high effort. *Sex type* (gender) is a limiting boundary within one’s zone of acceptable alternatives, which emerges as an influence in Stage 2 where children become aware of the sex-appropriateness of different occupations. *Prestige* is a limiting floor and ceiling boundary within one’s zone of acceptable alternatives, which emerges as a factor in Stage 3 where children become aware of the differential prestige of occupations within society.
Gottfredson’s theory offers a framework to examine the professional life of GPs by addressing the impact of sex-role socialisation and other societal factors, including prestige and gender, on the development of occupational aspirations in general practice. However, Gottfredson was primarily concerned with childhood development and occupational choice at the entry point to the workforce (Gottfredson, 2002) and paid little attention to adult development. Furthermore, the theory has received only limited attention from other researchers (Swanson and Fouad, 2010, Leung, 2008, Gottfredson, 2002) and this literature review failed to find any studies that tested the model using experienced male and female medical professionals. Nevertheless, compromise is a process that may continue throughout one’s career and Gottfredson’s theory offers a unique perspective that could be relevant to the setting of professional membership.

**Social cognitive career theory**

Social cognitive career theory (SCCT) (Lent et al., 2002) focuses on self-efficacy (confidence to perform tasks) in career choices and career related behaviours, cognitive processes, how realistic outcome expectations are, and the barriers or supports for career decisions. The underlying premise is that individuals make a career choice that corresponds well with important aspects of their work personality (their interests, values and skills); however, SCCT highlights relatively dynamic and situation-specific features of the self system.

The key constructs of social cognitive career theory are self-efficacy, outcome expectations, interests, distal barriers and supports, proximal barriers and supports, and contextual affordances (Swanson and Fouad, 2010). **Self-efficacy** is confidence in the ability to accomplish tasks in a particular domain. **Outcome expectations** are the anticipated benefits and costs of performing specific actions. **Personal goals** refers to intentions to engage in a certain occupation or to generate a particular outcome while **interests** refers to preference for activities. In SCCT, the terms **distal** and **proximal** are used to locate barriers and supporters that are respectively distant from or close to the career event. **Distal barriers and supporters** describe the factors that hinder or facilitate the development of learning experiences and self-efficacy which are distant in time to the career decision. **Proximal barriers and supports** pertain to the factors that hinder or facilitate implementation of career choices that are close in time to the event. **Contextual affordances** are the environmental resources and obstacles that shape career development.

SCCT offers three interlocking process models of how individuals make career choices, how career interests develop, and how they determine their level of performance. In the **choice** model, **self-efficacy beliefs** and **outcome expectations** are influenced by learning experiences based on the person’s characteristics, background context and past performance. In the **interest**
model, *self-efficacy* and *outcome expectations* predict interests. Together these constructs affect the *goals* people set for themselves, which in turn influence actions, and actions influence *performance attainments*. *Contextual affordances* may serve as perceived barriers or supports to *outcome expectations*: those earlier than the choice (distal) and those closer in time to the choice (proximal) (Swanson and Fouad, 2010). While the *choice* and *interest* models predict where one would like to work, the *performance* model predicts the level of performance as well as the persistence an individual has in pursuing goals (Lent et al., 2002).

Applying SCCT to understanding GP professional life draws attention to GP self-efficacy beliefs and learning experiences (cognitive aspects). GPs must be confident in their abilities to master the tasks needed to implement their professional life and see general practice as a positive and rewarding career option in order to maintain their interest in this career pathway. The *interest* model specifies that individuals would likely develop interest in activities where they feel efficacious and where they anticipate positive outcomes from the activities (financial incentives, ability to integrate work and family, interesting work). While SCCT is primarily concerned with the occupational choice at the entry point to the workforce, change and growth in interests is possible at any point in life as people seek the optimal fit between their interests, abilities and values, and the world of work. Developing new interests depends on how people read their competence (self-efficacy) at the activity and on their expectations about outcomes (Lent et al., 2002). The *performance* model can be relevant from a person’s first job to later in life (Allison and Cossette, 2007).

Meta-analyses suggest support for SCCT (Lent et al., 2002, Fouad, 2007), although studies have generally been limited to undergraduate or graduate populations. The model was used in an Australian study of medical students’ career aspirations and their career decision-making attitudes, values, background and demographic factors (Rogers and Searle, 2010b, Rogers et al., 2009). Measures of self-efficacy, professional and lifestyle outcome expectations, goals and barriers were applied. That study reported a stronger preference for choosing a non-primary care specialty by students who place a high value on prestige and scholarly pursuits, and who report high levels of barriers and expectations of professional outcomes. Conversely, those who valued autonomy were more likely to choose a primary care specialty. SCCT allows for contextual factors that may lead to compromises in personal interests in decisions to make changes to one’s career. When the model was used in the context of developing a clinical research career, the issues of multiple environments (research, clinical, institutional, family), dual career goals where physicians begin their careers as clinicians and go on to combine that work with an academic career pathway, and self-efficacy became apparent (Bakken et al., 2006).
This review failed to find any studies that tested SCCT using experienced medical professionals which highlights a gap in the literature. Additional research and theoretical integration is needed to explore the relevance of SCCT to the Australian general practitioner profession.

2.3.3 Systems career theory
Systems theory can be used to understand complex systems in nature and/or society by recognising the dynamic interaction of components within the system, its sub-systems and its external environment. In Australia, Patton and McMahon (2006) have proposed systems theory as an overarching framework (STF) for bringing together and positioning the various concepts and career theories. The influence taxonomy of STF reflects that individuals do not live in isolation, positioning individual career development as a subsystem amid overlapping systems of potential interpersonal, social and environmental influences (McIlveen and Patton, 2007). These influences may affect one another, interact with one another and change over time. While STF emphasises the role that individual agency plays in developing knowledge and values, the model captures the unpredictability of career influences, which Pryor and Bright (2007) formulated as a source of chaos for careers.

The key constructs of STF are the individual system, the social and the environmental-societal systems and recursiveness. The individual system is a confluence of unique features, rather than isolated elements, influenced by gender, values, ability, interests, personality, world-of-work knowledge, age, self-concept, physical attributes, ethnicity and aptitudes. The social system is the psychosocial context in which the individual interacts with other people systems, and is influenced by family, peers, community groups, educational institutions, media and workplace. The environmental-societal system of influences includes political influences, historical trends, employment market, geographic location, socioeconomic status and globalisation. Recursiveness describes the recurring interaction within and between systems but does not imply reciprocal interaction.

Pryor and Blight’s (2007) chaos theory for understanding career development views human experience in the context of an open system. They argue that difficulties can arise when closed systems thinking, such as the reductionism approach typical of many career theories, is used in an open systems reality. Individuals with a closed system perspective seek control over the functioning of the system and expect the system to function in predictable and stable ways, thereby reinforcing the need for autonomy and control. Thus, those individuals tend to simplify reality (limit inputs) in order to gain control. Open systems thinking accepts the limitations of control, does not expect predictability and anticipates unpredictable consequences of attempts to
sustain order and to initiate change. Unexpected events are accepted and influenced at best or submitted to at worst.

While the influence of chance and uncertain events (incomplete knowledge, non-linear change, unpredictable outcomes) and their impact on career development is broadly accepted, this review failed to find any studies that tested a system theory framework or chaos theory using experienced medical professionals. Empirical research would be needed to explore Australian general practice through the lens of these theories. Nevertheless, GP careers unfold in complex environments of self, family, patients, government and the community, and systems career theory offers a framework that could be relevant to understanding GP professional life and career development.

2.4 Australian context

My search of the literature found little discussion of career theories in the Australian medical context. However, studies of GP stress, work-life imbalance, lack of intellectual stimulation and job satisfaction provide insights into factors that could trigger decisions to make changes to one’s career and affect GP professional life. This thesis aims to develop a contemporary understanding of GP professional life in Australia, thereby providing insights into GPs’ needs and ways for improving the fit between individuals and their professional work, and ultimately contributing to improved patient outcomes. This section describes the environment of GP professional life in Australia and highlights significant issues that inform and provide background to this thesis.

2.4.1 General practitioners in Australia

In 2011 in Australia, there were 25,056 GPs (Australian Institute of Health and Welfare, 2013). The average age of GPs was 50.5 years, and 36.6% were aged 55 and over. The proportion of GPs who were female was 40.5%. GPs worked an average of 39.1 hours per week. Based on a standard working week of 40 hours, there were 109.7 full-time equivalent (FTE) GPs per 100,000 population (Australian Institute of Health and Welfare, 2013, p14). In recent years, there has been a trend towards a more feminised workforce which has contributed to a trend of working fewer hours (Durey, 2004).

Medical practitioners are subject to a mandatory registration process administered by the Australian Health Practitioner Regulation Agency (AHPRA). The Medical Board of Australia (MBA) is the national medical regulator and determines (or limits) the work doctors are licensed to perform. When medical students have completed their university qualifications (increasingly postgraduate) they receive provisional registration with the MBA and enter the medical
workforce under a 12-month internship (Australian Medical Association, 2009). When practitioners have successfully completed their internship, they receive full medical registration. To become a GP, additional vocational apprentice-type community-based training is required for three (FRACGP) or four (FACRRM) years, after which full registration is granted by the MBA, permitting GPs to work unsupervised. GPs participate in continuing professional development throughout their career, monitored by the Royal Australian College of General Practitioners or Australian College of Rural and Remote Medicine (RACGP, 2010, Australian College of Rural and Remote Medicine, 2014). International medical graduates must comply with the requirements of the Australian Medical Council to enable registration.

Under Australia’s National Healthcare Agreement (2012), the Commonwealth and state and territory governments share control and funding of some aspects of the Australian health system, while being solely responsible for other areas. During 2010-11, 69.1% of total health expenditure was funded by governments (Australian Government 42.7% and state and territory governments 26.4%) and 30.9% from non–government sources (Australian Institute of Health and Welfare, 2012b, pviii).

The Australian Government is responsible for national healthcare policy and initiatives. It controls and manages Medicare, Australia’s publicly funded, universal healthcare system, and regulates medical practitioners’ access to Medicare payments. The Pharmaceutical Benefits Scheme (PBS), a taxpayer funded scheme that provides subsidised access to necessary medications, is controlled by the Australian Government which also controls the import and supply of medicines and medical devices through the Therapeutic Goods Administration (TGA). The state and territory governments are responsible for the management, partial funding and healthcare delivery of public hospitals.

General practice is a major element of Australian healthcare, with around 85% of Australians visiting a GP each year (Health Workforce Australia, 2012b). For most Australians, GPs are the first point of contact with the health system. Payment for GP visits is largely on a fee-for-service system subsidised by Medicare (a publicly funded medical insurance scheme), which covers all or most of a patient’s costs for a GP visit. Unless emergency treatment is required, in which case ambulances take patients directly to hospitals, referrals from a GP are required for subsidised access to specialists, to public or private hospitals and day surgery facilities. Radiology and pathology services also require GP referral for Medicare subsidy, although optometry, physiotherapy and dental are not subsidised and therefore do not require GP referral.

2 Trainees are referred to as GP Registrars.
Prescription medications are also only obtainable through a GP, through a specialist via a GP, or from a hospital pharmacy, again accessed via GP referral, with the exception of emergency treatment. Outside of hospitals, pharmacies are run by private community pharmacists.

There are no compulsory patient lists or registration, and people are free to see multiple practitioners and visit multiple practices of their choice. From April 2010 to March 2011, Medicare paid rebates for about 118.1 million general practice services (Australian Government Department of Health and Ageing, 2011) amounting to an average of 5.3 GP visits per head of population (Britt et al., 2011, iii).

2.4.2 GP workforce policy in Australia

This section introduces recent literature covering GP workforce policy in Australia. In 2006, the Council of Australian Governments (COAG) established the National Health Workforce Taskforce (NHWT) to advise it on practical solutions for health workforce reform. The NHWT commissioned KPMG (2009) to report on factors influencing current and projected workforce shortage and the implications of these factors on workforce development. Factors were broadly categorised into escalating demand for a health workforce, workforce competition and a constrained training system. Demand was considered to be affected by six issues: the rising burden of disease driven by the ageing population and lifestyle factors; changes in service delivery due to new technologies and treatment modalities, which required a different skills mix within the health workforce; community expectations of ready access to services; workforce expectations about the hours worked being conducive to family and personal life; workforce specialisation leading to fragmented occupational groupings; and unintended effects of previous workforce strategies. KPMG (2009) reported that Australia’s healthcare system competed for skilled workers locally and internationally, suggesting there was a need for a more sustainable approach that does not rely on overseas recruits.

In March 2008, the Australian Government established the National Health and Hospitals Reform Commission to provide a national plan for health reform. The Commission’s report (2009) organised 123 recommendations under four themes: taking responsibility through individual and collective action to build good health and well-being, connecting healthcare for people over their lifetime, facing the causes and impacts of health inequities, and driving quality performance by leadership and systems to achieve best use of people, resources and evolving knowledge.

The Australian Government (2010) released its plan for a National Health and Hospitals Network, incorporating recommendations of the National Health and Hospital Reform
Commission (2009). These included improving local access to a GP, addressing the large and increasing burden of chronic disease, keeping Australians healthy and out of hospital, and increasing the workforce to meet the growing demand for services across the country. Commonwealth, state and territory governments signed the National Health Reform Agreement 2011, agreeing to work in partnership towards improving health outcomes and to ensure the sustainability of the Australian health system (Standing Council on Health, 2013).

The central role of GPs and models of general practice in the primary healthcare system were recognised in the Australian Government’s strategic framework for national primary healthcare (Standing Council on Health, 2013). Key directions in the government’s reform platform were to strengthen the GP workforce, with the intention of improving local access to primary care services, and providing a more integrated and coordinated mode of patient care. The framework also provided guidance for future workforce policy and planning, leading to the establishment of Health Workforce Australia to provide a national, coordinated approach to health workforce planning and training (Health Workforce Australia, 2012a).

Health Workforce Australia (2012b) released national projections to 2025 of GP headcount suggesting that without changes to current workforce policy, the number of GPs working in Australia would remain insufficient to meet anticipated healthcare needs. Recommendations to improve the sustainability of Australia’s GP workforce included reducing the immigration of internationally trained graduates by 50%, training more GPs, changing models of care, adjusting the skill mix, ensuring health professionals are working to their full or expanded scope of practice, and implementing technological changes (such as telehealth). Further, to counter shortages and maldistribution in regional and rural areas, Health Workforce Australia (2012b) recommended two policies: linking training to desired outcomes and providing funding to attract and retain the medical workforce in regional, rural and under-serviced urban areas.

2.4.3 Research into GP work-life
There is evidence to suggest that Australian GPs are changing their work-life patterns - choosing to work fewer sessions, increasing practice size, decreasing solo practice (Britt et al., 2008) and changing their participation in clinical work (ACT GP Taskforce, 2009). There have been a number of studies of Australian GPs focusing on subjects such as perceptions of general practice (General Practice Education and Training Ltd, 2007, General Practice Education and Training Ltd, 2008, Hemphill et al., 2007, Hemphill and Kulik, 2009, Hemphill and Kulik, 2011), job satisfaction (Hills et al., 2012, Harris et al., 2007, Joyce et al., 2011, Walker and Pirotta, 2007), ways of working (Britt et al., 2008, May et al., 2008, McDonald et al., 2006), the effect of age on practice style (Charles et al., 2006) and the nature of general practice itself.
Studies of the factors influencing early career choices to enter general practice have found a complex set of determinants (Australian Medical Workforce Advisory Committee, 2005, Laurence and Elliott, 2007, Thistlethwaite et al., 2008, Tolhurst and Stewart, 2004). These factors include an individual’s appraisal of their skills and aptitudes, an interest in helping people and the intellectual content of the work (Australian Medical Workforce Advisory Committee, 2005). A different study found the following factors to be important: job satisfaction, lifestyle, career path and training programme (Laurence and Elliott, 2007).

In 2011, GPs worked mostly in the private sector (Australian Institute of Health and Welfare, 2013, p24). The majority were self-employed, working in predominantly privately owned, autonomous small business structures as independent contractors or solo practitioners working in small partnerships or in groups of associates. A government report observed practice sizes ranged from small (less than four GPs), to medium (four to ten GPs) and large (greater than ten GPs) (ACT GP Taskforce, 2009). Recent studies suggest a trend towards fewer general practices (Britt et al., 2008, PHC RIS, 2007), which has been linked to free market values and large business methods (Fitzgerald, 2001, Kamien, 2004). Between 1991 and 2003, the proportion of solo practitioners nearly halved (25.5% to 13.7%) and the proportion of GPs in practices of four or more partners increased from 34.3% to 59.8% (Charles et al., 2004). While an explanation for this trend did not emerge from the literature, it could be an indication that some GPs are seeking to improve their work-lifestyle or to maximize their economies of scale by operating in large practices.

GPs derive the largest part of their income from Australian Government Medicare payments (Dunbar et al., 2007) and are increasingly coming under government scrutiny and persuasion. Remuneration for the majority does not include benefits such as paid time off for continuing professional development, sick leave, holiday pay, parental leave or intra-practice locum relief (Dalley, 2007). An examination of the income of Australian GPs found earnings were associated with gender, experience, size of GP practice, employment type and location, with GPs earning about 32% less than specialists. (Cheng et al., 2010).

A pattern of career movement has been observed for GPs. Progression is initially marked by a traditional upward career where GPs in Australia pass through several milestones: on graduation with a declaration or oath to mark an explicit commitment to ethical behaviour (Christian et al., 2008, Macneill et al., 2009, Sritharan et al., 2001) and as they transition through numerous career steps - medical student, graduate, intern, resident, registrar and finally to a fully registered GP. Typically GPs in clinical practice are vocationally recognized under the Health Insurance Act 1973 (for a Medicare Provider Number), registered under a Medical Board, and
hold Fellowship of the ACRRM or RACGP or equivalent (Steering Committee for the Review of Government Service Provision, 2009). However, these milestones can be achieved in early-to mid-career and from that point forward, general practice has traditionally had a flat career structure with few opportunities for advancement.

This pattern approximates to the career stages illustrated in Figure 2.1, which has been developed by the author (Piko and Phillips, 2010). Two models of career stages are represented in this figure – Super’s five career stages (Savickas, 2002) and Grenhau’s stages of career development (Nankervis et al., 2002). In addition, the figure includes summaries of two work-life patterns which have been articulated by GPs and sourced from their professional literature (Sharma, 2009, Young, 2004). These GP patterns approximate well to the career models, with an evolution from the exploration or learning stage (medical student to intern to resident), to an establishment or early career stage (registrar to an unsupervised GP), to a management or adult career stage and finally to a disengagement or pre-retirement stage. The flat career structure GPs experience in mid and late career raises issues related to career plateauing - a situation where individuals cease to experience progression. Three types of plateauing were identified in the literature - structural (inability to access further hierarchical levels), content (bored with the work or low job satisfaction) and life (feeling trapped) - and each type is strongly influenced by how an individual defines career and success (Smith-Ruig, 2009).
### Figure 2.1 Career paths for GPs in Australia

<table>
<thead>
<tr>
<th>Career Stages</th>
<th>Stages of Career Development</th>
<th>Lifecycle of GP</th>
<th>Four Acts</th>
<th>Likely age of GP</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>One: Growth (ages 4-13) Two: Exploration (ages 14-24)</td>
<td>Preparation for work: Develop occupational self image, assess alternative occupations, develop initial occupational choice, pursue necessary education.</td>
<td>Embryonic/medical student</td>
<td>Act 1 - early career (first 10 years of medicine)</td>
<td>18-25 yrs</td>
<td>Tertiary study - MBBS (undergraduate or postgraduate entry course) Resident in a teaching hospital (work as an intern for first year)</td>
</tr>
<tr>
<td></td>
<td>Organisational entry: Obtain job offer(s) from desired organisation(s); select appropriate job based on accurate information.</td>
<td>Childhood/Junior hospital Doctor</td>
<td>Act 2 - mid career (10th-20th year)</td>
<td>26-28 yrs</td>
<td>On completion of internship, gain full registration with the Medical Board Complete residency (one to three years) Begin training program to specialize in general practice</td>
</tr>
<tr>
<td>Three: Establishment (ages 24-44)</td>
<td>Early career: Learn job, learn organisational rules and norms, fit into chosen occupation and organisation, increase competence, pursue goals.</td>
<td>Adolescence/GP Registrar</td>
<td>Act 3 - later career (20th-30th year)</td>
<td>36-45 yrs</td>
<td>Registrar in general practice Complete specialist training program assessments Take time off to raise children and travel Begin working as a general practitioner</td>
</tr>
<tr>
<td>Four: Maintenance or Management (ages 45-65)</td>
<td>Mid career: Reappraise early career and early adulthood, reaffirm or modify goals, make choices appropriate to middle adult years, remain productive in work.</td>
<td>Adulthood GP through to Maturity</td>
<td>Act 4 - pre-retirement years (&gt; 30th year)</td>
<td>46-65 yrs</td>
<td>Recognised as Fellow of a GP college Continuing Medical Education (CME)</td>
</tr>
<tr>
<td>Five: Disengagement (ages &gt; 65)</td>
<td>Late career: Remain productive in work, maintain self esteem</td>
<td>GP close to retirement/ then to retired</td>
<td>Act 4 - pre-retirement years (&gt; 30th year)</td>
<td>&gt; 65 yrs</td>
<td></td>
</tr>
</tbody>
</table>

Developed by the author, drawing upon the following sources:

- SHARMA, R. (2009) The lifecycle of the GP. GP Action, 135, pg 3-4
2.4.4 Major issues relevant to this study

Work has been viewed as a means by which individuals meet their basic material and economic needs (McClelland, 1961). For an understanding of what GPs need from work and how those needs are satisfied, I searched the Australia medical literature and found several studies of issues with the potential to trigger decisions to make changes to one’s career including stress, work-life imbalance, lack of intellectual stimulation and job dissatisfaction.

An Australian study of 296 urban GPs in 1996 reported the main stressors were time pressures to see patients, too much work to do in a limited time, earning enough money, clinical factors and the effect of work on outside life (Schattner, 1998). That study also found that full-time GPs (working more than six clinical sessions per week) were more likely to suffer occupational stress, mostly caused by time pressures, than their part-time colleagues. Similar stressors were reported in an examination of the retirement intentions of 280 older Australian GPs, which found one-third planned early retirement (Brett et al., 2010). The reasons cited for early retirement included pressure of work, exhaustion and burnout, increasing bureaucracy, lack of job satisfaction, disillusionment with the medical system and increasing patient demands. The researchers recommended that professional life would be improved by better remuneration, better staffing and support, flexible work hours, part-time work and reduced workload.

A study of 221 rural GPs (male 71%, full-time 74%) suggested that improving psychological well-being might influence rural GPs’ intentions not to leave general practice (Gardiner et al., 2006, Gardiner et al., 2004) while an earlier study of 20 female GPs also evaluated an intervention for coping with stress (Winefield et al., 1998). In 2009, a systematic literature review of the mental health of doctors reported that factors generally associated with well-being (e.g. more hours of sleep, greater job satisfaction, higher income, lower stress at work) were negatively correlated with depression (Elliott et al., 2010).

Good work-life balance has been associated with good health and well-being. In an Australian study of 3,906 GPs, 53% reported a good balance between their personal and professional commitments while 33% reported the opposite. More women (62%) than men (47%) reported a satisfactory/optimal work-life balance. Younger GPs (born after 1965) and females GPs reported better work-life balance than older GPs (born 1945-1964) and male GPs respectively. Good work-life balance was associated with working significantly fewer hours. Poor work-life balance was associated with difficulty in taking time off, poor control over work hours and flexibility, and increased intention to reduce total hours worked. These results suggest that
flexible work hours, leisure/hobbies and good health have the potential to enhance work-life balance, hence promoting longevity of GP participation in the workforce (Shrestha and Joyce, 2011).

Wainer’s (2004) study of 271 female GPs and 31 female specialists found most had established a satisfactory balance between work and family responsibilities, although several overworked to provide for their families or meet community needs. A qualitative study investigating key issues affecting 40 female Australian GPs found job satisfaction, balancing work and personal life, autonomy, availability of flexible and part-time work and training, affordability of professional expenses, fair remuneration, and having a voice in decision-making were important professional issues. Non-professional issues such as self-care, time for relationships with a partner, children, family and friends, and time management to allow pursuit of non-medical interests were also important. Conflicting demands lead to stress and imbalance in their lives, thereby diminishing job satisfaction (Kilmartin et al., 2002).

GPs seek variation in their work, benefiting from intellectual stimulation and increased job satisfaction (Wilkinson et al., 2005, Thomson et al., 2011, Thomson et al., 2009). A qualitative study of 27 part-time GPs found that in addition to their sessional work in mainstream general practice, participants filled a significant number of diverse non-clinical roles within the healthcare system, including medical education, policy, research, clinical subspecialties and clinical populations with special needs (Douglas et al., 2010).

These studies report a complexity of triggers for career adjustment yet the manner in which they contribute to an unfolding professional life in general practice over time has not been addressed. As GPs’ needs and satisfaction are central components to providing better healthcare to patients, it follows that a study with a fresh insight into the career experience of GPs working in Australia is needed to understand GP workforce participation and workforce development.

2.5 Decision-making strategies: optimising and satisficing

Rather than consider ‘why’, this thesis investigates ‘how’ the career decisions which shape GP professional life are made. This section examines optimising as a decision-making strategy. Dawis and Lofquist’s theory of work adjustment (Dawis, 2005) emphasises vocational adjustment and accommodation until satisfaction is achieved or until the person (or the environment) abandons the interaction. Thus, achieving satisfaction is the inherent motivational force that powers person-environment interaction. Super’s model (Super, 1990) predicts that satisfaction depends upon the extent to which an individual finds adequate outlets for vocational interests, work values and personality traits. These career theories have significance beyond GP
career development since research has linked low GP satisfaction to poorer patient outcomes, GP health and well-being (Clode, 2004, Elliott et al., 2010, Walker and Pirotta, 2007, Wallace et al., 2009).

Optimising is a style or strategy of decision-making where alternatives are assessed and the best is chosen relative to the constraints. To optimise is to ‘make the best or most effective use of (a situation or resource)’; it is directed towards an ‘optimal’ solution, the ‘best or most favourable, especially under a particular set of circumstances’ (Stevenson, 2010). In mathematics, this often consists of maximising or minimising the value of a certain function, perhaps subject to given constraints (Clapham and Nicholson, 2009), while in animal studies, optimal behaviour is the best that an individual can perform in given circumstances, in accordance with particular optimality criteria (McFarland, 2006, Carmel and Ben-Haim, 2005). In computer science, biologically inspired ‘ant colony optimization’ is used in data mining to find an optimal solution from possible solutions (Ince, 2009).

Optimising has proved a useful technique where the nature of the problem and goals can be stated with some precision (for example, in some mathematical problems) (Murty, 2012). An operations research problem can be optimised using the simplex method, an algebraic technique for solving linear problems. The concept of an ‘optimal solution’ is defined as ‘the point (in the solution space) which maximises the value of the objective function’ (Taha, 1976, p 43). However, specifying a single objective function may not be possible or practical. Openshaw and Whitehead’s decision optimising technique (DOT) for town planning took a strategic choice approach in searching for the best solution in terms of dependent variable values (Openshaw and Whitehead, 1980, Openshaw and Whitehead, 1977, Willis and Thomson, 1980). In DOT, a single objective function was replaced by a balancing of multiple objectives through trading off preferences. DOT could accommodate a subjective stance, value-based outcomes and multiple criteria and was developed to operate within a continuous process in which decisions were examined and re-examined (Openshaw and Whitehead, 1980).

Drawing from the cognitive literature and medical problem-solving literature, Chay (2007) used Simon’s (1973) disaggregation model and Middleton’s (2002) complex problem solving model to explain thinking in the context of solving complex and ill-defined legal problems. Simon’s model assumed that individuals solve complex, ill-defined problems by breaking them up into a series of small, well-defined problems. Middleton’s complex problem solving model defined a problem zone, a search and construction zone, and a satisficing zone (Middleton, 1998). Middleton’s satisficing zone provides for many possible solutions to the problem as there may not be a single unambiguous solution. Satisficing permits any decision whose results are ‘good
enough’ (Simon, 1955, Winter, 2000, Byron, 2005, Nutt, 2002). By permitting implementation of (merely) satisfactory solutions, satisficing weakens (compromises) the requirement of optimising to implement the best solution, potentially leading to sub-optimal solutions (Kerdeman, 2009). In the medical context, there is an argument that satisficing should not compromise basic values and beliefs that provide the framework for health programming (Von Holden, 1993).

Career-related problems are considered complex because available information is likely to be incomplete, inaccurate or ambiguous and there will be multiple goals to be met. The multiple aspects are often interrelated (Patton and McMahon, 2006, Pryor and Bright, 2007), making it difficult to break down problems in the manner of Simon’s disaggregation model.

While neither the optimising nor satisficing approaches are globally best, each may be more suited to a context, considering the nature and size of potential consequences and timing of expected outcomes. Both decision-making models can be relevant to an examination of GP career choice and development throughout professional life.

2.6 The knowledge gap
Understanding the career behaviour of GPs working in Australia is important because of the crucial role GPs play in Australia’s healthcare sector, with approximately 80% of Australians aged 15 or older visiting a GP each year (Australian Bureau of Statistics, 2010). In most circumstances, GPs are the first point of contact with the healthcare system as referrals are required from a GP for subsidised access to specialists, public or private hospitals and day surgery facilities. While the demand for primary healthcare services continues to rise, recruitment and retention of experienced individuals in the GP workforce will continue to attract the attention of the community and government policymakers (Piko and Phillips, 2010).

GPs in Australia are changing their work-life patterns and there has been a trend towards a more feminised workforce which tends to work fewer hours (Durey, 2004). GPs are choosing to work fewer sessions, increase practice size and decrease solo practice (Britt et al., 2008). In 2011, GPs worked mostly in the private sector (Australian Institute of Health and Welfare, 2013, p24), in predominantly small business structures. Recent studies suggested a move towards fewer general practices (Britt et al., 2008, PHC RIS, 2007). Between 1991 and 2003, the proportion of solo practitioners nearly halved (25.5% to 13.7%) and the proportion of GPs in practices of four or more partners increased from 34.3% to 59.8% (Charles et al., 2004). In addition to their clinical work, GPs are filling a number of diverse roles within the healthcare
system, including medical education, policy, research, clinical subspecialties and serving clinical populations with special needs (Douglas et al., 2010).

Research has linked low GP satisfaction to poorer patient outcomes and poorer GP health and well-being, raising concern about GPs’ happiness and satisfaction with their career decisions (Clode, 2004, Elliott et al., 2010, Walker and Pirotta, 2007, Wallace et al., 2009). My literature review found studies that have focused on GP stress, work-life imbalance, lack of intellectual stimulation, job dissatisfaction and broadening interests - issues which could trigger decisions to make changes to one’s career (Brett et al., 2010, Schattner, 1998, Thomson et al., 2009, Thomson et al., 2011, Wilkinson et al., 2005). However, I did not find comprehensive theories addressing the span of GP working life, fundamental concerns GPs have during their professional life or how these concerns are resolved.

While there has been considerable theoretical and research interest in understanding what is important to people as they work, grow and develop, theorists propose different, sometimes contradictory views of career development, raising doubts about whether it is possible to answer questions about how GPs experience their professional life using existing literature. For example, Super (1980) theorised that humans adapt and change over the course of their lifetime as they seek to meet basic human needs through involvement in work. The general presumption of his career stage theory was that as people grow older and gather experience in their work and home life, they go through distinct stages of occupational development. However, despite research of a wide range of occupational groups, investigation of the relevance of these concepts to the professions, and specifically, the medical profession, is still needed.

The traditional notion of career, which formed the basis of many extant career theories, assumes a linear upward trajectory of work positions, usually within a particular profession or organisation, receiving increasing income, status, power and security (Holland, 1973, Super, 1953, Smith and Sheridan, 2006). However, GP career patterns are relatively flat, occurring within non-hierarchical structures, and often evolving outside of a single organisational structure. In contrast to the upward career path, general practice has very few opportunities for advancement once the doctor becomes fully registered. I found a scarcity of literature on how individuals in occupations with relatively flat, non-hierarchical career structures experience their professional life. An explanation of GP career structure is needed if the non-hierarchical nature of this profession means GPs are finding other career pathways which combine clinical and non-clinical work (Piko and Phillips, 2010).
Furthermore, existing career theories lack relevance because they do not reflect the Australian general practice environment, including the values and needs of GPs working in Australia.

In this context, there is a need to develop a theory that addresses these gaps in the literature and explains the behaviour of contemporary GPs and their needs and options for improving the fit between individuals and their professional work. This new theory could provide a framework to help experienced individuals when faced with career challenges as well as inform medical students considering a career in general practice. As work needs and satisfaction are central components to a GP’s career experience, it follows that the results of this study could increase understanding of GP workforce participation and workforce development. New understanding of the career experience of GPs working in Australia could be used to develop workforce strategies more in tune with the concerns and behaviours of individuals.
Chapter 3: DESCRIPTION OF RESEARCH DESIGN AND CONDUCT

3.1 Introduction

This chapter describes the methodology employed to carry out this research, beginning with a discussion of the research design. In order to explain how GPs develop their professional life, I needed a theory-building research method. As I also wanted to quantify and test aspects of my new theory with a larger sample of GPs, a mixed-method design with two sequential parts was chosen. Part 1 uses grounded theory methodology based on the early work of Glaser and Strauss (1967) and Glaser’s subsequent work (Glaser, 1978, Glaser, 1998) to develop my Theory of Optimising Professional Life, which explains how GPs progress their careers. Part 2 provides a quantitative analysis of survey responses, collected elsewhere for a different study, to quantify and test concepts that emerged during the qualitative analysis.

This chapter includes an overview of the grounded theory method and the processes of theoretical sampling, coding, constant comparison and writing memos that were used in this investigation. The chapter continues with a description of how I conducted my research and conceptualised my Theory of Optimising Professional Life, including the sampling process, how the data were collected, coded and analysed for patterns of behaviour, and how concepts were integrated into a theory. Evidence is provided of the way in which concepts emerged from data and evolved through analysis, conceptual ideation and memos, to full conceptual elaboration and overall theoretical integration.

Survey data used in part 2 were drawn from the ‘Medicine in Australia: Balancing Employment and Life (MABEL)’ study, which investigated clinical workforce participation patterns and their determinants using a survey of Australian doctors (Joyce et al., 2010, Yan et al., 2011). The chapter concludes with a description of the data source and selection of MABEL participants for my study.

3.2 Research design

The aim of this thesis is to explain how experienced GPs working in Australia resolve the main issues they have in developing their professional life. There is very little literature relevant to this topic and no research has been conducted. This section encompasses the philosophies of knowledge, quantitative and qualitative research methods, an overview of grounded theory, benefits of grounded theory method to this study, my background and biases as the researcher, criteria for assessing the emergent theory, and the mixed-method of grounded theory and quantitative analysis.
3.2.1 Philosophies of knowledge

In selecting a research method, I confronted philosophical questions about the nature and purpose of knowledge and my position in eliciting that knowledge. I was cognisant of how my perspective could influence the selection of a methodology and hence the quality and outcome of the study.

The two main research paradigms used in careers research are that of the positivist philosophy and the interpretivist philosophy. Positivism is a belief that study should follow the scientific method with observations of the natural world and empirical evidence to establish causal laws. This paradigm supposes that reality is ‘out there’ to be captured. For this research, a positivist epistemology would involve an objective observation of GP professional life focusing on actual events with the researcher taking the role of independent third party.

Interpretivism stresses the constructed and evolving nature of reality, and recognizes that there are many realities (Malhotra et al., 2006, p182). An interpretive epistemology would take a subjective approach to GP professional life, acknowledging that GPs are interpreting and attributing meaning to their actions and experiences. This latter approach draws attention to the reflection of a GP’s vocational behaviour rather than the vocational behaviour itself. In order to answer the research questions – what is the main concern of experienced GPs in evolving their professional life and how do they resolve this concern – it was necessary to probe GPs’ motives or reasoning and to elicit a subjective response. This suggested that an interpretive epistemology would be appropriate for this study.

These two perspectives influence the methodology that is chosen and the method used to accumulate and interrogate data to address the research problem. In the development of theory, the positivist seeks to establish causality, often through experimental methods, to explain phenomena, while the interpretivist seeks to understand the nature of multiple influences on the phenomena and to gain new insights to explain what is happening.

3.2.2 Quantitative and qualitative research methods

Quantitative and qualitative research methods are underpinned by the broad philosophical paradigms of positivism and interpretivism. As an overall research approach, quantitative methods fit with a positivist perspective and qualitative methods fit with an interpretivist perspective. However, both quantitative and qualitative methods can be used to describe social reality in a mixed-method research design.
Quantitative methods
Quantitative research seeks to quantify data and, typically, applies survey data, experiments, statistical analysis and numerical modelling to measure the magnitude, size or extent of a phenomenon (Malhotra et al., 2006, Grbich, 2011). Quantitative methods were developed to study phenomena in the natural world by means of quantification and were derived from positivist and post-positivist research paradigms. These methods are most suitable when problem outcomes or predictors need to be identified and a formal, objective, systematic process for obtaining information about the world is required.

Qualitative methods
Qualitative methods make sense of data that are not expressed in numbers. This research approach is based on small samples and is intended to provide insight and understanding at an individual level. Qualitative methods are suitable to explore an issue when there is a lack of previous research (Malhotra et al., 2006). They are most suitable for describing patterns of behaviour and processes of interaction, as well as revealing the meanings, values and intentions of a person’s life experience (Grbich, 2011).

Qualitative data collection has an advantage over most quantitative approaches in its potential to yield detailed data on factors underlying behaviour from the participants’ perspectives, such as motivations, decision-making processes, factors leading up to career decisions and obstacles encountered. However, it is often difficult to extend findings of qualitative research to broader populations due to the small scale and specificity of the findings (Edmeades et al., 2010).

3.2.3 An overview of grounded theory
The aim of the grounded theory method is to discover theory that explains what occurs in the events being studied. The researcher enters the field to discover participants’ concerns and analyse how they resolve these problems. Rather than provide descriptive and interpretive analysis that compares and contrasts participants, a grounded theory study focuses on processes – categories and issues that a process is organised around and theory emerging from that process (Glaser and Strauss, 1967). The methodology of grounded theory is predominantly qualitative although researchers using grounded theory apply both the inductive thinking of interpretivism and the deductive thinking of positivism to the data (McCann and Clark, 2003).

Grounded theory was initially developed in the mid 1960s by two researchers – Barney Glaser and Anselm Strauss (1967). However, they later disagreed over methodology, leading to a bifurcation of the theory (Heath and Cowley, 2004, Strauss and Corbin, 1990). To assist the research process Strauss encouraged the use of prepared questions and categories (Simmons,
2012, p16). However, Glaser’s stance is that theory should emerge from the data unforced and without preconceptions, including preconceived questions and categories. Where Strauss spoke of grounded theory as a particular style of qualitative analysis of data, Glaser spoke of it as a full, systematic research method (Simmons, 2012, p17).

Variations in the grounded theory method have emerged due to different epistemological positions of researchers (Morse et al., 2009, Goulding, 2002, Jones and Alony, 2011, Thomas and James, 2006, Kelle, 2005, Glaser and Holton, 2004, Glaser, 2002, Corbin and Strauss, 1990). As an alternative to the Glaser version and the Strauss and Corbin version, Charmaz (2006) proffered a constructivist approach, interpreting participants’ meanings, which may not have been voiced explicitly by participants. Glaser has argued that by emphasising multiple truths and abandoning the search for one main concern and one core category that resolves that main concern, constructivists deviate significantly from the original methodology (Glaser, 1998).

**3.2.4 Benefit of grounded theory to this study**

This thesis employs grounded theory methodology based on the early work of Glaser and Strauss (1967) and Glaser’s subsequent work (Glaser, 1978, Glaser, 1998) in preference to the more structured prescriptive approach of the Strauss and Corbin style, primarily because the former maintains focus on autonomous research that encourages the emergence of an explanatory theory. This decision reflects the priority I placed on generation of theory rather than ‘full description’ and my belief that Glaser’s approach is more open and flexible - an important consideration for an exploratory project such as this.

I preferred a flexible research design where I could generate a theory that is as true to the data as possible without the extant influences of epistemology and interpretive elements. This gave my theory greater potential to achieve a sound theoretical basis for action initiatives. Glaser’s grounded theory methodology is better equipped than other approaches to produce a clear, accurate understanding of ‘what is’ in the data (Simmons, 2012, p18). The emphasis that Glaser places on minimising preconceptions ensures that ‘what is actually happening in the data’ and ‘what is really going on’ are more likely to prevail. Furthermore, unlike positivism, Glaser’s approach is not about discovering objective reality; rather it is about discovering, conceptualising and explaining patterns of behaviour that are relevant and problematic for those involved, that is, identifying multiple subjective realities within one core theory (Glaser, 1978, p93).
Glaser’s method provides the means of understanding (rather than measuring) inter-related issues which elucidate a process (in this research, GP career development and career decision-making) and is an effective and appropriate way of studying behaviour from the participant’s stance. This research approach can provide a basis for developing strategies for intervention that are also grounded. An emergent theory can be extended and applied for the purposes of designing and implementing practical interventions, program designs, action models, social and organisational policies, and change initiatives (Simmons and Gregory, 2003).

Grounded theory is efficient because it is guided by the theoretical relevance of each additional slice of data. Additional data are added for their relevance to the developing theory, drawing information on conceptual categories and their properties rather than on specific groups of individuals or a preconceived problem. After the main categories have been developed, the researcher collects only data that are relevant to these categories. Theoretical sampling enables data to be added based on its contribution to the conceptual categories and their properties, rather than on specific groups of individuals or a preconceived problem. This focus is different from other qualitative methods, which strive for thick description regardless of theoretical relevance. For example, rather than focusing on a comparison of participants (for example, by age), grounded theory would use such a comparison as a starting place to explore significant elements that might enhance or hinder the emerging process, and would then theoretically sample for those elements.

Grounded theory method considers that extant theory and research, which has its own theoretical assumptions, may not fit or be relevant. Some research methods can have the effect of forcing misaligned assumptions upon the analysis, perhaps taking the study in an inappropriate direction, whereas grounded theory provides a lens that is not preconceived with a priori assumptions (Glaser, 1978, p31). Accordingly, the literature review for this project was driven by the concepts found in the data and was conducted after my new grounded Theory of Optimising Professional Life was developed (Glaser, 1998, p67-73). This ordering allowed me to commence the work ‘with as few predetermined ideas as possible’ (Glaser, 1978, p3) and to ‘remain open to what is actually happening’ (Glaser, 1978, p3, p31) – an advantage for an exploratory study aiming to uncover new concepts and relationships. While a grounded theory researcher is encouraged to draw from theories that are not in the same substantive area and to incorporate other literature, it is important to consciously guard against preconceived ideas and the imposition of theories not grounded in the data.

