

EFFECTS OF COMMUTING STATUS UPON COMMUNITY
INVOLVEMENT OF PROFESSIONALS
IN RURAL NORTH WEST VICTORIA

Deanna Devers,
B.Mus. (Melb.), M.Mus. (perf. Melb), Dip. Ed. (Ballarat)

This thesis is submitted in total fulfilment of the requirements for
the degree of PhD.

School of Education

University of Ballarat
PO Box 663
University Drive, Mount Helen
Ballarat, Victoria, 3353
Australia

Submitted in October, 2006

Summary

Because mobility is associated with rural social decline, this two-phase cross sectional study investigates whether social patterns in small, rural Australian towns are affected by commuting. Quantitative data, which was gathered via a mail-out questionnaire (response = 54 per cent) that was issued to 1,040 occupationally diverse professionals who worked in fourteen towns throughout north-western Victoria, was analysed to determine whether commuting and non-commuting professionals differed significantly in their community involvement. To explain why certain relationships emerged from survey analysis, face-to-face interviews were subsequently undertaken with 24 questionnaire respondents. The key finding of this study is that there is a significant relationship between commuting status and the retention of rural professionals. A significantly greater proportion of non-commuters than commuters remain working in the one location for longer than five years. This finding has important implications for the sustainability of rural areas.

Acknowledgements

I wish to express my gratitude to all those persons who have contributed to the production of this thesis, particularly my supervisors, Associate Professor Barry Golding and Professor Lawrie Angus. Dr Jack Harvey deserves special thanks for his patience while assisting me with the statistical analyses. I also wish to extend my thanks to the funding bodies that made this study possible, including the Department of Human Services, the Department of Education and Training and the Country Education Project.

The project was enthusiastically supported throughout the study area. I would