Grounded theory is able to accommodate data at the dual micro levels of the individual GP and the individual career incident. Examining work histories at the individual level provides
important information on lifetime experience such as the number of times people have changed jobs. Being able to compare career incidents allows for a more detailed examination of the patterns of repeat incidents, specific circumstances that may lead to or curtail an incident and the interval between incidents. Finally, while having its research roots in sociology, grounded theory is trans-disciplinary in its application. It has been used extensively in the health professions (Thulesius et al., 2004, Thulesius et al., 2007, Schwarz, 2005) and is being recognised in management (Jones and Alony, 2011, Fei, 2009, Rosenbaum, 2008) and organisational behaviour (Holton, 2006, Fernandez, 2003).

3.2.5 Methodological steps in generating grounded theory
The grounded theory steps used in this study include theoretical sampling, coding incidents, constant comparison of incidents and categories, and writing memos about concepts and relationships as they emerge.

Theoretical sampling
Theoretical sampling is a process of data collection for generating theory where new targets are identified by the conceptual results emerging from a preceding sample. This process is guided by the questions:

‘Where do I obtain the most relevant data?’
‘Where should I go next?’
‘What group or subgroup needs to be visited now?’

Additional data are added through sampling, which draws out information on conceptual categories and their properties rather than on specific groups of individuals or a preconceived problem (Corbin and Strauss, 1990, p8, Glaser, 1998, Glaser, 1978, Glaser and Strauss, 1967). Collection continues until saturation of categories and their properties occurs, that is, a point is reached where the additional data collected do not indicate any new (different) categories or properties. In this study, the data related to career incidents reported by GPs.

Simultaneous data collection, coding and analysis is a distinctive feature of grounded theory, aimed at organising data, developing concepts and integrating these into a theory that explains what is happening in the data (Glaser and Strauss, 1967, Glaser, 1978, Glaser, 1998). This intertwined data collection and analysis was followed as it enhanced the quality of the study. Just collecting data without immediately coding and analysing the data would not have allowed the emerging themes to direct the later data collection.
Coding incidents to conceptual categories
Grounded theory involves raw data being examined line by line and fractured into discrete incidents found in a phrase or a sentence. These incidents are coded and collated to form categories of abstract phenomena. As the conceptual categories fill and become denser, the focus moves to theoretical articulation, where only the most pertinent incidents from incoming data are used and coded.

Constant comparison of incidents and categories
Constant comparison generates a pattern through the simultaneous and concurrent process of coding and analysing the collected data and is integral to the conceptual development process. Four purposes of constant comparison are: to verify a category as one denoting a pattern in the data, to verify the fit of the category name to the pattern, to generate category properties, and to verify through the interchangeability of incidents that categories and their properties are saturated (Glaser, 1998, p139). The researcher compares incident with incident to establish the underlying uniformity, which in turn results in a coded category and its properties. As a category emerges, the concept is compared with further incidents generating new theoretical properties of the category. Categories are then compared with other categories to confirm that each set of incidents has been appropriately conceptualised and to identify relationships between categories. When working with qualitative data, this process of constant comparison begins with the first field notes or interview and occurs throughout the study.

Writing memos about concepts and relationships
Writing memos is an important feature of grounded theory, where the researcher is able to express ideas about conceptual categories and their relationships as they arise (Glaser, 1978, p83). The process of writing a memo can help to verify categories, to assess their fit, relevance and workability, and to identify gaps for further theoretical sampling (Glaser, 1978, p88). In this way memos are used to get beyond the description of data and participants so as to achieve conceptualisation - ‘the analysis is about conceptually generated patterns which people engage in’ (Glaser, 1978, p91).

3.2.6 Criteria for assessing the emergent theory
Glaser sets out four criteria that a well constructed grounded theory should satisfy: fit, relevance, workability and modifiability (Glaser, 1978, p4, p47, Glaser, 1998, Glaser and Strauss, 1967). These criteria differ from those generally used to evaluate other qualitative

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3 Grounded theory uses the word ‘incident’ to depict fragments of text from an interview or other source. Such fragments become indicators of particular conceptual categories and/or their properties.
studies. Other methodologies usually consider validity, reliability and credibility of the data, plausibility and value of the theory itself, the adequacy of the research process and the empirical grounding of the research findings (Corbin and Strauss, 1990, p16). The following paragraphs include a description of specific actions adopted to ensure fit, relevance, workability and modifiability of the emergent theory.

Degree of fit refers to how closely concepts fit with the examples they are representing. Having a good fit lends the study a credibility that can be easily understood by others not directly involved in the study. Fit is bolstered by adhering to grounded theory procedures as prescribed by Glaser. For example, protocols for this study ensured that the emerging theory’s conceptual codes and categories were derived from empirical data rather than a preconceived selection of codes and categories from the literature (Glaser and Strauss, 1967). Once a code was identified in the data, it was used as a question of subsequent participants to help create a more general or theoretical category from the initial open code (Chiovitti & Piran, 2003). Questions and content areas of the emerging theory were modified according to incoming data and in this way participants guided the inquiry process.

Fit is assisted by objectivity and an awareness of researcher bias and personal views. In approaching this study, I experienced tension between being a neutral observer and allowing my own views to influence the selection, interpretation and analysis of data. By constantly comparing slices of data and concepts throughout the process the objective was to protect the study from bias while ensuring that relevant knowledge, including prior knowledge, was captured and used overtly. As a way of remaining open to the data, I articulated my own theoretical sensitivity in a personal journal, which is important for valid interpretation (Marshall, 2006). An audit trail was also kept as evidence of the research process – what was done and why. The objective was to have an unbroken flow of logic from the primary data to categories to conceptualisation to writing.

The aim of grounded theory method is to conceptualise what is occurring using the available empirical data. Data used in this study were subjective (not objective) and questions could be raised about the usefulness and credibility of these personal accounts. However, by testing emerging codes in subsequent interviews, confidence grew that the concepts did fit with the incidents they were representing. By alternating the tasks of data gathering and analysis, making comparisons, asking questions, going out and collecting more data, the meanings in the data became clearer to the researcher. In this way, inconsistencies or conflicting comments could be identified and addressed (Marshall, 2006).
This study aimed for fit in terms of coherence (Marshall, 2006) by having a match between the kinds of issues investigated and the characteristics of the method used; by making a clear connection between the analysis and conclusions; and by showing that the ideas presented were in fact grounded in the data.

Relevance makes the research important, and evokes ‘grab’ and attention, because it deals with the main concerns of the participants involved from their perspective (Glaser, 1998, p18). If the subject matter had been trivial or irrelevant to the GPs involved, they would have had greater difficulty engaging with the interviews. Relevance can be missed if core problems and processes are not allowed to emerge. In such cases, other less important theories and ideas may be forced into the analysis. To assess whether the emergent theory has relevance to the people in the substantive field, a workshop was conducted with a group of GPs at a major conference (Piko et al., 2014) and feedback was collected in interview.

Glaser (1978) refers to functionality as the ability of the emergent theory to work by explaining how the problem is being solved and by dealing with considerable variation. As Glaser states: ‘a category can be forced on the data but that still does not make it relevant or work unless it earns its way into the theory in the first place’ (1978, p10). The way in which the emergent theory organises and explains what is happening in the data is indicative of whether the theory works. A parsimonious theory unifies the main concepts and ‘uses only those categories that emerge as working the emergent problems. If a so-called missed category was relevant, it would emerge on its own and integrate into the theory’ (Glaser, 1978, p10). Grounded theory does not aim for full scholarly coverage based on the literature. Instead it aims for theoretical coverage, that is, ‘only those ideas that work and the more parsimonious the better’ (Glaser, 1978, p11). To ensure workability of the emergent theory, Glaser’s methodological steps were adhered to, as described in this chapter.

Whether a grounded theory works can be influenced by sampling, which aims to increase diversity and include deviant cases, variations and different situations. The sampling for this study was driven by the concepts appearing during data analysis. The focus was to discover patterns of behaviour and to develop theory that explained this behaviour, thereby generating a better understanding of the main concern encountered by these GPs.

A grounded theory must be readily modifiable so that when new data reveal variations in certain concepts or relationships, the theory is not discarded – instead it is altered or recast to accommodate the new data. In this study, the constant comparison method of analysis, as described in this chapter, is adopted to ensure the emergent theory is modifiable.
benefit of grounded theory’s constant comparison method of analysis is that a theory is progressively modified and refined as new incidents of data and concepts are introduced. Being modifiable allows a theory to maintain relevance as situations change and processes vary (Glaser, 1978, p5). This provides the grounded theory with a lasting quality.

3.2.7 Mixed-method - grounded theory and quantitative analysis

The aim of this thesis is to explain how experienced GPs working in Australia resolve the main issue they have in developing their professional life. I chose a theory-building research method where the emerging theory explains what occurs in the events being studied in GP careers. The study also included quantitative analysis that described and tested aspects of the theory, making this a mixed-method design with two sequential parts (Figure 3.1).

Figure 3.1 Sequential mixed-method research design

My grounded Theory of Optimising Professional Life is based on qualitative interview data. The second part of the mixed design provided a quantitative analysis of survey responses, collected as part of the MABEL study, which investigated clinical workforce participation patterns and their determinants using a survey of Australian doctors (Joyce et al., 2010, Yan et al., 2011). As discussed earlier in this chapter, grounded theory methodology based on the early work of Glaser and Strauss (1967) and Glaser’s subsequent work (Glaser, 1978, Glaser, 1998), is an appropriate way to explore a topic about which little is known. The use of interviews allowed me to gather a broad range of experiences from different participants. The research questions of ‘what’ and ‘how’ could be answered using grounded theory. Results from the analysis of interview data determined which variables were chosen for the statistical analysis of survey responses.

The O’Cathain et al (2007a) review of the literature on the use of mixed-methods in health, social, and educational research reported that research can be improved when one method guides the other. Healthcare research in the United Kingdom has seen an increase in this practice of combining qualitative and quantitative methods within single studies from 17% of all studies in the mid-1990s to 30% in the early 2000s (O’Cathain, 2009, O’Cathain et al., 2007b).
Using a combination of grounded theory and quantitative analysis for this study yielded a wide range of responses from the flexible and open-ended questions used in the interviews. This helped to overcome a limitation of the quantitative survey format, which comprised pre-coded responses for each question. Viewed together this approach gave a greater diversity of GP data with potential for a more complete picture of the matters of interest.

3.2.8 Researcher background and bias

With a background as a qualified accountant, I entered this project with little prior knowledge of the professional life of a GP. For 14 years, until 2000, I operated an accounting practice offering tax and business services to the public. My client list included a number of GPs and general practice businesses from which I learnt about their financial and tax affairs over several years. After leaving public accounting in 2001, I was employed as a corporate services manager for not-for-profit organisations and I completed a Master of Business Administration. In 2006, I reconnected with GPs when I was appointed company director of the ACT Division of General Practice (ACTDGP), which became the ACT Medicare Local4 (ACTML) in 2011. This position served to provide me with some basic knowledge of general practice and an understanding of what is involved in being a GP.

Divisions of General Practice (DGPs) were established in 1993, largely funded by the Australian Commonwealth Government, to provide services and support to general practice at the local level, with the objective of achieving better health outcomes for the community than would otherwise be achieved on an individual GP basis (Commonwealth Department of Health and Aged Care, 2000). In 2011, with government funding for DGPs being withdrawn, ACTDGP gained access to government funding for new meso-level organisations called Medicare Locals. These organisations have a broader role than DGPs. They provide support to primary healthcare providers, including GPs, practice nurses and allied health providers, identify service gaps in the local health system and find ways to address them. They have a significant role in working with local hospitals and other providers of care to bring all the various health professions together.

My interest in primary health services, and the GP workforce in particular, has grown over the past eight years, providing the impetus for this PhD research project. GPs provide the medical component of primary healthcare to the Australian community. Within my local region of the Australian Capital Territory (ACT), there has been a shortage of GPs. According to the figures from the Steering Committee for the Review of Government Service Provision (2012, Table

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4 Australia's Medicare Locals are meso-level organisations which play a role in planning and coordinating primary healthcare services for their respective populations and membership (http://www.medicarelocals.gov.au accessed 5 January 2014).
11A.4), ACT had the full-time workforce equivalent of 65.4 GPs per 100,000 people – which is far below the national average of 89.5 per 100,000\(^5\). However, more recently some of this shortage has been alleviated. Low availability of GPs can reduce the access patients have to primary healthcare services, increase waiting times, increase the distance patients need to travel to a GP and make it more difficult to book a long consultation (Steering Committee for the Review of Government Service Provision, 2012, p11.20). I am conscious that my concern for better access to the healthcare system could lead to bias.

My training and experience as an accountant may compel me to take a particular view of the world, shaping a more analytical and systematic approach to understanding problems. I tend to be result-oriented, seeking opportunities to test and develop my abilities to accomplish results. I prize my independence, avoiding constraining factors such as direct controls, time-consuming details, routine work and regularised hours, and I can become restless when involved in group activities, classroom or committee work. My ultimate selection of a general research method owned by no one paradigm and useful to many, which values experiential learning and researcher autonomy, is consistent with my need for new challenges and for independence.

While endeavouring to maintain a position of open-mindedness in my interpretation of the research findings, my research could be influenced to some extent by my knowledge and experience. I have had several years working as an autonomous professional providing service to the public, as a business manager and as a company director. In corporate services, I was exposed to issues of human resource management, workforce and staffing. This experience bears some similarities to the working life of GPs in terms of autonomy, management and professional service to the public, notwithstanding that the work content and responsibility is very different. By studying a life-cycle interest, I may find out something that informs and helps me personally – an undeniable source of motivation. Nevertheless, I have made every effort to protect these findings from prejudice or bias through rigorous application of grounded theory.

As the research process is described in this chapter, the reader will observe that while the underlying epistemology of this research has the tenor of positivism, some interpretive aspects are also present. In essence, patterns of observed behaviour have been used to form an accumulation of indicators, from which concepts that underlie professional life are induced. I bring to the inquiry a unique set of perceptions and experience, and my analysis and reading of

\(^5\) Data may differ from that published elsewhere due to use of different methods to allocate GP numbers and full-time workforce equivalent (FWE). Here the FWE is calculated by dividing the practitioner’s Medicare billing by the mean billing of full-time practitioners for that reference period.
the data is a ‘constructive act’, which could tend towards the ‘creative’. I played an active role in deciding what to investigate next, what questions to ask, and in understanding the data. However, this ‘creative’ aspect was moderated by the criteria for research quality requiring that good classic grounded theory have grab, fit, workability and modifiability (Glaser, 1978, p 4-5).

3.3 Applying grounded theory method
This section outlines my application of grounded theory method. In giving this account of what I did and why I did it, the following issues are addressed: theoretical sampling, collecting data, ethical considerations, a pilot of the first four interviews, analysing the qualitative data and integrating the concepts into a theory.

3.3.1 Drawing a sample based on emerging concepts
My initial decisions on theoretical sampling were based only on a general perspective of GP careers. Data collection began with young GPs at the beginning of their working life in order to hear about the formative years of a GP career. The working life of experienced doctors was then examined including GPs with several professional roles, GPs who spent most of their time treating patients, GPs who owned a general practice business and those who did not. Next, the working life of GPs in different locations was considered, as well as the ways in which doctors blend their professional and personal lives. Table 3.1 illustrates some of the criteria used to collect both similar and diverse data for categories.

<table>
<thead>
<tr>
<th>Table 3.1 Sampling criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Data for categories</strong></td>
</tr>
<tr>
<td>Similar</td>
</tr>
<tr>
<td>Level of experience</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Personal circumstances</td>
</tr>
<tr>
<td>Participation in clinical work</td>
</tr>
<tr>
<td>Number of roles</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Place of graduation</td>
</tr>
</tbody>
</table>

By selecting groups of participants for comparison, the aim was to keep the analysis at a conceptual level and to provide both similarity and diversity in the data (Glaser and Strauss, 1967, p 55). By minimising differences it was possible to increase the possibility of collecting similar data on a category and establishing a definite set of conditions under which a category exists. However, by maximising differences it was possible to add diversity in the data to bring out a wider coverage for elaboration of the emerging theory.
Three examples of my theoretical sampling for events leading to changes in professional life are presented below.

Joe⁶, aged 46, was selected because he provided a different career pathway to previous participants. He was an Overseas Medical Graduate who completed the Australian Medical Council’s Certificate. He moved from specialist medicine to general practice and worked full-time in clinical work. Just prior to being interviewed for this study, he became the owner of a general practice business.

Alan, aged 38, provided another career pathway, commencing his medical degree at the age of 28 after having worked in different jobs. This made him an older entrant to medicine. He was employed in the larger organisational structure of a hospital where he worked in acute clinical care (rather than the combination of chronic and acute presentations more typical of a general practice setting). Like other GPs I interviewed, he combined clinical work with a role in education and training. However, unlike other study participants, he worked in a rural town. He had a young family.

Robert, aged 45, who worked full-time in clinical general practice in a regional town, as well as a few hours each week in education, declined a job offer which would have made a significant change to his work-life. I collected data about his decision and the factors surrounding it.

Early in the data analysis GPs’ need to self-care, be interested in their work and earn income emerged as catalysts for career events. In later sampling, I selected GPs who could add to the properties and dimensions of these concepts. Sampling continued until similar incidents were repeated from which I concluded that a category was saturated and sampling for that concept could stop.

3.3.2 Collecting data
Any type and combination of data can be used with the grounded theory method (Glaser, 1998, p11). For this study, data about career incidents were collected from interviews with thirty GPs and seven managers of general practice businesses, my field notes and reflections, transcriptions of recorded interviews and publicly available information on additional GPs that was available.

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⁶ The real names of study participants have not been used.
from published interviews, biographic details on general practice websites and government registration data\(^7\).

The interviews were conducted between August 2010 and November 2011 (27 face-to-face interviews and 10 telephone interviews), and lasted from 23 to 68 minutes. Average interview length was 41 minutes. Data were collected for analysis of differences between individuals (a differential approach) and for analysis of changes by the same individual across time (a developmental approach) (Savickas, 2002, p151). Table 3.2 summarises the sample characteristics.

**Table 3.2 Sample characteristics**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>General practitioners</td>
<td>30, 100.0%</td>
<td></td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 35 years</td>
<td>1, 3%</td>
<td></td>
</tr>
<tr>
<td>35-39 years</td>
<td>5, 17%</td>
<td></td>
</tr>
<tr>
<td>40-44 years</td>
<td>3, 10%</td>
<td></td>
</tr>
<tr>
<td>45-49 years</td>
<td>6, 20%</td>
<td></td>
</tr>
<tr>
<td>50-54 years</td>
<td>11, 37%</td>
<td></td>
</tr>
<tr>
<td>55-59 years</td>
<td>3, 10%</td>
<td></td>
</tr>
<tr>
<td>60+ years</td>
<td>1, 3%</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>17, 57%</td>
<td></td>
</tr>
<tr>
<td>Place of work(^8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major city</td>
<td>21, 70%</td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td>5, 17%</td>
<td></td>
</tr>
<tr>
<td>Outer regional, remote, very remote</td>
<td>4, 13%</td>
<td></td>
</tr>
<tr>
<td>Hours in clinical work by gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nil</td>
<td>1, 3.3%</td>
<td></td>
</tr>
<tr>
<td>Less than 30 hours</td>
<td>2, 6.7%</td>
<td></td>
</tr>
<tr>
<td>30+ hours</td>
<td>10, 33.3%</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nil</td>
<td>2, 6.7%</td>
<td></td>
</tr>
<tr>
<td>Less than 30 hours</td>
<td>7, 23.3%</td>
<td></td>
</tr>
<tr>
<td>30+ hours</td>
<td>8, 26.7%</td>
<td></td>
</tr>
</tbody>
</table>

Research quality was enhanced by minimising interviewing errors and maintaining the quality of the field work (Malhotra et al., 2006). Errors can occur if the interviewer lacks relevant experience or does not use probing questions adequately (Malhotra et al., 2006, p468). I had 13 years of professional accounting experience, interviewing clients about their financial and taxation affairs. This experience provided a starting point for interviewing GPs about their

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professional life. In order to hone necessary skills further, I began data collection by interviewing four GPs who knew me. These initial interviews provided an opportunity to evaluate the interview documentation and to become familiar with grounded theory method.

Digital recordings were made of interviews, and transcriptions were offered to participants for their verification. These digital recordings were used to confirm and supplement field notes taken during the interviews. To overcome any inconsistencies in the data, follow-up questions were used to clarify points, and questions were asked in different ways of different individuals. Because I was looking for patterns of behaviour, an incident in a later interview sometimes shed light on an earlier incident, thereby allowing a latent code to emerge.

For each interviewed GP, a search was conducted for publicly available information from websites, publications, government registration, biographies, Google searches, conference proceedings and so on. Any information that supported or contradicted a participant’s responses was noted for further analysis.

By evaluating the data collection process it was possible to maintain high quality in the field work. I experienced tension between keeping the interview conversation open and guided by the participant, as required by Glaser’s grounded theory method, and wanting to capture depth and consistency in the data. This tension was resolved by developing an interview guide (Table 3.3). This guide served as a prompt so that sufficient data were collected to be able to compare with what others had said, to explore new lines of enquiry and to clarify new data. It was a tool designed to maintain the quality of the interviewing process and to help ensure that the research method was followed appropriately.

Beginning an interview with a very open question allowed issues to emerge more freely and these were used to inform subsequent data collection. Typically the first question asked was: ‘Could you tell me about your work history since graduating in medicine?’ Other open questions used were: ‘Tell me about your life as a GP’ and: ‘What is it like being a GP?’ To encourage the GP to continue talking, various probing techniques were used (Malhotra et al., 2006, p 472). These included repeating the question, repeating the reply, or using a phrase like: ‘Go on. Tell me more about . . .’ or ‘Why did you do that?’ Specific wording of questions and the order in which they were asked was influenced by the participant’s replies, with the interview guide (Table 3.3) being used as the prompt. In terminating the interview, participants were asked: ‘Is there anything you would like to add?’
I believe that recording the interviews is desirable for use as evidence in a PhD study. While recording and transcribing of interviews is needed for precise accounts in descriptive research methods, this is not so with grounded theory where the researcher is looking for important concepts and patterns, and for conceptualisation (Glaser, 1998). As an inexperienced researcher, I found an advantage of recordings is that they enable the researcher to revisit and re-code text as new concepts emerge and patterns are detected. Field notes were taken during and post interview, and these were compared with the interview recording. Initially, the transcribed data were coded for analysis, but in later interviews, as I gained experience, I coded field notes made from the recording rather than the transcription.

Table 3.3 Interview Guide

<table>
<thead>
<tr>
<th>INTERVIEW GUIDE</th>
</tr>
</thead>
</table>
| 1. Could you please describe your career in medicine to now?  
   *This is a broad question which includes all aspects of their professional life since qualifying in medical practice. Researcher is hoping to gather data about their behaviour and motivation, which will lead to other areas of analysis/focus.* |
| 2. What is being a GP like for you?   
   *This is a broad question where researcher is hoping to learn about some of the benefits and problems experienced by GPs in their professional life.* |
| 3. Why did you become a GP?  
   Are you satisfied with your career in medicine?  
   Would you encourage others to go into general practice?  
   *These are direct questions. Researcher is hoping to learn about this person’s attitudes and motivation as well as behaviour.* |
| 4. What impact do you think that the way in which a general practice workplace is organised has on a GP’s work behaviour?  
   *This is a broad question aimed at some of the external environmental and social influences on professional life.* |
| 5. Demographics:  
   Postcode where you do most of your work in Direct Patient Care?  
   Year of birth?  
   Gender?  
   How many hours do you spend in Direct Patient Care each week?  
   Current marital status?  
   Number of dependent children living at home? |

Glaser cautions the researcher against using computer software packages to analyse data because they may hinder the flexibility and freedom needed to manoeuvre ideas as they occur and change (Glaser, 1998, p185-186). I alleviated these concerns by using different software for particular purposes. QSR Nvivo 9 software was used to store, code and manage text data.
from disparate sources so that it could be readily coded and searched. Being able to trace and extract incidents and concepts helped my analysis, making it easier to list incidents that related to a code, to compare incidents and to modify codes. Memos were created using Microsoft Word where they could be easily separated, dissected, amalgamated, expanded and reordered for the processes of theoretical sorting and write-up.

3.3.3 Ethical considerations
Ethical approval for this research was granted by the Australian National University Human Research Ethics Committee in August 2010. Procedures were set up to ensure confidentiality during the data collection phase and in the publication of results. These included using pseudonyms and codes to protect the identity of GPs and any colleagues/patients referred to in interviews. Data were securely stored, with digital recordings and transcriptions of the interviews being kept confidential and locked in a cabinet. After five years they will be destroyed. Electronic files were held in secure and password-protected computer storage.

Consent to participate in this study was obtained from participants prior to collecting data. For face-to-face interviews consent was in writing and for telephone interviews consent was recorded. While there were no known risks in taking part in this study, participants were advised that involvement was voluntary, they could withdraw at any time and they could contact the investigator, the research supervisors or the ANU Human Research Ethics Committee if they wished.

Within data collection, ethical practice involved negotiating convenient times for interviews, managing for potential interviewer error, not leading respondents to answer in a certain way, and not discarding data arbitrarily, as well as ensuring anonymity and confidentiality through de-identifying data. Adhering to the grounded theory method of analysis and appropriately selecting samples were also evidence of ethical behaviour in conducting this study. The theoretical sampling was balanced with both negative and positive cases and the emergent grounded theory could be modified to capture new data and provide completeness. Every effort was made to maintain objectivity with any researcher bias being declared.

3.3.4 Pilot interviews
The purpose of the first four interviews was to become familiar with the grounded theory’s methodological processes, to hone the necessary interviewing skills, to test the Consent Form, Project Information Sheet and Interview Guide and to begin the interactive data collection and analysis process. Some adjustments were made to ensure interviews did not extend beyond the agreed 45 minutes while still allowing participants time to give their responses.
The Interview Guide in Table 3.3 shows the questions and the rationale behind asking them. Participants were encouraged to talk freely, which means the wording and the order of questions was allowed to change. As data were collected over several months, the interviews evolved in line with the concepts being developed. For example, the questions asked in the first interview with Monica, aged 44, followed the Interview Guide. My second interview with Monica, which occurred 12 months after the initial interview, contained specific questions about her freedom to make her own decisions and her autonomy. I took field notes as well as recording that conversation. My third exchange with Monica was conducted by email shortly after the second interview and was used to clarify aspects of the doctor-patient relationship.

3.3.5 Analysing the qualitative data
Grounded theory analysis involves coding the data, constantly comparing incidents and categories and identifying the main concern or problem being articulated by the participants. The goal of analysing the assembled data is to find the core category, which is most related to all the other categories and explains how the participants resolve their main concern or problem (Glaser, 1998, p117).

3.3.5.1 Coding
Coding begins by fracturing the data, line by line, pulling the GP’s storytelling format apart, with each fragment becoming a very small episodic story. These fragments of data were analysed and coded by asking (Glaser, 1978, p57): ‘What are these data a study of? What is actually happening? What category does this incident indicate? What property of what category does this incident indicate? What is the participant’s main concern?’ The fragments were compared and grouped and given an abstract name. I documented my thoughts at the time reproduced here in Memo Text 3.1. An example of fracturing the data is given in Figure 3.2.

Memo Text 3.1 Fracturing the data

<table>
<thead>
<tr>
<th>Fracturing the data</th>
<th>13/03/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’ve highlighted the behaviour by looking at the action in the GP’s story in words such as ‘exercise’, ‘work’, ‘bill’, ‘see’, and ‘take’. Then I have looked for meaning in motivation and attitude by looking at words such as ‘like’, ‘why I left’, ‘think’, ‘didn’t like’ and ‘didn’t feel comfortable’. I compared these statements and conceptualised them as indicating control and autonomy. I have omitted ‘dictated to’ because it is the participant’s observation. However, should an incident emerge which links this observation to the GP’s behaviour then I would code this text with that behaviour to help me understand the behaviour.</td>
<td></td>
</tr>
</tbody>
</table>
My early efforts at open coding of 11 interviews yielded 367 codes (that is, 367 conceptual categories). This large number of codes grew quickly as I tended to over-code and over-fragment the data. This also made the process of comparing incidents more difficult and potentially hindered vital patterns in the data from being recognised. With further analysis, the 367 codes were redistributed into the 10 categories and 36 sub-categories shown in Table 3.4.
Table 3.4 Categories

<table>
<thead>
<tr>
<th>Category Number</th>
<th>Category Name</th>
<th>Number of sub-categories</th>
<th>Relationship to working life</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Triggers</td>
<td>20</td>
<td>Main concern</td>
</tr>
<tr>
<td>2</td>
<td>Description of general practice</td>
<td>16</td>
<td>Attributes of the context</td>
</tr>
<tr>
<td>3</td>
<td>Organisational context</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Attitudes</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Work values</td>
<td>16</td>
<td>Intervening factors</td>
</tr>
<tr>
<td>6</td>
<td>Progression</td>
<td>14</td>
<td>Process &amp; Dimensions</td>
</tr>
<tr>
<td>7</td>
<td>Coping mechanisms</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Career pathways</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Satisfaction</td>
<td>15</td>
<td>Consequences</td>
</tr>
<tr>
<td>10</td>
<td>Participation</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total number of sub-categories</td>
<td>136</td>
<td></td>
</tr>
</tbody>
</table>

As the study progressed, conceptualisation took over from detailed description and codes were consolidated or set aside in accordance with the grounded theory method (Glaser, 1978, p47). For example, the problems that participants spoke about and the motivations for their behaviour were found in the categories named Triggers and Coping mechanisms; incidents coded to the categories named Description of general practice, Organisational context and Attitudes were grouped together to form a new higher level category named Context with two properties of External context and Internal context; autonomy emerged as the work value of most importance (all other sub-codes of work values were then set aside while incidents continued to be coded to autonomy); and the incidents coded to the categories named career pathways, satisfaction and participation indicated the consequences of vocational behaviour. The analysis of the category named progression and its sub-codes continued until the core category was identified, after which codes and incidents were redistributed within the framework of the core category as a process within dimensions.

3.3.5.2 Constant comparison

Concepts were developed using grounded theory’s constant comparison process (Glaser, 1978, p 49). Table 3.5 shows how incidents were coded for the concept they represented and how those concepts were abstracted into higher levels. If participants talked about controlling tiredness, intellectual stimulation or having enough money, each was labelled as a concept in its own right. The categories of staying interested in the work and financial reward reflect benefits from professional life. In turn, the incidents showed that having autonomy allows GPs to change their professional circumstance to one that they consider to be better, that is, allows them to attain a more satisfactory solution. In this study, autonomy refers to GPs’ personal freedom and ability to implement changes to their work life and/or the content of that work. Clinical autonomy relates to control over treating patients including diagnosis, treatment and evaluating care, as well as patient consultations and relationships. Autonomy in the structure of
the work day relates to personal freedom and control around being able to influence the mix of personal and professional time, multiple jobs and roles held, time spent in direct patient care and events that occur over the course of a day. Grouped together, these incidents formed a category of *autonomy* which has enabled multiple needs to be met. In this way categories were established that captured many incidents under the one idea, denoted the underlying pattern of behaviour and handled the diversity of behaviour in the data (Glaser, 1978, p13, p63).

Table 3.5 Sample coding of incidents and constant comparison of incidents and categories relating to autonomy

<table>
<thead>
<tr>
<th>Incidents</th>
<th>What is actually happening?</th>
<th>Level 1 concept</th>
<th>Level 2 concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter says it’s tiring working long hours in clinical work but if he gets exercise he sleeps very well and that’s fine. (Peter 55yrs).</td>
<td>control tiredness</td>
<td>self-care</td>
<td>autonomy</td>
</tr>
<tr>
<td>Meg has the convenience of being able to do some acute medicine at the hospital next door. (Meg 36yrs).</td>
<td>intellectual stimulation</td>
<td>staying interested in the work</td>
<td>autonomy</td>
</tr>
<tr>
<td>Jill has set her fee in the middle (between bulk billing patients and giving a discount) with what she’s comfortable with. (Jill 56yrs).</td>
<td>having enough money</td>
<td>financial reward</td>
<td>autonomy</td>
</tr>
</tbody>
</table>

*Autonomy* emerged as a concept during the first four interviews and had the most incidents, suggesting that it represented a core category. However, Glaser recommends slowing down conceptualisation at this early stage while theoretical sampling corrects for fit, work and relevance (Glaser, 1978, p46). This advice encouraged me to slowly work through the grounded theory process, to reduce the number of codes by delimiting aspects of the data and to produce a parsimonious grounded theory where as much variation in a pattern of behaviour was explained with as few concepts as possible (Glaser, 1978, p93).

### 3.3.5.3 Discovering the main concern

The behaviour of study participants is directed by a main concern or problem that they are talking about and processing (Glaser, 1998, p115). By discovering this problem and verifying it using constant comparison, the research can begin to be organised (Glaser, 1998, p132).

For a long time I was unable to understand this main concern from the participants’ perspective. There was tension around job changes and categories for triggers, work adjustment and coping mechanisms. It was possible to see working lives being shaped by concerns about maintaining
their enthusiasm for the work, having balance between their personal and professional lives, coping with the intensity, variety and unpredictability of general practice and having to earn income. It appeared that the problem was multi-faceted but felt vaguely familiar in each case.

I made a decision to examine the categories again with fresh eyes. A quote taken from the second interview with Monica helped focus my attention: ‘the goal from the beginning of my career was to be the best GP that I could be’. Soon after, I read a field note from the twelfth interview, Meg, aged 35: ‘she says she couldn’t do just general practice without having other outlets and still be a functioning healthy person’. I compared these two fragments of data and asked the crucial questions: ‘What is this a study of? What category do these incidents indicate? What property of what category do these incidents indicate?’ Both incidents can be seen as different perspectives of the same category. A theoretical sample was then taken for three doctors who had left general practice because they were not happy with how the work affected them (Mary, Alan and Natalie). My comparison of these cases highlighted that while GPs as a group want to achieve results in their work and progress in their careers, GPs as a group also express considerable concern about their own welfare. I named this new category sustainment – a name that encompassed both the aspirational character of the first incident referred to by Monica, combined with the protective and sustainable character of Meg. Sustainment integrated these elements in response to changing needs and circumstances in a way that GPs could retain their ability to fulfil their primary career ambition.

I proceeded to compare the existing categories - triggers, work adjustment, tension and coping mechanisms, and their subcategories with the new concept of sustainment. It seemed that the existing concepts could be linked to sustainment, because they related to decisions to enter the medical field, taking breaks, dissatisfaction, searching for experience or a more enhanced work role, financial factors, isolation, and personal or family life. At this point, it was important that I resist any temptation to engage in logical elaboration, so I examined the concept indicators again, asking ‘Is this a problem for the study participants and are they resolving it?’ and recoded if necessary. When I completed this process, GPs’ need for sustainment was retained as the main concern but with three subcategories: need for self-care to sustain well-being, staying interested in the work to sustain work interest and need for financial reward to sustain lifestyle.

I found that while GPs are interested in their professional development, they are also concerned about looking after their personal, emotional and physical health needs. Incidents reported in Table 3.6 indicate that GPs take actions to alleviate stress or burnout that could threaten their ability to work in the best way. This concept is named self-care to represent a pattern of behaviour where GPs are concerned about managing their welfare.
Initially, a separate category was also developed for **family concerns**, with the name inspired by the relationship between professional life and family commitments. I observed that study participants continued to pursue professional life, integrating their family commitments with their work commitments to varying degrees. The language used by participants, ‘tug-a-war’, ‘conducive’, ‘juggle’ and ‘flexible’, suggested that this integration was related to stressors hence, this concept of **family concerns** was subsequently incorporated as a subcategory of self-care.

**Table 3.6 Indicators of the main problem for study participants**

<table>
<thead>
<tr>
<th>Incidents</th>
<th>What is actually happening?</th>
<th>What category does this incident indicate?</th>
<th>How do they resolve it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natalie has to switch off. She can’t cope with caring about so many people. It is exhausting, having to be connected to your feelings, their feelings, the whole thing. (Natalie43 yrs)</td>
<td>emotional stress</td>
<td>self-care</td>
<td>Found a non-clinical job, reduced clinical work a lot.</td>
</tr>
<tr>
<td>Wilma finds that general practice is sometimes a lonely place - just the GP and the patient one to one all day. (Wilma53 yrs)</td>
<td>lonely</td>
<td>self-care</td>
<td>Reduced clinical work and found other roles.</td>
</tr>
<tr>
<td>Monica finds that her health is not as good as it used to be and she gets very tired. (Monica44 yrs)</td>
<td>tired, unwell</td>
<td>self-care</td>
<td>Reorganised working life.</td>
</tr>
<tr>
<td>Jill wanted to do something that she is good at and feels she is accomplishing and developing her skills. (Jill55 yrs)</td>
<td>developing, accumulated learning</td>
<td>staying interested</td>
<td>Took roles that enhance skills.</td>
</tr>
<tr>
<td>Shane says doing different types of work at the same time makes him richer in both. (Shane53 yrs)</td>
<td>remain challenged, intellectual stimulation</td>
<td>staying interested</td>
<td>Does different types of work at the same time.</td>
</tr>
<tr>
<td>Robert likes his non-clinical job because there is less pressure and it gives him a break from clinical work and he can catch up on his own education. (Robert45 yrs)</td>
<td>continued learning, refresh</td>
<td>staying interested</td>
<td>Catch up on his own education.</td>
</tr>
<tr>
<td>Kate wants to achieve a degree of financial viability to be able to raise a family and do the things she wants to do within limits. (Kate55 yrs)</td>
<td>concerned about having enough money</td>
<td>financial reward</td>
<td>Works to be financially comfortable.</td>
</tr>
<tr>
<td>John wants the security of knowing that there’s work out there he can be paid for, that he’s not going to be unemployed, and he is able to make choices to do different things. (John54 yrs)</td>
<td>financial independence</td>
<td>financial reward</td>
<td>Took a GP job for guaranteed employment.</td>
</tr>
<tr>
<td>Alison was the sole provider for her family, working hard to get the kids through school and reduce the mortgage. (Alison53 yrs)</td>
<td>financial stress</td>
<td>financial reward</td>
<td>Increased her GP hours, took a more stable job.</td>
</tr>
</tbody>
</table>

**Staying interested** was named to reflect the GPs’ desire for intellectual stimulation in their work. It captures the challenge of varied and unpredictable work, accomplishing and developing skills and people wanting something to keep their interest. Other names that were considered but rejected were intellectual stress, stimulating interest, keeping relevant, remaining challenged, accumulated learning and variety. This study illustrated that GPs were concerned about staying
interested in their work, though they acknowledged that having multiple roles could increase the level of stress they experienced in their working lives.

The name of financial reward was inspired by the role of money, financial security and guaranteed employment in professional life. The concept of financial reward also reflects the desire for financial freedom to make choices and to do different activities or roles. Other names considered and rejected were financial security, financial stress, financial independence and adequate remuneration. Table 3.6 sets out incidents that express concern about having enough money, including financial stress and financial independence, which could hinder or enhance development of personal and professional life in a sustainable way.

The indicators for these concepts were gathered from 30 interviews, showing the relevance of these problems to the research participants. The number of indicators for each concept illustrates their prominence in the discourse - self-care, 91 incidents from 20 participants; family concerns, 34 incidents from 13 participants; staying interested, 64 incidents from 22 participants; and financial reward, 48 incidents from 21 participants.

3.3.5.4 Core category
The core category was the pattern of behaviour exhibited by experienced Australian GPs in solving concerns they have in their professional life (Glaser, 1978, p93). This category dominates and most other categories relate to it in degree, dimension or type (Glaser, 1978, p95-96). Therefore, discovering the core category is pivotal to organising the research (Glaser, 1998, p132) and delimiting the project (Glaser, 1978, p93). This section sets out how the core category was identified for this study.

I identified a pattern of behaviour where GPs encountered a problem which they remedied by seeking a better work situation, either by changing jobs or changing some aspect of their current job. This created various career pathways, with different amounts of participation in clinical general practice. After 11 interviews, I was not confident I had found the core category. Initially, I named the core category career shaping for own needs and continued data collection and analysis. I worked on several categories until it became clear that career shaping for own needs had ‘the most explanatory power’ (Glaser and Strauss, 1967, p70).

Autonomy and, to a lesser extent, recognition were present in this process of career shaping for own needs, but it was difficult to conceptualise the link between them. Autonomy seemed to have a stronger link to a GP’s search for a more satisfactory professional situation than did recognition. Autonomy had the internal perspective of providing a means for career shaping
whereas recognition held the external perspective of how the public regard GPs. Using the prevailing internal perspective, this study focused on autonomy as a key element in being able to make career shaping changes. Following Glaser’s rules for delimiting (1978, p93), my work continued using those variables that related to this notion of career shaping.

Over time I came to the view that while the name career shaping for own needs did fit the core behaviour pattern, it lacked conceptual ‘grab’ and was limited in how well it explained the observed behaviour. I considered other names: sculpting a professional life and me-shaping for autonomous needs. An individual GP may be juggling multiple issues, and yet they were generally thoughtful and structured in their behavioural responses. My eureka moment came when reading an operations research text (Taha, 1976). In demonstrating the Simplex Method, an algebraic technique for solving linear problems, the concept of ‘optimal solution’ was defined as ‘the point (in the solution space) which maximises the value of the objective function’ (Taha, 1976, p43). According to Oxford Dictionaries, to optimise is to make the best or most effective use of a situation or resource (The Oxford Dictionary of English (revised edition), 2005). This is relevant when there is an imbalance between needs and limited resources to resolve them. It was clear that study participants were looking for the most satisfactory or optimal solution within a set of constraints: that they were Optimising Professional Life. While career shaping could refer to any solution that resolved the main concern in a satisfactory way, these GPs sought the optimal solution, that is, the special case that is most satisfactory, and they sought this optimal solution subject to their individual set of internal and external constraints. I concluded that Optimising Professional Life explains the series of actions taken by GPs throughout their career as they work toward the solution that is most satisfactory for them. Glaser supports connections of this kind where the researcher is open and theoretically sensitive to how other fields conceptualise data: ‘By familiarity with ways of constructing variables in other fields he <the researcher> may imbue his theory in a multivariate fashion that touches many fields’ (Glaser, 1978, p3).

Memo Text 3.2 documents my thoughts at the time. Most GPs who were interviewed expressed satisfaction with their working life in general practice, although stresses in the work were acknowledged. This suggests that for most participants the rewards have been sufficient to offset the stresses, thereby enabling them to remain in general practice. The following examples show that despite being reasonably satisfied, GPs are often looking to make changes that further increase their level of satisfaction. While Peter said satisfaction was ‘overstating it a bit’ he stayed in clinical general practice because ‘it’s been pretty good to me, all things considered, and there are plenty of worse jobs’. In contrast, Natalie reduced her clinical hours, Alan moved
to a hospital position and Mary left medicine entirely. Interestingly, Mark said he was satisfied ‘at the moment’, which indicated that he may change his work in the future.

Figure 3.3 sets out the properties and dimensions of the core category as identified from the data, while Figure 3.4 provides the categories clustered as stages of a process. Data collection, theoretical sampling and analysis continued along this emergent path, focusing specifically on the elements of Optimising Professional Life. This ensured that findings and analysis based on this core category were valid.

**Memo Text 3.2 From data to core category**

<table>
<thead>
<tr>
<th>30/10/2011</th>
<th>[categories/concepts are in italics]</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main concern or NEED of my participants is careful development sustainment with subcategories of self-care, staying interested and financial reward.</td>
<td></td>
</tr>
</tbody>
</table>

The way in which they resolve this main concern is by engaging in a process of optimising their professional life, thereby addressing careful development sustainment and its subcategories. I have found four dimensions where participants repeatedly, over their working life, use their capacity to make their own decisions to pursue personally relevant opportunities i.e. autonomy. Hence, autonomy is an enabler of Optimising. There may be other enablers and conditions but autonomy has emerged as most important for participants.

While professional career decisions may be directed to find a satisfactory solution – the most satisfactory solution desired by participants is a special case or the optimal. I have named the core category Optimising.

Participating GPs make an effort to retain their professional identity as a GP – by updating their knowledge, belonging to professional organisations, working clinical hours and using their skills. Being a GP is retained as a schema in their working life. There is a sequence of events in the course of their working lives that evidences this trend in behaviour. Therefore, professional life specifically represents the career of the medical professional such as a GP. Including the word life captures the long-term perspective of a working life with recurrent incidents of vocational behaviour.

I am renaming the core category as Optimising Professional Life.

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9 In July 2014, the name of this main concern was changed from careful development to sustainment.
Figure 3.3 Conceptual development of the core category

Optimising Professional Life
(Core category)

Need for sustainment
(Main concern)

Constraints
(internal and external)

Autonomy
(enabler)

Dimensions

Satisfaction
(high->low)

Nature of Optimising

Need for self-care
(to sustain well-being)

Need to stay interested
in the work
(to sustain work interest)

Need for financial reward
(to sustain lifestyle)

Treating patients

Structuring the work day

Integrating work and
personal life

Adapting oneself

Stages
(discomfort, assessment,
resolution)

Recurrence
(often -> occasionally -> rarely-> never)
3.3.6 Integrating concepts into a theory

Once the data are analysed to aggregate incidents into patterns, the core category is saturated through theoretical sampling and constant comparison, subcategories are developed and memos are used to conceptualise how these elements might relate to each other, a way is needed to bring these concepts together into a theory that explains what is happening in the data. This involves sorting the memos using theoretical codes to conceptualise how the categories relate to each other as propositions or hypotheses (Glaser, 1998, p163).

3.3.6.1 Theoretical coding

Theoretical codes are a useful tool to take data analysis from descriptive topics to theoretical relevance by identifying how two categories relate. For example, in Table 3.4 the coded categories named description of general practice, organisational context and attitudes were grouped together to form a new higher level category named context, with two properties of external context and internal context. This arrangement used the theoretical code of paired opposites, dichotomies or paired alternatives (Glaser, 1998, p171) to give shape to the data. Theoretical coding of this sort helps organise and structure the emerging categories without ‘forcing’ preconceived ideas on the data (Kelle, 2007, p200, Glaser, 1978, Glaser, 1998).
In another example, when considering the concepts of *autonomy* and *recognition*, a decision was made to delimit the project by focusing on *autonomy*, because *autonomy* was more strongly linked with GPs’ search for a more satisfactory professional situation than was *recognition*. These concepts held an internal or an external perspective with *autonomy* as the internal perspective providing the means for action and *recognition* as the external perspective linked to how the public regarded GPs. This organisning of the analysis helped to establish the limit of the project (Glaser, 1998, p173).

Theoretical codes can be understood as belonging to families of codes from which one or more codes can be used to organise the analysis. There are numerous examples (Glaser, 1978, Glaser, 1998). Many studies apply one of the family of Six C’s: cause, contexts, contingencies, consequences, covariances and conditions. Thus, to focus on causes involves looking for its consequences (independent and dependent variables). Another theoretical code named processing refers to something happening over time and includes stages, phases, transitions, trajectories and careers that group together sequencing parts of a phenomenon. A theoretical code named dimension divides the notion of a whole into parts. A theoretical code named average (for example, the mean, median and mode) provides an aggregate of behaviours, which can be used to develop probabilities about the likely occurrences of actions and interactions.

In this study, the most appropriate theoretical codes were paired opposites, boundaries, cutting points, process, degrees and dimensions. I saw the connection between *sustainment* and Optimising Professional Life wherever an individual was leaving or changing work along a trajectory of professional life. This resembles a theoretical code of the cutting point family like turning point, breaking point, benchmark, critical juncture or crossroads. A memo about this connection is shown in Memo Text 3.3. These points are important because ‘they indicate where the difference occurs’ (Glaser, 1978, p76) and the tension found around points of change led the researcher to the triggers for GP vocational behaviour.

The Theory of Optimising Professional Life brings together the generated categories of *exploring, selecting, implementing, adjusting and testing* as the action of the Optimising process – into the stages of discomfort, assessment and resolution. The theoretical code of process was used to structure these categories. I recorded my thoughts about these connections in process in Memo Text 3.4.

GPs needed to have *autonomy* to be able to initiate changes in their working life. This was theoretically coded as an enabler for Optimising Professional Life to occur. *Autonomy* varied within different dimensions or scenes of action and the higher the degree of *autonomy*, the more
likely it was that Optimising Professional Life could reach the most satisfactory outcome. My thoughts about these connections are found in Memo Text 3.5.

The relevant theoretical codes emerged during data analysis and, like the conceptual categories, were verified through the constant comparison process. Using them during the sorting stage helped to connect the generated concepts into an organised multivariate theory.

Memo Text 3.3 Memo about the connection between sustainment and Optimising

20/07/2011

The need for careful development Sustainment emerged as a trigger (stimulus) for Optimising. When a situation becomes unsatisfactory and the individual is willing to do something about it, leaving or changing the work situation becomes a planned change. I visualise these as punctuating the trajectory of a professional life where the situation after Optimising is different from the situation before the change. For example, a participating GP found that her health was not as good as it used to be and she was getting very tired. She resolved the problem by reorganising working life to reduce her hours spent in direct patient care, thereby exhibiting self-care behaviour. Her objective to change her hours is within the conceptualised dimension of work day structuring and her capacity to make changes (that is, her autonomy) was bounded by having to comply with the organisational constraints of her workplace. However, reducing her participation in clinical work also reduced her income, which had the potential to cause concerns about financial reward. She said that the best solution for her on this occasion was to reduce her clinical hours, which was more important compared with the loss of income (Monica 45 yrs). Work adjustments like this help individuals to fit with the characteristics of a job, where according to person-environment fit models, individual performance is maximised (Dawes, 1984; Holland, 1997).

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10 In July 2014, the name of this main concern was changed from careful development to sustainment.
Optimising process + exploring, selecting, implementing, adjusting, testing  2/06/2011
Optimising is a rational approach to resolving a problem. It involves recognising the need for a concern to be resolved, identifying feasible solutions (exploring and selecting), using enablers to change the environment and/or oneself (implementing, integrating, adjusting), attaining a more satisfactory solution, testing for the optimal solution and continuing this process with varying degrees of success until the most satisfactory solution is reached or the individual gives up.
Participating GPs exhibit rational behaviour when making decisions about their professional life – they are able to explain why they have made various decisions in their working life. No one spoke about, or indicated, intuitive behaviour.

Optimising + Autonomy  21/07/2011

*Autonomy* is the degree to which the job provides personal independence, discretion and freedom to act without externally imposed constraints. One way of conceptualising the determinants of Optimising is that GPs must be able to make the necessary changes. Thus, the greater the *autonomy*, the more likely Optimising will occur successfully. Nearly all the GPs that I have interviewed have expressed their concern about having freedom to act, saying that it was important to them to be free to choose their own method of working. Some expressed resistance to direction: ‘they tried to force us to do different things’ (Peter).

‘She wanted to be in charge of her own style of practice. She didn’t want to be told what to do.’ (Sarah).

Thus, *autonomy* emerged as being linked to how GPs live their working lives. The data indicate that *autonomy* comes in different forms, and these can be seen more easily by separating the action of GP professional life into dimensions or scenes of action – *structuring the work day, integrating work and family and treating patients*. The degree of *autonomy* is not the same in each dimension, so that people sometimes have to accept conditions that are beyond their control. A GP explained that she has to do what they say because ‘she doesn’t have much say in how things are run’ (Margaret). High *autonomy* is where the decision maker has absolute freedom. Embedded within traditional theories of career choice and development is the notion that people have options and choices about the work they pursue (Blustein, 2008) but this might not be possible. Having *autonomy* provides greater opportunity to pursue intrinsic interests through Optimising, with the individual as the agent in his/her own life. *Autonomy* contributes to how a result is achieved, that is, *autonomy* is an enabler.
3.3.6.2 Sorting

Grounded theory requires that the ideation memos are sorted into an order guided by the theoretical codes found in the data. This is key to formulating the theory and to preparing for the write-up (Glaser, 1978, p116). Sorting puts the fractured data back together by connecting categories and properties but with the emergent pattern highlighted (Glaser, 1978, p117). Holton (2007, p284) describes the process: ‘as the researcher sees similarities, connections, and underlying uniformities, the theoretical decision about the precise location of a particular memo is based on the theoretical coding of the data grounding the idea’. By following this step in grounded theory I ensured ‘internal integration of connections among the categories’ and avoided developing a theory that was ‘linear, thin and less than fully integrated’ (Glaser, 1978, p117).

A Microsoft word document of 122 pages, containing 212 memos grouped by category name, had to be analysed. This was done initially by rereading and reconceptualising each memo, breaking down some that dealt with several ideas and setting aside others that were descriptive rather than conceptual. Where a connection or relationship between concepts was seen, a linkage memo (a hypothesis) was created to discuss the connection. Glaser recommends choosing a large table for manual sorting of printed memos (1998, p189). Instead, I summarised each linkage memo on a separate Post-it note and stuck it to the glass of a large window in the position where it related theoretically and substantively to other Post-it linkage memos. This process continued - sorting, comparing, resorting and adding Post-it note memos about other categories and properties – for several weeks. I reflected on the multi-coloured Post-it notes stuck to the windows until the final theoretical framework became visible to me. When the properties of Optimising Professional Life were arranged, beside the sorted linkage memos, I could see how the categories fitted into a theory (depicted in Figure 4.1) underpinned by seven propositions (Table 4.2).

The second part of this study involved a quantitative analysis of survey responses collected as part of the MABEL study. In the next section of this chapter, the data source and selection for the quantitative analysis are described.
3.4 Data source and selection for quantitative analysis

The second part of this study was a quantitative analysis that drew on data collected for the MABEL\textsuperscript{11} study, which investigated clinical workforce participation patterns and their determinants (Joyce et al., 2010, Yan et al., 2011). This section provides information about the data source and selection of MABEL participants for my study. A description of the quantitative analysis is presented in Chapter 5. The MABEL data are also used in Chapter 4 to provide basic contextual information on the broader GP population.

3.4.1 Reference population for this thesis

The reference population for this thesis is all GPs working in Australia, aged between 35 and 59 years. This age range was chosen because it represents a breadth of experience from settling into a professional role to the culmination of a career (Levinson et al., 1978).

3.4.2 MABEL sample population

The sample for the MABEL study was drawn from the Australian Medical Publishing Company (AMPCo) Medical Directory, a national database of Australian medical practitioners managed by the Australian Medical Association (AMA) and used for mailing purposes (eg Medical Journal of Australia). All of the 54,750 Australian doctors on the AMPCo Directory who were engaged in clinical medical practice in 2008 were invited to participate in the first wave of the MABEL study. The survey was repeated in 2009 (Wave 2), 2010 (Wave 3), 2011 (Wave 4) and 2012 (Wave 5).

I used the third wave of data (2010) for my study so as to capture information from the same period as my interviews, which were conducted largely in 2010, with continuation into 2011. While the MABEL study is longitudinal in the sense that it has been repeated over several years, from the perspective of my thesis the MABEL data are essentially point-in-time because they do not (as yet) capture the sequence of career decisions made by individual doctors throughout their working lives. The MABEL survey contained questions about job satisfaction and attitudes to work, workload, finances, location, demographics and family circumstances. Four customised MABEL questionnaires were used, tailored for different types of doctors (GP and GP registrar, specialist, specialist in training and hospital non-specialist). These questionnaires varied for each wave of data collection.

\textsuperscript{11} The MABEL study was approved by the University of Melbourne Faculty of Business and Economics Human Ethics Advisory Group (Ref. 0709559) and the Monash University Standing Committee on Ethics in Research Involving Humans (Ref. CF07/1102-2007000291). Written application was made, in the prescribed format, to use data from the MABEL Wave 3 release. Permission was granted and data files were received in SPSS format for original analysis.
In Wave 3 (2010), responses were collected from 9,949 doctors: 7,455 who were first surveyed in 2008, 1,196 from the 2009 survey and 1,298 new participants from 2010 (Yan et al., 2011, p10). The data comprised 3,664 general practitioners, 4,094 specialists, 1,241 hospital non-specialists and 950 specialists in training (Table 3.7).

Table 3.7 Summary of MABEL Wave 3 survey cohort and doctor type

<table>
<thead>
<tr>
<th>Survey cohort</th>
<th>GP</th>
<th>Specialist</th>
<th>Hospital non-specialist</th>
<th>Specialist-in-training</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2,930</td>
<td>3,578</td>
<td>279</td>
<td>668</td>
<td>7,455</td>
</tr>
<tr>
<td>2009</td>
<td>334</td>
<td>260</td>
<td>492</td>
<td>110</td>
<td>1,196</td>
</tr>
<tr>
<td>2010</td>
<td>400</td>
<td>256</td>
<td>470</td>
<td>172</td>
<td>1,298</td>
</tr>
<tr>
<td>Total</td>
<td>3,664</td>
<td>4,094</td>
<td>1,241</td>
<td>950</td>
<td>9,949</td>
</tr>
</tbody>
</table>

3.4.3 Sample selection for this study
Cases were extracted from the MABEL Wave 3 (2010) data set if they were GPs between the ages of 35 and 59 years (Figure 3.5). To remove outliers, five cases which had recorded working less than 4 hours per week and four cases with more than 100 hours per week were excluded.
3.4.4 Sample characteristics

Characteristics of the sample population, presented in Table 3.8, were compared with the National Health Workforce dataset (Australian Institute of Health and Welfare, 2011b) for the same age group. The sample of 2,255 represented 13.3% of GPs aged 35-59 working as clinicians in Australia. The sample had a slightly higher proportion of GPs aged 35-39 years and GPs aged 50-54 years than the national data while GPs aged 45-49 years were slightly lower. Female GPs made up 52.5% of the sample compared with 43.8% of the national data.

With regard to geographic characteristics, the proportion of GPs working or living in a major

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12 The Australian Standard Geographical Classification (ASGC) was used from 1984 to 2011 by the Australian Bureau of Statistics (ABS) for the collection and dissemination of geographically classified statistics.
city was lower in the sample while GPs working or living in regional locations was higher. No national data were available for a partner or spouse, or for dependent children. For all GPs in the sample, the mean hours of work per week was 39.1 hours, similar to the mean of 39.9 hours for the national dataset for the same age group. On average, male GPs worked more hours per week than female GPs.

Table 3.8 Sample characteristics from MABEL, compared to national data from AIHW

<table>
<thead>
<tr>
<th>Source</th>
<th>MABEL</th>
<th>Australian Institute of Health and Welfare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Selected sample of GPs aged 35-59 working as clinicians in Australia in 2010</td>
<td>National data for GPs aged 35-59 working as clinicians in Australia in 2011</td>
</tr>
<tr>
<td>N</td>
<td>Percentage (%)</td>
<td>N</td>
</tr>
<tr>
<td>General practitioners</td>
<td>2,255 100.0%</td>
<td>17,009 100.0%</td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-39 years</td>
<td>367 16.3%</td>
<td>2,581 15.2%</td>
</tr>
<tr>
<td>40-44 years</td>
<td>395 17.5%</td>
<td>3,046 17.9%</td>
</tr>
<tr>
<td>45-49 years</td>
<td>488 21.6%</td>
<td>3,883 22.5%</td>
</tr>
<tr>
<td>50-54 years</td>
<td>553 24.5%</td>
<td>3,996 23.5%</td>
</tr>
<tr>
<td>55-59 years</td>
<td>452 20.0%</td>
<td>3,553 20.9%</td>
</tr>
<tr>
<td>Females</td>
<td>1,185 52.5%</td>
<td>7,453 43.8%</td>
</tr>
<tr>
<td>Place of work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major city</td>
<td>1,390 61.6%</td>
<td>11,720 68.9%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>508 22.5%</td>
<td>3,408 20.0%</td>
</tr>
<tr>
<td>Outer regional, remote, very remote</td>
<td>357 15.8%</td>
<td>1,874 11.0%</td>
</tr>
<tr>
<td>Place of residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major city</td>
<td>1,413 62.7%</td>
<td>12,180 71.6%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>493 21.9%</td>
<td>3,107 18.3%</td>
</tr>
<tr>
<td>Outer regional, remote, very remote</td>
<td>349 15.5%</td>
<td>1,679 9.9%</td>
</tr>
<tr>
<td>Number living with a partner or a spouse</td>
<td>1,941 86.1%</td>
<td>n/a</td>
</tr>
<tr>
<td>Number of dependent children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>464 20.6%</td>
<td>n/a</td>
</tr>
<tr>
<td>1</td>
<td>370 16.4%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>779 34.5%</td>
<td></td>
</tr>
<tr>
<td>3+</td>
<td>596 26.4%</td>
<td></td>
</tr>
<tr>
<td>Average hours worked per week</td>
<td>Mean SD</td>
<td>Mean SD</td>
</tr>
<tr>
<td>All GPs</td>
<td>39.1 (14.5)</td>
<td>39.9 (------)</td>
</tr>
<tr>
<td>Male GPs</td>
<td>46.4 (11.7)</td>
<td>45.7 (12.7)</td>
</tr>
<tr>
<td>Female GPs</td>
<td>32.6 (13.6)</td>
<td>32.5 (13.8)</td>
</tr>
</tbody>
</table>

Of the 82 questions in the MABEL Wave 3 questionnaire, 16 were used to examine relationships in the Theory of Optimising Professional Life. These questions were selected because they best represented the concepts and relationships developed from my interview data, and therefore I expected them to relate most closely to the research questions. A description of the questions used for this study is provided in Chapter 5 with the quantitative analysis.

Downloaded 12 January 2013.
3.5 Summary of this chapter

For this exploratory investigation of how GPs develop their professional life, I chose a theory-building research method where the emerging theory explains what occurs in the events being studied in GP careers. I also wanted to quantify and test aspects of my new theory with a larger sample of GPs, making this a mixed-method design with two sequential parts. Using the combination of grounded theory and quantitative analysis increased the number of GPs from whom data were obtained, while overcoming a limitation of the quantitative survey format whereby only pre-coded responses are provided for each question. Viewed together this approach gives a greater diversity of GP data with potential for a more complete picture of the matters of interest.

The chapter continued with a description of how I used the grounded theory method, including the sampling process, how the data were collected, coded and analysed for patterns of behaviour thereby leading to the Theory of Optimising Professional Life. This new theory with its three-stage psychological process – discomfort, assessment and resolution – is detailed in Chapter 4 while a description of the quantitative analysis is presented in Chapter 5.
Chapter 4: THE EMERGENT THEORY

4.1 Introduction
This chapter explains my Theory of Optimising Professional Life and its three-stage psychological process – discomfort, assessment and resolution. A stage of discomfort caused by unsatisfied need progresses to a stage of assessment where the discomfort is confronted and a preferred solution identified. This is followed by resolution of the discomfort where the GP implements that solution which provides the most satisfactory circumstance.

The chapter begins with a statement of my theory, including its theoretical framework, propositions which connect the theory’s elements and an outline of the three-stage psychological process. The presentation continues with an explanation of the stage of discomfort where GPs’ concerns about self-care, staying interested in the work and financial reward are identified and explored. This is followed by an explanation of the stages of assessment and resolution. The concepts of satisfaction, autonomy and recurrent behaviour as they relate to the Theory of Optimising are also described.

As the data analysis showed that Optimising Professional Life is multi-dimensional, the section on resolution is structured around four dimensions: treating patients, structuring the work day, integrating work and personal life and adapting oneself. These dimensions are dynamic and interactive, reflecting a system of environments within which GPs enact professional life.

Illustrations are provided, drawing on GP narratives of career events in their working lives and analysis of MABEL survey responses. Viewed together these illustrations give a greater diversity of GP data with potential for a more complete picture of the matters of interest.

4.2 Statement of the Theory of Optimising Professional Life
The Theory of Optimising Professional Life states that the main concern of experienced general practitioners working in Australia is sustainment of their professional life. To resolve this concern each practitioner makes a series of assessments and enacts a series of choices, iteratively throughout their career, to optimise their personal situation.

The career trajectories of experienced GPs in Australia are interspersed with a sequence of career events where they change or adjust their jobs, aspects of their work situation or their own needs in order to sustain their professional life. Sustainment within this context involves caring for oneself, staying interested in the work and being rewarded financially. To implement
changes, GPs need the capacity to act, and Optimising thus requires autonomy: the freedom to make and enact one’s decisions.

The Theory of Optimising Professional Life explains how GPs participate in clinical general practice. Attention to these concerns enables GPs to be more effective in their professional roles, emotionally and intellectually, and to achieve their life goals.

4.2.1 Theoretical framework
The six key constructs of Optimising Professional Life are defined in Table 4.1. Needs are unsatisfied elements which GPs endeavour to satisfy through their work. During this study, GPs revealed their need to sustain their career, taking into consideration self-care, maintaining interest and receiving financial reward. The solution space holds satisfactory options for meeting these needs while constraints limit the set of possible solutions. These solutions are found in four dimensions – technical in treating patients (control over work content and how the work is done), business in structuring the work day (administrative structure of the day), work-life balance in integrating work and personal life (balance between personal and professional life) and personal effectiveness in adapting oneself (building resilience and skills, changing perceptions and attitudes). Optimising is a process directed towards implementing that solution which satisfies a GP’s needs to the greatest extent. Satisfaction reflects the quality of fit between a GP and his/her environments.

The framework for my Theory of Optimising Professional Life is illustrated in Figure 4.1. The need for self-care, staying interested in the work and financial reward are in dynamic tension, shown as an equilateral triangle with a different need occupying each point. Collectively these needs represent the concern GPs have to sustain their professional life. Within the triangle (named the solution space) there are satisfactory and very satisfactory solutions to meeting a GP’s needs, with the optimal solution being the most satisfactory solution for the circumstances at that time. Outside the triangle are solutions that are considered to be unsatisfactory and/or inaccessible. For GPs, optimising involves making their situation as perfect or effective as possible by finding the best compromise among several often conflicting requirements.

This career behaviour of optimising occurred in four core areas in which GPs can take action to resolve their main concern: treating patients (work content and how the work is done), structuring the work day (administrative structure of the day), integrating work and personal life (balance between personal and professional life) and adapting oneself (building resilience and skills, changing perceptions and attitudes). In addition, there was variety in the type and degree of the career events described by GPs in this study, with individual GPs implementing
different solutions. While empirically different, these solutions and the process GPs followed to select and implement them were consistent with the pattern of behaviour described by Optimising Professional Life.

Professional life is the accumulation of professional roles and work-related activities that GPs experience throughout the course of their working life, primarily directed towards improving one’s lot in life. This thesis presents a macro career perspective of GP professional life underpinned by day to day involvement in work. Thus, career behaviour is induced from daily behaviour rather than deduced from general career principles.

Table 4.1 Key constructs of the Theory of Optimising Professional Life

<table>
<thead>
<tr>
<th>Construct</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs</td>
<td>Unsatisfied work needs, that is, deficits of some kind (biological needs to do with survival or psychological needs to do with well-being) that the GP seeks to satisfy through professional work. During this study, GPs revealed a need for sustainment which comprised the need for self-care to sustain well-being, staying interested in the work to sustain work interest and the need for financial reward to sustain lifestyle.</td>
</tr>
<tr>
<td>Solution space</td>
<td>A range of possible satisfactory solutions, including the optimal solution, to meeting GPs’ needs, taking into consideration those constraints impacting upon resolution of the problem. Solutions are found in four dimensions – treating patients (control over work content and how the work is done), structuring the work day (administrative structure of the day), integrating work and personal life (balance between personal and professional life) and adapting oneself (building resilience and skills, changing perceptions and attitudes).</td>
</tr>
<tr>
<td>Constraints</td>
<td>Barriers or inhibitors that limit the set of possible satisfactory solutions. Work is often intertwined with other domains of life, all of which can constrain the range of possible satisfactory solutions. GPs searching for the most satisfactory professional life develop career pathways in an environment influenced by families, government, patients and their profession. General practice is an occupation that exhibits the distinguishing features of a profession. Accordingly, vocational behaviours of individual GPs are influenced by many professional factors including the attraction of a shared professional identity, a professional culture and the benefits of group strength in attaining and maintaining status and income.</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>A consequence of how well an individual’s needs are met by their career.</td>
</tr>
<tr>
<td>Optimal solution</td>
<td>That outcome which satisfies needs to the greatest extent within a set of dynamic circumstances (opportunities and constraints).</td>
</tr>
<tr>
<td>Optimising</td>
<td>Three-stage process of discomfort, assessment and resolution aimed at satisfying GPs’ needs to the greatest extent possible within a set of constraints.</td>
</tr>
</tbody>
</table>
4.2.2 Propositions

The seven propositions for the Theory of Optimising Professional Life are listed in Table 4.2. These statements provide a succinct way of capturing the intent of the theoretical framework and its key constructs by describing how each construct fits into the theory.
Table 4.2 Propositions for the Theory of Optimising Professional Life

| Proposition #1 | The main concern being addressed by the professionals in this study is the need for *sustainment*. |
| Proposition #2 | The aim of the *Optimising* process is to achieve the most satisfactory solution i.e. to satisfy the need for sustainment to the greatest extent possible within a set of constraints. |
| Proposition #3 | The process of *Optimising* has three stages – stage of discomfort, stage of assessment (a crossroads) and stage of resolution. |
| Proposition #4 | The solution space holds a range of possible satisfactory and very satisfactory solutions that meet the GP’s need for *sustainment*. Solutions are found in four dimensions – treating patients (control over work content and how the work is done), structuring the work day (administrative structure of the day), integrating work and personal life (balance between personal and professional life) and adapting oneself (building resilience and skills, changing perceptions and attitudes). |
| Proposition #5 | GPs are aware of, and respond to the constraints present in the internal and external environments. |
| Proposition #6 | Having personal autonomy enables GPs to make the changes they wish to make to optimise their situation. |
| Proposition #7 | *Optimising* is a psychological process that recurs throughout a professional career. |

4.2.3 The Optimising process - discomfort, assessment, resolution

The three stages of the Optimising process - discomfort, assessment and resolution – are set out in Figure 4.2. The stage of discomfort focuses on the unsatisfied need associated with each GP wanting to sustain their professional life. The urgency for action and determining whether or not to act are typical of the stage of assessment giving it the character of a crossroads. The stage of resolution focuses on attaining the most satisfactory circumstance possible through implementing the preferred solution within dimensions which reflect the multiple environments where GP professional life unfolds. This process recurs throughout a GP’s professional life, that is, until the matter is resolved.
4.2.4 Illustrations from the data

My data analysis involved examining GP narratives describing career events in their working lives, each of which provided an episodic story of Optimising Professional Life. Illustrations of these events and how they relate to my theory are provided. To satisfy their different needs each GP implements their optimal solution.

Sue, aged 53, took on a new job to satisfy concerns about having future income from work she was really interested in. However, she also needed to self-care in the interim because she felt she was working too many hours (at 1.2 full-time equivalents) and she hadn’t ‘got the balance right at the moment’. She coped knowing that this stress was temporary while she transitioned to a new teaching role and that she planned to ‘cut back by Christmas’. This shows Sue was in the resolution stage of the optimising process because she was implementing her career decision.

Because Shane, aged 53 years, was concerned about staying interested in his work he balanced two jobs of different yet related types of medical work. He said he wouldn’t work full-time in clinical general practice because his non-clinical work was more important to him, so he needed to do both. This illustrates that Shane had assessed what arrangements would best meet his personal needs. He was optimising his professional position by negotiating the times that he preferred to perform his clinical work and continuing to pursue activities that were more important to him.
In another illustration of the Optimising process, Graham, aged 28, decided he didn’t like the work of a hospital emergency department (that is, he experienced discomfort) so he moved to general practice. He ‘decided the hospital really wasn’t for me because I didn’t want to work quite as they asked of me. General practice was much more amenable to part-time and flexible work’. Graham changed his medical career to suit his needs.

Mark, aged 36 years, was self caring by changing his work place and type of work throughout the week. He worked in two general practices and in a private hospital as a surgical assistant. Mark said he chose to work in multiple workplaces, with different types of patients and professional activity because he wanted ‘a change of scenery, not being in the same office for long hours, 5 days a week’. Mark is in the resolution stage because he is actively shaping his career to take advantage of flexible work structures and thereby satisfy his need to self-care with a change of scenery.

Meg, aged 35 years, explained that lack of time constrained her in what she wants to do professionally. Therefore, since 2005 she has been dividing her medical career between medical education and clinical work. ‘I spread my clinical work over three days but sometimes I’ll only do two days and do extra medical education, so it works quite well. I couldn’t do any more than three days clinical and keep the balance of things but at the moment it’s working quite well’. Meg has chosen a general practice where her clinical work is ‘very flexible’ in order to optimise her position within her constraints. If she has conferences or meetings to attend, she spends more time doing education and less time doing clinical work.

These insights provide a more nuanced understanding of the process of Optimising Professional Life and recognise that GPs’ needs are complex in nature and can interact dynamically. By experiencing discomfort, assessing their needs based on an understanding of their importance, making a decision and acting to attain the most satisfactory circumstance possible, these GPs illustrate the three stages of the Optimising process.
4.3 Stage of discomfort

The process of Optimising Professional Life is triggered by a stage of discomfort or unease, which is characterised by a GP’s need for *self-care, staying interested in the work* and *financial reward*. It was the language that GPs used when describing their working life that drew my attention to this stage – expressions and words like needing a break, frustrating and irritating, marking time, tumbled over, intense, constancy, lonely place, loner, very tired and struggled. This section describes the needs that were causing discomfort for study participants.

4.3.1 Need for self-care

*Self-care* is looking after one’s own physical, mental and emotional health. For GPs, *self-care* means choosing behaviours that balance the various stressors in their professional life and setting boundaries between personal and professional life.

GPs described working in general practice as intense, isolating, lonely and very testing, with a heavy clinical load making it difficult to take time off. Illustrations of the demands of general practice work expressed by the GPs are provided in Table 4.3.

**Table 4.3 Demands of general practice work**

<table>
<thead>
<tr>
<th>Name</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kate</td>
<td>‘could never go back to working as a sole practitioner. I just find it isolating, and I can see that being a sole practitioner would be a really high chance of burnout’. She feels enormous stress with trying to get her head around a huge clinical load (Kate 52 yrs).</td>
</tr>
<tr>
<td>Peter</td>
<td>worked to ‘the exclusion of everything else. So for a long time I was either at work I was at home, and that was it. To a greater or lesser degree that is still more or less the case, which I don’t particularly like. I wish I had more sort of close relationships outside of work. When you are in general practice on your own it’s pretty isolated and the sort of skills that you develop are not really conducive I don’t think to personal relationships. I lead a rather loner sort of life. I just put up with it’. (Peter 54 yrs).</td>
</tr>
<tr>
<td>Natalie</td>
<td>found that working long hours and trying to satisfy endless need influenced her concerns about burning out (Natalie 43 yrs).</td>
</tr>
</tbody>
</table>

The discomfort from feeling isolated was described to me by Robert who worked in a busy suburban clinic. He also reported how he was trying to solve these issues, which indicated to me that he was still in the process of optimising his situation.

Robert, aged 45 years, described feeling isolated even though he worked in a group practice with several other doctors and staff – ‘everyone is on the run, new patient every 15-20 minutes, very busy, bit behind, waiting patients, need to keep going, and no time to chat’. He explained how he was ‘still learning how to deal with the pressure, how to establish systems to alleviate the demanding workload’. He tries to set boundaries between his personal and professional life to help him cope with the pressure. He limits the number of patients he sees in an hour and advertises his special interests thereby
reducing the types of conditions he treats but he ‘hasn’t been so successful with this as yet’ (that is, in setting boundaries).

GPs’ need for self-care emerged as GPs reported considerable stress and strain due in part to the high intensity of their work, conflicting time demands, heavy professional responsibility and a feeling of limited power to alter the conditions under which they work. They spoke about the clinical workload affecting their personal health in a negative way, becoming overwrought, having to manage their responses by walking away from the clinical situation, fear of burnout, being tired from working long hours and stress. The concern was apparent in Margaret’s reflections.

Margaret, aged 39, had a young family and combined a part-time clinical job with a non-clinical role. She worked in a medical practice with a full-time GP who became ill and unable to work. She felt ‘things seem to have tumbled over each other. The practice is so busy, and with me being the only assistant left I don’t feel like I can drop any time in the practice, and clinical work tends to be sort of self-generating, there is always something else to do’. Margaret said she could not work more hours or take on any more work indeed, she wanted ‘to cut back without letting anyone down’. She was ‘marking time at the moment’.

GPs perceive that working long hours is not providing the best care for patients because it leads to doctors not being engaged with those around them, even pushing people away. Others who work long hours admit that the workload can stifle their self-care and lead to uncomfortable situations of ‘marking time’, ‘placating my own desires’ and vocational immobility where ‘I don’t think I can do any other career at the moment’.

An imbalance between personal and professional life can cause discomfort. Study participants were worried about how to care for themselves, the needs of their families and providing good healthcare services to patients. This delineation between their own care and the care for others highlights the boundary between personal and professional life and how work fits into their life. In an altruistic tradition, there is an expectation that GPs place the welfare of their patients above their personal interests. Self-care tries to improve the balance by finding ways to remain healthy and meet personal needs while continuing to care for patients. Failure to self-care can adversely affect GPs and their capacity to practice medicine. The alternative for some (like Mary, Alan, Meg and Natalie) is to leave clinical practice altogether.
The separation between work and personal life can become blurred by attachment to work. Having strong emotional connections to patients runs the risk of this behaviour extending into an emotional overload and a blurring of the boundaries between professional and personal life. Some GPs find having to cope with caring about people exhausting. Natalie expressed her discomfort in ‘having to be connected to your feelings, their feelings, the whole thing’.

It is instructive to compare the concern of self-care expressed by GPs during my interviews with related survey data obtained by MABEL for a sample of 2,255 GPs working in Australia. GPs in the sample worked an average of 39 hours each week, which was similar to the mean of 39.9 hours from the National Health Workforce dataset for the same age group (Australian Institute of Health and Welfare, 2011b). On average, male GPs worked more hours per week than female GPs (46 hours, 33 hours). Hours increased for both genders in the older age group, but with a slight decrease for older male GPs (Figure 4.3). GPs working in outer regional locations worked more hours (44 hours) than colleagues in inner regional (41 hours) or major city (37 hours) locations.

Figure 4.3 Hours worked by male and female GPs by age group, MABEL data (n=2,255)

The MABEL data revealed that the majority of GPs in the sample (77%) reported being moderately or very satisfied with their hours of work, with only 16% being dissatisfied (19% of male GPs and 10% of females). Notwithstanding this result, some 44% of GPs said they would like to decrease their hours (54% of male GPs and 36% of females). When surveyed about balance between personal and professional commitments, 31% reported an imbalance (39% of male GPs and 23% of females). In terms of the Theory of Optimising Professional Life, these figures suggest that not only those GPs who are dissatisfied with their working hours, but also a
sizeable proportion of those who are satisfied with their working hours, have expressed a desire to decrease their hours, in order to move to an even more satisfactory circumstance.

Interviewed GPs expressed concern for their self-care in terms of the demands of working in general practice, feeling isolated, a heavy workload combined with an inability or reluctance to take time off, and imbalance between personal and professional life. For GPs, self-care means choosing behaviours that balance the various stressors in their professional life and, as the figures suggest, even GPs who are satisfied with their working hours have expressed a desire to decrease their hours in order to move to an even more satisfactory circumstance.

4.3.2 Need to stay interested in the work

Staying interested in the work is an intellectual element that motivates GPs to be keen, enthusiastic and challenged in their work. Knowledge lies at the core of professional work and the acquisition of knowledge is expected to continue throughout life. This section describes the intellectual attraction and variety of general practice work and the discomfort that can arise when this is lacking. Issues around requirements for lifelong learning to maintain knowledge, staying interested to enhance employability and taking on multiple jobs and roles are discussed. In this study, the intrinsic intellectual aspects of work emerged as a significant trigger for leaving or accepting jobs, and for how GPs arrange their professional life.

The clinical work of general practice has an intellectual pull, which intrinsically stimulates doctors’ interest in the work. This makes clinical work highly motivating and energising for some GPs, and they want this interest to continue. Below Jill and Kate show the motivation of advanced problem solving.

Jill, aged 55, worked in a family medical practice in suburban Sydney with two full-time GPs. Jill worked three and a half days each week. She explained the satisfaction she gets from intellectually challenging work. There was an ‘enormous variation in what walks through the door. You just never know what is going to walk through your door. You can have an incredibly interesting, challenging afternoon, or challenging day, just with a couple of patients who are going to extend you to the limit with what could this be, what do I need to do, who do I need to talk to? All those sorts of things. But satisfying because you have got somewhere with someone’.

Kate, aged 52, explained that she likes the diagnostic work - listening to histories and trying to work out things. She said she can make general practice as interesting or as
boring as she wants it to be. She can treat each person and problem as a new challenge, or she can just prescribe medicines, and they can walk out the door.

There was agreement among participants that general practice offers variety and a wider scope of medicine than occurs in a specialty area of medicine. This often influenced GPs’ initial career decision to enter the field. However, the breadth of knowledge required for general practice presented its own challenges (Table 4.4). While some participants found the clinical work stimulating because of its variety and challenge, others found it tiring having to be knowledgeable across such a broad area. Shane, a part-time clinician aged 53, reflected that he had reduced the conditions he treats in order to manage the breadth of knowledge he needs to retain. This difficulty in coping with the breadth and variety of general practice suggests that balancing the required knowledge and skills with GP capabilities is crucial to avoid the ‘variety overload’ (Monica).

**Table 4.4 Discomfort caused by the variety and scope of general practice**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shane</td>
<td>Found clinical general practice full-time tiring. He likes the variety of medical work that he can have in general practice but he finds it difficult to be an expert in all the variety of things you need to know. He manages this by reducing the variety of drugs he prescribes and reducing the number of medical conditions he treats (Shane 53 yrs).</td>
</tr>
<tr>
<td>Linda</td>
<td>Finds it challenging not knowing what presentations you will see next and the breadth of knowledge required (Linda 47 yrs).</td>
</tr>
<tr>
<td>Mary</td>
<td>Has a problem with the diversity of general practice because she's expected to know so much (Mary 53 yrs).</td>
</tr>
<tr>
<td>Monica</td>
<td>Says it is becoming harder for her to retain information as she gets older (Monica 45 yrs).</td>
</tr>
</tbody>
</table>

Medical practice requires esoteric knowledge to be updated through ‘lifelong education and standards and continuous improvement’. GPs develop their professional life to gain the knowledge and experience they need, and to treat patients using this accumulated learning. However, not only does this medical knowledge accumulate, but it also needs to be maintained and updated if GPs are to continue to be competent in their work. Participants speak of the aspects of their knowledge that are important to them: accumulating and updating existing knowledge, as well as influencing the next generation of doctors through teaching and nurturing. Keeping knowledge current requires adaptive and innovative behaviours – ‘being able to keep up with change, and being able to adapt to change, and sometimes actually being at the forefront of change. I think general practice is a very innovative part of medicine’ (Kate 52 yrs). However, working under complex and difficult circumstances can inhibit learning and willingness to explore new solutions.
With *staying interested in the work* being of concern to the interviewed GPs, my analysis of MABEL data provides a broader perspective of the extent of this concern. The results, presented in Figure 4.4, reveal that the majority of GPs in the sample (92%) reported being satisfied with the amount of variety in their work. Further, the majority (88%) were satisfied with the opportunities they have to use their abilities, suggesting that intellectual need is supported by opportunities for development. In terms of the Theory of Optimising Professional Life, these results suggest that GPs who continue to work in this field of medicine are generally able to resolve their concerns about *staying interested in the work*.

**Figure 4.4 GPs’ expressed satisfaction with amount of variety in work, MABEL data (n=2,255)**

GPs expressed concern about *staying interested in the work* in terms of being motivated and challenged by their knowledge and experience. Yet while general practice offers variety and a wider scope of medicine than specialties, diversity has its negative connotations, including the breadth of knowledge required. As this section illustrates, GPs are attracted by the intellectual activity of their field of medicine and want to ensure they continue to gain these intrinsic benefits from their professional work. By improving employability, being interested supports income earning capacity, which attracts *financial reward*. By cultivating a competent, enquiring and motivated mind, *staying interested* supports *self-care* and *sustainment* of a career in general practice.

Most career development theories assume that people work to express their interests (Holland, 1997, Dawis and Lofquist, 1984, Super, 1980, Gottfredson, 1981, Lent et al., 2002). Thus, GP concern about continued interest in performing their professional work is consistent with the important role vocational interests play in several of the career theories discussed in Chapter 2.
4.3.3 Need for financial reward

*Financial reward* refers to working in general practice for economic benefit. This section examines GPs’ need for financial reward in terms of sustaining lifestyle for themselves and their family, adequacy of remuneration for the work involved and provision of financial independence as they move towards retirement. Earning income is a priority of professional life and a factor in *sustainment*.

Work provides GPs with the means of obtaining money to sustain a family and lifestyle. For those GPs supporting a family, having to earn sufficient income is an issue that can influence how they structure their professional life.

Alison, a 55-year-old practice owner in Brisbane, explained that if she hadn’t needed the money to provide for her family she would never have stuck at it (clinical general practice). She was the sole provider for her family and ‘it was head down bum up and work hard to get the kids through school and try to get the mortgage reduced’. From another perspective, Kate, aged 52, wanted to earn enough income to ‘raise your family and to do the things that you want to do within limits . . . life is comfortable, you may not be super rich, but you’ll still be able to look after your family’.

There was evidence that some GPs felt they were not adequately compensated for the work they do. Table 4.5 shows where GP discomfort was aroused by inadequate financial reward, and where financial incentives encouraged compliance. Natalie, aged 44, found that her income went down when she treated more chronic condition patients because her average hourly rate for these patients was lower. She took on a non-clinical salaried position which paid better and had extra entitlements.

**Table 4.5 Illustrations of inadequate remuneration**

<table>
<thead>
<tr>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government sets the amount it contributes to a patient’s fee but this is often out of sync with the cost of the work Monica does. She gives some fee concessions but this reduces the income she could have so she can’t carry too big a load of that work (Monica 45 yrs).</td>
<td></td>
</tr>
<tr>
<td>Natalie’s current job probably pays better than her clinical work because it has extra entitlements – paid leave, study leave, conference leave. She found that her income went down as she got more chronic care patients so over time her hourly rate for clinical work went down (Natalie 44 yrs).</td>
<td></td>
</tr>
<tr>
<td>Meg thinks it’s important to be financially compensated adequately for you to be able to live in a way that you want to live your life (Meg 35 yrs).</td>
<td></td>
</tr>
<tr>
<td>Fiona wants the GPs who work in her practice to use the practice nurses and to teach young doctors but she has found that she needs to use financial incentives to encourage them or they won't do it (Fiona 42 yrs).</td>
<td></td>
</tr>
</tbody>
</table>
Financial reward is sometimes viewed as compensation for the discomforts experienced in the day-to-day work and can be an appealing extrinsic motivator to offset difficulties associated with the job when the intrinsic benefits of the work fail to satisfy. While GPs may not enjoy all parts of their tasks at work, there are aspects of having the income such as security and financial freedom that suggest they are deriving benefit from their professional life through income. However, where GPs see a job as too unpleasant, uninteresting or generally unappealing, extra remuneration may not help to motivate them and they may decide to leave clinical work entirely.

Earning reliable income and benefits is an important reason for choosing general practice. John, aged 54, said that when he chose general practice initially he ‘wanted the security of knowing that there’s work out there he can be paid for’. Similarly, Alan, aged 38, wanted financial security. This concern for financial reward continues to be a factor GPs take into account when structuring their affairs, because different jobs attract different levels of remuneration, entitlements and incentives. Joanne, aged in her mid-fifties and without sufficient superannuation savings, decided to continue working in clinical practice so that she would have enough money to live on in retirement.

With financial reward being of concern to the interviewed GPs, I investigated the MABEL data to determine whether other GPs shared this concern. The results in Figure 4.5 revealed that while the majority of respondents (66%) reported being moderately or very satisfied with their remuneration, a significant proportion (24%) were dissatisfied. Female GPs were more satisfied than male GPs, but dissatisfaction was similar for both genders. Male GPs earned more annual income than female GPs, in part due to working more hours than female GPs. However, further analysis revealed that female GPs also had a lower hourly rate of income than male GPs. Older GPs had higher earnings than younger GPs, and GPs working in outer regional locations earned more than colleagues in inner regional or major city locations, noting that those in outer regional locations work more hours than GPs in other locations. When asked whether, ‘given my current financial situation and prospects, I believe I will have enough to live on when I retire’, 43% agreed and 34% disagreed. Again, this suggests a significant level of concern about financial reward.
Financial reward is an important determinant in career decisions. Several GPs expressed concern about being unable to earn sufficient income to sustain their lifestyle while others felt the remuneration was adequate for the work involved. The importance of financial reward in being able to improve one’s economic situation raises awareness of those barriers that may keep GPs from satisfying other needs such as a need to self-care and to stay interested in their work.

GP concern about financial reward is consistent with much of the literature in Chapter 2, which argued that for many people, being rewarded for work performed determines their overall quality of life. Extrinsic rewards, primarily money, can be used for shelter, food, and sustenance, and to satisfy safety needs, a feature of Maslow’s hierarchy of needs theory (Maslow, 1943). Dawis and Lofquist’s (1984) theory of work adjustment suggests that where GPs are not satisfied with the financial rewards available from doing a particular job, the individual may adjust themselves (reduce level of need) or may try to change the work environment (increase rewards), thereby restoring equilibrium between the individual and the environment. Blustein (2006) predicts that if an individual is sufficiently rewarded extrinsically, they will be satisfied to participate in the work but if there is not a good fit and work is not extrinsically rewarding, poor satisfaction will ensue.

In terms of the Theory of Optimising Professional Life, by developing a career that accesses the economic resources necessary for survival and an improved lifestyle, professional life has the potential to enhance prestige and provide greater flexibility in career opportunities, making financial reward an important determinant in career decisions.
4.3.4 Need for sustainment

Self-care, staying interested in the work and financial reward are intertwined features of sustainment. Effective fusion or balancing of these elements can lead to GPs feeling ‘completed’ (Jill 55 yrs), ‘self-growth and development as a person’ (Monica 44 yrs) and being a ‘better doctor’ (Meg 35 yrs). The results of my analysis of MABEL data in Figure 4.6 revealed that the majority of GPs in the sample (88%) reported being moderately or very satisfied with their work as a doctor, when they took everything into account, while 8% were dissatisfied. Female GPs were more likely to be moderately or very satisfied with work than male GPs and less likely to be neutral or dissatisfied.

Figure 4.6 GPs’ expressed satisfaction overall with their work as a doctor, MABEL data (n=2,255)

However aggregate data such as these, which show a high level of overall satisfaction among GPs, can mask the true level of concern that GPs express about their need for sustainment. Similarly, such data can mask the importance of factors that drive GP career decisions. For example, while the majority of GPs reported being satisfied with the amount of variety in their work and the opportunities they have to use their abilities (refer to Figure 4.4), staying interested is a more significant concern for GPs who felt dissatisfied overall. The MABEL data show that 37% of dissatisfied GPs thought the amount of variety in their work was not satisfactory and 53% were not satisfied with the opportunities they have to use their abilities (refer to Chapter 5, Figure 5.6). These findings suggest that staying interested can be an important trigger for career changes, which may be overlooked because most GPs report they are satisfied with this aspect of their work.
The stage of discomfort continues until the unease is recognised or becomes too intolerable to be ignored, diminished or denied. This marks transition to the stage of assessment, which is discussed in the next section.

### 4.4 Stage of assessment

The stage of assessment is characterised by evaluating options and deciding whether to take action. In this section I discuss features of the stage of assessment, including transitions into and out of the stage, urgency for action, constraints, feasible solutions, the optimal solution and making a decision. This stage features a cross-road where GPs choose action or inaction. With action, individuals take charge of their circumstances and become actively involved with resolving the problem, a concept referred to in this study as *emerging self*. Examples of concerns about *sustainment* drawn from the data are used to illustrate these features.

#### 4.4.1 Transitions

This section reports transition into the stage of assessment (from discomfort to assessment) and out of this stage (from assessment to resolution). The transition into the assessment stage is contingent on something happening that disturbs the status quo and prevents the discomfort from being ignored, diminished or denied. This forces GPs to assess or rethink their working lives. For study participants, the transition from discomfort to assessment was activated by a critical event or by a gradual escalation to a psychological event. Moving from assessment to resolution was generally triggered by a career decision. Events, such as the death of a spouse, relocation for a spouse’s new job, being asked to become involved in professional activities or being approached with an interesting job proposition, can quickly spark the need to assess and rethink the way forward.

Monica, aged 44, spoke about a problem she had in her early career when her children were young. She knew the arrangement that had worked very well (before children) was no longer working because she had three young children and the distance she had to travel to work made it nearly impossible for her to maintain balance between her work and home life. She decided to work as a locum in a medical practice closer to her home and family. She reflected that she spent four years putting her family first, placating her own desires to have her own ideal place to work in until she could take it no longer and she set up her own practice.

Further examples of GPs transitioning from discomfort to assessment are shown in Table 4.6. Transition from one stage to another may not always be marked by a critical juncture. It may be marked by a more general transition - in such a way that the transition point is somewhat
blurred. An exact time of transition may be impossible (or arbitrary) to pin down, but the transition may be obvious afterwards, through the clear realisation of the need for change.

Table 4.6 Illustrations of triggers for transition from stage of discomfort to stage of assessment

| Mary had three children under the age of six when her husband was diagnosed with cancer and passed away. ‘So that was my sort of tale of woe . . . my husband and I worked together really as a team, he was there to give me that confidence and of course when he died I really struggled’. (Mary, 53 yrs) |
| Robyn’s husband was a specialist and ‘we actually moved frequently and regularly . . . every year or two years . . . I continued to work . . . I had three children in fairly quick succession and then when I joined a practice as a principal . . . I rather expected that we’d stay in that area’. However, her husband made the decision to move to Australia ‘and that did precipitate a major career change for me’. (Robyn, 59 yrs) |
| Peter said it started with being asked to become involved in medical policy and programs activity ‘it started in an almost very ad hoc sort of way . . . it was something else to do, you know that was my whole motivation . . . was a bit of fun . . . and it went quite well’. (Peter, 54 yrs) |
| Eric said ‘I love being a GP, I really love my clinical work, but I’ve always had a sort of eye to a slightly bigger picture, and so about 15 or 16 years ago I sort of branched out a little bit. I’ve always had an interest in education, and I undertook training in education’. He was approached about an interesting new job proposition but ‘there are considerations’ (he was referring to his family situation). (Eric, 47 yrs) |

Moving from the stage of assessment to the stage of resolution is triggered by a career decision. For Mary and Sue the transitions were motivated by the need to self-care and to find more interesting work.

Mary, aged 53, reflected that she changed workplaces when she was unable to cope with the work – ‘at the university health service where basically I was the solo GP and responsible for the emergencies - I really didn’t cope with that so I decided to go into group practice to support me better’.

Sue, aged 53, had an interest in counselling which she was pursuing when I interviewed her. ‘I’ve developed an interest in counselling and I’ve done some training in counselling over the last couple of years. It’s got the potential for a subspecialty area’.

4.4.2 Urgency for action

Individual study participants exhibited a degree of urgency that stimulated them into action. This relationship between urgency and action can be explained using the concepts of control and risk. Being in control or ‘on-course’ was associated with little or no worry while ‘off-course’ was accompanied by a high amount of worry.
Low urgency for action occurs where the situation is considered to be on-course and the associated risk is assessed as low. In this case, a participant’s attention turns to keeping any risks contained. A sense of satisfaction with both the situation and, consequently, the career as a whole suggests that the urgency for action is low. Hence the discomfort may be ignored, diminished or denied. Action is in the nature of tweaking or fine-tuning an existing work solution, rather than making any significant changes.

Medium urgency for action occurs where the situation is assessed by an individual as off-course but the associated risk is considered low or non-critical, as indicated by a low degree of worry or searching for reassurance. Action is needed to move the situation from off-course to on-course in order to contain the risk. As constraints begin to affect the situation, satisfactory options may become more limited. Overall, the circumstances become more complicated, with the potential to inflame the discomfort. Several GPs I interviewed had made trade-offs which changed the relative importance of self-care, family, interesting job and finances. In some situations, GPs asked others for help with a diagnosis of patient illness. In other circumstances they engaged in protective behaviours such as holding themselves back and being careful about what they do. These behaviours aimed to bring a situation back on-course and in control.

High urgency for action occurs where the situation is assessed as off-course with high associated risk. A family problem can escalate the urgency for action, such as when a GP becomes sole provider for the family due to the death of a spouse or divorce. Should the risk become critical, as indicated by a high level of stress or considering leaving the work, then the urgency for action is also considered critical.

4.4.3 Constraints
Constraints incorporate the environment or context into the Theory of Optimising Professional Life. Individual study participants were aware of, and responded to constraints in their internal and external environments that restricted a potential action they might take. Internal constraints to career progression can be insufficient knowledge, skills or attributes to perform the job. External constraints may be social, political or economic factors that can influence individual GP behaviour, including insufficient finances, family commitments, difficult patient presentations, a lack of resources, and a lack of time or too large a workload.

Constraints can change over time and may vary in their effect, often in combination, as illustrated by Kate’s situation where the gradual increase in chronic conditions had increased her workload.
Kate, aged 52, had been a practice owner for most of her medical career. She explained the changes she experienced in the type of clinical presentations. ‘Certainly your workload increases. I think what happens is that when you’re young you see young people, and as you get older your patient load ages, and you start to see patients that are older and have more chronic illness. It sort of exponentially increases the number of problems that people have. So I suspect I have much more chronic care problems than I used to have. When I first started in general practice I saw a lot of young people – probably similar to my age. And then they’ve all got older. Now my average age patient is actually a lot older, and I don’t see as many of the kids as I used to.’

4.4.4 Feasible solutions

Feasible solutions are those that GPs can implement to resolve their unease yet accommodate the constraints involved. Within the boundaries set by constraints (also known as the solution space) there are satisfactory and very satisfactory solutions to a problem, with the optimal being the most satisfactory solution. Outside of the feasible solutions there are those which are considered to be unsatisfactory and/or not feasible.

Each interviewed GP had personal goals and needs that they wanted satisfied by their professional life in medicine. Where they had multiple, possibly conflicting, needs they sometimes found a single solution that satisfied all simultaneously or they prioritised their needs and subjugated lesser needs so that feasible solutions might be found to satisfy as many of those needs as possible. Practical constraints can result in feasible solutions that satisfy needs to a limited extent, rather than fully, yet provide results that GPs find acceptable.

4.4.5 Optimal solution

The aim of Optimising Professional Life is to achieve the most valued or most satisfactory solution, situation or circumstance within a set of constraints. The optimal solution is that feasible solution which satisfies a GP’s needs to the greatest degree.

Where interviewed GPs said they were satisfied with their work in general practice, this demonstrated they were working in circumstances where their medical careers were, for the most part, on-course, and their level of perceived risk was low, that is, their professional life was under control and stable. However, several of these satisfied GPs continued to exhibit searching behaviour suggesting to me that while their current situation was satisfactory, it may not have been the most satisfactory or optimal situation for them.
4.4.6 Making a decision

Decision-making begins with searching for solutions to the problem at hand. Alternatives are assessed through a balancing of GP needs, available resources, impact of constraints and trading off preferences. As GP John, aged 54, expressed, sometimes this means ‘you puddle around’ trialling ideas. The potential benefits or rewards are gauged, often imbued with the GP’s subjective values. Factors such as hours worked against time spent with family, income against job interest, income against hours worked, and workload against need to self-care are weighed against each other.

Kate, aged 52, would like to travel with her husband so she is thinking about reducing the number of hours she works, increasing her flexibility, reducing her patient load and working as a medical locum, all of which could provide a feasible solution.

Alan, aged 38, shared his experience: ‘when you’re going through your 20s you’re kind of learning who you are, more so than you are at any other stage of your life’. He worked out that he wanted a job that involved people, preferably helping people, and that gave him an adequate living. He looked at many different types of jobs, but they didn’t have the ongoing learning that he was looking for. Finally he chose medicine, working in a Queensland hospital.

The best solution relative to the constraints is selected. This approach accommodates the GP’s subjective stance, value-based outcomes and multiple criteria. It can operate within a continuous process of optimising in which career decisions are examined and re-examined, highlighting an iterative approach to career development that is not often evident in the current literature.

Robyn, aged 59, explained that having to relocate due to her husband’s work as a medical specialist ‘did precipitate a major career change for me, for two reasons. One was the move, which was an obvious point of dislocation, and decision to take some time to settle everybody in - four children settling into school - and give me time to have a look at what the general practice scene was doing’. She visited some practices and thought, ‘I think it is time for a change. So, I had the opportunity to become involved in some research’.

Joe, aged 46, was an overseas trained paediatrician who moved into general practice in Australia ‘for myself as a career opportunity . . . you look after everybody and I think I got a bit of an interest in, not just paeds, but looking outside that paediatric spectrum.'
I’d actually looked into, you know, doing paediatric fellowship exams here but the amount of hospital time was what actually discouraged me, because I’d done lots of hospital work and working rosters with young children and my wife works full time’. He chose to ‘do something that was more conducive to being able to have a balance, a balance in life’.

My data analysis of GP narratives about their professional life found that GPs approached the decision-making process in different ways. Some GPs held their multiple needs as more or less equally important and attempted to balance them to achieve their optimal result.

Monica, aged 44, had established her own business in a major city within the 12 months before I interviewed her. She described the business location where she chose to see her patients as being ‘a wonderful location, it has good karma’. She valued these attributes. Her location was close to her home and helped her to manage her home life. It was also close to other medical services which helped her patients. Monica had thoughtfully decided where to locate her clinical activities in a place that she valued and considered to be her most satisfactory situation.

Alternatively, there were GPs who assessed their needs based on a clear ranking of importance, causing them to focus on the most pressing need as the one to be optimised and to treat remaining needs as constraints.

Natalie, aged 43 years, said she didn’t want to work full-time in general practice because her ‘capacity for compassion reduced’. She explained that three days a week was fine for her to be ‘a really patient-centred and present GP’ but with more than three days of clinical work, her attitude became more like she ‘didn’t really want to be there’. She felt ‘there are only so many people in one week that you can care about’. Natalie had a constraint on her capacity to handle a larger workload in the manner she wanted to professionally. Her concern for self-caring meant she chose to work fewer hours, thereby showing she was optimising her situation within her constraints.

Inaction can result from not needing to act, not wanting to act or from being blocked or unable to act. If the sense of urgency is considered low then individuals may choose not to implement any changes. However, GPs may be unable to act when GP autonomy is restricted and they do not have the freedom to implement the changes they have chosen.
During this study I found that the stage of assessment took different forms depending on the urgency of the situation, the needs of the individual, the expected benefits of the solution and any constraints. However, while the manner of assessment may vary among GPs, a consistent pattern of behaviour throughout their professional lives was observed. That behaviour responded to universal questions: Should something be done now? What are the alternatives? Which is best? My analysis of this behaviour of optimising helped me to understand why some GPs stayed in the same job for many years, while others changed jobs frequently or held multiple jobs at the same time.

4.5 Stage of resolution

In the resolution stage, GPs implement their preferred solution for Optimising Professional Life, which may involve changing how and when they work with patients, adjusting the routine of their day, improving the mix of personal and professional life or adapting themselves to fit more comfortably with their current professional work. My data analysis found this process to be multi-dimensional, accommodating a mix of strategies and constraints. GP background, family influences, workplaces, professional expectations (both the GP’s own and those of the community) and environmental influences were noted. This section explains what action GPs take to resolve their main concern in each of four dimensions: treating patients, structuring the work day, integrating work and personal life and adapting oneself. Treating patients is the impetus for GP professional life, including diagnosis, treatment and evaluating care, as well as patient consultations and relationships. Structuring the work day evokes the mix of work (clinical and/or non-clinical) undertaken, the workload and pace of daily activity. Integrating work and personal life connects personal commitments outside of work to GP career and adapting oneself refers to personal adjustment behaviour, building resilience and skills, and changing perceptions and attitudes. These environments in which GP professional life unfolds are related, so that optimising involves balancing across needs and across dimensions to achieve an optimal solution.

4.5.1 Treating patients

Career changes can be implemented through technical changes to the service GPs provide treating patients. After defining the concept of treating patients and providing contextual background, this section explores changes aimed at satisfying concerns about self-care, staying interested in the work and financial reward.

Treating patients is about the clinical work content and how it is done. This not only includes the diagnosis and management of health problems but also the number and type of patients treated and the type of medicine performed. Providing continuity of care extends beyond...
individual consultations or episodes of illness to involve coordinating patient care throughout the course of health-related incidents and across the health system. In a paternalistic model of medicine, GPs direct all aspects of the doctor-patient relationship. However, this is no longer possible as patient autonomy challenges traditional clinical freedoms and allows patients to make decisions about their medical care without their healthcare provider influencing the decision. In Australia, clinical care is guided by evidence-based medicine that provides a normalised approach to treatment. However, where patients do not fit the norm, GPs apply their professional judgement in a medical examination.

Interviewees referred to how clinical work has changed in recent years, with an ageing population, an increase in prevalence of chronic diseases, a proportional reduction in acute presentations, an increase in use of technology and computers, and changes in public funding of primary healthcare. With the increase in chronic conditions in the population, GPs seek ways to encourage patients to adhere to medical recommendations and changes to lifestyle behaviour. The focus is on what patients can actively do to improve their health, including promoting patient responsibility for their own health management and matching intervention with patient readiness for change.

The relationship between patient and GP is important to the success of treatment. It is in this relationship, described by Monica, as ‘complicated, dynamic and delicate’, that GPs become involved in people’s lives and receive affirmation for their professional work. GPs like positive feedback, recognition and respect from patients, and relationships are strengthened by working with family groups because the family has the closest ties to the patient and can help influence patient behaviour. Thus, the notion of patient care that emerged during this study reflects being familiar with patients’ circumstances, being relevant to their needs and inspiring trust. With episodic encounters, GPs rely on their ability to establish immediate rapport to influence patients. How the GP experiences the patient relationship can influence each GP’s ability to develop their professional life in a careful manner.

Analysis of MABEL sample data in Figures 4.7 and 4.8 revealed that each week on average GPs provided care for 105 patients. Male GPs provided care for 132 patients in private consulting rooms compared with 81 for female GPs. In addition, male GPs saw an average of 22 patients in hospital or other settings compared with 15 for female GPs. The number of patients increased for both genders with age, and then decreased slightly for older male GPs. GPs working in inner regional or outer regional (mean patients per week 110) locations treated slightly more patients in private rooms than colleagues in major cities (mean patients per week 103). For each hour working in direct patient care in consulting rooms, on average male GPs
saw 3.4 patients compared with 3.1 for female GPs. Across the age groups, the variation in this rate for both genders was small.

**Figure 4.7 Mean number of patients seen per week in private consulting rooms by age and gender, MABEL data (n=2,137)**

![Bar chart showing number of patients seen per week by age and gender, MABEL data (n=2,137).](chart1.png)

**Figure 4.8 Mean number of patients seen per hour in private consulting rooms by age and gender, MABEL data (n=2,065)**

![Bar chart showing number of patients seen per hour by age and gender, MABEL data (n=2,065).](chart2.png)

### 4.5.1.1 Self-care

*Treating patients* can carry a level of responsibility that some GPs find uncomfortable. This section examines options relating to patient workload that can make the medical load less demanding and help to satisfy a need for *self-care*. These options include doing a different type of clinical work, reducing the number of patients and maintaining clinical independence.
Working in general practice can be physically, mentally and emotionally demanding for GPs. The amount of clinical work, a heavy load of responsibility and working long hours can cause stress and burnout in GPs and the nature of the work can be personally destructive. Monica and Meg described this potentially harmful aspect of treating patients in general practice and the risk of blurring the boundaries between professional and personal attachment.

Monica, aged 44, said ‘there are always cases that are very testing and complicated that you can’t solve and sometimes it doesn’t matter what you do, people die. Inevitably you feel a sense of failure’. She thinks ‘the intensity that is experienced in the medical career is so tremendous sometimes; it’s powerful and also destructive’.

Meg aged 35, ‘felt a heavy load of responsibility and tried not to take it home or get too tied up with things’. She believed a critical skill for GPs was finding the balance between caring, and caring too much.

Self-care through treating patients may involve doing a different type of clinical work or treating different types of patients, thereby making the medical load less demanding.

Kate, aged 52, who had been a practice owner for most of her medical career, explained her plans to reduce the complexity of her workload. ‘I’d like to reduce the clinical work. I’d like to do locums because I could fix simple things without ongoing responsibility for the patient. I quite like working Saturday mornings, because you see people acutely, you can just deal with the problems, work it out, and that’s the end of it. I really quite like that sort of medicine now. I don’t mind doing my chronic care with my other patients, but one of the things I think in terms of clinical load is that is an enormous stress. It’s a huge clinical load trying to get your head around that. When you see a patient in the acute setting or you’re a locum, you can deal with the problem and you don’t have to do the follow up’.

Maintaining their clinical independence helped GPs to treat their patients in a less stressed way, thereby supporting their self-care. GPs spoke about the importance of being free to determine the appropriate clinical care for their patients.

4.5.1.2 Staying interested in the work

Through treating patients GPs apply their accumulated learning of particular sets of knowledge and skills to deliver clinical services. While the nature of this work and an opportunity to work with people attracts individuals into general practice, developing a career requires GPs to
maintain their enthusiasm and interest for the work. This section examines how making changes in *treating patients* keeps GPs knowledgeable and skilful and supports their need for *staying interested in the work*.

GPs update their medical knowledge through lifelong education, standards and continuous improvement, and they hone that knowledge and experience through practise. While some GPs seek opportunities for professional development within clinical general practice, others retrain for different or more specialised skills. It is the intellectual challenge and variety of clinical work that keeps GPs interested and continuing to do the work. This motivating aspect of *treating patients* was highlighted by several GPs, including Kate and Jill.

Kate, aged 52, had been a practice owner throughout her medical career. She liked the adaptive and innovative behaviours required to keep her clinical knowledge relevant for her patients: ‘being able to keep up with change, and being able to adapt to change, and sometimes actually being at the forefront of change. I think general practice is a very innovative part of medicine’. She liked the diagnostic work - listening to histories and trying to work out things. She liked the varied and unpredictable work of general practice – ‘you never go to work and get the same thing. It's always a surprise’. She thought she could make general practice as interesting or as boring as she wanted it to be. She could treat each person and problem as a new challenge, or she could ‘just prescribe medicines, and they can walk out the door’.

Jill, aged 55, explained ‘There is an enormous variation in what walks in the practice. You can have an incredibly interesting, challenging afternoon, or challenging day, just with a couple of patients who are going to extend you to the limit with ‘what could this be, what do I need to do, who do I need to talk to? All those sorts of things’.

By changing the types of patients and health conditions they see, GPs can stimulate their interest in clinical work. They work in different settings such as aged residential facilities, specialised health clinics, hospitals, remote, rural or urban locations, after-hours service, military and specialty general practice; or they can find a mix of chronic, acute and procedural work. Changing the type of medicine practised necessarily changes the clinical knowledge and skills required, with the potential to maintain the intellectual appeal of the profession and satisfy the GPs’ need for *staying interested in the work*.

Joe, aged 46, moved to a different suburb in his city and found he was seeing younger patients with paediatric conditions (which he enjoyed), different from the older patients
he had treated in his previous work because they had typically presented with complex chronic conditions.

Joyce, aged 53, relocated from a major city location to an indigenous community in northern Australia where she could treat patients with tropical conditions, a topic which was her particular interest.

Working with people attracts individuals’ interest in general practice, because the doctor-patient relationship is pivotal to that work. These relationships provide GPs with historical and familial information that enables a more efficient diagnosis and treatment process because it contextualises the illness. Within an ongoing relationship, GPs receive feedback and affirmation of their efforts, and gain knowledge, confidence and professional satisfaction. This interaction encourages GP interest and sustainment of their professional life.

GPs I interviewed also reduced their clinical load as a way of staying interested in their professional work and to accommodate changes in their interests.

Peter, aged 55, who had worked full-time in his practice since he graduated, decided to reduce his clinical hours and accept a salaried part-time non-clinical job. He reported that he was sustained by this new role, which gave him plenty of extra things to do – ‘it's a lot of fun’.

Treating patients provides GPs with a significant opportunity to apply their knowledge and skills and relate to patients. It is this intellectual activity that holds GPs’ interest in the work.

4.5.1.3 Financial reward

GPs earn their income from treating patients, thereby satisfying their need for financial reward. However, making changes in treating patients can influence GP earnings. In Australia most GPs work in private practice and are remunerated on a fee-for-service basis. GPs charge patients a fee for each visit or procedure performed, and either GPs or patients can claim a fixed rebate from Medicare as set out in the Medicare Benefit Schedule (MBS). The MBS details the range of consultations, procedures and tests that are funded under Medicare and the corresponding MBS benefit or rebate. GPs in private practice are free to set the level of their fees at or above the MBS rebate, with patients paying the difference between the fees charged and the MBS rebate. In addition to Medicare, GPs derive income through a variety of government-funded activities such as after-hours care, management of patients with complex and chronic conditions, and providing care in rural and remote locations. GPs’ net income is
calculated by deducting practice costs and expenses from these gross earnings. The income mechanisms of GPs who work in other settings (community health centres, residential aged care health facilities, aboriginal health services, government departments or agencies and tertiary education institutions) are often determined by the different sources of funding for GP services.

Male GPs have higher earnings than female GPs, partly due to working more hours and seeing more patients. Some 82% of GP earnings are from treating patients in private consulting rooms, irrespective of gender or age. GPs working in major city locations reported a higher share of earnings from private patients (86%) compared with inner regional (80%) and outer regional locations (69%) where more earnings were derived from hospital work.

GPs can increase their income by working more hours and treating more patients, earning more income for each patient treated, or taking on a practice ownership role. As practice owner, Shane, aged 53, explained, ‘With a ‘fee-for-service’ model, you’re only doing work if you’re seeing a patient . . . Medicare tends to reward doctors who actually see large numbers of patients with shorter consultations’. Income earned from treating patients varies with the number, type and location of patients. Natalie, aged 42, found that her income went down as she treated more chronic care patients, so that over time this meant her average hourly rate for clinical work decreased. Reducing the fee charged for a consultation or giving concessions can also reduce the GP’s potential income per patient.

Thus to increase their income GPs have increased the number of patients they see, increased the income they earn from each patient and/or worked more hours as demonstrated in the following examples.

A practice owner said she works more because she is supporting her children financially (Kate 52 yrs).

A female GP in her early fifties joined a major city practice 11 years ago when she became the sole provider for her family. She had to work hard to ‘get the kids through school and try to get the mortgage reduced’. She has always worked at least 30 hours a week and is now a partner in the practice which gives her more income. She is currently working 40 hours a week in direct patient care (Alison 53 yrs).

A male GP worked in the after-hours service largely for the money (Peter 55 yrs).
A male GP increased his work in general practice *treating patients* because he wanted to continue to work while he was studying (Joe 46 yrs).

A practice owner explained that if she took time off then she still needed to pay her share of the running costs. That wasn’t feasible for her so she had to go back to full-time employment. Earlier in her career working part-time hadn’t been an option because she could not afford to live on part-time wages. Referring to the amount earned from each patient, she gave some fee concessions but this reduced her income so she ‘can’t carry too big a load of that’ (Monica 45 yrs).

Joanne, in her fifties, said she would like to work less but she doesn’t have enough superannuation, so it is better to work. At retirement age she plans to be doing a few clinical sessions so she can earn money.

The way in which GPs treat patients can influence the fee they earn from each patient. Longer consultations may not attract a higher fee. William, aged 47, a practice owner, spoke about the culture in his practice.

‘We tend to see relatively small numbers of patients per session, and the way that the Medicare system is set up, it tends to reward doctors who actually see large numbers of patients for shorter consultations. We tend to do fewer, longer consultations. The doctors who work here tend to earn a relatively lower income than I suspect GPs tend to in other locations. Because of that limitation the doctors who work here tend to be doctors who are relatively altruistic and are not actually very focussed on earning a good income, because if they were they’d probably go and work in another practice’.

There are GPs who choose to reduce the number of patients they see due to financial factors.

A male GP said that when he felt that the financial pressures were not as acute as they were when he was 35, he took on some non-clinical roles (John 54 yrs).

An early-career male GP with a young family made a different career choice. He wanted financial security and didn’t want a job where he had to worry about not having enough money. He accepted a salaried position in a rural hospital. The Medicare-driven business model of healthcare didn’t suit him (Alan 38 yrs).
A female GP, who was the breadwinner for her family, reduced her clinical work because her current salaried job paid better than her clinical work due to its extra entitlements such as paid leave, study leave and conference leave (Natalie 44 yrs).

General practice is described as a ‘relatively well paid job’ that provides a good living to be financially comfortable and able to afford ‘some of the things you want to be able to do over time’ (Kate 52 yrs). In Australia’s ‘fee-for-service’ model of GP remuneration, income earned from treating patients varies with the number, type and location of patients. This gives GPs some flexibility to increase their income by increasing the number of patients they see, increasing the fee they earn from each patient, working more hours and/or taking a practice ownership role. However, their income decreases if they see fewer patients or give fee concessions. This is of particular concern for those GPs wanting to manage their workload or take a break from clinical work.

4.5.2 Structuring the work day
The way in which a GP’s day is constructed provides an opportunity to Optimise Professional Life. This section examines changes implemented by GPs for structuring the work day. After defining the concept of structuring the work day and providing contextual background, changes aimed at satisfying concerns about self-care and staying interested in the work are explored as they apply to this dimension of Optimising Professional Life.

Structuring the work day refers to the way in which the GP’s day is organised, providing the fabric that makes professional life develop successfully. With the working day as the building block of a career, structure determines the pace and beat of the day, with each type of activity performed during the day having its own momentum. As an example, patient bookings are structural conditions around and through which, a GP’s daily professional behaviour flows. Structure is more than the skeletal design of the working life; it is the mechanism that moves GPs through time. Structural pacing includes when patients are booked in, the number of patients and timing of GP rest breaks as well as making allowance for the type and intensity of the clinical presentations.

Implementing a satisfactory structure requires control of those points in the structure where there is a transition. These transition points can be a shift in pace, a break, a change in type of activity or thinking, or changes from chronic to acute medicine, from patient to non-patient interaction or from dialogue to visual activity. Transition points signal changes in time, location, pace and mood. These elements function like in-breath and out-breath (in at the start of a consultation, out at the end of a consultation). Changes at transition points move GPs
forward through their day. Some GPs establish the rhythm for their day around the beginning, middle and end. Those GPs working part-time or in sessions ‘need to be disciplined and have a hard beginning and a hard end to the clinical session’ (Shane \(^{53\text{yrs}}\)) and to work ‘a set amount of time’ (Sarah \(^{37\text{yrs}}\)). Shane, aged 53, reported if sessions go over time because of the workload, this can ‘increase GP stress enormously’. GPs wanting a flexible pace to their day need flexible transition points that they can influence. While running late with appointments reflects a degree of flexibility, the discomfort it causes both GPs and patients suggests this is a less than desirable solution.

GPs can set boundaries around the hours they are willing to work, keeping those hours flexible so they can participate in a range of clinical and non-clinical activities. For some, staying interested in the work can include exploring non-clinical roles such as general practice management, policy or teaching. I found GPs exhibited a tendency to resist being pressured into increasing their hours. Natalie, aged 43, currently working in a non-clinical area, said she has freedom to structure her work day how she wants it. She has flexibility that she didn’t have in clinical general practice, where she had patient bookings, and she can structure her day very loosely, which she prefers.

Structuring the work day can be implemented successfully to manage time pressures. Just as GPs may find clinical work stressful if they are running late with appointments, poorly structuring appointments, including their frequency, duration and number, can cause GPs to lose control of their work day. This can lead to an uncomfortable lack of closure on tasks, working too many hours, being unable to take time off when desired, juggling too many things and personal health concerns. Margaret and Kate described factors which can hinder control of the clinical workload and pace of their working day.

Margaret, aged 39, a part-time GP, with little say in the management of her workplace, expressed her frustration with the daily routine: ‘rigid booking schedules - having to see patients at particular times. Lack of closure– not enough hours in the week, the practice is so busy, clinical work tends to be self-generating; there is always something else to do’. Lack of control left Margaret feeling she was ‘juggling too many things’.

Kate, a practice owner, aged 52, felt the ‘stress of too many bookings and running late’. This meant she was taking administrative work home because she couldn’t find time to do it during the day and felt unable to take time off when she needed it.
GPs occupied in multiple workplaces - a strategy generally intended to improve self-care or interest in their work - have the extra complexity of adjusting to the organisation of different workplaces. My analysis of MABEL data (Joyce et al., 2010, Yan et al., 2011) revealed that 35% of the sampled GPs worked in multiple locations. Those located in major cities were less likely to work in more than one site (31%) than colleagues in inner regional (40%) or outer regional locations (42%). In terms of the Theory of Optimising Professional Life, these figures suggest that a sizeable proportion of GPs are scheduling their time across multiple locations, yet 88% who work in that way report being moderately satisfied or very satisfied with work overall.

Sarah, aged 37, works in two locations and cares for a young family. She explains the challenge and benefit of having multiple workplaces: ‘In some ways it’s good but in other ways it’s harder because you’re trying to juggle several things, you’ve got a few part-time things, but sometimes several part-time things can be harder than one full-time but I think it’s good it does make it varied’.

Having flexibility in the hours GPs work and the regime of patient bookings impacts the workplace, staff and patients. Therefore, arrangements that can provide the desired flexibility require some organisation and cooperation within the workplace. Practice rules, formal and informal, working in teams, legal responsibility, clinical guidelines and business imperatives can restrict the capacity GPs have to establish their own work schedules. Because poor or inflexible management behaviour can lead to poor scheduling and over-booking, which frustrate GPs, there are GPs who refuse to work in what they perceive as inefficient workplaces.

Several GPs interviewed in this study had reduced their direct patient contact as a way to manage the impact of clinical work on their personal state. Margaret, aged 39, and Shane, aged 53, reported that taking on a non-clinical activity that complemented their clinical work, helped them feel safe and unharmed by a burdensome clinical load. Others felt more balanced with part-time rather than full-time clinical work. Mary, aged 53, and Natalie, aged 43, had left clinical work entirely to find work that was not as stressful. John, aged 54, explained that his interests had changed over time, and he was enjoying life more because he had wound back his clinical work.

When time to do the work is short and GPs feel the pressure, they risk losing control of their work day, thereby adding to the discomfort. Improved structuring of the day can reduce time pressure. With the working day as the building block of a career, structure determines how, when and where GPs experience their professional life. The way in which their time and activities are arranged can provide the flexibility needed to self-care and stay interested in the
work. *Structuring the work day* provides the fabric that makes professional life develop successfully.

### 4.5.3 Integrating work and personal life

This section examines changes implemented by GPs integrating *work and personal life*. After defining the concept of integrating *work and personal life* and providing contextual background, concerns about *self-care, staying interested in the work and financial reward* are explored as they apply to this dimension of Optimising Professional Life.

*Integrating work and personal life* is the dimension which involves addressing the need for *sustainment* by making changes to the way in which a GP’s professional and personal lives interact. According to several GPs I interviewed, achieving balance between these two life roles is important to the enjoyment they experience from their professional life. Both male and female GPs preferred a more balanced life with time for themselves, their families and friends. My analysis of MABEL data examined those GPs who reported having the balance between their personal and professional commitments about right. The results in Figure 4.9 show that 51% felt in balance (42% of males and 60% of females). Most GPs found it easy to take time off when needed and to pursue personal interests. As work-life balance improved, the number of hours worked decreased, suggesting a dependent relationship between these variables. For the Theory of Optimising Professional Life, these findings suggest that GPs with more control over their work hours may be better able to *integrate their work and personal life*. Of those GPs who reported an imbalance, 83% wanted to decrease the number of hours they worked, also suggesting they are more likely to reduce their hours to improve integration.

There was consensus among the GPs I interviewed that general practice is a good occupation in which to combine career and family because it affords income, flexibility and a range of employment opportunities. Table 4.7 lists several actions GPs took to blend work and personal interests more comfortably. Depending on what the GP needs at the time, adjusting the number of hours worked can mean reducing or increasing hours as well as seeking flexibility in the routine. Successfully integrating work and personal life often involves managing the workload so that it is less demanding. Some GPs altered their professional interests to fit more comfortably with personal interests. Changing the location of work can also improve the prospects for integrating work and personal life.
Figure 4.9 GPs’ expressed balance between work and personal life, MABEL data (n=2,255)

Table 4.7 Actions taken by GPs to integrate work and personal life

<table>
<thead>
<tr>
<th>Adjust hours worked</th>
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<tbody>
<tr>
<td>Reduce hours worked, thereby releasing time for family.</td>
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<tr>
<td>Increase hours worked to earn more income to support family.</td>
</tr>
<tr>
<td>Do more flexible general practice work instead of hospital work, which has long shifts and work rosters that are not family friendly.</td>
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<table>
<thead>
<tr>
<th>Manage workload</th>
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<tbody>
<tr>
<td>Replace demanding clinical hours with less demanding work.</td>
</tr>
<tr>
<td>Take a non-clinical position in preference to working schedule of patient appointments.</td>
</tr>
<tr>
<td>Avoid extra responsibilities of owning a general practice business.</td>
</tr>
<tr>
<td>Work cooperatively with other GPs to share the patient workload.</td>
</tr>
<tr>
<td>Engage a locum if one is available.</td>
</tr>
<tr>
<td>Keep responsibility in the workplace low.</td>
</tr>
<tr>
<td>Turn to practice ownership, which has greater responsibility, to ensure control over working conditions.</td>
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<tr>
<th>Alter professional interests</th>
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<tbody>
<tr>
<td>Suppress ambitions about professional work.</td>
</tr>
<tr>
<td>Give up or suspend desires to study a specialisation, which can take more time than qualifying in general practice.</td>
</tr>
<tr>
<td>Find alternate ways to satisfy professional interests.</td>
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</tbody>
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<table>
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<tr>
<th>Change work location</th>
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<tbody>
<tr>
<td>Work closer to home and reducing travel time to work.</td>
</tr>
<tr>
<td>Relocate for a better job to provide for the family.</td>
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</table>

As the following two examples illustrate, balancing work and family changes as children grow older, from nurturing young children, to supervising school activities to financially supporting university education.
Kate, aged 52, told me her story of integrating work and personal life. She was working as a sole practitioner when she became pregnant with her first child. She advertised for a locum doctor while she had her baby, and a female GP accepted the position. That arrangement worked so well that the two ladies later entered a business partnership. When both GPs had babies they shared the load, which happened seven times – Kate had four sons and the partner GP three. Each time one of them had a baby they engaged another doctor. It was an all-female practice for quite some time. When Kate had her babies she would take a few weeks off, then go back to work part-time, changing to full-time when her children were older. Kate always employed a lady at home who came to look after the children while she worked.

When Alison, aged 53, suddenly became the sole provider for her family, she accepted a stable clinical job with a general practice, later becoming a part-owner of the organisation. Alison made these career decisions firstly because she needed to earn income to support her family, then subsequently because she wanted greater control over her work situation.

4.5.4 Adapting oneself
This section explores changes that GPs can make to adapt to circumstances. After defining the concept of adapting oneself and providing contextual background, changes aimed at improving GPs’ emotional capacity and resilience to meet environmental demands and to do the work are discussed.

Adapting oneself involves changing oneself to improve the match between the GP and the environment. This can be achieved by building one’s capacity to do the work, by clarifying the boundaries of one’s professional life, by integrating opportunities for meaning and achievement outside of work and by changing one’s own needs and expectations of what can be satisfied by the professional work. By limiting the impact of clinical work upon oneself and creating balance between personal and professional life, these strategies can also be used to enhance self-care.

A relationship was revealed between a GP’s emotional capacity and a GP’s relationship with patients, as set out in Table 4.8. GPs with greater self-perceived emotional capacity appeared more likely to be able to work with a more demanding patient workload without loss of control. Greg, aged 63, was a GP practice owner who demonstrated this. His demanding clinical work included obstetrics.
Greg explained his response to a demanding workload: ‘I would literally be working every day. I worked every day for years and years, but some days, all day for days, with cat-naps. It eased up most dramatically when I stopped doing obstetrics. Up till ten years ago I was working long hours. It was just the way I saw things, the way I saw life. There wasn’t any doubt about whether I would do it or not’.

Table 4.8 Emotional load

<table>
<thead>
<tr>
<th>Relationship with patients</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>GPs have high capacity to work sustainably with a large patient workload.</td>
<td>GPs have low capacity to work with the patient load and there is the risk of loss of control, burnout and stress.</td>
</tr>
<tr>
<td>Low</td>
<td>GPs have high capacity but low patient engagement.</td>
<td>GPs have low capacity and low patient engagement.</td>
</tr>
</tbody>
</table>

Where GPs have low emotional capacity there is a risk they will experience loss of control, stress and burnout due to the demanding workload. Before deciding to leave clinical work, Mary, aged 53, changed her workplace and specialised in women’s health to improve working with patients.

Mary worked as a solo GP, but she ‘really didn’t cope’ with being responsible for handling emergencies alone. She moved into group practice where she was able to specialise in women’s health. She preferred this to ‘doing full general practice, which I found too stressful’. At the age of 43, she retired from medicine because, she said ‘I’d just had enough’.

When the interplay of capacity and the patient load creates a burden for GPs, this can constrain self-care. Natalie experienced low emotional capacity when faced with a high patient load, which she resolved by reducing her patient load until she found a balance and comfort.

The workload from low patient engagement is less likely to place demands on GPs. Kate, a practice owner aged 52, wanted to work as a locum with a lower patient load.

Kate would like to do locums to reduce her clinical workload where she ‘could fix simple things’. She would prefer to work Saturday mornings ‘because Saturday mornings you see people acutely you can just deal with the problems, work it out, and that’s the end of it. And they’ll come back and see another doctor next week’.
Another approach to improve self-care is to build GP capacity to engage more sustainably with patients, for example, being aware of one’s emotional responses allows more sustainable practice habits to develop. Professional supervision, assertiveness skills and colleague support can help GPs build resilience and protect their own physical, mental and emotional health. Some GPs have professional supervision to understand and reflect on difficult situations - perhaps an emotional attachment, loss in the doctor-patient relationship or an inappropriate professional response to patient care - and are able to remove themselves from the patient relationship if necessary.

A strategy used to build emotional capacity is to establish a clear boundary around one’s professional life, which allows GPs to walk away from clinical work, thus relieving the burden of worry. An early career female GP in her mid-thirties described how she uses boundaries to protect her professional career.

At first, Meg ‘took things on board too much and outside office hours’. She would worry, stress and think about clinical cases, and become personally involved. In her local community she saw people on a regular basis and grew to know them. This made it more difficult for her to maintain her professional distance. She learnt that ‘you've got to make sure you keep your professional boundaries and look after yourself, so you don't burn out’. An important support for her boundary setting was to be involved in creative pursuits. She found that if she had difficult clinical cases or a difficult day she went home and wrote about it, she played music or did acting to lose herself in a different world. She believed she couldn’t go back to general practice without having these outlets and ‘still be a functioning healthy person’.

Having time for oneself and taking holidays allowed GPs to change themselves in ways that improved their self-care and reduced their concerns about the sustainment of their professional life. In the following examples, setting professional boundaries was improved by staying connected to family and friends, and nurturing personal hobbies and interests outside of professional activities such as the arts, journaling, community service and travel.

Kate, a mid-fifties practice owner, took holidays because she needed to take a ‘break from the constancy of general practice’. She said general practice can be really frustrating and irritating at times, and sometimes she wishes everybody would go away. Sometimes she feels burnt out and needs to take holidays and look after herself.
Wilma, an academic GP in her early fifties described using ‘distancing’ as a way to build personal capacity. This ensures there are appropriate boundaries between professional and personal life. Wilma learnt about the way that professional people distance, which is a critical part of dealing with the complexity of general practice and dealing with keeping the balance across all the domains of your life, and is necessary if GPs want to be doctors long-term.

Peter, also a mid-fifties practice owner, worked better when he improved his exercising and sleep habits. Working long hours in clinical work is tiring but if he gets exercise he sleeps very well and ‘that’s fine’. Peter also used ‘distancing’, which he described as ‘having a persona that sits in his rooms and treats patients’.

Changing the nature of one’s professional activity can boost emotional capacity. This approach demonstrates the overlap of two dimensions: adapting self and treating patients. Natalie, in her mid-40s, explained that she didn’t want to work full-time in clinical general practice because of the burden she felt emotionally.

Natalie noticed that when she worked full-time in general practice her emotional capacity for compassion reduced. However, when she reduced her clinical work hours to three days a week this improved. She became ‘a really patient-centred and present GP’. She noticed that when she worked four or five days of clinical work, she was ‘vaguing out’ and ‘didn’t really want to be there’. She felt ‘there are only so many people in one week that you can care about’. She took on a non-clinical role in education and struggled for two years to maintain her clinical work, finally deciding to leave the clinical workplace completely and cutting ties with her patients. To maintain her GP registration, she accepted clinical work in a different clinical setting with less complex patients.

These doctors found their most satisfactory situation at an emotional and physical distance from patients. While establishing good professional boundaries can be constrained by lack of resources and time, having too large a workload or too much stress can also make it difficult for GPs to make necessary changes. Those GPs in situations where they have more control over their professional life appear more empowered. Boosting their emotional capacity and resilience can allow them to sustain their professional life. Sometimes individuals can find a better match between their needs and their environment by changing their needs.
4.6 Satisfaction

During the data analysis, satisfaction emerged as an outcome of the Theory of Optimising Professional Life. This section explains satisfaction, its relevance and the levels of satisfaction as they relate to Optimising.

In this study, satisfaction refers to positive emotions and cognitions derived from performing tasks and may be expressed in terms of pleasure or reward. Participants referred to satisfaction with their work and with their career as the same integrated experience of their professional life. The GP career provides a framework for fostering satisfaction of personal needs and life goals through job experiences. Examples of this are financial security from earning income; feeling achievement from being able to pursue one’s interest and holding a valued place in the community; autonomy from freedom to choose one’s own method of working; and work-life balance from integrating personal and professional commitments. Work histories taken during interviews suggest that even though study participants have held different jobs, being a GP was retained as a schema in their lives thereby making job satisfaction inseparable from career satisfaction.

Satisfaction is an outcome of the Optimising process, which is directed towards implementing a GP’s best (optimal or most valued) solution to resolve discomfort or unease. Interviewed GPs expressed satisfaction with their career in general practice. They reported: having a career that enhanced their well-being by making a difference to people; a good career for women who want to work part-time; a career they enjoyed; and a career that was fulfilled.

Meg aged 35, was ‘very satisfied with the career I chose. It’s also just career satisfaction, about what you do makes you feel that it’s worthwhile, and being able to come home at the end of the day and be grateful of what you’ve achieved - the reward and satisfaction that you have made a difference.

Sue, aged 53, said ‘I love general practice. I think it’s a great career for women. I think it’s a great career . . . well it has been for me in terms of being able to work part-time’.

Mark, aged 36, said he decided to join general practice in 2001. ‘I completed training in 2003 and, yeah, I've enjoyed being a GP ever since’.

Jill, aged 55, reflected: ‘I think once you get into general practice – general practice especially – you don’t want to leave it. I stayed in medicine because it has completed me’.
I found that the level of satisfaction (or dissatisfaction) plays an important role in GP decisions to reduce working hours, leave general clinical practice, quit the medical workforce or discourage others from entering. Those feeling dissatisfied sometimes stayed working in general practice but they made changes to ease their situation.

‘I don’t think I should whinge about it I mean it’s been pretty good to me, all things considered. Eventually one grows up and you lie on the bed you’ve made, basically. There are plenty of worse jobs. I don’t think we should be whingeing because you have always got the opportunity to learn and you can develop individual skills’ (Peter 54 yrs).

Satisfaction features in my Theory of Optimising Professional Life in two aspects:

The Optimising process is directed towards implementing a GP’s best (optimal or most valued) solution to resolve dissatisfaction.

As an outcome, the level of satisfaction is a measure of the success of the Optimising process.

Implementation of the best solution is enhanced by having the autonomy to be able to make changes. This is discussed in the next section.

4.7 Autonomy
This section examines the role of autonomy in Optimising Professional Life. In this chapter, I have reported how GPs can make changes to improve their satisfaction with work and optimise their professional life. The manner in which GPs’ time and activities are arranged can reduce concerns about self-care, staying interested in the work and financial reward. The degree of autonomy GPs possess can enable changes to be made in the different dimensions of treating patients, structuring the work day, integrating work and personal life and adapting oneself.

In this study, autonomy refers to GPs’ personal freedom and ability to implement changes to their work life and the content of that work. Clinical autonomy relates to control over treating patients including diagnosis, treatment and evaluating care, as well as patient consultations and relationships. Integrating work and personal life suggests social autonomy as a balance between personal and professional life is formed. Workday structuring requires autonomy around being able to influence the mix of personal and professional time, multiple jobs and roles held, time spent in direct patient care and events that occur over the course of a day. The focus
of financial freedom is control over earnings and financial reward, which are linked to the nature and volume of work performed, hence workload, as well as family commitments.

Individuals are able to make changes to implement the best solution, thereby supporting sustainment. In the following illustrations, Meg, Graham and Sue, are shaping their professional life because of the autonomy they have to make changes.

Meg, aged 35, used her autonomy ‘to be able to say “no, that’s not right for me” and changing my mind and renegotiating things’.

Eric, aged 47, said ‘I have tremendous autonomy in my role. I mean I’m not at my workplace this week because I’m at a conference, and I can manage that in the environment I work in, which is great’.

For Sue, aged 53, ‘one of the things that I do like is my capacity to determine my hours’.

The autonomy GPs feel they possess can be adversely affected by a number of factors, making it more difficult to implement desired changes. Several such factors were reported by the interviewed GPs: having to manage a demanding workload, insufficient control over earnings sufficient to cover expenditure and support business or family, and trying to balance family commitments. Robert and Margaret spoke about limits to being able to act independently and make changes.

Robert, aged in the mid-40s, felt restricted by a range of externalities. He thought he had freedom to work when he wanted but in reality, he could not. Some of the barriers were patient needs, how his workplace was run as a business, Medicare rules, and administration. Where he worked the consult room could not be vacant and not earning income for the practice owner – these were business imperatives. He felt restricted by medical legal control over how he could practice medicine as well as Medicare rules, standards and guidelines. He felt that in many ways he was not in control - he felt powerless.

Margaret, aged 39, felt restricted in the changes she could make in her workplace. ‘I don’t actually own the practice nor have that much say in how things are run. I have no responsibilities in terms of the running of the practice. So there are some things that I
can’t do. I don’t like the practice software, for example, that we use in that practice but I can’t change that but I put up with it.’

The amount of autonomy GPs have can vary within the dimensions of treating patients, structuring the work day, integrating work and personal life and adapting oneself. There can be factors limiting autonomy in a particular circumstance. Autonomy may be reduced where government policies regulate clinical behaviour, where professional and educational bodies normalise behaviour and where GPs, who are not practice owners, accept the owners’ rules or directives. Action can be taken to regain autonomy, such as when GPs put family interests ahead of their own needs but later switch back to do more things for themselves as the children grow up.

Making general practice more containable can help regain autonomy. Some GPs choose part-time clinical work because it makes general practice more containable and manageable for them, while having jobs in different types of work can create controllable environments away from the relatively uncontrollable aspects of clinical general practice. Working one-on-one and in small groups in a familiar local community can also help reduce the challenges to GP autonomy.

Most participants in this study reported having autonomy and a high level of control over their activities, with sufficient resources and power to effectively implement changes. This suggests they are able to implement career changes if they wish to optimise professional life. My analysis of the relevant MABEL variables reveals that GPs have a high degree of autonomy. The majority (2,021, 90%) reported being moderately or very satisfied with their freedom to choose their own method of working as a doctor (88% of male GPs and 91% of females). Eighty percent felt they were able to change many of the important things in their life, 76% reported having control over the things that happen to them and 73% were able to solve their problems. Hence, it appears that general practice as a profession provides individuals with a high level of autonomy thus enabling them to make ongoing improvements in their professional lives.

This grounded Theory of Optimising Professional Life emphasises the relevance of autonomy to GPs in shaping their career. I identified GPs’ main concern as the sustainment of their professional life, as characterised by needing to self-care to sustain well-being, needing to sustain work interest and needing to be adequately remunerated to sustain lifestyle. Being autonomous provides capacity to implement changes. Partial control within facets of professional life indicates that autonomy differs, making it bounded, variable and adjustable.
Thus, Optimising Professional Life is supported by autonomy, suggesting that having greater autonomy makes it more likely that appropriate changes will be implemented and the most satisfactory outcome will be reached. The next section examines how the behaviour of Optimising recurs throughout the GP career.

4.8 Recurrence of Optimising behaviour

This section examines recurrence and its relevance to the Theory of Optimising Professional Life and diverse career patterns. GPs take an iterative and incremental approach to career development. The basic idea behind this approach is that career decision-making within a profession is repeated (iterative) and builds on previous experience (incremental), allowing individuals to take advantage of what has been learned during earlier parts of their working life. The optimising behaviour most likely occurred for the first time when doctors made their career choice to enter general practice and then recurred as GPs developed various facets of their professional life. At the micro level of everyday medical practice, GPs make changes to alleviate dissatisfaction with work. At the macro level of professional life, GP careers are shaped to reflect aspects of clinical, social, work day, financial and personal activities.

Optimising Professional Life is most likely experienced for the first time with the selection of a medical career. Doctors consider their options for working in medicine and make a career choice to enter general practice, drawn to it by the lifestyle, interest in the work and the need to earn an income. In early career, they want to get on the vocational register and experience an intense clinical immersion to be good clinicians:

‘Young GPs are very, very focussed on the clinical challenges and being skilled in all the clinical domains of general practice’ (Wilma 53 yrs).

Optimising Professional Life occurs more than once as GPs develop other facets of their professional life. They enact a series of choices, iteratively throughout their career, to optimise their personal situation. This recurrence of behaviour generates a career pattern. Each career event establishes the underlying uniformity of the career pattern, which in turn results in an unfolding professional life. As a career pattern emerges for each GP, further events add to the pattern.

‘A medical career is more than just about delivering clinical services’ (John 54 yrs).

GPs get involved in non-clinical policy, management, administration, education and research roles. They choose to take on these different roles – some from the outset while others come to
them later in their working life. Some GPs stay in clinical work but choose to work in more than one workplace, while others choose to sub-specialise within general practice. Being able to combine clinical and non-clinical roles keeps GPs grounded in what the current medical issues are. With each career event, these GPs make a choice to implement the most satisfactory solution for them. As described below, Meg has taken a series of career decisions that have resulted in her combining medical education with clinical practice in two different work environments.

‘Since 2005 I’ve been dividing my medical career between medical education and as a clinical GP. Usually one or two times a month I’ll do an evening shift or a weekend shift at the (hospital) Emergency Department. I do three days a week in clinical practice so I work Tuesday, Wednesday, Thursday at the practice. They were looking for a new medical educator in my region so they approached me for a job and it turned out it worked beautifully because it fitted without having to increase or decrease my patient hours, that kind of stayed the same. To be a good educator you need to be in touch with the clinical work. I’m very satisfied with the career I chose’ (Meg 35 yrs).

This study found GPs live their professional life through many different career patterns rather than a single common career path. There is the traditional single or linear pathway working within clinical general practice, sometimes becoming a practice principal. These GPs may combine their private practice with supervisory responsibility, perhaps some committee work and occasionally teaching or research activities. I also found a sequential pathway, which has a clinical role followed by a non-clinical role, as a GP moves away from clinical work. Splitting the week between two or more general practices provides another pattern, as does mixing clinical and non-clinical roles at the same time. There are GPs who, for a period of time, move in and out of clinical work or they take lengthy breaks from the work: a pattern which I describe as fragmented. General practice is an occupation where individuals are able to work without a permanent workplace - travelling, taking short assignments or locum work – in a nomadic or migratory pathway.

Professional life evolves as a pattern of career decisions aimed at satisfying needs and ‘getting ahead’. Over time, GPs accumulate knowledge, experience, reputation and financial assets. Becoming a good and competent doctor occurs over time. ‘You have to feel your way and you have to build up that body of wisdom and knowledge and experience. Then you can use it’ (Monica 44 yrs). Career transitions can be ‘initially challenging’ (Meg 35 yrs) and ‘sometimes a bit intimidating almost’ (Graham 28 yrs). With time the situation can become more comfortable – ‘definitely it gets easier’ (Meg 35 yrs). Medical students learn about evidence-based medicine but
‘really when we’re just coming out we’re still struggling to come to terms with how to diagnose a patient and how to treat them’ (Alan 38 yrs). With experience, knowledge and skills are assimilated, and with time they are able to reflect on their practice and responses. This self reflection that comes with time and experience is integral to a smooth integration of changes.

Decisions aimed at changing workplaces, taking time off and specialising in clinical areas are all seen as strategies to enrich a professional life. Medical knowledge changes over time. With experience, therapeutic knowledge can fade but clinical diagnostic skills tend to improve, as shown in the following vignettes. These GPs espouse careers as repositories of knowledge where information and experience is accumulated and changed over time as a result of a series of work choices and experiences.

‘The first ten years of practice was a lot more anxious. Now I tend to be a lot more pragmatic, and things will take care of themselves provided I’m careful and do what’s right. You do actually get to become better in general practice as you get older. You don’t necessarily become therapeutically better. I don’t think you do lose your therapeutic skills, but your clinical diagnostic skills get better’ (Margaret 39 yrs).

Clinical skills are enhanced by having ‘ability to communicate, to read people’s faces; those sorts of things are much more finely tuned’ (Monica 44 yrs).

Most participants in this study adopted the GP schema so that while they take decisions over time to adopt different roles, clinical and non-clinical, sometimes concurrently, these roles are generally related to their general practice and they retain their professional identity as a GP. Compared with specialists who have a very narrow field of medicine, being a general practitioner provides wider scope and greater opportunity to develop and apply knowledge and skills through a sequence of career decisions.

The process of Optimising Professional Life is subjective and multifaceted, resulting in the careers of GPs being highly varied. ‘There’s probably not two GPs that have a similar work experience’ (Wilma 53 yrs). Each career pattern is influenced by the sequence of decisions GPs make about how to satisfy their interests and needs and where they practice. How they interpret their experiences and assimilate learned experiences into subsequent decisions also influences the variety in GP professional career patterns. Consequently, some GPs evolve paths of both clinical and non-clinical work. Performing different jobs presents new experiences, improves skills, builds confidence and demonstrates adaptability, thereby enhancing employability.
Having multiple jobs can also be protective in nature, ensuring that no single job has a big claim on them. With each career event GPs seek the most satisfactory outcome.

It was evident from this analysis that Optimising recurs iteratively throughout a career as GPs seek to improve their personal situation. In the Theory of Optimising Professional Life, career events connect to form a range of career patterns.

4.9 Summary of this chapter
This chapter presents the emergent Theory of Optimising Professional Life, which accounts for how experienced GPs working in Australia process their concern about the sustainment of their career. The over-arching pattern of GP behaviour is a three-stage process of discomfort, assessment and resolution aimed at achieving the most satisfactory solution and satisfying a GP’s need for sustainment to the greatest extent possible within a set of constraints.

GPs are aware of, and respond to, the constraints present in their internal and external environments. Being aware of constraints allows a feasible solution to be crafted. The solution space holds a range of satisfactory and very satisfactory solutions, which meet the GP’s need for sustainment. Some of the solutions might ‘satisfy’ GP objectives to a degree and result in an overall circumstance that a GP finds acceptable. However, the optimal solution satisfies the GP’s needs to the greatest extent.

Having personal autonomy emerged as enabling GPs to make the changes they wish to make in order to optimise their situation. GPs implement career changes in four dimensions - treating patients, structuring the work day, integrating work and personal life and adapting oneself.

Optimising Professional Life is a psychological process that recurs throughout a GP’s career. Professional life evolves through a repeated pattern of satisfying needs and getting ahead. This study found GPs live their professional life through different career patterns rather than a single common pathway, with each career pattern influenced by the sequence of decisions GPs implement to satisfy their need for sustainment.
Chapter 5: QUANTITATIVE ANALYSIS OF SECONDARY DATA

5.1 Introduction

Chapter 5 describes the second part of this study: a quantitative analysis drawing on secondary data collected for the MABEL survey, which investigated clinical workforce participation patterns and their determinants (Joyce et al., 2010, Yan et al., 2011). Information about the data source and selection of MABEL participants for this study of GP professional life is provided in Chapter 3.

Chapter 5 has two objectives: firstly, to establish whether GPs in the selected sample of MABEL participants were concerned about the sustainment of their professional life, and, secondly, to seek evidence that they were implementing actions to satisfy their need for sustainment and optimise their situation. These objectives were designed to determine whether there is any evidence that the broader population of GPs working in Australia is behaving in a manner consistent with my Theory of Optimising Professional Life.

Table 5.1 sets out the strategy for satisfying the objectives of this chapter. For the first objective, three steps were followed: firstly, identify underlying factors in the MABEL survey variables reflecting GP attitudes that are consistent with the concept of sustainment; secondly, determine if any of these factors predict overall satisfaction with work; and thirdly, determine whether GPs with higher sustainment factor scores are more satisfied overall with work compared to GPs with lower factor scores. If differences in the various sustainment factor scores are linked to satisfaction with work, then this would demonstrate concern for sustainment and would provide support for my theory.

The second objective of this chapter addresses the process of how GPs optimise their personal situation. The available survey data captured GP responses at a point-in-time and were not suited to examining a process that occurs over time. For example, the data are not be able to explain whether GPs who are dissatisfied with their work will necessarily seek to improve their situation or, indeed, whether they will make repeated improvements aimed at reaching an optimal situation. Nevertheless, this study examines what contribution the survey data can make to understanding the issues involved. To seek indications as to whether GPs are implementing actions to satisfy their need for sustainment and optimise their situation, three steps were followed. The first step was to determine which, if any, of the sustainment factors were significantly related to total hours worked per week (hours worked), total number of patients seen in private consulting rooms (patients seen) or gross personal annual earnings (before tax) (earnings). Hours worked and patients seen are basic levers that GPs can use to
alter their work situation, thereby also adjusting their income earned. Evidence of relationships between these facets of GP life and the level of concern for sustainment factors would indicate that these levers can be used by GPs to improve their working life. Accordingly, the second step was to determine whether overall satisfaction with work was related to hours worked, number of patients and earnings. My theory argues that autonomy is an important enabler of the Optimising process, allowing GPs to make changes that address their concern for sustainment. Hence, the third step was to determine whether there was a significant relationship between autonomy, control and overall satisfaction with work.

This chapter applies discriminant analysis of principal components (DAPC), a multivariate method designed to identify and describe clusters of related cases (Malhotra et al., 2006, p764, Jombart et al., 2010). A sample of 2,255 survey responses was subjected to factor analysis in which principal components analysis (PCA) extracted four factors or components thought to underlie GP attitudes to their professional life. Data were missing or not applicable for 393 cases, leaving 1,862 in the sample. The extracted factors were compared with the elements of sustainment for consistency and relevance. A stepwise discriminant analysis was conducted to determine which, if any, of the four factors predicted overall satisfaction with work to a statistically significant degree. A significant degree of discrimination would demonstrate a link between the sustainment factors and overall satisfaction. Further, the order of entry into the discriminant analysis was used to determine the relative importance of factors as predictors of overall satisfaction with work. Using DAPC I was able to extract patterns of traits from the data, assign cases to satisfaction groups based on these patterns and assess the characteristics of each group.

Before conducting multivariate data analysis, potential relationships were examined using correlation procedures to identify the existence and strength of any association between variables of interest. This ensured the most appropriate variables were used in each step of the investigation. These correlational relationships cannot be regarded as implying causation; however, these relationships, which are unlikely to occur by sampling error, provided direction for the analysis.

Quantitative data were analysed using IBM SPSS Statistics version 20.
Table 5.1 Strategy for this chapter

<table>
<thead>
<tr>
<th>The first objective:</th>
<th>Establish whether GPs in the selected sample of MABEL participants are concerned about the susttainment of their professional life.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1:</td>
<td>Identify underlying factors in the MABEL data that are consistent with sustainment.</td>
</tr>
<tr>
<td>Step 2:</td>
<td>Determine which, if any, of these factors predict overall satisfaction with work to a statistically significant degree.</td>
</tr>
<tr>
<td>Step 3:</td>
<td>Determine whether GPs with higher factor scores are more satisfied overall with work compared to GPs with lower factor scores.</td>
</tr>
<tr>
<td>The second objective:</td>
<td>Seek evidence that GPs are implementing actions to satisfy their need for sustainment and optimise their situation.</td>
</tr>
<tr>
<td>Step 4:</td>
<td>Determine which, if any, of the sustainment factors are significantly related to hours worked, patients seen or earnings.</td>
</tr>
<tr>
<td>Step 5:</td>
<td>Determine whether overall satisfaction with work is significantly related to hours worked, patients seen or earnings.</td>
</tr>
<tr>
<td>Step 6:</td>
<td>Determine whether there is a significant relationship between autonomy, control and overall satisfaction with work.</td>
</tr>
</tbody>
</table>

5.2 Data selection

5.2.1 Survey instrument

The MABEL survey contained questions about job satisfaction and attitudes to work, workload, finances, location, demographics and family circumstances. Four customised MABEL questionnaires were used, tailored for each doctor type (GP and GP registrar, specialist, specialist in training and hospital non-specialist). These questionnaires varied for each wave of data collection. The topics and number of questions in the MABEL survey for Wave 3 (2010) are set out in Table 5.2.
Table 5.2 MABEL Wave 3 questionnaire for new MABEL participants

<table>
<thead>
<tr>
<th>Questionnaire Topic</th>
<th>Questionnaire Section</th>
<th>Number of questions</th>
<th>Number selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current situation</td>
<td>A</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>B</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Places of work</td>
<td>C</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Workload</td>
<td>D</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Finances</td>
<td>E</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Geographic location</td>
<td>F</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Family circumstances</td>
<td>G</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Personal characteristics</td>
<td>H</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

5.2.2 Question selection for this study

The analysis in this chapter used the questions listed in Table 5.3. Of the 82 questions in the MABEL Wave 3 questionnaire, 16 were used to examine relationships in the Theory of Optimising Professional Life. These questions were selected because they best represented the concepts and relationships developed from my interview data, and therefore I expected them to relate most closely to the research questions.

For example, self-care is linked with workload and pressures of the medical occupation, as they relate to the personal, emotional and physical health of GPs. Therefore, MABEL questions about hours of work, the stress of running a practice, taking time off and work-life balance were selected. Staying interested reflects the intellectual appeal, stimulation and challenges of working in general practice. Therefore, MABEL questions about variety in the work and opportunities to use ones abilities were included. Financial reward was addressed via the MABEL question on income earned.

MABEL questions which did not refer to issues highlighted during interviews as matters of concern affecting GP career decisions were not selected. For example, MABEL captured data about GP attitudes to physical working conditions, recognition for good work and the amount of responsibility GPs are given, yet these issues did not emerge as significant concerns during the interviews.
<table>
<thead>
<tr>
<th>Survey question number</th>
<th>Survey question</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Please indicate how satisfied or dissatisfied you are in the various aspects of your work as a doctor. Very Dissatisfied, Moderately Dissatisfied, Not Sure, Moderately Satisfied, Very Satisfied, N/A Freedom to choose your own method of working Amount of variety in your work Opportunities to use your abilities Your hours of work Your remuneration Taking everything into consideration, how do you feel about your work?</td>
<td>B</td>
</tr>
<tr>
<td>6.</td>
<td>Please indicate the degree to which you agree or disagree with the following statements. Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree, N/A The balance between my personal and professional commitments is about right I have a poor support network of other doctors like me It is difficult to take time off when I want to My patients have unrealistic expectations about how I can help them Running my practice is stressful most of the time</td>
<td>B</td>
</tr>
<tr>
<td>7.</td>
<td>Would you like to change your hours of work (including day time and after hours)?</td>
<td>No  Yes I’d like to increase my hours Yes I’d like to decrease my hours.</td>
</tr>
<tr>
<td>8.</td>
<td>What is the likelihood that you will: Very unlikely, Unlikely, Neutral, Likely, Very likely</td>
<td>Reduce your clinical workload in the next FIVE YEARS</td>
</tr>
<tr>
<td>22.</td>
<td>Excluding on-call, how many HOURS in your MOST RECENT USUAL WEEK at work did you spend on the following activities? (Include ALL of the work you do as a doctor in ALL jobs/workplaces). Total hours worked per week Direct patient care (face-to-face, phone consultations, home visits, with or without a medical student present) Indirect patient care (medical notes, reports, phone calls, meeting patients’ families) Education activities (teaching, research, continuing medical education) Management and administration Other</td>
<td>D</td>
</tr>
<tr>
<td>Question</td>
<td>Code</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td><strong>24.</strong> In your most recent USUAL week at work, for around HOW MANY</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>patients did you provide care? (include face-to-face, out-of-hours and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>telephone consultations in ALL SETTINGS).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of patients seen in private consulting rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of patients seen in hospital or other settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>36.</strong> What are your (approximate) TOTAL PERSONAL earnings from ALL of</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>the work you do as a doctor? This should be your personal earnings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rather than total practice earnings.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before tax (gross earnings) $ (annual)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After tax (net earnings) $ (annual)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>46.</strong> Please indicate the degree to which you agree with the following</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>statement: ‘Given my current financial situation and prospects, I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>believe I will have enough to live on when I retire’.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>49.</strong> In how many locations do you practise?</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td><strong>50.</strong> Where is your main place of work?</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Town/Suburb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postcode</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>52.</strong> Where do you live?</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Town/Suburb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postcode</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>59.</strong> Are you currently living with a partner or spouse?</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td><strong>64.</strong> How many dependent children do you have?</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td><strong>68.</strong> Year of birth</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td><strong>69.</strong> Gender</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td><strong>82.</strong> Please answer each of the following questions using a 1 to 7</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td>point scale, where 1 means ‘Strongly disagree’ and 7 means ‘Strongly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>agree’. I have little control over the things that happen to me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is really no way I can solve some of the problems I have.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is little I can do to change many of the important things in my</td>
<td></td>
<td></td>
</tr>
<tr>
<td>life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often feel helpless in dealing with the problems of life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes I feel that I’m being pushed around in life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What happens to me in the future mostly depends on me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can do just about anything I really set my mind on doing.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.3 Are GPs concerned about sustainment?
This section investigates whether GPs in the selected sample of MABEL participants are concerned about the sustainment of their professional life. The analysis identifies underlying factors in the MABEL survey variables which are consistent with the elements of sustainment, determines if any of these factors predict overall satisfaction with work and determines whether GPs with higher sustainment factor scores are more satisfied overall with work compared to GPs with lower factor scores.

5.3.1 Identifying the sustainment factors
The purpose of this step was to identify factors in the MABEL data set that are consistent with the concept of sustainment which has been identified in my theory as the main concern GPs have about their professional life. As presented in Chapter 4, sustainment comprises three elements: self-care, staying interested and financial reward.

Respondents to the MABEL survey were asked about aspects of their working life. These data were analysed using a PCA, which extracted four factors (labelled workload, stressors, intellectual aspects and financial reward) from the original measures of attitudes that might explain the essential traits of sustainment across measures. As described below, these factors are consistent with the concept of sustainment found in the qualitative analysis.

5.3.1.1 Measures used
Sustainment was examined using 13 variables (Table 5.4 first column) selected from the 16 questions of the MABEL Wave 3 (2010) GP questionnaire shown in Table 5.3. These variables were chosen because of their relevance to the concepts and relationships developed in the interview data, and I expected them to relate most closely to the research questions. The interview data showed that GPs arranged their professional affairs to satisfy needs that they were dealing with at the time – needs that encompass the aspirational nature of GP career development while also recognising the need for self-care and financial reward. These needs were conceptualised collectively as sustainment with three subcategories: the need for self-care, for staying interested and for financial reward.
Table 5.4 Concepts and survey variables relating to *sustainment*

<table>
<thead>
<tr>
<th>MABEL Wave 3 (2010) survey variables</th>
<th>MABEL question number</th>
<th>Factors from principal components analysis</th>
<th>Elements of sustainment from qualitative analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you like to change your hours of work? 0 No, 1 Yes I'd like to increase my hours, 2 Yes I'd like to decrease my hours.</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The balance between my personal and professional commitments is about right. 0 Strongly Disagree, 1 Disagree, 2 Neutral, 3 Agree, 4 Strongly Agree, 5 N/A</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In your work as a doctor, how satisfied or dissatisfied are you with the your hours of work? 0 Very Dissatisfied, 1 Moderately Dissatisfied, 2 Not Sure, 3 Moderately Satisfied, 4 Very Satisfied, 5 N/A</td>
<td>5</td>
<td>Workload</td>
<td></td>
</tr>
<tr>
<td>What is the likelihood that you will reduce your clinical workload in the next five years? 0 Very Unlikely, 1 Unlikely, 2 Neutral, 3 Likely, 4 Very Likely</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My patients have unrealistic expectations about how I can help them. 0 Strongly Disagree, 1 Disagree, 2 Neutral, 3 Agree, 4 Strongly Agree, 5 N/A</td>
<td>6</td>
<td></td>
<td>Self-care</td>
</tr>
<tr>
<td>I have a poor support network of other doctors like me. 0 Strongly Disagree, 1 Disagree, 2 Neutral, 3 Agree, 4 Strongly Agree, 5 N/A</td>
<td>6</td>
<td></td>
<td>Stressors</td>
</tr>
<tr>
<td>It is difficult to take time off when I want to. 0 Strongly Disagree, 1 Disagree, 2 Neutral, 3 Agree, 4 Strongly Agree, 5 N/A</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Running my practice is stressful most of the time. 0 Strongly Disagree, 1 Disagree, 2 Neutral, 3 Agree, 4 Strongly Agree, 5 N/A</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In your work as a doctor, how satisfied or dissatisfied are you with the amount of variety in your work? 0 Very Dissatisfied, 1 Moderately Dissatisfied, 2 Not Sure, 3 Moderately Satisfied, 4 Very Satisfied, 5 N/A</td>
<td>5</td>
<td></td>
<td>Intellectual aspects</td>
</tr>
<tr>
<td>In your work as a doctor, how satisfied or dissatisfied are you with opportunities to use your abilities in your work? 0 Very Dissatisfied, 1 Moderately Dissatisfied, 2 Not Sure, 3 Moderately Satisfied, 4 Very Satisfied, 5 N/A</td>
<td>5</td>
<td></td>
<td>Staying interested in the work</td>
</tr>
<tr>
<td>In your work as a doctor, how satisfied or dissatisfied are you with freedom to choose your own method of working? 0 Very Dissatisfied, 1 Moderately Dissatisfied, 2 Not Sure, 3 Moderately Satisfied, 4 Very Satisfied, 5 N/A</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please indicate how satisfied or dissatisfied you are with your remuneration. 0 Very Dissatisfied, 1 Moderately Dissatisfied, 2 Not Sure, 3 Moderately Satisfied, 4 Very Satisfied, 5 N/A</td>
<td>5</td>
<td></td>
<td>Financial reward</td>
</tr>
<tr>
<td>Given my current financial situation and prospects, I believe I will have enough to live on when I retire. 0 Strongly Disagree, 1 Disagree, 2 Neutral, 3 Agree, 4 Strongly Agree.</td>
<td>46</td>
<td></td>
<td>Financial reward</td>
</tr>
</tbody>
</table>
Data analysis
PCA was used to examine the relationships between the 13 selected MABEL variables, with the objective of producing a new set of factors that summarised the underlying dimensions contained within the MABEL data. Factors were formed by combining groups of variables that correlated highly among themselves. PCA considers the total variance in the data and is recommended when the intention of the analysis is to reveal the latent variables behind a set of variables, as in this study.

Prior to using PCA, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO measure) and Bartlett’s test of sphericity were run to test for the factorability of the 13 items (Table 5.5). The size of the KMO measure (>0.5) and the significance of the Bartlett’s test revealed that the selected set of MABEL items had adequate common variance for factor analysis (Malhotra et al., 2006, Tabachnick and Fidell, 2007).

Table 5.5 Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett’s Test of Sphericity for 13 items

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>0.85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett’s Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>6468.07</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>78</td>
</tr>
<tr>
<td>Significance</td>
<td>0.00</td>
</tr>
</tbody>
</table>

For this study, a PCA was conducted with a varimax rotation and using ‘percentage of variance explained’ as the criterion for retaining variables (Dancey and Reidy, 2007, Malhotra et al., 2006). Rotation allows emerging factors to become easier to interpret, which varimax rotation achieves by minimising the number of variables with high loadings on a factor. Interpretation is also facilitated by identifying the variables that have large loadings on the same factor. Factor loadings greater than 0.40 were retained to ensure variables loaded strongly onto the new composite components (Malhotra et al., 2006, p763) and all the selected MABEL variables loaded at this level. In two instances, variables loaded 0.4 or above on two components and those variables were assigned to the components where they had the highest loading (Malhotra et al., 2006, p763). The number of cases included in the analysis was reduced due to missing data or a response of ‘not applicable’ being recorded on at least one of the variables under examination (N=1,862).

Results
A four-factor solution resulted from this analysis (Table 5.4 column 3), explaining 61% of the variance in the selected variables. The factors, labelled as workload, intellectual aspects, stressors and financial reward, exceeded the generally accepted minimum cumulative...
percentage of variance threshold of 60% for exploratory research in the social sciences (Table 5.6) (Hair et al., 2006).

**Table 5.6 Cumulative percentage of variance for factors 1 to 4**

<table>
<thead>
<tr>
<th>Factor 1 Workload</th>
<th>Factor 2 Intellectual aspects</th>
<th>Factor 3 Stressors</th>
<th>Factor 4 Financial reward</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of variance</td>
<td>20.99</td>
<td>16.51</td>
<td>14.08</td>
</tr>
<tr>
<td>Cumulative % of variance</td>
<td>20.99</td>
<td>37.50</td>
<td>51.58</td>
</tr>
</tbody>
</table>

The Rotated Component Matrix (Table 5.7) shows where each MABEL variable loaded into the four factors and its value. The results were evaluated using the factor loading benchmarks put forth by Comrey (1973, p 226): > .71 (excellent), .63 to .70 (very good), .55 to .62 (good), .45 to .54 (fair), and ≤ .32 (poor).

The first factor, workload, (eigenvalue = 4.141) accounted for 20.99% of the variance; its four factor loadings ranged from .568 to .827. Together, the items loading on the workload factor included wanting to change hours of work, having the right balance between personal and professional commitments, satisfaction with hours of work and the likelihood of reducing clinical workload in the next five years. The second factor, intellectual aspects, (eigenvalue = 1.680) accounted for 16.51% of the variance; its three factor loadings ranged from 0.687 to 0.844. These included satisfaction with the amount of variety in the work, opportunities to use your abilities and freedom to choose your own method of working.

The third factor, stressors, (eigenvalue = 1.119) accounted for 14.08% of the variance; its four factor loadings ranged from 0.535 to 0.746 and included GPs’ perceptions that patients have unrealistic expectations about how the GP can help them, having a support network of other doctors, the stress of running a practice and difficulty in taking time off when wanted. The fourth factor, financial reward, (eigenvalue=1.029) accounted for 9.72% of the variance and consisted of having enough financial support to live on in retirement (0.836) and satisfaction with remuneration (0.494).
Table 5.7 Rotated Component Matrix showing the reduction of Wave 3 (2010) variables into four factors

<table>
<thead>
<tr>
<th>Rotated Component Matrix(^a)</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Workload</td>
</tr>
<tr>
<td>Would you like to change your hours of work (including day time &amp; after hours)?</td>
<td>0.827</td>
</tr>
<tr>
<td>Statement: Right balanced personal and professional commitments</td>
<td>0.765</td>
</tr>
<tr>
<td>Satisfaction: Your hours of work</td>
<td>0.760</td>
</tr>
<tr>
<td>The likelihood to reduce your clinical workload in the next five years</td>
<td>0.568</td>
</tr>
<tr>
<td>Satisfaction: Amount of variety in your work</td>
<td></td>
</tr>
<tr>
<td>Satisfaction: Opportunities to use your abilities</td>
<td></td>
</tr>
<tr>
<td>Satisfaction: Freedom to choose your own method of working</td>
<td></td>
</tr>
<tr>
<td>Statement: My patients have unrealistic expectations about how I can help them</td>
<td></td>
</tr>
<tr>
<td>Statement: I have a poor support network of other doctors like me</td>
<td></td>
</tr>
<tr>
<td>Statement: Running my practice is stressful most of the time</td>
<td></td>
</tr>
<tr>
<td>Statement: It is difficult to take time off when I want to</td>
<td>0.445</td>
</tr>
<tr>
<td>Statement: I believe I'll have enough financial support to live on when I retire</td>
<td></td>
</tr>
<tr>
<td>Satisfaction: Your remuneration</td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

\(a\). Rotation converged in 5 iterations.

The validity of each factor was tested using a Cronbach alpha reliability test, giving the following results: \textit{workload} alpha = 0.746, \textit{intellectual aspects} alpha = 0.747, \textit{stressors} alpha = 0.620 and \textit{financial reward} alpha = 0.475. Scales are generally considered to have sufficient
reliability when alpha is over 0.700 although it may decrease to 0.600 in exploratory research (Emmerson, 2009, Hair et al., 2006). Based on these guidelines, workload and intellectual aspects can be considered as reliable factors while stressors and financial reward are less reliable factors. However, the 13 variables taken together revealed a high level of reliability, Cronbach alpha = 0.805, indicating that this is a good set of MABEL variables to measure GP attitude to sustainment.

Scores for each factor were calculated for each MABEL participant and, using the regression approach to estimating factor scores, saved for subsequent multivariate analysis. A factor score is a linear combination of the original variables and, as such, provides an estimate of the scores GPs would have received on each of the factors had they been measured directly (Tabachnick and Fidell, 2007, p650). In this way, 13 MABEL variables recording GP attitudes to aspects of their professional life were reduced to four composite variables, with acceptable model fit to the data\(^{13}\) (Malhotra et al., 2006, p762).

### 5.3.1.4 Discussion

In Chapter 4, I described the elements of sustainment: self-care, staying interested and financial reward. The factor analysis of 13 MABEL variables resulted in four factors, which I named workload, intellectual aspects, stressors and financial reward. These factors are similar to the elements of sustainment described in Chapter 4.

**Self-care** reflects behaviours that balance the various stressors in professional life. Interviewed GPs expressed concern for their self-care in terms of the demands of working in general practice, feeling isolated, a heavy workload combined with an inability or reluctance to take time off, and imbalance between personal and professional life. **Workload** and **stressors** are consistent with these traits of self-care, with **workload** capturing satisfaction with hours of work, balancing personal and professional life, and wanting to change hours, while **stressors** reflects the isolation typically referred to by interviewees. Taking time off overlaps both factors, as indicated by loading on both factors.

**Staying interested** was described by interviewees in terms of being motivated and challenged by the esoteric knowledge and experience of general practice. While general practice offers variety and a wider scope of medicine than medical specialties, the diversity and breadth of knowledge required can raise concerns about competency to meet the demands of clinical work. Interviewed GPs wanted to continue benefitting from the intellectual aspects of their work.

\(^{13}\) Residuals were computed between observed and reproduced correlations. There are 30 (38.0%) non-redundant residuals with absolute values greater than 0.05.
When grouped together as intellectual aspects, the MABEL variables, variety in the work, opportunities to use your abilities and freedom to choose your own method of working reflected these traits of staying interested.

Financial reward was described by interviewees as working for the economic benefit necessary for survival and an improved lifestyle. Several GPs expressed concern about being unable to earn sufficient income to sustain their lifestyle, while others felt the remuneration was inadequate for the work involved. Financial reward based on MABEL measures of satisfaction with remuneration and financial security in retirement reflected the concerns that emerged during interviews. The likelihood of reducing clinical workload within five years overlaps two factors: workload and financial reward, as indicated by its loading on both factors, suggesting reducing workload could or would impact financial reward.

Only those MABEL variables that loaded strongly (0.400 or higher) on a factor were included in the final analysis (Malhotra et al., 2006). However, the complexity of these factors was highlighted when this criterion was relaxed to 0.200 or higher, resulting in several overlapping traits (see Table 5.8). Balance between personal and professional commitments loaded on workload, stressors and financial reward. This supports the reported stress of balancing these life roles and also the tension between making changes to reduce an imbalance while maintaining income. Satisfaction with hours of work also contributed to the intellectual aspects of the professional work. Conversely, freedom to choose your own method of working, which loaded strongly onto intellectual aspects, also contributed to workload. Having a support network of other doctors added to the intellectual aspects of the professional work while the stress of running a practice added to workload.

Table 5.8 Overlapping traits based on a factor loading of 0.20 or higher

<table>
<thead>
<tr>
<th>Statement</th>
<th>Workload</th>
<th>Intellectual Aspects</th>
<th>Stressors</th>
<th>Financial Reward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right balanced personal and professional commitments</td>
<td>0.765</td>
<td></td>
<td>0.230</td>
<td>0.230</td>
</tr>
<tr>
<td>Satisfaction: Your hours of work</td>
<td>0.760</td>
<td>0.256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction: Freedom to choose your own method of working</td>
<td>0.276</td>
<td>0.687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement: I have a poor support network of other doctors like me</td>
<td></td>
<td>0.206</td>
<td>0.634</td>
<td></td>
</tr>
<tr>
<td>Statement: Running my practice is stressful most of the time</td>
<td>0.319</td>
<td></td>
<td>0.629</td>
<td></td>
</tr>
<tr>
<td>Satisfaction: Your remuneration</td>
<td>0.396</td>
<td>0.352</td>
<td></td>
<td>0.494</td>
</tr>
</tbody>
</table>
While there is no consensus on the best strategy for selecting interpretable factors, it is generally agreed that for parsimony to be achieved, the aim is to account for as much variance as possible, while keeping the number of factors extracted as small as possible (Dancey and Reidy, 2007, Hair et al., 2006, Malhotra et al., 2006, Tabachnick and Fidell, 2007). In this thesis, only factors with eigenvalues greater than 1.000 were retained, and the four extracted factors - *workload, intellectual aspects, stressors* and *financial reward* - accounted for 61% of the variance. To test an alternative, the criterion for acceptance of eigenvalues was relaxed to greater than 0.800 and the variance explained increased by 7% to 68%. Five factors extracted in that test had similar traits to *workload, intellectual aspects, stressors* and *financial reward*, with the main difference being that taking time off added to *workload*. However, such a low threshold eigenvalue is not recommended and was not adopted in this analysis (Malhotra et al., 2006).

The sample of 1,862 GPs was drawn from the 2,255 survey responses described in Chapter 3. Data were missing or not applicable for 393 cases, leaving 1,862 responses. The missing cases included 214 female GPs and 88 male GPs who did not respond to the question about ‘running my practice is stressful most of the time’ (Table 5.9). In this type of situation, where some responses are missing, Tabachnick and Fidell (2007) recommend repeating the analysis with the missing data to assess if the results are similar, how the missing data affect the factor structure and how much confidence can be placed in the results. In the repeated PCA, three factors, which explained 55% of the variance, were extracted. *Workload* and *stressors* combined into a single factor while *intellectual aspects* and *financial reward* were similar to the previous analysis. Adopting a lower threshold eigenvalue could increase the percentage of variance explained but this approach is not generally recommended. In practice, the reduced number of cases was sufficient to identify the extracted factors and the categories of satisfaction used in section 5.3.2. As the cases with missing data did not materially affect the objectives of this chapter, I concluded that the deletion of those cases from the PCA was appropriate.

The extracted factor structure of the selected MABEL measures of attitudes to GP professional life - *workload, intellectual aspects, stressors* and *financial reward* - revealed traits that are similar to the concepts of *self-care, staying interested* and *financial reward* developed during the qualitative phase of this thesis. The statistical analysis described above shows that the four factors - *workload, intellectual aspects, stressors* and *financial reward* - are consistent with the concept of *sustainment* described in my Theory of Optimising Professional Life.

The main benefit of PCA is its ability to identify factor structures that explain the most total variance. However it fails to discriminate between groups of the sample population, which this study needed in order to assess the relationship between the elements of *sustainment* and
satisfaction with work. To address this issue, discriminant analysis, which maximises the separation between groups (for example, dissatisfied GPs and very satisfied GPs) is used in the next section.

### Table 5.9 Data missing from the Principal Components Analysis

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Valid</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you like to change your hours of work (including day time &amp; after hours)?</td>
<td>2,247</td>
<td>8</td>
</tr>
<tr>
<td>Statement: Right balanced personal and professional commitments</td>
<td>2,254</td>
<td>1</td>
</tr>
<tr>
<td>The likelihood to reduce your clinical workload in the next five years</td>
<td>2,239</td>
<td>16</td>
</tr>
<tr>
<td>Statement: My patients have unrealistic expectations about how I can help them</td>
<td>2,245</td>
<td>10</td>
</tr>
<tr>
<td>Statement: I have a poor support network of other doctors like me</td>
<td>2,250</td>
<td>5</td>
</tr>
<tr>
<td>Statement: Running my practice is stressful most of the time</td>
<td>1,945</td>
<td>310</td>
</tr>
<tr>
<td>Statement: It is difficult to take time off when I want to</td>
<td>2,248</td>
<td>7</td>
</tr>
<tr>
<td>Statement: I believe I'll have enough financial support to live on when I retire</td>
<td>2,202</td>
<td>53</td>
</tr>
</tbody>
</table>

#### 5.3.2 Predicting category of satisfaction from sustainment factors

The purpose of this step was to determine which, if any, of the extracted sustainment factors predict overall satisfaction with work. While the PCA was able to summarise the overall variability among GPs in terms of the four factors, workload, intellectual aspects, stressors and financial reward, it was not able to discriminate between groups of GPs, such as the dissatisfied GPs and the very satisfied group. For this, a discriminant analysis focusing on the variance between groups was used (Tabachnick and Fidell, 2007).

#### 5.3.2.1 Measures used

The predicted group used in this test was overall satisfaction with work, measured by responses to the question ‘taking everything into consideration, how do you feel about your work?’ This variable was collapsed into a four-group measure\(^\text{14}\) of satisfaction (not sure, dissatisfied, satisfied and very satisfied) because my theory did not differentiate between levels of dissatisfaction.

Predictor variables for this procedure were the individual factor scores for workload, intellectual aspects, stressors and financial reward, in effect relying on data transformation using PCA prior

---

\(^{14}\) For this analysis, the MABEL answers of moderately dissatisfied and very dissatisfied were collapsed into a single category simply labelled: dissatisfied.
to discriminant analysis. This ensured that variables submitted to the discriminant analysis were perfectly uncorrelated. Scores were scaled so that low values represented a less positive attitude to elements of sustainment and hence, greater concern.

5.3.2.2 Data analysis
A four-group stepwise discriminant analysis was conducted to explore which, if any, of the four factors predicted the category of GP satisfaction with work. Mathematical functions that discriminate best between the categories of satisfaction were developed and examined for significance. Those factors contributing to most of the differences between the categories were identified. Cases were classified into one of the categories of satisfaction and the percentage of cases correctly selecting the category of satisfaction was used to determine whether a relationship exists between sustainment and the level of a GP’s satisfaction with work. In stepwise discriminant analysis, the factors are entered into the analysis sequentially, based on their ability to discriminate among the categories of satisfaction. This method is appropriate because I wanted to assess the importance of each factor in influencing satisfaction with work.

Discriminant analysis, analysis of variance (ANOVA) and regression analysis are related, with each involving a single criterion or dependent variable and multiple predictor independent variables. However, discriminant analysis benefits from being able to use a categorical dependent variable whereas, in ANOVA and regression analysis, the dependent variable is metric or interval scaled. Further, as classification is the primary goal, most of the assumptions required for statistical inference are more relaxed, unless the classification rate is unsatisfactory because of a violation (Tabachnick and Fidell, 2007, p381). For this procedure, the categorical dependent variable was satisfaction and the metric independent variables were the factor scores for workload, intellectual aspects, stressors and financial reward.

In this chapter, I applied DAPC to analyse GP attitudes to their work. This approach was used to unravel possibly complex factor structures in the data and to define groups of individuals. While the PCA focused on the overall variability, which includes variation between and within the sample of GPs, discriminant analysis focused on the between groups variation. This approach is preferable to regression which may remove relevant within-group variation needed to classify GPs into groups.

The data set included 1,862 cases, after cases with missing values were deleted (Table 5.9).

5.3.2.3 Results
Table 5.10 shows the overall results of the discriminant analysis to predict category of GP satisfaction based on individual factor scores for workload, intellectual aspects, stressors and
financial reward. Three discriminant functions were generated by the SPSS software (Function 1, Function 2 and Function 3). Function 1 significantly discriminated among the four groups, and with eigenvalue 1.501, accounted for 98.9% of the discriminable variance. The chi-square for Function 1, 1731.96 with 12 degrees of freedom, was significant beyond the 0.05 level. The means scores in Table 5.11 indicate that the four categories of overall satisfaction with work varied along a single dimension. Function 2 only explained 1% of the variance, while Function 3 was not statistically significant. Neither Functions 2 nor 3 were analysed further.

Table 5.10 Discriminant analysis results

<table>
<thead>
<tr>
<th>Discriminant Function</th>
<th>Eigenvalue</th>
<th>Percent variance</th>
<th>Discriminant Functions</th>
<th>Chi squared</th>
<th>Degrees of freedom</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.501</td>
<td>98.9%</td>
<td>1, 2, 3</td>
<td>1731.961</td>
<td>12</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>0.016</td>
<td>1.0%</td>
<td>2, 3</td>
<td>29.759</td>
<td>6</td>
<td>0.000</td>
</tr>
<tr>
<td>3</td>
<td>0.000</td>
<td>0.0%</td>
<td>3</td>
<td>0.642</td>
<td>2</td>
<td>0.725</td>
</tr>
</tbody>
</table>

The relative importance of each factor as a predictor of overall satisfaction is shown in Table 5.11, with intellectual aspects being most important, followed in order by workload, stressors and financial reward. Generally, predictors with relatively large standardised coefficients contribute more to the discriminating power of the function compared with predictors with smaller coefficients. Here, in Function 1, intellectual aspects had the largest standardised coefficient (0.984) which means it is likely to contribute more to discriminating between the categories of satisfaction with work (that is, be the most important predictor) than workload (0.693), stressors (0.470) and financial reward (0.385), which all have smaller coefficients.

The order in which the factors entered into the stepwise discriminant analysis confirmed the relative importance of intellectual aspects, workload, stressors and financial reward as predictors of satisfaction.

Table 5.11 Discriminant function coefficients

<table>
<thead>
<tr>
<th>Factor</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>0.693</td>
<td>0.114</td>
<td>0.792</td>
</tr>
<tr>
<td>Intellectual aspects</td>
<td>0.984</td>
<td>-0.398</td>
<td>-0.270</td>
</tr>
<tr>
<td>Stressors</td>
<td>0.470</td>
<td>0.626</td>
<td>-0.385</td>
</tr>
<tr>
<td>Financial reward</td>
<td>0.385</td>
<td>4.560</td>
<td>-0.034</td>
</tr>
</tbody>
</table>

The distribution of the discriminant scores from Function 1 into the four satisfaction categories (not sure, dissatisfied, satisfied and very satisfied overall with work) is illustrated in Figure 5.1. The group means, called centroids, and cases with scores near to a centroid were predicted as belonging to that satisfaction group. GPs who were not sure had a negative value of -1.525;
those who reported being dissatisfied with work had a negative value of -3.053; satisfied GPs had a negative value of -0.281; and GPs who reported being very satisfied with work had a positive value of 1.303. Since the values are increasing, this suggests that being less concerned (that is, more satisfied) with the elements of sustainment is more likely to classify GPs as being very satisfied with work.

Table 5.12 Mean of discriminant scores for each level of satisfaction

<table>
<thead>
<tr>
<th>Level of satisfaction with work overall</th>
<th>Function 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] not sure</td>
<td>-1.525</td>
</tr>
<tr>
<td>[3] satisfied</td>
<td>-0.281</td>
</tr>
<tr>
<td>[4] very satisfied</td>
<td>1.303</td>
</tr>
</tbody>
</table>

This analysis identified the GPs who are more likely to be classified as feeling very satisfied with work. The discernible difference between the category centroids along the discriminant function axis in Figure 5.1 demonstrates that the discriminant function separates the four categories and that the extracted factors predict overall satisfaction to a statistically significant degree.

Figure 5.1 Boxplots illustrating the distribution of discriminant scores for the four groups

Results of the classification are presented in Table 5.13 where actual group membership is compared to predicted group membership. Chance probabilities would expect an equal number
of GPs in each of the four categories of satisfaction, that is, a 25% chance of correctly classifying a GP in each satisfaction group. In this analysis, correct classification of 1,862 GPs into the four levels of satisfaction was achieved for 65.1% of the cases (Table 5.13). The analysis correctly classified 85% of the very satisfied group, 52% of satisfied and 65% of dissatisfied.

Table 5.13 Classification results

<table>
<thead>
<tr>
<th>Level of satisfaction with work overall</th>
<th>Actual group membership</th>
<th>Correctly predicted</th>
<th>Incorrectly predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] not sure</td>
<td>91</td>
<td>49 (53.8%)</td>
<td>42 (46.2%)</td>
</tr>
<tr>
<td>[2] dissatisfied</td>
<td>148</td>
<td>96 (64.9%)</td>
<td>52 (35.1%)</td>
</tr>
<tr>
<td>[3] satisfied</td>
<td>962</td>
<td>504 (52.3%)</td>
<td>458 (47.7%)</td>
</tr>
<tr>
<td>[4] very satisfied</td>
<td>661</td>
<td>563 (85.2%)</td>
<td>98 (14.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>1862</td>
<td>1212 (65.1%)</td>
<td>650 (34.9%)</td>
</tr>
</tbody>
</table>

An examination of the misclassifications (Table 5.14) revealed that incorrectly predicted cases were found in an adjacent category. Ninety-two of the misclassified very satisfied cases were found in the satisfied group, while 214 satisfied cases were in very satisfied and 212 in not sure. For dissatisfied cases, 43 misclassifications were made to not sure. These results demonstrated that the discriminant functions were reasonably accurate in predicting group membership.

Table 5.14 Incorrectly predicted level of satisfaction

<table>
<thead>
<tr>
<th>Level of satisfaction with work overall</th>
<th>Incorrectly predicted</th>
<th>not sure</th>
<th>dissatisfied</th>
<th>satisfied</th>
<th>very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] not sure</td>
<td>42</td>
<td>43</td>
<td>17</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>[2] dissatisfied</td>
<td>52</td>
<td>43</td>
<td>32</td>
<td></td>
<td>214</td>
</tr>
<tr>
<td>[3] satisfied</td>
<td>458</td>
<td>212</td>
<td>0</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>[4] very satisfied</td>
<td>98</td>
<td>6</td>
<td>0</td>
<td>124</td>
<td>216</td>
</tr>
<tr>
<td>Total</td>
<td>650</td>
<td>261</td>
<td>49</td>
<td>124</td>
<td>216</td>
</tr>
</tbody>
</table>

5.3.2.4 Discussion

The discriminant analysis in this section drew on a sample of 1,862 GPs to determine which, if any, of the elements of *sustainment* predict overall satisfaction to a statistically significant degree. The results demonstrated that a function comprising all four factors could be used to group GPs into categories of overall satisfaction. The most important predictor of overall satisfaction was *intellectual aspects*, followed by *workload, stressors and financial reward*.

The solution classified 65.1% of the GPs into their correct category of satisfaction. However, classification of the satisfied category was weaker with 214 cases appearing in the very satisfied group and 212 in not sure. This suggests GPs who are satisfied are more similar to the categories of very satisfied and not sure GPs than to the dissatisfied category. The results also suggest that the 43 misclassified cases from the dissatisfied category are more similar to the not
sure category of GPs than to the satisfied or very satisfied GPs. Tabachnick and Fidell (2007) indicated that classification functions can be modified if classification is inadequate; however, for this study 65.1% correctly classified is considered adequate to demonstrate that GPs can be differentiated according to their scores for workload, stressors, intellectual aspects and financial reward.

The data support the notion of a dependent relationship between elements of sustainment and satisfaction with work: that GP attitudes to intellectual aspects, workload, stressors and financial reward (in that order of acceptance) will, in part, determine the level of overall satisfaction that GPs have with their work. In the next section I investigate which GPs are more concerned about these elements.

5.3.3 Which GPs are more concerned about sustainment?

The purpose of this step was to determine whether GPs with higher sustainment factor scores are more satisfied overall with work compared to GPs with lower factor scores. My Theory of Optimising Professional Life says that as GPs address their need for sustainment they move closer to their optimal situation. Mean scores for workload, intellectual aspects, stressors and financial reward were compared for two groups of GPs intended to capture the extremes: dissatisfied and very satisfied. These are the groups that are likely to operationalise the concepts of concern and optimising which are the focus of my theory.

5.3.3.1 Measures used

Overall satisfaction with work was measured by responses to the question ‘Taking everything into consideration, how do you feel about your work?’ Cases which recorded very dissatisfied (23), dissatisfied (148) or very satisfied (807) were selected for this analysis. Very dissatisfied and dissatisfied responses were collapsed into dissatisfied (171) because my theory did not differentiate between levels of dissatisfaction.

This analysis used the individual saved scores for workload, intellectual aspects, stressors and financial reward which the PCA extracted from responses to 13 questions in the MABEL Wave 3 (2010) GP questionnaire. Responses to the 13 questions were scaled so that low values represented a less positive attitude and hence, greater concern.

5.3.3.2 Data analysis

The two groups, dissatisfied and very satisfied, were investigated in terms of centre, spread, shape of distribution, outliers and normality using comparative boxplots. The sample of 809 GPs was made up of 148 in the dissatisfied group and 661 in the very satisfied group. Factor scores were missing for 169 cases (23 dissatisfied and 146 very satisfied). In practice the
reduced sample size of 809 was sufficient to determine whether GPs with higher factor scores were more satisfied overall with work compared to GPs with lower factor scores. Thus, deletion of the cases was deemed appropriate.

An independent t-test was performed with each factor, \textit{workload, intellectual aspects, stressors} and \textit{financial reward}, as the dependent variable to determine whether there was a significant difference between the means of factor scores for GPs who reported feeling more satisfied with work and GPs who reported feeling dissatisfied. The means for each factor were then compared taking into account differences in gender, age or work location. An independent t-test is an inferential statistical technique that determines whether there is a statistically significant difference between the means of a dependent variable for two unrelated categories of an independent variable. The significance level (alpha) was set at 0.05.

The independent t-test assumes the variances of the two groups to be equal. The assumption of homogeneity of variance was tested using Levene's Test of Equality of Variances, which was produced in SPSS when running the independent t-test. This test for homogeneity of variance provided an $F$ statistic and a significance value ($p$-value). If the significance level was greater than 0.05, the group variances were treated as equal. However, a value of $p < 0.05$ indicated that the variances were unequal and the assumption of homogeneity of variance had been violated. SPSS provided results under these two conditions - equal variances assumed and equal variances not assumed. As noted below, equal variances were assumed when testing \textit{workload} but for the other factors equal variances were not assumed.

I used Spearman’s ranked correlation coefficient (Spearman’s $\rho$ rho) to determine if there was a relationship between satisfaction with work and \textit{workload, intellectual aspects, stressors} and \textit{financial reward}. Values of Spearman’s Rho less than 0.2 indicate the relationship is virtually non-existent, 0.2 to 0.4 reflects a weak relationship, 0.4 to 0.6 a moderate relationship, and higher than 0.6 a strong relationship.

\textbf{5.3.3.3 Results}

The results of each procedure to identify differences in \textit{workload, intellectual aspects, stressors} and \textit{financial reward} for dissatisfied and very satisfied GPs demonstrated that GPs with higher mean scores for the \textit{sustainment} factors are more satisfied with work compared to GPs with lower mean factor scores. Very satisfied GPs had higher mean factor scores than dissatisfied GPs for each factor, which is illustrated by the boxplots for each factor (Figures 5.2 to 5.5). Since the $p$-value was less than 0.05 in each t test, I concluded that \textit{workload, intellectual}
aspects, stressors and financial reward were different for GPs who felt very satisfied with work overall compared with those who felt dissatisfied.

An independent samples t-test found the difference between the workload means in Figure 5.2 to be significant, (t(807)= -15.36, p<.0001) with 95% Confidence Interval for the mean difference (-1.43 to -1.10). For intellectual aspects, an independent samples t-test found the difference between the means in Figure 5.3 to be significant, (t(156) = -18.63, p<.0001) with 95% Confidence Interval for the mean difference (-2.52 to -2.03). Figure 5.4 presents the factor scores of stressors for very satisfied and dissatisfied GPs with the former having a higher mean factor score. Results of an independent samples t-test found the difference between the means to be significant, (t(194) = -6.97, p<.0001) with 95% Confidence Interval for the mean difference (-0.93 to -0.52). An independent samples t-test found the difference between the financial reward means in Figure 5.5 to be significant, (t(190) = -5.58, p<.0001) with 95% Confidence Interval for the mean difference (-0.78 to -0.37). Equal variances were not assumed for intellectual aspects, stressors and financial reward.

Results of the Spearman’s Rho correlation found significant positive correlations between overall satisfaction with work and workload, ρ (1862) = 0.350, p-value <0.001; intellectual aspects, ρ (1862) = 0.567, p-value <0.001; stressors, ρ (1862) = 0.252, p-value <0.001 and financial reward, ρ (1862) = 0.201, p-value <0.001. These correlations are consistent with the order in which the factors entered into the stepwise discriminant analysis. While the strength of the relationship with intellectual aspects was moderate, the others were considered to be weak. However, given the large sample size, it can be argued that there is a connection between overall satisfaction and all four elements of sustainment.
Figure 5.2 Factor scores for *workload* for dissatisfied and very satisfied groups of GPs

Figure 5.3 Factor scores for *intellectual aspects* for dissatisfied and very satisfied groups of GPs
Figure 5.4 Factor scores for stressors for dissatisfied and very satisfied groups of GPs

Figure 5.5 Factor scores for financial reward for dissatisfied and very satisfied groups of GPs
5.3.3.4 Discussion

Overlapping of the spread of *sustainment* factor scores suggests that there are GPs with a relatively high factor score who may not feel very satisfied overall with work. There are also GPs with a lower factor score who may not feel dissatisfied overall. The boxplot for *workload* (Figure 5.2) displays the location, spread and general shape of the distribution for each group. Lines extending out from the lower and upper ends of the box indicate the range of the data sets. The factor scores within each group have similar lowest scores (-2.83 and -2.4) and similar highest scores (1.94 and 2.14). Factors extracted by the PCA did not explain all the variance in the original data. Therefore, the apparent inconsistency between a GP’s attitude to *workload* and overall satisfaction with work is possibly due to other influences. Nevertheless, the comparison of means reported a significant difference between GPs when grouped by satisfaction, consistent with GPs with higher factor scores being more satisfied overall with work and GPs with lower factor scores being dissatisfied.

A more detailed comparison of the traits (MABEL variables) that contributed to the factor scores is provided in Figure 5.6. For each trait, the percentage value for the very satisfied and dissatisfied groups is shown. GPs who felt dissatisfied overall had a higher percentage for each variable, demonstrating that this group was more concerned with the *sustainment* factors. For example, 75% wanted to decrease hours and 75% felt their remuneration was not satisfactory. In comparison, only 27% of GPs who felt very satisfied overall wanted to decrease hours and a much lower 6% felt their remuneration was unsatisfactory. While a significant proportion of dissatisfied GPs were dissatisfied with *intellectual aspects* of their work, less than 1% of the very satisfied group reported dissatisfaction with this element of *sustainment*. The results presented in Figure 5.6 illustrate that the percentage of GPs concerned about *self-care* in terms of *workload* and *stressors*, was highest, followed by dissatisfaction with *financial reward*. The percentage of GPs concerned about *intellectual aspects* was lowest.

I also examined differences in gender, age and location using independent sample t-tests. There were no statistically significant gender differences in *intellectual aspects* or *stressors*, but significant gender differences were found for *workload* and *financial reward*. Male GPs had a lower mean factor score for *workload*, suggesting that on average they were less comfortable with balancing their work hours than female GPs. In contrast, male GPs had a higher mean factor score for *financial reward*, suggesting they were more comfortable with their *financial reward* than female GPs. As concern was synonymous with dissatisfaction and discomfort in this study, these results demonstrated that male GPs were more concerned about *workload* and less concerned about *financial reward* than female GPs.
Figure 5.6 Attitude to traits that contribute to sustainment factors

For age differences, GPs aged 40 to 44 years were compared with GPs aged 50 to 54 years. There were no statistically significant age differences in intellectual aspects or stressors. For workload and financial reward, the p-values were less than 0.05 from which I concluded that there were statistically significant age differences in these factors. GPs aged 40 to 44 years had a higher mean factor score for workload, suggesting that they were more comfortable with balancing their work hours than GPs aged 50 to 54 years. In contrast, the younger group had a lower mean factor score for financial reward, suggesting they were less comfortable with their financial reward than the older group. Thus, GPs aged 40 to 44 years were less concerned about workload and more concerned about financial reward than GPs aged 50 to 54 years.

For differences based on geographic location, GPs working in major cities were compared with GPs working in inner regional locations. There were no statistically significant differences in intellectual aspects and stressors based on these GPs’ locations. However, for workload and financial reward, the results indicate differences for GPs working in major cities compared with GPs working in inner regional locations. Major city GPs had a higher mean factor score for workload and a lower score for financial reward, demonstrating that they were less concerned about workload and more concerned about financial reward than colleagues in inner regional locations.
With regard to the first objective of this chapter, the analysis provides support for the proposition that sustainment is the main concern of GPs sampled from the MABEL data. A principal components analysis identified four factors - workload, intellectual aspects, stressors and financial reward – which explained 61% of the variance in the 13 variables examined, exceeding the generally accepted minimum threshold of 60% for exploratory research in the social sciences (Hair et al., 2006). A stepwise discriminant analysis demonstrated that GPs could be classified into their correct category of satisfaction using sustainment factor scores with a prediction accuracy of 65.1%.

5.4 Evidence that GPs are implementing strategies that Optimise their situation

The second objective of this chapter addresses the process of how GPs optimise their personal situation. In seeking evidence that GPs implement actions to satisfy their need for sustainment and optimise their situation, three steps were followed: firstly, determine which, if any, of the sustainment factors are significantly related to hours worked, patients seen or earnings; secondly, determine whether overall satisfaction with work is related to hours worked, patients seen or earnings; and thirdly, determine whether there is a significant relationship between autonomy, control and overall satisfaction with work. As noted earlier, the MABEL data set is not well suited to examining a process that occurs over time. Nevertheless, analysis of the MABEL data can provide a number of indications as to whether, or not, the relationships evident in the data set are consistent with the mechanisms embodied in my Theory of Optimising Professional Life.

5.4.1 Relating sustainment factors to strategy levers

The qualitative analysis presented in Chapter 4 revealed that GPs resolved their concerns about sustainment by implementing, among other things, changes to their workload in terms of hours worked and patients treated, which also affected their earnings. This section determines which, if any, of the sustainment factors - workload, intellectual aspects, stressors and financial reward - are significantly related to the strategy levers of hours worked, patients seen and earnings. This statistical analysis seeks to shed light on whether a GP’s level of concern about sustainment can be influenced by adjusting these facets of GP professional life.

5.4.1.1 Measures used

GPs were asked to report the total hours they worked in their most recent usual week at work, excluding on-call (hours worked). Respondents were asked to include all of the work they did as a doctor in all jobs and workplaces. GPs were also asked to report how many patients they provided care for (including face-to-face, out-of-hours and telephone consultations) in private
consulting rooms in their most recent usual week at work (patients seen). Finally, they were asked to report their (approximate) total personal earnings before tax (gross earnings, annual) from all the work they do as a doctor (earnings).

This analysis uses the saved *sustainment* factor scores for *workload, intellectual aspects, stressors and financial reward* which the PCA extracted from responses to 13 questions in the MABEL Wave 3 (2010) GP questionnaire.

**5.4.1.2 Data analysis**

Pearson’s product moment correlation coefficient (Pearson’s $r$) and Spearman’s ranked correlation coefficient (Spearman’s $\rho$ rho) were used to measure the strength of relationships between hours worked, patients seen, earnings and the factors of *sustainment*. Values of the correlation coefficient less than 0.2 indicate the relationship is virtually non-existent, 0.2 to 0.4 reflects a weak relationship, 0.4 to 0.6 a moderate relationship, and higher than 0.6 a strong relationship.

A multiple linear regression was conducted to explore any dependent relationships between the strategy variables (hours worked, patients seen and earnings), factors of *sustainment*, gender, age and location of work.

**5.4.1.3 Results**

Correlations between the *sustainment* factors - *workload, intellectual aspects, stressors and financial reward* - and hours worked, patients seen and earnings are reported in Tables 5.15, 5.16 and 5.17. Pearson’s correlation assumes that the data are normally distributed. Spearman’s ranked correlation coefficient was used as an alternative for *intellectual aspects*, patients and earnings as these variables were not normally distributed.
Table 5.15 Full and partial correlations between sustainment factors and hours worked (partial correlations controlling for gender)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Procedure</th>
<th>Full</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>r</td>
<td></td>
</tr>
<tr>
<td>Workload</td>
<td></td>
<td>-0.524**</td>
<td>-0.483**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>1862</td>
<td>1859</td>
</tr>
<tr>
<td>Intellectual aspects(^{a})</td>
<td>(\rho)</td>
<td>0.074**</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>1862</td>
<td></td>
</tr>
<tr>
<td>Stressors</td>
<td></td>
<td>-0.170**</td>
<td>-0.176**</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>1862</td>
<td>1859</td>
</tr>
<tr>
<td>Financial reward</td>
<td></td>
<td>-0.021</td>
<td>-0.055*</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>0.365</td>
<td>0.017</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>1862</td>
<td>1859</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
\(^{a}\) Spearman’s ranked correlation coefficient (Spearman’s \(\rho\) Rho) has been used because intellectual aspects has a non-normal distribution.

Hours worked was negatively correlated with workload \((r (1862) = -0.524, p < .01)\); and stressors \((r (1862) = -0.170, p < .01)\) and was positively correlated with intellectual aspects \((\rho (1862) = 0.074, p < .01)\) (Table 5.15). There was no significant correlation between hours worked and financial reward in the initial analysis. However, after controlling for the effect of gender, a partial negative correlation was identified between hours worked and financial reward \((r (1859) = -0.055, p < .05)\).

Correlations between sustainment factors and hours worked, separated for each level of overall satisfaction with work, are provided in Table 5.16. For GPs who felt dissatisfied with work, there were significant correlations of workload, intellectual aspects and stressors with hours worked. There was no significant relationship between financial reward and hours worked. For GPs who felt very satisfied overall with work, there were significant correlations between workload, intellectual aspects and financial reward and hours worked. The relationship between stressors and hours worked was not significant.
A correlation between financial reward and hours worked was revealed when the effects of satisfaction with work were considered. Financial reward correlated with hours worked only for the very satisfied group of GPs ($\rho$ (661) = 0.105, $p < .01$). The relationship between financial reward and hours worked was masked when the data were aggregated across satisfaction groups.

Patients seen was negatively correlated with workload ($\rho$ (1770) = -0.291, $p < .01$) and stressors ($\rho$ (1770) = -0.154, $p < .01$) (Table 5.17). A positive correlation was found between patients seen and financial reward ($\rho$ (1770) = 0.051, $p < .05$). No significant correlation was found between patients seen and intellectual aspects. Earnings was negatively correlated with workload ($\rho$ (1618) = -0.303, $p < .01$) and stressors ($\rho$ (1618) = -0.067, $p < .01$). A positive correlation was found between earnings and intellectual aspects ($\rho$ (1618) = 0.102, $p < .01$), earnings and financial reward ($\rho$ (1618) = 0.144, $p < .01$).
Table 5.1 Spearman’s ρ rho correlations between sustainment factors, patients seen and earnings

<table>
<thead>
<tr>
<th></th>
<th>patients seen</th>
<th>earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workload</strong></td>
<td>ρ</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td>-0.291</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>-0.303</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Intellectual aspects</strong></td>
<td>ρ</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td>0.029</td>
<td>0.219</td>
</tr>
<tr>
<td></td>
<td>0.102</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Stressors</strong></td>
<td>ρ</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td>-0.154</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>-0.067</td>
<td>0.007</td>
</tr>
<tr>
<td><strong>Financial reward</strong></td>
<td>ρ</td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td>0.051</td>
<td>0.033</td>
</tr>
<tr>
<td></td>
<td>0.144</td>
<td>0.000</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

*S Spearman’s ranked correlation coefficient (Spearman’s ρ Rho) has been used because patients seen and earnings have non-normal distributions.

Multiple regression was employed to examine whether the variation in hours worked could be explained by GP attitudes towards sustainment factors, gender, age or work location. Using a forward regression procedure, a significant relationship was found between hours worked and these seven variables (F(1,1854) = 210.29, p < .05), explaining 44% of the variance in hours worked (R² = 0.443). Attitude to workload (R² = 0.275) was the first variable entered into the regression and it explained 28% of the variance, while gender explained 12% (accumulative R² = 0.398) and attitude to stressors another 3% (accumulative R² = 0.424). Together, location of work, attitude to financial reward and age explained an additional 1% (accumulative R² = 0.443). It appears that the total number of hours worked each week decreases in line with an increase with GP satisfaction with workload and stressors, more so for female GPs than male. This is also demonstrated graphically in Figure 5.7.

A forward regression analysis conducted to examine the relationship between patients seen, sustainment factors, gender, age and location of work, found a significant dependent relationship (R² = 0.221), between patients seen and three of these predictor variables (F(3,1766)=167.30, p<.05). The data support the notion that gender and GP attitudes to workload and stressors determine, in part, the number of patients seen. The number decreases in line with an increase in GP satisfaction with workload and stressors, more so for female GPs than male.

A forward regression found a significant relationship between earnings and seven of the predictor variables (F(6,1611)=79.142, p<.05), explaining 22% of the variance in earnings, (R²
Gender ($R^2 = 0.155$) was the first variable entered into the regression and it explained 16% of the variance, while attitude to workload explained 4%. Together, attitude to financial reward and intellectual aspects, location of work and age explained an additional 3% (accumulative $R^2 = 0.228$). Thus, gender determines, in part, GP earnings.

**Figure 5.7** Scatter diagram illustrating the decrease in hours worked with the increase in satisfaction with workload

### 5.4.1.4 Discussion

GP level of concern with four sustainment factors was significantly related to a number of strategy levers – hours worked, patients seen and earnings – except that intellectual aspects did not correlate with patients seen. Hours worked was moderately and negatively correlated with GP attitude to workload, while the negative correlations with GP attitudes to stressors and financial reward were weaker. These results suggest that as hours increased, GPs became less satisfied with (and more concerned about) workload, stressors and financial reward. The correlation with financial reward was revealed in a partial correlation after controlling for the effects of gender. For male GPs, hours were negatively correlated with financial reward ($r (942) = -0.136, p < .01$), while for female GPs, hours were positively correlated with financial reward ($r (920) = 0.021, p < .01$). The relationship between hours worked and
financial reward was masked when the data were aggregated across gender because the correlations run in opposite directions for male and female GPs. Gender had little impact on the relationship between hours worked and other sustainment factors, as shown in Table 5.15. The correlation of hours worked and financial reward was also revealed when the effects of satisfaction with work were considered, with a significant correlation for the very satisfied group of GPs ($\rho (661) = 0.105, p < .01$).

Patients seen was negatively correlated with GP attitudes to workload and stressors, suggesting that as the number of patients seen increased, GPs became less satisfied with (and more concerned about) their workload and stressors. The correlation with financial reward was significant at the .05 level. For male GPs, however, patients seen was not significantly correlated with financial reward ($\rho (896) = -0.029, p = 0.386$). For female GPs, patients seen was again not significantly correlated with financial reward ($\rho (874) = 0.065, p = 0.056$). Thus, the correlation between patients seen and financial reward disappeared when the effect of gender was considered.

Earnings were negatively correlated with attitude to workload but were positively correlated with attitudes to intellectual aspects and financial reward. For male GPs, earnings were not significantly correlated with stressors ($\rho (836) = 0.017, p = 0.631$), while for female GPs, earnings were significantly correlated with stressors ($\rho (782) = -0.120, p < .01$). Thus, the correlation between earnings and stressors disappeared when the effect of gender was considered. This suggests that female GPs are less concerned about stressors as earnings decrease.

While some of these correlations should be viewed as weak or virtually non-existent, individually and collectively they do indicate that sustainment factors are significantly related to several strategy levers that GPs can use to change how they feel about their professional life. The strongest relationships were negative: between workload and hours worked, followed by workload and earnings, and workload and patients seen. Partial correlations, after controlling for the effect of gender, age and location of work, found no change in these initial relationships, suggesting that gender, age and location of work do not influence the relationship between GP concerns about workload and the strategy levers. Splitting the data based on overall satisfaction with work failed to reveal any changes in the initial relationship between workload and hours, suggesting that satisfaction with work does not affect this relationship. The second strongest of the set of relationships, also negative, was between stressors and hours worked, followed by stressors and patients seen, and stressors and earnings (for female GPs only). The correlation
between financial reward and patients seen disappeared when the effect of gender was considered.

Correlations between sustainment factors and hours worked, separated for each level of overall satisfaction with work, are provided in Table 5.16. For GPs who felt dissatisfied with work, there were significant correlations of workload, intellectual aspects and stressors with hours worked. The relationship between financial reward and hours worked were not significant. For GPs who felt very satisfied overall with work, the correlations of workload, intellectual aspects and financial reward with hours were significant, while the relationship between stressors and hours worked was not significant.

To gain a better understanding of which elements of sustainment, satisfaction with work, gender, age and work location might explain variations in hours worked, a multiple regression was applied. Attitude to workload explained 28% of the variance and gender explained 12%. Together, the remaining variables explained 6% (accumulative $R^2 = 0.454$). These results suggest that GP satisfaction with their workload increased as hours worked decreased, more so for female GPs than male, and that the explanatory power of intellectual aspects, stressors, financial reward, age and location of work is quite low.

Overall, the strength of the identified correlations was weak to moderate and the explanatory power of the regressions was quite low. However, given that the analysis was based on sustainment factor constructs developed from available survey variables, it was encouraging that significant relationships were found in almost all cases and that the nature of these relationships fitted logically with the effects that might have been expected.

5.4.2 Relating overall satisfaction with work to strategy levers

The aim of this section is to determine whether overall satisfaction with work is significantly related to the strategy levers of hours worked, patients seen or earnings. Chapter 4 shows that GPs move to a more satisfactory situation by implementing changes, among other things, to their workload in terms of hours worked and patients treated, which also affect their earnings. If GPs are applying these levers to improve their situation then as a consequence of this behaviour, I would expect to see differences in satisfaction amongst GPs based on the number of hours they work, the number of patients they treat and their annual earnings.

I hypothesised that GPs who felt dissatisfied overall with work, shown in this chapter to have lower scores for the elements of sustainment, worked more hours than GPs who felt very satisfied overall.
5.4.2.1 Measures used
GPs reported a variety of details about their hours worked and earnings as described in section 5.4.1.1. GPs were asked about their satisfaction with work overall as described in section 5.3.3.1.

5.4.2.2 Data analysis
I used a non-metric correlation, Spearman’s ranked correlation coefficient (Spearman’s $\rho$ rho), to determine if satisfaction with work is significantly related to hours worked, patients seen and earnings. A discriminant analysis was applied to investigate which, if any, of hours worked, patients seen or earnings predicted the category of GP satisfaction with work to a statistically significant degree. Independent t-tests were used to examine the differences between the means of hours worked by the two independent groups – GPs who reported feeling very satisfied with work overall (n=807) and GPs who reported feeling dissatisfied overall (n=171). The means were also compared for differences in gender, age or work location. This procedure was repeated for number of patients seen and for earnings.

5.4.2.3 Results
Correlation procedures indicated which variables were significantly related to satisfaction with work. A negative correlation was reported with hours worked ($\rho (2255) = -0.143 \ p < 0.01$) and with patients seen ($\rho (2137) = -0.096 \ p < 0.01$) but the relationship between satisfaction and earnings was not significant ($\rho (1894) = -0.033, \ p = 0.150$). Discriminant function analysis was conducted to assess whether the level of satisfaction with work could be predicted by hours worked, patients seen and earnings. A significant predictive relationship was found between hours worked and satisfaction with work ($\Lambda = .975, \chi^2(3) = 46.52, \ p < .05$). While the data revealed that hours worked will, in part, determine the level of satisfaction GPs have with their work, only 24.4% of the cases were correctly classified into the satisfaction groups. No dependent relationship was found between patients seen and satisfaction with work, or earnings and satisfaction with work.

Independent t tests applied to identify differences in hours worked, patients seen and earnings for dissatisfied and very satisfied GPs found that dissatisfied GPs had higher means than very satisfied GPs. This shows that, on average, dissatisfied GPs work more hours per week, see more patients and earn more income than very satisfied GPs. For hours worked, dissatisfied GPs had higher scores (M=47.07 hours worked per week, SD=16.8) than very satisfied GPs (M=36.85 hours worked per week, SD=14.5), working 10.22 more hours each week. This difference was significant ($t(976) = 8.15, \ p < 0.01$) with 95% Confidence Interval for the mean difference (7.76 to 12.68).
Hours worked were compared for differences in gender, age or work location. The means and standard deviations are reported in Table 5.18. Dissatisfied male GPs worked 51.9 hours per week compared with very satisfied male GPs 45.4 hours. Dissatisfied female GPs worked 38.8 hours per week compared with very satisfied female GPs 30.8 hours. By age grouping, dissatisfied GPs aged 50-54 years averaged the most hours (51 hours) and the 40-44 age group averaged the least (42.1 hours). Very satisfied GPs aged 55-59 years averaged the most hours (41.2 hours) and the 35-39 age group averaged the least (30.5 hours). For both dissatisfied and very satisfied GPs, those working in outer regional locations worked more hours than colleagues in inner regional or major city locations. Figure 5.8 displays the gender differences in hours worked by dissatisfied and very satisfied GPs.

Table 5.18 Comparison of hours worked per week by dissatisfied and very satisfied GPs based on differences in gender, age and location of work

<table>
<thead>
<tr>
<th></th>
<th>Dissatisfied group</th>
<th>Very satisfied group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=171</td>
<td>N=807</td>
</tr>
<tr>
<td>Hours worked</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Mean (Standard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>deviation)</td>
</tr>
<tr>
<td>Gender groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>108</td>
<td>M=51.9 (SD=14.3)</td>
</tr>
<tr>
<td>Female</td>
<td>63</td>
<td>M=38.8 (SD=17.6)</td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-39 years</td>
<td>15</td>
<td>M=47.5 (SD=16.8)</td>
</tr>
<tr>
<td>40-44 years</td>
<td>25</td>
<td>M=42.1 (SD=17.7)</td>
</tr>
<tr>
<td>45-49 years</td>
<td>43</td>
<td>M=45.3 (SD=18.9)</td>
</tr>
<tr>
<td>50-54 years</td>
<td>47</td>
<td>M=51.0 (SD=13.8)</td>
</tr>
<tr>
<td>55-59 years</td>
<td>41</td>
<td>M=47.3 (SD=16.6)</td>
</tr>
<tr>
<td>Place of work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major city</td>
<td>101</td>
<td>M=44.9 (SD=15.7)</td>
</tr>
<tr>
<td>Inner regional</td>
<td>40</td>
<td>M=47.5 (SD=17.1)</td>
</tr>
<tr>
<td>Outer regional, remote</td>
<td>30</td>
<td>M=54.0 (SD=18.6)</td>
</tr>
</tbody>
</table>

Dissatisfied GPs saw an average of 24 more patients per week (M=122 patients seen per week, SD=69.3) than very satisfied GPs (M=98 patients seen per week, SD=57). An independent samples t-test found this difference between the means to be significant (t(209)=4.1, p<.0001) with 95% Confidence Interval for the difference (12.4 to 35.4). For this procedure, equal variances were not assumed. Figure 5.9 displays the gender differences in patients seen by dissatisfied and very satisfied GPs.

Those GPs who reported feeling dissatisfied overall had higher earnings (M=$193,250 per year, SD=112.871) than very satisfied GPs (M=$180,400 per year, SD=106,924) with a mean difference of $12,850. However, an independent samples t-test found the difference between the means was not significant (t(818) = 1.28, p=0.2), from which I concluded that dissatisfied
GPs did not have significantly higher earnings than very satisfied GPs. Figure 5.10 displays the gender differences in earnings of dissatisfied and very satisfied GPs.

Figure 5.8 Hours worked per week by gender for dissatisfied and very satisfied groups of GPs.
Figure 5.9 Patients seen per week by gender for dissatisfied and very satisfied groups of GPs

Figure 5.10 Earnings per year by gender for dissatisfied and very satisfied groups of GPs
5.4.2.4 Discussion

The aim of this section is to determine whether satisfaction with work is significantly related to hours worked, patients seen and earnings. A dependent relationship could be used to predict how much satisfaction with work could change with a corresponding change in hours worked, patients seen or earnings. This examination of the MABEL data established correlations between satisfaction and hours worked and patients seen. While a significant predictive relationship was identified between satisfaction with work and hours worked, only 24.4% of the cases were classified into the correct satisfaction groups, which is too low to be of predictive value.

The boxplot graphics illustrate that dissatisfied GPs had higher means for hours worked, patients seen and earnings than very satisfied GPs. However, independent t-tests showed that these differences were only significant for hours worked and patients seen, and not for earnings. A possible explanation for these significant differences between levels of satisfaction with work could be that the very satisfied GPs have moved to more satisfactory situations by implementing changes to their workload in terms of hours worked and patients treated. This would be consistent with the theory that GPs are optimising their situation. The survey data captured GP responses at a point-in-time and are not suited to examining the process of Optimising Professional Life that occurs over time. Hence, it is also possible that GPs previously altered their circumstances due to factors other than dissatisfaction with the sustainment of their professional life. Nevertheless, this analysis shows that the behaviour of very satisfied GPs is significantly different from the behaviour of dissatisfied GPs.

5.4.3 Relating autonomy to overall satisfaction with work

The qualitative analysis presented in Chapter 4 argued that having autonomy allowed GPs to manage their affairs independently and to implement their best solution, thereby optimising their personal situation. This section examines whether autonomy is significantly related to overall satisfaction with work. If so, this would provide evidence that GPs are able to implement strategies to address their concerns about sustainment, thereby improving their satisfaction with work.

Lewis (2003) examined what autonomy means for GPs in everyday practice, defining it as the control GPs exercise over their circumstances including the organisation of work, patient care and earnings. In this study, autonomy refers to GPs’ personal freedom and ability to implement changes to their work life and the content of that work. Clinical autonomy relates to control over treating patients including diagnosis, treatment and evaluating care, as well as patient consultations and relationships. Structuring the work day requires autonomy around being able
to influence the mix of personal and professional time, multiple jobs and roles held, time spent in direct patient care and events that occur over the course of a day. The focus of financial freedom is control over earnings and financial reward, which are linked to the nature and volume of work performed, hence *workload*, as well as family commitments.

### 5.4.3.1 Measures used

The MABEL survey examined autonomy by asking GPs about their freedom in work as a doctor. GPs were asked to indicate how satisfied or dissatisfied they were with freedom to choose their own method of working. Responses were recorded on a five point scale (0= very dissatisfied, 1= moderately dissatisfied, 2= not sure, 3=moderately satisfied, 4=very satisfied). In this analysis, this variable was collapsed into a four-group (1=not sure, 2=dissatisfied, 3=satisfied and 4=very satisfied) measure of satisfaction with freedom in work as a doctor.

Control was measured in the MABEL survey via GP responses to the seven statements listed below. Data were recorded on a seven point scale (1= strongly disagree to 7 = strongly agree).

1. ‘I have little control over the things that happen to me’.
2. ‘There is really no way I can solve some of the problems I have’.
3. ‘There is little I can do to change many of the important things in my life’.
4. ‘I often feel helpless in dealing with the problems of life’.
5. ‘Sometimes I feel that I’m being pushed around in life’.
6. ‘What happens to me in the future mostly depends on me’.
7. ‘I can do just about anything I really set my mind on doing’.

For this data analysis, the information contained in the control variables was condensed into a single variable by summation, and named the Control Summary Variable. Lower scores reflect feeling less in control while higher scores reflect feeling more in control. GPs were asked about their satisfaction with work overall as described in section 5.3.3.1.

### 5.4.3.2 Data analysis

I used a non-metric correlation, Spearman’s ranked correlation coefficient (Spearman’s $\rho$ rho), to measure the relationships between the autonomy variable measured by freedom in work as a doctor, the Control Summary Variable and overall satisfaction with work.

### 5.4.3.3 Results

Spearman’s rho correlation was used to measure the relationships between overall satisfaction with work and the variables for autonomy and control. Correlation procedures found significant positive correlations for overall satisfaction with work with autonomy ($\rho(2255) = 0.572$, $p<.01$), and with the Control Summary Variable ($\rho(2216) = 0.365$, $p <.01$) (Table 5.19). These
correlations suggest that those GPs who are more satisfied with work, are more satisfied with their autonomy and have less concern about control over what happens to them, solving problems, being able to change important things, feeling helpless or being pushed around.

Table 5.19 Spearman’s $\rho$ rho correlations for overall satisfaction with work, autonomy and the Control Summary Variable

<table>
<thead>
<tr>
<th>Overall satisfaction with work</th>
<th>$\rho$</th>
<th>Sig.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy (freedom to choose your own method of working)</td>
<td>$\rho$</td>
<td>0.572**</td>
<td>0.000</td>
</tr>
<tr>
<td>Control Summary Variable</td>
<td>$\rho$</td>
<td>0.365**</td>
<td>0.006</td>
</tr>
</tbody>
</table>

** Correlation is significant at the .01 level (2-tailed).

The correlation relationships between overall satisfaction with work, autonomy and control were examined for differences in gender. While the relationship was similar for male and female GPs, the correlation between satisfaction and control was stronger for male GPs ($\rho(1070) = 0.408, p < .01$), than for female GPs ($\rho(1166) = 0.316, p < .01$).

5.4.3.4 Discussion

This analysis of the MABEL data sheds some light on how strongly GPs’ overall satisfaction with work is related to how they feel about the freedom they have in their work as a doctor and the control they have in their life. All the examined relationships were found to be significant. The strongest relationship was between satisfaction with work and autonomy. As the scores increased for autonomy, satisfaction with work increased in a predictable way. The results indicate that if GPs felt more satisfied with their autonomy and the control they possessed, they were more likely to feel more satisfied with work. These findings give weight to the proposition that autonomy provides GPs with the means to implement changes in order to achieve their most satisfactory circumstance.

5.5 Summary of this chapter

Chapter 5 set out to satisfy two objectives: to establish whether GPs in the selected sample of MABEL participants were concerned about the sustainment of their professional life, and to seek evidence they were implementing actions to satisfy their need for sustainment and optimise their situation. This was achieved by identifying underlying factors in the MABEL survey variables on attitudes consistent with the concept of sustainment; determining which factors predicted overall satisfaction with work to a statistically significant degree; determining whether GPs with higher sustainment factor scores were more satisfied overall with work compared to GPs with lower factor scores; determining which factors were significantly related to hours.
worked, patients seen or earnings; determining whether overall satisfaction with work was significantly related to hours worked, patients seen or earnings; and determining whether there was a significant relationship between autonomy, control and overall satisfaction with work.

Figure 5.11 shows the five dependent relationships that were found to be significant, as indicated by a p-value less than 0.05 (p<.05). $R^2$ represents the correlation between all the explanatory (independent) variables together with the criterion (dependent) variable. In these procedures, sustainment factors and hours worked had the highest result with 44% of the variation in the number of hours worked being accounted for by workload, gender, stressors and financial reward. Autonomy and control explained 19% of the variation in patients seen.

With regard to the first objective of this chapter, the analysis provides support for the proposition that sustainment is the main concern of GPs sampled by the MABEL data.

A principal components analysis was employed to identify underlying patterns of GP attitudes in the MABEL data that were consistent with the concept of sustainment which, I have argued in this thesis, is the main concern GPs have about their professional life. This procedure identified four factors - workload, intellectual aspects, stressors and financial reward – which explained 61% of the variance in the 13 variables examined, exceeding the generally accepted minimum threshold of 60% for exploratory research in the social sciences (Hair et al., 2006).

A stepwise discriminant analysis demonstrated that GPs could be classified into their correct category of satisfaction using sustainment factor scores with a prediction accuracy of 65.1% (Figure 5.11 H1). These findings suggest that sustainment factors are good predictors of GP satisfaction with work. The data supported the notion that GP attitudes to intellectual aspects, workload, stressors and financial reward (in that order) determine, in part, the level of overall satisfaction they have with their work.
With regard to the second objective of this chapter, the analysis found a number of significant correlations and identified several significant, but weak, relationships between the sustainment factors, satisfaction with work and key workload levers. Overall, these results provide some support for the propositions that addressing concern about sustainment can increase satisfaction with work and that autonomy is important to a GP’s level of satisfaction with work.

Evidence of relationships between both hours worked per week, and the number of patients treated, and the level of concern for sustainment factors suggests that these levers can be used by GPs to improve their working life. However, the available survey data captured GP responses at a point-in-time and are not well-suited to examining a process that occurs over time.
Hours worked was moderately and negatively correlated with workload while the correlations with stressors and intellectual aspects were weaker. After controlling for the effect of gender, hours worked was found to be negatively correlated with financial reward. A significant dependent relationship was found between sustainment factors, gender, age, location of work and hours worked, explaining 44% of the variance in hours worked (Figure 5.11 H2). Workload was the first variable entered into the regression, accounting for 28% of the variance. It appears that hours worked decreases in line with an increase with GPs’ satisfaction with workload and stressors, more so for female GPs than male.

Both patients seen and earnings were negatively correlated with workload and stressors, and positively correlated with financial reward. A regression analysis found a significant dependent relationship between three of the predictors and patients seen, explaining 22% of the variance in patients seen (Figure 5.11 H3). The results supported the notion that GP attitudes to workload and stressors determine, in part, the number of patients seen. For earnings, a significant dependent relationship was found between the set of predictors and earnings, suggesting that GP attitudes to sustainment factors, gender, age and location of work determine, in part, GP earnings, explaining 23% of the variance in earnings (Figure 5.11 H4).

There is some evidence that adjusting hours worked or patients seen will influence GPs’ concern for sustainment and their overall satisfaction with work. Negative correlations were reported between overall satisfaction with work and hours worked, and patients seen. Discriminant function analysis found satisfaction with work could be predicted by hours worked (Figure 5.1 H5). However, only 24.4% of the cases were correctly classified into the satisfaction groups, which is too low to be of predictive value. No dependent relationship was found between patients seen and satisfaction with work, or earnings and satisfaction with work.

A significant correlation was found between overall satisfaction with work, and autonomy, suggesting that GPs who feel they have less autonomy are less likely to be satisfied and vice versa.

Human behaviour is complex, and operates in multiple domains. Nevertheless analysis of the available variables contained in the secondary data set provides some support for the principles and processes that form the Theory of Optimising Professional Life. In the next chapter, the findings of the qualitative and quantitative research are discussed in terms of the contribution they make to the careers literature and to GP career practice.
Chapter 6: DISCUSSION OF RESEARCH OUTCOMES

6.1 Introduction

Chapter 6 highlights the contribution the Theory of Optimising Professional Life makes to careers literature, research method and GP workforce policy and practice. This thesis considers the key issues of why people work and how human potential can be tapped and enhanced.

The Theory of Optimising Professional Life contributes to careers literature in five key aspects. This theory is offered as a career theory for professional adults comprising defined constructs, propositions that describe how these constructs interact and three stages of the optimising process. Professional life in general practice is viewed through the lens of career theory in order to focus on the sequence of an individual’s vocational experiences over time. Sustainment is put forward as an overarching career value for GPs. The Theory of Optimising Professional Life is positioned within the extant career theory through conceptual links, shared and distinguishing features, and a discussion of five psychological-based career theories introduced in Chapter 2. Finally, a conceptual model of decision-making developed for GPs working in rural locations in Australia (Humphreys et al., 2001) is considered in terms of what the Theory of Optimising Professional Life can contribute to the discussion.

This thesis combines the inductive investigative process of grounded theory to understand how GPs experience their careers and the deductive approach of quantitative analysis to test concepts which emerged from the qualitative analysis. Research into GP work-life using mixed-methods have not been evident.

This chapter continues with consideration of how the Theory of Optimising Professional Life can contribute to recent policy directions in terms of their potential impact on recruitment, retention and the efficiency and effectiveness of healthcare. Health Workforce Australia’s national projections of GP headcount to 2025 suggest that without changes to current workforce policy, the number of GPs will be insufficient to meet anticipated healthcare needs (Health Workforce Australia, 2012b). The Theory of Optimising Professional Life could be used to attract and recruit GPs to the workforce by providing potential recruits, medical students and young doctors with a framework for understanding the nature and benefits of a career in general practice. Furthermore, it can be used to help retain GPs who are considering leaving the workforce by providing them with a process for understanding the nature of their discomfort and the solutions to their dissatisfaction with general practice.
Providing efficient and effective health services for those suffering chronic conditions will require patient-centred care, interdisciplinary approaches and the use of modern information and communication technologies (Standing Council on Health, 2013, Australian Institute of Health and Welfare, 2012a). This chapter shows how the Theory of Optimising Professional Life could be useful in evaluating alternative health policy options that affect GPs.

6.2 Contribution to careers literature

6.2.1 A career theory for professional adults

Optimising Professional Life is offered as a career theory for professional adults, addressing the seminal issues of why people work and how human potential can be tapped and enhanced. This theory builds conceptual links with and shares certain features with other career theories. These are examined further in a later section that positions Optimising Professional Life within career theory more broadly.

While career theorists and researchers have often paid more attention to the initial career choice and entry into the workforce, this thesis provides insight into the progression, adjustment and transition of professional life as an adult. Furthermore, whereas extant career theories tend to focus on person-job fit and the need for an individual to change jobs, this thesis recognises that career development can occur by making changes within a current job. Occupation in general practice was appropriate for an investigation of professional careers in adulthood: GPs make multiple career-related choices throughout their working life and the traditional professional occupation of a full-time, solo practitioner and self-employed GP is increasingly being complemented by part-time, portfolio and employee career patterns (Britt et al., 2008). The career issues experienced by GPs are more complex than just the initial choice of occupation – they include career transition, learning across the lifespan, work-life balance, stress, finances and sustained employability.

Theories may be thought of as comprising fundamental attributes of defined constructs, propositions that identify how these constructs interact and operation (Peterson et al., 2002). Six constructs central to the Theory of Optimising Professional Life (needs, solution space, constraints, satisfaction, optimal solution and optimising) are set out in Table 6.1, propositions are listed in Table 6.2 and the operation of the theory is illustrated in Figure 6.1. These tables and figure are reproduced from Chapter 4 for convenience.
Table 6.1 Key constructs of the Theory of Optimising Professional Life
(reproduced from Chapter 4 for convenience)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs</td>
<td>Unsatisfied work needs, that is, deficits of some kind (biological needs to do with survival or psychological needs to do with well-being) that the GP seeks to satisfy through professional work. During this study, GPs revealed a need for <em>sustainment</em> which comprised the need for <em>self-care</em> to sustain well-being, <em>staying interested in the work</em> to sustain work interest and the need for <em>financial reward</em> to sustain lifestyle.</td>
</tr>
<tr>
<td>Solution space</td>
<td>A range of possible satisfactory solutions, including the <em>optimal solution</em>, to meeting GPs’ needs, taking into consideration those constraints impacting upon resolution of the problem. Solutions are found in four dimensions – <em>treating patients</em> (control over work content and how the work is done), <em>structuring the work day</em> (administrative structure of the day), <em>integrating work and personal life</em> (balance between personal and professional life) and <em>adapting oneself</em> (building resilience and skills, changing perceptions and attitudes).</td>
</tr>
<tr>
<td>Constraints</td>
<td>Barriers or inhibitors that limit the set of possible satisfactory solutions. Work is often intertwined with other domains of life, all of which can constrain the range of possible satisfactory solutions. GPs searching for the most satisfactory professional life develop career pathways in an environment influenced by families, government, patients and their profession. General practice is an occupation that exhibits the distinguishing features of a profession. Accordingly, vocational behaviours of individual GPs are influenced by many professional factors including the attraction of a shared professional identity, a professional culture and the benefits of group strength in attaining and maintaining status and income.</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>A consequence of how well an individual’s needs are met by their career.</td>
</tr>
<tr>
<td>Optimal solution</td>
<td>That outcome which satisfies needs to the greatest extent within a set of dynamic circumstances (opportunities and constraints).</td>
</tr>
<tr>
<td>Optimising</td>
<td>Three-stage process of discomfort, assessment and resolution aimed at satisfying GPs’ needs to the greatest extent possible within a set of constraints.</td>
</tr>
</tbody>
</table>
Table 6.2 Propositions for the Theory of Optimising Professional Life
(reproduced from Chapter 4 for convenience)

| Proposition #1 | The main concern being addressed by the professionals in this study is the need for sustainment. |
| Proposition #2 | The aim of the Optimising process is to achieve the most satisfactory solution i.e. to satisfy the need for sustainment to the greatest extent possible within a set of constraints. |
| Proposition #3 | The process of Optimising has three stages – stage of discomfort, stage of assessment (a cross roads) and stage of resolution. |
| Proposition #4 | The solution space holds a range of possible satisfactory and very satisfactory solutions that meet the GP’s need for sustainment. Solutions are found in four dimensions – treating patients (control over work content and how the work is done), structuring the work day (administrative structure of the day), integrating work and personal life (balance between personal and professional life) and adapting oneself (building resilience and skills, changing perceptions and attitudes). |
| Proposition #5 | GPs are aware of, and respond to, the constraints present in the internal and external environments. |
| Proposition #6 | Having personal autonomy enables GPs to make the changes they wish to make to optimise their situation. |
| Proposition #7 | Optimising is a psychological process that recurs throughout a professional career. |

Figure 6.1 Stages of Optimising Professional Life

![Stage of Optimising Professional Life](image-url)
Needs emerged as the cornerstone of this theory because they are relevant to GP professional life and are drivers of career behaviours. Needs can be readily understood, thereby evoking ‘grab’ and attention. Needs have been identified as critical variables in developmental and motivational theories of behaviour (Super and Sverko, 1995, Hartung, 2009, Duffy et al., 2009). Super distinguished between values, needs and interests - interests being the activities undertaken to attain goals and thus satisfy needs (Robinson and Betz, 2008, Super and Sverko, 1995). Maslow’s hierarchy of needs theory (Maslow, 1943) identified physiological, safety, social, esteem and self-actualisation needs that individuals strive to satisfy, while McClelland’s learned needs theory identified needs for achievement, power and affiliation (McClelland, 1961). Drawing on the work of Dawis (2002), needs are defined here as unsatisfied elements that GPs endeavour to satisfy through their work. During this study, GPs revealed their need to sustain their career, taking into consideration self-care, maintaining interest in the work and receiving financial reward. Although needs had primacy in this study, a number of other variables interacted with needs to influence decisions to make changes to one’s career.

The solution space holds satisfactory options for meeting GP needs, while constraints limit the set of possible solutions. While similar in concept to Gottfredson’s zone of acceptable alternatives (2002) (the occupations remaining after an individual eliminates occupations due to sex type, intolerably low prestige, or intolerably high effort) and Middleton’s satisficing zone (1998), the solution space provides several satisfactory solutions, including the optimal solution, to fill a GP’s needs, taking into consideration those factors impacting upon resolution of the problem.

Constraints are barriers or inhibitors that the GP must take into consideration when choosing an optimal solution to resolve a problem. They are contextual variables. Work is often intertwined with other domains of life, all of which can constrain the range of possible satisfactory solutions. Super (1980) defined career broadly to include both work and non-work roles which interlinked over a life span, while Patton and McMahon’s (2006) systems theory framework reflects that individuals do not live in isolation and positions individual career development as a subsystem amid overlapping systems of potential interpersonal, social and environmental influences.

Satisfaction is an outcome of the Optimising process used to test how well actions to satisfy their need for sustainment have resolved discomfort. Satisfaction is frequently used as the outcome variable in career studies: achieving satisfaction has been conceptualised as the inherent motivational force that powers the person-environment interaction. Super (1990) predicted that work satisfaction depends upon the extent to which an individual finds adequate
outlets for interests, abilities, personality traits, and values, and is able to satisfactorily balance work and non-work roles. Dawis and Lofquist’s theory of work adjustment (Dawis, 2005) emphasises vocational adjustment and accommodation until satisfaction is achieved or until the person (or the environment) abandons the interaction. Satisfaction is also used within organisational approaches to career development to assess career success (Creed and Hood, 2009). In this study, satisfaction refers to positive emotions and cognitions derived from performing tasks and may be expressed in terms of pleasure or reward. For the quantitative analysis reported in Chapter 5, variables used to capture ‘very satisfied’ and ‘dissatisfied’ responses were intended to capture the extremes.

The optimal solution is the solution which satisfies a GP’s needs to the greatest extent. While many career theories are concerned with occupational choice at the entry point to the workforce, an individual can experience change in their values, needs or interests, or in the work environment at any point in life, thus stimulating a renewed search for the optimal fit within their world of work. The literature tends to focus on satisfaction and satisficing with little attention being paid to the pursuit of an optimal solution. Peterson et al (2002) suggest that there may be no single correct or best option when solving a career problem and it may be more useful to refer to the answer as an optimal solution rather than a correct solution. Within organisational approaches to career development, strategies are aimed at optimising the effectiveness of individual careers, that is, optimising career success (Creed and Hood, 2009).

Optimising Professional Life is a three-stage process directed towards improving the match between a GP’s needs and their environment. The three stages are discomfort, assessment and resolution. The stimulus for a change in needs is discomfort. This stage focuses on the unsatisfied need associated with each GP wanting to develop a career in a careful manner. A focus on the degree of urgency for action, and whether or not to act, are typical of the stage of assessment, giving it the character of a crossroads. The stage of resolution focuses on attaining the most satisfactory circumstance possible through implementing the preferred solution within dimensions that reflect the multiple environments where GP professional life unfolds. This process recurs throughout a GP’s professional life.

The seven propositions for the Theory of Optimising Professional Life are listed in Table 6.2. These statements provide a succinct way of capturing the intent of the theoretical framework and its key constructs by describing how each construct fits into the theory. The process of Optimising, which comprises the three stages of discomfort, assessment and resolution, is shown in Figure 6.1. This process may be operationalised in a variety of work settings using a
range of solutions to satisfy their need for *sustainment* in the four dimensions of *treating patients, structuring the work day, integrating work and personal life and adapting oneself.*

While a review of the literature presented in Chapter 2 shows that considerable effort has been directed toward understanding career decision-making and work behaviours, a comprehensive explanation was needed of how individuals in professional occupations with relatively flat, non-hierarchical career structures experience their careers. For the most part, GPs are private independent contractors, working in small groups, often supported by practice managers, practice nurses and other staff. Organisationally, the general practice workplace is a small independent private business setting. The careers forged by GPs in this context are different from the traditional notion of a linear upward career trajectory on which many career theories are based (Holland, 1973, Super, 1953, Smith and Sheridan, 2006). Careers within the non-hierarchical environment of general practice have become more flexible, with a focus on work outside of organisations and non-linear discontinuous career pathways. GPs are able to combine clinical and non-clinical jobs, split the week between two or more workplaces, move in and out of clinical work or take lengthy breaks from the work. The manner in which study participants optimised their professional life and shaped their career varied because each career path was influenced by the decisions individual GPs made to satisfy their particular needs. As a career theory for professional adults, the Theory of Optimising Professional Life captures and explains these aspects of GP career behaviour.

**6.2.2 Professional life viewed as a career**

This thesis offers a perspective of professional life in general practice viewed through the lens of career theory in order to focus on the sequence of an individual’s vocational experiences over time. In Australia, general practice as a professional occupation is changing, and increasingly professions and career discourse overlap (ACT GP Taskforce, 2009, Britt et al., 2010, Charles et al., 2004, Jones and Green, 2006). Despite career research being generated on a wide range of occupational groups, investigation of medical careers is scarce, a gap which this thesis addresses.

The organisation and culture of a profession can influence the developmental experiences of members and the choices available to them. Traits that might distinguish general practice as a professional occupational group include a body of esoteric knowledge based on advanced education and training, a shared professional identity and culture, autonomy and normative behaviour (Western et al., 2006). However, the work of Lewis et al (2003), White (2000), Jones and Green (2006) and Kilmartin et al (2002) raised questions about the influence professional organisations have on contemporary career decisions and the reality of current work-life.
Micro-level studies of GPs in the workplace suggest medical work is being de-professionalised through the wider availability of medical knowledge, or proletarianised through the routinisation of expert work (Lewis et al., 2003, White, 2000). Yet, in a UK study, Jones and Green (2006) reported that GPs aged 32 to 37 years exhibited a strong orientation towards their professional community, with an emphasis on quality and the use of regulation to maintain standards. In a study of key issues in the lives of female GPs working in Australia, Kilmartin et al (2002) urged greater engagement with professional and collegial bodies to help redress any imbalances in professional and non-professional life experienced by female GPs compared with male GPs.

Professions theory and career theory offer explanations that are based in sociological and organisational perspectives, respectively, which have relevance in understanding the influence that institutions have on career decisions, culture, status attainment and location in the social structure (Johnson and Mortimer, 2002). This study, by concentrating on the main concern GPs have in progressing their careers, contributes to our understanding of how individuals fit with their chosen occupation. The emphasis is therefore on how GPs make careers rather than how they are shaped by sociological aspects of their professional life (Van Maanen and Schein, 1977).

This study explicitly incorporates contextual factors - firstly by identifying sustainment as the main concern of experienced GPs working in Australia and secondly by offering Optimising Professional Life as the way GPs implement strategies relating to treating patients, integrating work and personal life, financial rewards and adapting oneself - to resolve this concern. Thus, the level of acculturation (between personal and professional culture), which can affect an individual GP’s consideration of various career strategies, is captured within the Optimising process.

Jones and Green (2006) drew attention to the appeal of ‘portfolio’ working lives, while Douglas et al (2010) enhanced our understanding of GPs who work part-time in clinical practice and of GPs with diverse non-clinical roles within the healthcare system, including in medical education, policy, research, clinical subspecialties and clinical populations with special needs. Examining careers from the perspective of an individual focuses attention on occupational development throughout a working life, an appropriate stance from which to investigate the activities of GPs who may work in multiple organisations, locations or roles.

6.2.3 Sustainment as an overarching career value
Quantitative research suggests that work values are an important predictor of satisfaction with work (Dawis, 2002, Lent et al., 2002, Bouwkamp-Memmer et al., 2013, Rounds, 1990). This
section places the need for self-care, staying interested in the work and financial reward within existing work value orientations and suggests that the concept of sustainment has an overarching role as a career value for GPs.

Work values are principles or beliefs about what is important that influence occupational decisions and behaviour, providing a sense of purpose to engage in activities that satisfy psychological and physical needs. Consequently, work values have been identified as critical variables in developmental or growth theories of behaviour (Super and Sverko, 1995, Hartung, 2009, Duffy et al., 2009, Brown, 2002b). While an individual’s needs may change over time, there might not be detectable change in the higher order value, making work values more attractive variables to use in research (Dawis, 2002, Jin and Rounds, 2012). Table 6.3 sets out the value orientations from five research projects: two USA studies from within the broad domain of work and three studies specific to medical work (two from the USA and one from Australia).

The following discussion highlights the alignment between the career needs identified in this study as being important to experienced GPs working in Australia and the underlying work values identified by other research.

Table 6.3 Value orientations within the broad domain of work and within medical work

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Study Population</th>
<th>Work Values</th>
<th>Western et al</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leuty and Hansen</td>
<td>USA sample of 374 undergraduate students.</td>
<td>Environment, Competence, Status, Autonomy, Organisational culture, Relationships</td>
<td></td>
</tr>
<tr>
<td>Hartung et al</td>
<td>USA samples of 1,286 and 14,973 medical students.</td>
<td>Prestige, Service, Autonomy, Lifestyle, Management, Scholarly pursuits</td>
<td></td>
</tr>
<tr>
<td>Bouwkamp-Memmer et al</td>
<td>USA sample of 340 family physicians.</td>
<td>Autonomy, Service, Lifestyle, Scholarly pursuits</td>
<td></td>
</tr>
</tbody>
</table>

Lofquist and Dawis (1978) conceptualised work values as second-order needs in the Theory of Work Adjustment. They designed the Minnesota Importance Questionnaire (MIQ) to measure 20 work needs that had previously been identified as contributing to work satisfaction. These work needs were grouped into six work values using factor analysis (Lofquist and Dawis, 1978, Rounds et al., 1981, Dawis, 2005, Dawis, 2002): safety, autonomy, comfort, altruism, achievement and self-aggrandizement.
The need for *self-care* reported in this thesis shares traits with three values from Lofquist and Dawis (1978): the importance of safety in a predictable work environment, a preference for comfort in the work environment and an environment that permits achievement and accomplishment. However, the safety value is also influenced by organisational structures such as supervision and company policies and procedures, which I found to be less of a feature in the non-hierarchical workplace of GPs. *Staying interested in the work* is also reflected in comfort (through the variety and activity of work) and achievement, while *financial reward* is consistent with the compensation element of the safety value. The importance of autonomy in this study as an enabler for career decisions is consistent with autonomy (being independent and having a sense of control over one’s work) being recognised as a work value by Lofquist and Dawis.

Leuty and Hansen (2011) examined three measures of work values (including the MIQ) using principal component analysis and found six values that were shared across measures: the importance of the working environment, competence and having challenging work, opportunities for status and income, autonomy, organisational support and relationships. While the sample used was younger than the study population in this thesis, the findings demonstrate a consistency between these measures of work values and the need for *self-care*, *staying interested in the work* and *financial reward*. Within Leuty and Hansen’s value orientations, *self-care* and *staying interested in the work* are reflected in the importance of competence, including through having opportunities for challenging work, and *financial reward* is consistent with the compensation element of the status value. Autonomy also appears as a significant work value in both studies.

Hartung et al (2005) developed a measure of work values specific to physicians and medical careers and found prestige, service, autonomy, lifestyle, management and scholarly pursuits were important to medical students in the United States. An Australian study confirmed these work values were important to medical students in this country (Rogers et al., 2010). Using a sample of 340 family physicians, Bouwkamp-Memmer et al (2013) found these same work values and identified a hierarchy in their importance: autonomy, service, lifestyle, scholarly pursuits, management and prestige. The importance placed on the need for *self-care* in the current study is recognised in Bouwkamp-Memmer et al’s emphasis on lifestyle as a value, which is concerned with a desire for a predictable and stable schedule and a controllable lifestyle without a lot of demands. Jones and Green (2006) also identified work-life balance as being important to young UK GPs. The need for *financial reward* is reflected in the financial compensation element of the prestige value. However, the endorsement of the need to *stay interested in the work* does not compare directly with Bouwkamp-Memmer et al’s value.
orientations in terms of competence or achievement, raising questions about this aspect of work for family physicians in the USA compared with Australian GPs. Autonomy, which reflects having freedom and control over clinical decision-making and work-life, was the highest ranked work value with family physicians in the USA and was also found to be an important factor in this study.

Western et al (2006) studied changes in five values that guided the way medical professionals operate in their work environment over a 31-year period. Throughout their working lives, participants in Western et al’s study placed importance on being interested in medicine. Autonomy and the need for financial reward were also identified by Western et al: having autonomy and a financially secure career became more important as their professional life evolved.

Values such as relationships, the altruistic nature of service and management are sociological in nature. While social values may have been a consideration for participants in this study, autonomy had a much stronger connection to how GPs resolved their main concern and was a more pervasive value. Accordingly, this study focused on autonomy and the main concern of sustainment as the issues of primary importance (Glaser, 1978, p93).

Sustainment is a conceptualisation of the main career concern discovered in this study, a mix of the need to self-care, to stay interested in the work and for financial reward. Figure 6.2 (copied from Chapter 4) represents these needs in dynamic tension, as an equilateral triangle with a different need occupying each point. This concept of sustainment incorporates a number of work values that have been identified in other studies of career development in the literature, but it also emphasises the tensions between these needs and draws them together in the form of an overarching career value that provides a less fragmented approach to understanding the complexity of GP career development.

The ‘balancing act’ of what GPs value in their professional and personal lives was alluded to in a qualitative study of female GPs working in Australia (Kilmartin et al., 2002). The researchers identified the 10 most important issues in the professional and non-professional lives of female GPs. These issues demonstrated that participants valued mental stimulation, challenge and a variety of work, akin to the need for staying interested in the work; making time for self-care to avoid stress, guilt and mental ill-health, similar to the need for self-care in this thesis; and autonomy in one’s professional life. Kilmartin et al found that having sufficient income to cover expenses and provide financial security, and receiving fair remuneration for work performed were also important. These issues reflect the need for financial reward reported in
this thesis. Kilmartin et al also identified ‘juggling the complexities of competing priorities in one’s professional life’ as an important issue, which is consistent with *sustainment* being an overarching career value.

**Figure 6.2 Framework for the Theory of Optimising Professional Life**

Needs of contemporary GPs in Australia reported in this study share traits with the work values identified as important by a number of previous researchers. *Sustainment* emerged from interview data that were collected unforced and without preconceptions, including the avoidance of preconceived questions and categories. The open-ended nature of this qualitative research has an advantage over more closed forms of quantitative questioning in that it ensures that those matters of greatest concern to the participants are brought to the researcher’s notice and emphasised. The fact that participants were also able, in this qualitative study, to explain their
motivations allowed an integrated view of their needs to be developed with their main career concern being conceptualised as *sustainment*. This concept reflects the overarching career value of experienced GPs working in Australia today, with autonomy being valued as an important enabler of change for GPs.

6.2.4 Positioning Optimising Professional Life within career theory

Having described the constructs, propositions and operation of Optimising Professional Life, this new theory is positioned within the career literature conceptually, that is, focusing on a comparison of concepts rather than on description or context.

In giving precedence to individuals and their choices, this study puts the individual’s perspective of a career ahead of the organisational and professional perspectives (Collin and Patton, 2009). This distinguishing of the individual GP from the organisation and profession in which they work is consistent with the concepts of a boundaryless career (Arthur, 1994) and a protean career (Hall, 1996b) and reflects a view shared by GPs participating in this study that their work organisations merely provide the resources they require to develop their professional lives.

Chapter 2 introduced five psychological-based career theories and two systems-based theories which explain different aspects of career-related behaviour: Holland’s theory of vocational personalities and work environments (Holland, 1997), Dawis and Lofquist’s theory of work adjustment (Dawis and Lofquist, 1984), Super’s self-concept theory of career development (Super, 1980), Gottfredson’s theory of circumspection and compromise (Gottfredson, 1981), Lent et al.’s social cognitive career theory (Lent et al., 2002), Putton and McMahon’s systems theory framework (Putton and McMahon, 2006) and Pryor and Bright’s chaos theory for understanding career development (Pryor and Bright, 2007). These theories are concerned with career choice and career development, including work adjustment, vocational progress through the life span and the context in which an individual lives and interacts. While they share certain features, each has distinct constructs and emphasis (Swanson and Fouad, 2010). Key constructs of these five psychological-based career theories and the Theory of Optimising Professional Life are listed in Table 6.4.

As in Dawis and Lofquist’s TWA (1984), the Theory of Optimising Professional Life emphasises an individual’s needs rather than self-concept. Throughout career theories, constructs pertaining to self and identity development are prominent, reflecting an assumption that work is important in influencing what people become and how they see themselves.
Dawis and Lofquist (1984) focused on needs as the most important element of work personality, albeit contributing indirectly to attributes in the concepts of self used by other career theories. In examining the stimulus conditions surrounding responses in the work environment, such as rewards, Dawis and Lofquist (1984) considered that satisfying needs was the most important requirement of work. Consistent with this approach taken by Dawis and Lofquist, the Theory of Optimising Professional Life emphasises the satisfaction of needs through work as the mechanism of vocational progress. By focusing on what GPs need from work, the Theory of Optimising Professional Life develops understanding of two intertwined motivational aspects of working which Blustein (2006) highlights: work for survival, reflected here as a need for self-care and financial reward, and work for interest, reflected as a need to stay interested in the work.

Most career theories hypothesise that individuals interact with their environment, focusing on the importance of a good match between people and their work environment. Holland’s
congruence, Dawis and Lofquist’s correspondence, Super’s developmental tasks and Gottfredson’s circumscription and compromise subscribe to this matching process. However, theories differ in how they view the match being achieved. Holland’s individuals move in and out of environments rationally when the perceived fit is no longer optimal (Spokane et al., 2002). Dawis and Lofquist’s correspondence describes a match between the person and the work environment in which the greater the correspondence, the greater the predicted job satisfaction. They predict that a particular combination of person and environment in balance will yield satisfaction for both the individual and the work environment. While Holland’s theory places greater emphasis on vocational choice, Dawis and Lofquist’s TWA emphasises vocational adjustment and accommodation to achieve a better match.

Optimising Professional Life describes the process of improving the satisfaction of a GP’s needs to the greatest extent possible, based on the notion of achieving an optimal fit between a GP and various dimensions of their professional life. This process is consistent with the matching process where people search for agreeable environments that meet their needs and where workplaces seek to engage people who match their requirements. In distinguishing between satisfied and very satisfied outcomes, Optimising utilises the most satisfactory state as the indicator of optimal fit.

Optimising Professional Life follows the lead of the TWA that when an individual becomes dissatisfied, behaviour will be initiated to improve the situation, either by changing the environment of treating patients, structuring the work day and integrating work and personal life, or by adapting oneself. Two modes of possible action are active where the individual acts to change their environment (reduce its demands and/or increase its benefits) and reactive where the individual acts to change oneself (reduce needs or improve ability to meet the environment’s demands).

Career theories differ in how the environment is conceptualised, as most individuals encounter a variety of environments (physical, school, work, family or even one other person). Holland classified the composition of occupational environments into six model environments similar to his classification of personality types, determined by the dominant type of individuals within each environment (Spokane et al., 2002, Swanson and Fouad, 2010). Dawis and Lofquist conceptualised the work environment in terms of skill requirements and reinforcer factors as counterparts of individual abilities and needs. The reinforcers satisfy a wide range of financial,

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15 The Minnesota Satisfaction Questionnaire (MSQ) was developed to measure work satisfaction and collects responses on a five point scale from ‘not satisfied’ to ‘extremely satisfied’. 
social and psychological needs for the individual in exchange for fulfilling the labour requirements of the environment.

Super (1980) perceived career environments as life roles, a sequence of positions occupied by a person during the course of a lifetime, while Gottfredson (2002) developed a map of occupations according to prestige and sex type ratings. Lent et al. (2002) highlighted relatively dynamic and situation-specific environmental factors within two sub-groups: background contextual influences that help shape interests and proximal influences relevant to particular career decisions.

For the most part, these theories treat the work environment of a career separately from other environments, which are included in the theory as contexts. The TWA, for example, relates to only one environment that a person encounters, the work environment, and although the TWA has been extended through person-environment correspondence theory to apply to any environment, correspondence in each environment is assessed separately (Dawis, 2005, Dawis, 2002).

Consistent with Patton and McMahon’s systems theory framework, which seeks to understand the complex nature of careers (Patton and McMahon, 2006), the Theory of Optimising Professional Life reflects behaviour that responds to a system of environments that interact with each other and change over time, rather than to a single environment. GPs experience their professional life within a complex environment made up of various sub-environments. Within clinical responsibilities, each patient can be viewed as a separate sub-environment. Other sub-environments include government, the workplace (sometimes multiple work organisations), family, education and practice management. Each sub-environment has distinctive features with respect to what it needs from the GP and the benefits that the GP receives from the interaction.

In the technical area of treating patients, the clinical environment requires skills and knowledge to solve patient problems and care for their needs, as well as dedicated time for patient care. However, the interaction GPs have with treating patients influences their need for self-care, staying interested in the work and financial reward, as well as interaction with structuring the work day, integrating work and personal life and adapting oneself.

During this investigation of GP professional life, how to integrate work and personal life including family emerged as an issue for GPs. In the main, career theories have simplified reality by separating work organisations from family life. Conceptions of career have been
constructed on the basis of male (rather than female) experiences of work and family life, taking little or no account of differences in male and female life-cycles and lifestyle constraints. With the rise in female GP numbers and the lives of male GPs becoming more family oriented, patterns of paid employment and the careers they constitute, on the one hand, and family roles and responsibilities, on the other, are increasingly structurally connected. To date, few of the empirical studies of career have facilitated an exploration of the nature of this relationship (El-Sawad et al., 2006). Optimising accommodates a dynamic and complex environment that integrates work and personal contexts.

Many GPs work within a complex environment of multiple jobs and multiple organisations. These roles span organisational boundaries. Arthur (1994) conceptualised a boundaryless career type to embody physical and psychological mobility, with individuals possessing ‘metacompetencies’ that allow for easier mobility between sub-environments. Within Optimising’s stages of assessment and resolution, this complex type of work environment is accommodated in the theory as a constraint or opportunity that affects the optimal solution chosen and implemented.

This thesis uses optimising to handle multiple sub-environments and the complexity of multiple jobs and organisations. Optimising is a style or strategy of decision-making where alternatives are assessed and the best is chosen relative to the constraints. To optimise is to ‘make the best or most effective use of (a situation or resource)’ and is directed towards an ‘optimal’ solution, the ‘best or most favourable, especially under a particular set of circumstances’ (Stevenson, 2010). Thus, a single environment is replaced by balancing multiple environments trading off preferences during the stages of assessment and resolution. This approach accommodates a subjective stance, value-based outcomes and multiple criteria and can operate within a continuous process in which decisions are examined and re-examined (Openshaw and Whitehead, 1980).

Career theories differ in how they relate to the notion of a working life extending over time. Holland (1997), Dawis and Lofquist (1984) and Gottfredson (1981) concentrated on matching an individual’s abilities and interests to an occupation that offers congruent requirements and rewards. Holland focused largely on goodness of fit of the occupational choice to yield satisfaction. Dawis and Lofquist focused on work adjustment to improve the fit between an individual and their work environment. Gottfredson concentrated on the process of cognitive growth in children prior to working life.
Super (1980) took a life course approach to career development, calling attention to how individuals construct and negotiate their work lives (Savickas, 1997). He situated vocational problems and activities, such as choice of occupation and work adjustment, within career stages of growth, exploration, establishment, maintenance/management and disengagement. Super considered adaptation as the central process in development (Super et al., 1988).

Lent et al (2002) inferred a life course approach built on the concept of self-efficacy, derived from previous experience and accomplishments, and vicarious learning, which in turn helps solidify or redirect career behaviour. Lent et al’s (2002) social cognitive career theory highlights experiential and learning or cognitive processes that contribute to the development of careers over time, suggesting that decisions to make changes to one’s career and vocational events are influenced by an individual’s previous career experiences.

This study investigated the careers of experienced GPs and found that those who participated in the study took an iterative approach to the development of their professional life over time. Consistent with the TWA, a change in needs, growing disequilibrium or dissatisfaction with work could trigger an adjustment between the individual and the work environment (Dawis, 2005). Thus, optimising behaviour occurred more than once in the lives of interviewed GPs as they developed various facets of their professional life. In doing so, GPs take advantage of prior experience and learning as early and later career events interconnect. Hence, the emergent Theory of Optimising Professional Life provides a structure for career decision-making that is repeated (iterative) and builds on previous experience (incremental). Somewhat similar to the cognitive approach of Lent et al (2002), the Theory of Optimising Professional Life suggests that differentiated learning experiences influence career-related activity, thereby contributing to the development of careers over time. A pattern of GPs progressing through career stages as suggested by Super (1957) did not emerge as a key feature during this study.

In summary, the new Theory of Optimising Professional Life is positioned within the career literature in terms of:

- sustainment as an overarching career value;
- satisfaction of needs through work as the mechanism of vocational progress;
- autonomy valued as an enabler of change;
- the importance of a good match between people and their work environment achieved through adjustment within a current job as well as the option of moving to a new job;
balancing multiple environments in professional life and trading off preferences during the stages of assessment and resolution when alternatives are assessed and the best is chosen relative to the constraints; and

- offering an iterative and incremental approach to career development.

Thus, the Theory of Optimising Professional Life contributes a relatively dynamic theory of person-environment fit which pays attention to multiple environments that may simultaneously influence how a GP’s professional career is shaped.

6.2.5 Comparison with Australian work on GP career decision-making

A number of Australian researchers have considered why doctors remain in or leave rural general practice in Australia. Building on research by Hayes et al (1997), Kamien (1998), Alexander (1998) and Williams et al (2001), Humphreys et al (2001) developed a conceptual model of the decision-making process for recruitment and retention of the rural medical workforce in Australia (Figure 6.3). The researchers viewed the GP’s decision to take up clinical work in a rural location, and to remain there, as a balancing of personal and professional needs against expectations that those needs will be met in a particular community. If these are sufficiently congruent, the GP accepts the work and stays there. Humphreys et al assert that the decision to remain in a rural location is determined by the level of professional and personal satisfaction GPs experience, which may change over time as needs change. In situations of dissonance between the doctor’s needs and satisfaction of those needs, the GP considers options to resolve the problems and reduce the stress of the situation, including adjusting needs and aspirations, restructuring the immediate environment so that it produces a better match, and relocating to another community perceived to provide a higher level of satisfaction. The model was based on a literature survey, which found 28 references that were relevant to workforce retention in rural and remote communities in Australia.

While Humphreys et al’s model of the GP decision-making process was developed to inform unanswered workforce questions relating to how best to maximise the retention of GPs in rural and remote communities, it bears features of the career decision-making process found in the Theory of Optimising Professional Life. Similar to the model of Humphreys et al, Optimising Professional Life identifies GP needs as the most important factor in decisions that shape GP careers, such as where to work, and balances those needs with other factors to find the most satisfactory solution. The concepts of matching and discomfort in the Theory of Optimising Professional Life are consistent with the notions of congruence and dissonance in the model of Humphreys et al.
This study found that GP needs relating to the *sustainment* of professional life are most important, comprising the need for *self-care*, *staying interested in the work* and *financial reward*. In highlighting the dimensions of *treating patients*, *structuring the work day*, *integrating work and personal life* and *adapting oneself*, this study identified multiple environments within which GPs may implement solutions to resolve their discomfort.

Humphreys et al emphasised the importance of several needs that come under the heading of *self-care*, plus lifestyle factors that would be dependent in part on *financial reward*. However, Humphreys et al did not highlight the intellectual nature and interest in the work as a factor of major importance.
Figure 6.3 Humphreys et al’s (2001) conceptual model of the decision-making process for rural medical practitioners - reproduced from the original publication

<This figure has been removed from the open access version of my thesis to ensure it does not infringe the intellectual property rights of a third party.>
Common elements within Optimising Professional Life and Humphreys et al’s (2001) model of the decision-making process suggest a convergence and complementarity of ideas regarding the decision-making process. Both works impose greater conceptual order on the multiple variables that influence decisions to make changes to one’s career, providing a framework within which more than one issue can be important at the same time and allowing for the importance of issues to vary over time, according to the circumstances. The structure of both works allows for discomfort to be experienced and resolved. Optimising Professional Life expands the work of Humphreys et al in that it goes beyond a model of the GP decision-making process to offer a career theory that addresses not only the making of a decision but also the implementation of that decision, while placing the GP’s actions in the context of the development of their career as a whole.

6.3 Contribution to research method

This thesis offers a combined approach to GP career research method by using the inductive investigative process of grounded theory based on the early work of Glaser and Strauss (1967) and Glaser’s subsequent work (Glaser, 1978, Glaser, 1998) to understand how GPs experience their careers, and using the deductive approach of quantitative analysis to test concepts that emerged from the qualitative analysis. Previous careers research from a vocational psychological perspective has been mainly quantitative. Research into the work experiences of GPs has seen both qualitative and quantitative methods applied, but mixed-methods have not been evident. My intention in using a mix of methods to examine GP careers was to complement rather than supersede previous research.

Glaser’s grounded theory is trans-disciplinary in its application. While having its research roots in sociology, it has been used extensively in the health professions (Thulesius et al., 2004, Thulesius et al., 2007, Schwarz, 2005), management (Jones and Alony, 2011, Fei, 2009, Rosenbaum, 2008) and organisational behaviour (Holton, 2006, Fernandez, 2003). This method provided the means to build a theory that explained the inter-related issues that elucidated GP career development and career decision-making and was an effective and appropriate way of studying behaviour from the participant’s stance.

This thesis benefits from a fresh approach to the topic through the use of Glaser’s research method, which provides a lens that is not preconceived with *a priori* assumptions that could force misaligned assumptions upon the analysis (Glaser, 1978, p31). Further, grounded research proved to be efficient for this study because data collection was guided by the theoretical relevance of each additional slice of data. After the main categories had been developed, only
data relevant to those categories were collected. This focus was different from other qualitative methods which strive for thick description, regardless of theoretical relevance.

This research method used a research diary to authentically describe the iterative research approach. Writing memos is an important feature of grounded theory, where the researcher is able to express ideas about conceptual categories and their relationships as they arise (Glaser, 1978, p83). The process of writing a memo can help to verify categories, to assess their fit, relevance and workability, and to identify gaps for further theoretical sampling (Glaser, 1978, p88). In this way memos are used to get beyond the description of data and participants so as to achieve conceptualisation - ‘the analysis is about conceptually generated patterns which people engage in’ (Glaser, 1978, p91).

To determine whether there is any evidence that the broader population of GPs working in Australia is behaving in a manner consistent with my Theory of Optimising Professional Life, I applied a discriminant analysis of principal components drawing on data collected for the MABEL study, which investigated clinical workforce participation patterns and their determinants (Joyce et al., 2010, Yan et al., 2011). This approach also allowed me to identify the relative importance of variables affecting GPs and the relationships between these variables.

The contribution this thesis makes to GP career research method lies in its combined application of qualitative and quantitative research techniques. The inductive process of grounded theory combined with the deductive approach of quantitative analysis facilitated understanding of how GPs experience their careers and determined whether there was any evidence that the broader population of GPs behaves in a manner consistent with the new Theory of Optimising Professional Life. Using this approach, a new theory was developed to explain the inter-related issues influencing GP career development and career decision-making.

### 6.4 Contribution to GP workforce policy and practice

Over the past decade, a number of initiatives have been introduced in Australia to address the problem of GP workforce shortage; without reform this shortage is likely to continue into the future (Health Workforce Australia, 2012b). A range of factors have been recognised as influencing why, where and how GPs provide professional services, including family, social and professional relationships, lifestyle and market forces (Health Workforce Australia, 2012a, Durey, 2006, Tolhurst, 2009). While acknowledging these efforts, the Theory of Optimising Professional Life provides a new perspective for the design and implementation of GP workforce policy and practice.
The career perspective provides a framework for integrating macro (structural) and micro (psychological) dimensions of an issue. Australia’s medical workforce faces structural issues of an ageing population of both workers and patients, an expected rise in demand for services, a changing burden of disease and issues of providing an appropriately skilled and responsive workforce (Health Workforce Australia, 2012a). Potential structural barriers to workforce reform include regulatory frameworks, funding arrangements and professional cultures (Health Workforce Australia, 2012b). Considering these elements at the micro level through the lens of Optimising Professional Life, an initiative is more likely to be embraced by doctors if it enhances the comfort GPs have with their self-care, staying interested in the work and financial reward; if it provides opportunities to resolve any discomfort through treating patients, structuring the work day, integrating work and personal life and adapting oneself; and if it supports GP autonomy. The theory also predicts that implementation of a new policy is likely to be more difficult where an initiative hampers any of these facets of GP professional life.

Applying the Theory of Optimising Professional Life to create solutions to problems and develop intervening actions that can be delivered into the system for the purposes of its improvement is an outcome-based activity as opposed to a theory-based activity and is an operational response directed at implementing change. While this theory explains GPs’ careers and their vocational behaviour based on the issues and problems being processed by the study participants, more detailed questions will need to be answered when applying this explanatory grounded theory to problems in GP workforce policy and practice (Simmons and Gregory, 2003). To address a specific policy issue, each of the following questions will need to be asked so that an action strategy can be formulated.

- What does the Theory of Optimising Professional Life indicate about the real-world problem to be solved?
- What are the desired outcomes of an intervening policy? The answer may vary depending on the perspectives of different stakeholders in the problem.
- What does this theory tell us about assigning priorities to these outcomes? Priorities may be determined by available resources or political considerations.
- What does this theory indicate needs to be done in order to mitigate an aspect of the policy problem?
- How will the change be implemented and what is possible, given the current circumstances?

This section considers policy recommendations, found in the Australian Government literature of the past five years, which could change the number of GPs in the health workforce, where they work and how they work. Examples are provided showing how the Theory of Optimising
Professional Life is relevant to these issues. The discussion is arranged around the themes of recruitment, retention, and efficient and effective healthcare.

6.4.1 GP workforce policy in Australia

Chapter 2 introduced recent literature covering GP workforce policy in Australia. Key directions in the Australian Government’s reform platform have been to strengthen the GP workforce and provide a more integrated and coordinated model of patient care.

KPMG (2009), commissioned by the National Health Workforce Taskforce, reported on factors influencing current and projected workforce shortage. The National Health and Hospitals Reform Commission’s national plan for health reform (2009) contained 123 recommendations to build good health and well-being, to connect healthcare for people over their lifetime, to address health inequities, to drive quality performance and to achieve best use of people, resources and evolving knowledge. The Australian Government’s plan for a National Health and Hospitals Network (2010) included policies to improve local access to a GP, to address the large and increasing burden of chronic disease, to keep Australians healthy and out of hospital, and to increase the workforce in face of a growing demand for services across the country.

The central role of GPs and models of general practice in the primary healthcare system were recognised in the Australian Government’s strategic framework for national primary healthcare (Standing Council on Health, 2013). This framework provided for future workforce policy and planning and for the creation of Health Workforce Australia to give a national, coordinated approach to health workforce planning and training (Health Workforce Australia, 2012a).

Health Workforce Australia (2012b) released projections to 2025 of medical specialists working in Australia including a headcount of GPs. The report noted that while the supply of medical specialists is increasing and moving towards a balance of supply and demand by 2025, imbalances are likely to persist in some segments and require attention. In particular, the report concluded that a shortage in the number of GPs and geographic maldistribution of where they work are contributing to inequitable access to primary healthcare services. Further, the report found that the reliance of the GP workforce on immigration of international medical graduates to supplement the locally trained workforce will continue until 2025.

Table 6.5 lists policies found in this literature that are likely to affect the size, location, scope of professional practice and skills of the GP workforce (Australian Government National Health and Hospitals Reform Commission, 2009, Health Workforce Australia, 2012b). This chapter
continues with a consideration of these recent policy directions in terms of their potential impact on recruitment, retention and the efficiency and effectiveness of healthcare.

6.4.2 Recruitment
As noted above, Health Workforce Australia’s (2012b) national projections of GP headcount to 2025 suggest that without changes to current workforce policy, the number of GPs will be insufficient to meet anticipated healthcare needs. A number of the policies in Table 6.5 seek to increase recruitment and training of Australian GPs. Additional pre- and post-vocational training places for GPs, work placements in general practice before medical students enter specialist training programs, and graduate places allocated to remote and rural regional centres all aim to attract more recruits into general practice.

The Theory of Optimising Professional Life can be used by medical schools, recruitment agencies and GP educators to attract and recruit GPs to the workforce by providing potential recruits, medical students and young doctors with a framework for understanding the nature and benefits of a career in general practice. The Theory of Optimising Professional Life can inform medical students in pre- and post-vocational training about how GPs structure their career at a day-to-day level and on a long-term basis in order to meet their evolving personal and professional needs, resulting in a rewarding and satisfying career. By informing potential recruits in this way, educators can alert them to the benefits of a professional life in general practice.
Table 6.5 Policies affecting GP workforce in size, location, scope and skills

<table>
<thead>
<tr>
<th>Change size of GP workforce</th>
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<tbody>
<tr>
<td>Increase in pre- and post-vocational training places for GPs.</td>
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<td>Work placement in general practice before entering specialist training program</td>
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<td>Reduce immigration of overseas-trained doctors by 50%.</td>
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<td>Greater contribution by senior registrars.</td>
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<td>New health professional graduate places across all disciplines allocated to remote and rural regional centres, where possible in a multidisciplinary facility built on models such as clinical schools or university departments of rural health.</td>
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<td>Linking training to desired outcomes.</td>
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<th>Address maldistribution of GP workforce</th>
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<tr>
<td>Flexible funding arrangements to reconfigure health service delivery in remote and small rural communities.</td>
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<tr>
<td>Providing funding to attract and retain medical workforce in regional, rural and under-serviced urban areas.</td>
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<tr>
<td>Bonding applied to entry professionals and international medical graduates.</td>
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<td>National registration and accreditation of GPs across Australia enabling practitioners to work anywhere in the country.</td>
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<th>Change scope of practice for the GP workforce</th>
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<td>Integrated multidisciplinary primary healthcare services.</td>
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<td>Shared care arrangements for patients with chronic and complex conditions.</td>
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<td>Greater emphasis on funding of primary health services by payments for care over a course of care or period of time.</td>
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<td>A ‘healthcare home’ for patients to enable continuity of healthcare.</td>
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<td>Medicare rebates and Pharmaceutical Benefits Scheme subsidies for relevant diagnostic services, specialist medical services and pharmaceuticals ordered, referred by or prescribed by nurse practitioners and other registered health professionals having regard to defined scopes of practice determined by recognised health professional certification bodies.</td>
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<td>Health professionals working to their full or expanded scope of practice.</td>
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<th>Adjust skill mix of GP workforce</th>
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<td>Technological changes such as telehealth.</td>
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<td>A personal electronic health record for each person.</td>
</tr>
<tr>
<td>More mental health competency training for the primary healthcare workforce.</td>
</tr>
<tr>
<td>Trained workforce to deliver the growing demand for sub-acute services.</td>
</tr>
<tr>
<td>A continuous improvement culture promoted by providing opportunities and encouraging roles in teaching, research, quality improvement processes, and clinical governance.</td>
</tr>
</tbody>
</table>

The Theory of Optimising Professional Life explains that over a career GPs will be concerned about continuing to have interesting work, receiving adequate financial reward and maintaining their own well-being. General practice offers a range of activities to interest potential recruits. While clinical work continues to represent the bulk of GP activity, individual GPs also have the opportunity to be involved in non-clinical roles in policy, management, administration, education and research. GPs choose to take on these different roles – some from the outset of their professional life, while others may come to them later in their working life. The Theory of Optimising Professional Life shows how a GP can draw upon these opportunities to meet their own individual mix of needs. Activities related to work and personal life can be arranged in a way that provides a GP with interesting work and financial remuneration and allows them to
self-care. For example, a GP might choose to work in more than one workplace so as to fulfil a broader range of professional interests, or may choose to limit clinical hours to accommodate family needs.

Importantly, the Theory of Optimising Professional Life highlights for potential GP recruits the substantial level of autonomy that exists for a professional working in general practice. Autonomy is key to enabling a GP to make adjustments to their work situation that best meet their particular needs. Having autonomy also allows a GP to make further adjustments throughout their career: to be able to respond to changes in their needs and/or take advantage of opportunities in order move to a more satisfactory situation.

Medical schools, recruitment agencies and GP educators can use the Theory of Optimising Professional Life to explain to potential GPs that a career in general practice can accommodate and satisfy multiple personal and professional needs that may evolve throughout a working life in the profession. This perspective of a GP career, combined with the high level of job satisfaction reported by experienced GPs working in Australia (refer to Chapter 4, Figure 4.6), provides a basis for attracting increased numbers of medical students and graduates to general practice.

In addition to attracting new people to the GP workforce, the Theory of Optimising Professional Life would be beneficial to GP educators providing vocational training for GPs as the framework can be used to foster understanding of what to expect from a career in general practice. This theory raises awareness that GPs need self-care, interest in the work and financial reward as they progress their careers. The framework alerts medical students, GP registrars and other clinicians to the way career decisions will shape their professional life and the ways in which they can satisfy their needs in the various dimensions of GP professional life.

### 6.4.3 Retention

Retention of a well-trained and experienced GP workforce is implicit in the policies listed in Table 6.5. Flexible funding arrangements to reconfigure health service delivery in remote and small rural communities and financial incentives to retain GPs in regional, rural and under-serviced urban areas aim to address the problem of geographic maldistribution of the GP workforce in Australia. In addition, given the policy emphasis on increasing Australia’s total number of GPs in order to counter current and projected future GP shortages (Health Workforce Australia, 2012b), it will be important to limit the number of GPs leaving the profession.
Professional bodies like the Royal Australian College of General Practitioners and the Australian College of Rural and Remote Medicine, meso-level primary health care organisations such as Australia’s Medicare Locals, and local councils can use the Theory of Optimising Professional Life to help retain GPs who are considering leaving the workforce by providing them with a framework for understanding the nature of a GP’s dissatisfaction and possible solutions. The theory can be used by these organisations to empower GPs to arrange their professional life on a day-to-day basis and, over the long-term, in ways that meet their changing personal and professional needs and strengthen their confidence in being able to cope adequately with problems. By empowering dissatisfied GPs in this way, the theory can help individual GPs develop a practical approach to improving their well-being, maintaining interest in the work and satisfying a need for income. The Theory of Optimising Professional Life offers a mechanism to improve a GP’s psychological well-being which, as Gardiner et al (2006) found, can influence a GP’s intentions to leave general practice.

The Royal Australian College of General Practitioners, the Australian College of Rural and Remote Medicine and/or Medicare Locals could implement a range of initiatives to support GP career development drawing on this new theory which has been specifically developed for GPs, including:

- career guidance to help GPs review and develop their careers as part of their professional activity;\(^\text{16}\);
- developing GPs’ skills in career planning and related issues as part of continuing medical education;
- trialling peer support models for career planning;
- developing interactive tools that enable a GP to assess where they are in their optimising and what adjustments they could make to their careers; and
- the provision of ‘sabbatical’ positions for GPs wanting to expand their career options.

Interventions of this sort can help a GP identify conditions within their personal and professional context that might foster a sense of discomfort and/or powerlessness such as might lead to a lower sense of confidence or self-efficacy. These conditions might include a demanding workload, threats to their autonomy or challenges to their competency as they face having to accept new modes of primary healthcare and acquire new knowledge and skills appropriate to changed circumstances. Individuals may feel a lack of control over their

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\(^{16}\) As an example, in July 2014, a workshop was conducted at the 19th WONCA Europe Conference in Lisbon, Portugal, entitled ‘Empowering family doctors to reinvent their careers using the Theory of Optimising Professional Life’.  

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immediate situation or may lack the required capability or resources needed to solve the problem and satisfy their needs. The process of Optimising highlights for GPs how they can draw upon past experiences in resolving multiple career events over time to meet their individual mix of needs. Adjustments to how GPs treat patients and manage their workload, changes to the structure of the working day to improve time management, improvements to the balance between work and personal life and initiatives to adapt oneself such as increased assertiveness can be implemented in a way that provides interesting work and financial reward and allows GPs to self-care. Initiatives based on the Theory of Optimising Professional Life offer a problem-focused approach to resolving an individual’s psychological concerns, which has been found to help GPs cope with work and life events and to reinforce a GP’s sense of happiness and confidence (Gardiner et al., 2004).

Importantly, the Theory of Optimising Professional Life highlights for those GPs considering leaving general practice that there are options for increasing their psychological well-being without leaving general practice. Clode (2004) emphasised in a review of the literature covering medical practitioners’ emotional health that a psychological approach can be effective in improving GPs’ self-care. The Theory of Optimising Professional Life provides a framework that can be used to reduce levels of stress and dissatisfaction among GPs and reduce the number of GPs leaving general practice.

In addition to retaining experienced individuals within the GP workforce, the Theory of Optimising Professional Life can be beneficial in addressing the problem of geographic maldistribution of GPs across Australia by providing policymakers (such as Commonwealth, state and local government agencies) with a framework for understanding the career concerns and vocational behaviours of GPs. This theory can raise awareness among policymakers that GPs are concerned about self-care, staying interested in the work and financial reward as they progress their careers. The framework alerts GPs and others to how career decisions will shape GP professional life and the possible ways in which these needs are satisfied.

Maldistribution of GPs across geographic areas may continue to be an issue despite the expected recruitment of additional GPs into the workforce (Health Workforce Australia, 2012b). While overall GP numbers may increase, their distribution across Australia into regional, rural and remote areas may not be sufficient to manage the clinical workload or to provide relief for those GPs already working in these areas. Flexible funding arrangements to reconfigure health service delivery in remote and small rural communities and bonding entry professionals and international medical graduates are policy suggestions aimed at addressing the problem of maldistribution. A review of Australian Government health workforce programs recommended
continued support for targeted financial incentives to address ongoing maldistribution of health professionals (Australian Government Department of Health, 2013). However, researchers and commentators suggest that these government programs and incentive schemes may not be working as intended (Scott et al., 2013, Humphreys et al., 2012, McGrail et al., 2012).

In response to the problem of geographic maldistribution in Australia, Scott et al (2013) investigated whether the size of incentives was important in influencing GP decisions to relocate. The researchers reported that moving to an inland town with a population of less than 5,000 required incentives equivalent to 64% of current average annual personal earnings ($116,000). Moving to a town of between 5,000 and 20,000 people required at least 37% ($68,000). Scott et al (2013) noted that the appeal of incentives depended both on the size of the incentive and the characteristics of the job, findings which reflect the complexity depicted by the Theory of Optimising Professional Life in determining what GPs need and how these needs are satisfied.

The Theory of Optimising Professional Life explains GP career behaviour, the needs GPs want to satisfy through work and how they go about achieving this. While policies framed around financial incentives may provide increased financial reward, they may not be sufficient to counter other concerns GPs might have about self-care or staying interested or a perceived threat to their autonomy. Further, if the policy initiative does not offer the individual GP attractive opportunities to resolve feelings of discomfort it is unlikely that it will be chosen as the best solution to a career issue.

To address the issue of geographic maldistribution of GPs across Australia, policymakers would need to examine which aspects of sustainment are of greatest concern to GPs located in rural and remote communities and identify policy initiatives that can be implemented to address these concerns in the four dimensions of treating patients, structuring the work day, integrating work and personal life and adapting oneself.

Given the high degree of variation in the nature and remoteness of rural communities combined with the variation in the individual needs of GPs, it is likely that interventions aimed at attracting and retaining GPs in these communities will need to be tailored on a case-by-case basis and delivered by organisations that have a local presence. Suitable delivery organisations might include local government or the relevant Medicare Local. In working with an individual GP to understand and address their concerns, the local delivery agency might learn, for example, that the GP is concerned about continuing to participate in particular roles such as obstetrics or surgery, having time to maintain and update specialist areas of knowledge or being
able to engage in continuing medical education by attending conferences (all of which are elements of staying interested in the work). The agency would then need to put in place specific interventions that address the relevant concerns. This might, for example, require discussion with the local or regional hospital to agree arrangements that enable the GP to fulfil certain roles at the hospital, or it may involve helping to arrange locum support so that the GP is able to participate in these various other activities. Alternatively, the local agency might learn that the GP is concerned about feeling alone and isolated from other GPs or concerned about the impact of a high workload on their family situation (which are elements of self-care). In such cases the local agency might put in place peer support mechanisms or encourage the GP to restructure their workday so as to provide a more family-friendly routine.

6.4.4 Efficient and effective healthcare
The Theory of Optimising Professional Life can be used by policymakers to help design and evaluate a range of policies relating to the efficient and effective delivery of primary healthcare. In the discussion below, Australia’s increase in chronic disease and the resulting interest in promoting shared healthcare services are used to illustrate the policy relevance of the theory presented in this thesis.

The growing burden of chronic illness associated with Australia’s ageing population represents a major challenge for this nation. Providing efficient and effective health services for those suffering chronic conditions will require patient-centred care, interdisciplinary approaches and the use of modern information and communication technologies (Standing Council on Health, 2013, Australian Institute of Health and Welfare, 2012a). Many of the proposed policies listed in Table 6.5 aim to deal with the increase in chronic illness by changing the scope of general practice or the skill mix of the GP workforce. Among the initiatives directed at achieving a more coordinated approach in primary healthcare planning and service delivery are shared care arrangements for patients with chronic and complex conditions, a ‘healthcare home’ for patients to enable continuity of healthcare, and extending Medicare rebates and Pharmaceutical Benefits Scheme subsidies to nurse practitioners and other registered health professionals.

Shared healthcare is a model of healthcare delivery in the primary care setting that involves collaboration among health professionals of different disciplines or with different skills and knowledge. Good communication between team members influences the success of a shared care model (Krum and Driscoll, 2013, Jackson et al., 2010). In Australia, at the clinical level, shared care models require a range of service providers across the public, private and non-government sectors working together to provide comprehensive and continuous care. This process is likely to be influenced by variations in geography, community and population
characteristics, socio-economic circumstances, infrastructure, health status and workforce mix and availability (Standing Council on Health, 2013). For the most part, GPs are private independent contractors, working in small groups, and often supported by practice managers, practice nurses and other staff. Organisationally, the general practice workplace is a small independent private business setting, relying on Medicare for the largest part of its income, and where there is no requirement to participate in any specific models of care (Dunbar et al., 2007). Although integrated primary healthcare services may accommodate multidisciplinary models within their organisation, most general practices in Australia do not have the capacity or physical infrastructure to do so and need to collaborate with other health professionals across distance and organisational boundaries (Powell Davies et al., 2006, Harris et al., 2009).

The Theory of Optimising Professional Life can assist policymakers such as government agencies in assessing possible models of shared care and their likely contribution to dealing with the rise in chronic illness. For example, shared care arrangements may provide opportunities for GPs to improve their career satisfaction. Sharing the clinical work required to treat patients with chronic and complex conditions could potentially reduce the workload and stress experienced by individual GPs. Furthermore, shared arrangements could open up new areas of work that some GPs may find attractive. These might include expanding their skills in managing and coordinating services across organisational boundaries, working in areas of medicine with which the GP has previously had little involvement, and developing shared care guidelines that delineate the roles and responsibilities of service providers. On the other hand, changed work practices also have the potential to increase workload and exacerbate GP stress.

Thoughtful formulation of policy initiatives can avoid pitfalls such as these. For example, plans to implement a Clinical Leadership Development Program (CLDP) could enhance GP skills needed for working in leadership roles in integrated primary healthcare, clinical teams, clinical governance and health policy and service design settings (ACT Medicare Local, 2013, Health Workforce Australia, 2013). CLDP objectives include increasing capabilities for leading self, engaging efficiently with practice nurses and others, achieving outcomes, driving innovation and shaping systems. Using the framework of the Theory of Optimising Professional Life, CLDP could be conceived in a way that its curriculum supports GPs preparing for contemporary models of medical care, provides them with a process for understanding their own responses to changing work practices and the solutions to any unease they may experience, and helps meet their personal and professional needs. By preparing in this way, individual GPs can become aware of the benefits of taking a leadership role in new healthcare models.
The Theory of Optimising Professional Life can also be beneficial in addressing the policy issue of growing demand for mental health services in community settings. Between 2005-06 and 2009-10, there was a 34% average annual increase in the number of Medicare-subsidised mental health-related services (Australian Institute of Health and Welfare, 2012a), prompting support for improved care for people with serious mental illness (Australian Government National Health and Hospitals Reform Commission, 2009). GPs are often a first contact point for mental health concerns. The Theory of Optimising Professional Life can assist policymakers in addressing this issue by providing a framework for understanding the career concerns and behaviours of GPs related to participation in this area of service delivery.

To address Australia’s growing mental health problem, the National Health and Hospitals Reform Commission (2009) recommended a multidisciplinary, community-based sub-acute approach as an alternative to hospital-based treatment, together with greater investment in mental health training for the primary healthcare workforce. Access to mental health services is expected to continue to be an issue with the psychiatry workforce, currently perceived to be in shortage and projected to worsen by 2025, and unable to satisfy anticipated demand (Health Workforce Australia, 2012b). Service redesign aimed at increasing the mental health skills of GPs will be needed, with the GP Colleges developing an accreditation pathway to a diploma qualification for GPs to build their skill capacity and providing support for GPs doing mental health work (RACGP, 2013). The role of GPs in managing mental health problems was recognised with the 2002 Better Outcomes in Mental Healthcare program, which was designed to improve community access to primary healthcare services by providing better education and training for GPs and more support for them from allied health professionals and psychiatrists. The 2006 Better Access Initiative introduced Medicare Benefits Schedule (MBS) items for GP mental health plans as well as psychiatrist and allied health worker MBS items that are linked to these plans (Australian Government Department of Health, 2013).

The expanded access to MBS items for mental health services was significant in engaging with GPs. However, while financial incentives are designed to promote specific behavioural changes in GP interactions with patients, Dunbar et al (2007) reported that financial incentives alone cannot be an effective tool for quality enhancement, due to the potential conflict between revenue and patient care. Dunbar et al (2007) suggested that shared and integrated models of care need funding models that support teamwork across professional settings.

The Theory of Optimising Professional Life suggests that a policy that exacerbates GP concerns about aspects of *sustainment* or fails to offer attractive opportunities to resolve feelings of discomfort is unlikely to be embraced by the GP workforce. For example, increased mental
health training for GPs might be provided in a way that adds interest to their work and reduces stress by making GPs better placed to deal with clients presenting with mental health issues. On the other hand, if the mental health training was provided in a way that was too onerous or inconvenient, it may simply add to the stresses faced by GPs.

6.5 Summary of this chapter
This chapter highlighted the contribution the Theory of Optimising Professional Life makes to the three areas of careers literature, research method and GP workforce policy and practice.

The chapter positions the new Theory of Optimising Professional Life within the career literature as a theory that contributes a dynamic explanation of person-environment fit and pays attention to multiple environments that may simultaneously influence how a GP’s professional career is shaped. Optimising offers a career development framework based on multiple career decisions (iterative) that build on previous experience (incremental). This theory provides a problem-focused approach to resolving an individual’s psychological concerns which has been found to help GPs cope with work and life events and to reinforce a GP’s sense of happiness and confidence (Gardiner et al., 2004).

The Theory of Optimising Professional Life offers a career theory for professional adults, providing insights into how GPs progress and adjust their careers to satisfy their evolving needs. This is achieved in the context of a relatively flat, non-hierarchical professional structure which is often overlooked in the literature.

While professions theory and career theory provide explanations of working life that are based in sociological and organisational perspectives, this study concentrates on the main concern GPs have in progressing their careers and contributes to our understanding of how individuals fit with their chosen occupation. The emphasis is therefore on how GPs make careers rather than on how they are shaped by sociological aspects of their professional life.

The theory recommends *sustainment* as an overarching career value for doctors. This new concept is broadly consistent with a number of work values identified in the literature, but it emphasises the tensions between these values and draws them together in the form of a career value that provides a more integrated and less fragmented approach to understanding the complexity of GP career development.

This thesis takes a mixed-method approach to GP career research, combining the inductive process of grounded theory to understand the experience of participants and build a new theory,
with the deductive approach of quantitative analysis to investigate that theory more broadly. Some limitations of the research method are noted in the discussion.

Importantly, the Theory of Optimising Professional Life contributes a new perspective for the design and implementation of GP workforce policy and practice. The theory offers a framework for integrating macro (structural) and micro (psychological) dimensions of an issue, which can assist educators, policymakers, professional bodies and service delivery organisations to understand the career concerns and behaviours of GPs and to assess the likely impact of policy alternatives and intervention programs in terms of their contribution to the delivery of efficient and effective primary healthcare. In particular, the Theory of Optimising Professional Life can be used:

- by medical schools to attract potential medical students to general practice by emphasising that this medical specialty is a rewarding career which supports autonomy and enables an individual’s personal and professional needs to be met;
- by GP educators to provide vocational education to medical students, GP registrars and other clinical staff about the nature and range of development options available throughout a career in general practice;
- by GPs to understand and shape their careers in ways that satisfy their needs and resolve any dissatisfaction with general practice while preparing themselves to operate within new models of primary healthcare as they evolve;
- by professional bodies, for example the Royal Australian College of General Practitioners and the Australian College of Rural and Remote Medicine, to support GPs in reviewing and developing their careers as a fundamental professional activity and to encourage education in career planning and related issues as part of continuing medical education;
- by policymakers to understand that health initiatives may actively be countered by GPs because they have the potential to threaten Optimising, for example through the loss of autonomy, loss of contact with patients, excessive paperwork, excessive control by corporate general practice businesses or reporting requirements, but that these health initiatives may be highly effective if they are designed in a way that falls within the solution space and demonstrates that the initiatives support rather than undermine GP careers; and
- by meso-level primary health care organisations, such as Australia’s Medicare Locals, to understand GP career behaviour so that they can support GP career development through, for example, clinical leadership training to increase a GP’s capability to lead and coordinate multidisciplinary clinical teams or the provision of ‘sabbatical’ positions for GPs wanting to expand their career options.
The Theory of Optimising Professional Life is offered as a framework for a more nuanced understanding of the career experience and behaviours of experienced GPs working in Australia.
Chapter 7: AREAS FOR FURTHER RESEARCH

7.1 Introduction

My interest in primary health services, and the GP workforce in particular, grew out of reported GP shortages across Australia. This thesis began with curiosity about GP work-life and how the potential of their esoteric knowledge and skills can be tapped and enhanced. The end result was a new Theory of Optimising Professional Life that explains a core pattern of GP vocational behaviour.

GP careers are forged by autonomous professionals in relatively flat, non-hierarchical organisational structures. Once GPs are fully qualified, they have few opportunities for hierarchical advancement. As a result, most GP careers do not conform to the traditional notion of a linear upward progression that forms the basis of many career theories. Furthermore, existing career theories do not reflect the Australian general practice context, including the values and needs of GPs working in Australia. A new theory was needed to explain the career issues and behaviours of these medical professionals.

This study has achieved its objectives by clearly identifying the main concern experienced GPs working in Australia have in their professional life (i.e. sustainment) and how they resolve this issue (i.e. Optimising Professional Life). The Theory of Optimising Professional Life developed in the thesis provides a unique approach to GP careers because it considers the issues from a new viewpoint and adds a different perspective to the body of careers knowledge and GP workforce research. This thesis demonstrates how the Theory of Optimising Professional Life is positioned with regard to other career theories and illustrates its relevance for the design and implementation of GP workforce policy and practice. The theory offers a framework for integrating macro (structural) and micro (psychological) dimensions of a GP career issue, which can help policymakers to understand the career concerns and behaviours of GPs and to design policy initiatives that deliver efficient and effective primary healthcare.

The following sections recommend a number of areas for further research that have the potential to broaden the scope and relevance of the Theory of Optimising Professional Life.
7.2 Further development of the Theory

The broader relevance of the Theory of Optimising Professional Life could be developed through:

- further quantitative study of GPs working in Australia;
- case studies of GPs operating under different conditions of stress;
- case studies of GPs operating under conditions of mutual protection as opposed to self-protection;
- investigating careers in other medical occupations in Australia such as specialists;
- exploring the careers of GPs and family doctors from other countries and cultures; and
- examining careers in professional occupations outside medicine which have non-hierarchical workplaces.

This investigation was concerned with understanding the professional lives of experienced GPs working in Australia. Data were elicited from study participants from an interpretivist viewpoint, using a grounded theory approach to develop a theory explaining behaviour in the specific area of study. The process used generates theory that fits the real world, works in predictions and explanations, is relevant to the people concerned and is readily modifiable. The grounding of the Theory of Optimising Professional Life in the real experiences of GPs through work histories and the rigour of the method used contributes to the internal validity of this study. However, no claims are made about the generalisability of the theory to other populations. In this thesis, the focus was the careers of GPs working in Australia.

A longitudinal quantitative study could be designed to test statistically the features of the Theory of Optimising Professional Life. The quantitative analysis in this project drew on secondary data collected for the MABEL survey rather than data collected specifically to answer the research questions of this study. The available survey data captured GPs’ responses at a point-in-time and were not suited to examining a process that occurs over time. For example, the MABEL data cannot explain whether GPs who are dissatisfied with their work will necessarily seek to improve their situation or, indeed, whether they will make repeated improvements aimed at reaching an optimal situation.

Case studies could be conducted that explore the application of this theory to GPs under different conditions of career stress. Many natural experiments already exist, for example, in
areas where different business models affect GP careers: where small general practices are being taken over by large corporate practices or in ‘superclinics’. Such case studies would help to show how relevant the theory is in varied circumstances.

Health Workforce Australia has identified several medical occupations where imbalances in the workforce are likely to persist for some time, particularly psychiatry, obstetrics and gynaecology and surgery (Health Workforce Australia, 2012b). It would be desirable to examine the extent to which the Theory of Optimising Professional Life is applicable to careers in these medical occupations and whether the theory can help in addressing workforce shortages in these medical specialties.

Another area of potential research would be to examine whether the Theory of Optimising Professional Life is relevant to GPs (family doctors) working in countries other than Australia. While these doctors work in different social and cultural contexts, they may still Optimise their careers over time. A cross-cultural study could examine the influence of different health systems and organisational and cultural settings on the career behaviour of GPs.

Many other professional occupations also operate in non-hierarchical workplaces similar to GPs working in Australia. It is possible therefore that the features of the Theory of Optimising Professional Life apply to a broad range of professions. Future research could examine the extent to which this theory is transferable to professions such as veterinarians, dentists and those lawyers, accountants, architects and others who work in small private businesses.

These comparisons have the potential to extend the Theory of Optimising Professional Life from its current empirical area of GPs working in Australia, thereby giving it broader relevance. Such research could establish whether the concepts presented in this thesis apply to other occupations. Theory-building work and testing this study’s propositions with occupational groups in other contexts would allow this theory to be modified, refined and advanced.

7.3 Research in related fields
The Theory of Optimising Professional Life has the potential to provide new insights in several related fields of research: policy research, the development of GP workplaces (organisational development), the GP’s role in a community of patients and their professional community (sociology and theory of professions) and the interaction between a GP’s work and family (family studies).
Policy research
Glaser’s grounded theory methodology provides a basis for developing actions that are grounded in participants’ accounts. Hence, the Theory of Optimising Professional Life can also be applied for the purposes of designing and implementing practical interventions, program designs, action models, social and organisational policies, and change initiatives (Simmons and Gregory, 2003). Such policy research would include distinguishing between productive and less productive policy options.

Organisational development
There is discourse about the organisations and workplaces that provide primary healthcare services, including how these organisations operate under changing healthcare demand and workforce supply conditions (Dunbar et al., 2007, ACT GP Taskforce, 2009, Briscoe, 2006). Recent studies suggest a trend towards fewer general practice organisations (Britt et al., 2008, PHC RIS, 2007), a trend that has been linked to free market values and large business methods (Fitzgerald, 2001, Kamien, 2004). Some of these issues were raised by GPs who participated in this study. Given the key role of GPs within primary healthcare organisations, organisational development research in these areas would benefit from the behavioural insights provided by the Theory of Optimising Professional Life.

Sociology and theory of professions
GPs work within a community of patients and professional colleagues. Professional organisations endeavour to normalise work behaviour through standards of performance (Evetts, 2006a, Evetts, 2006b, Freidson, 2001, Freidson, 2003). In defining common ways of working and balancing individualism against the needs of the community, professions have a normative value in maintaining social order in work. Jones and Green recognised a shifting discourse of professionalism in medical practice (2006). The Theory of Optimising Professional Life provides an explanation for an individual GP’s psychological response to social and professional circumstances, thereby offering a new, grounded perspective for future research into sociological aspects of primary healthcare.

Family studies
The Theory of Optimising Professional Life’s dimension of integrating work and personal life recognises that GPs balance family responsibilities with their role in the paid workforce. This study adds empirical content to the interdependent nature of interactions between working and other life roles. The theory provides a basis for family studies research on the integration of work and personal life by GPs, and potentially by other professionals working in non-hierarchical environments.
Appendix 1 Mabel questionnaire for GPs and GP Registrars (2010)

<Appendix 1 (on pages 228 to 239) has been removed from the open access version of my thesis to ensure it does not infringe the intellectual property rights of a third party.>
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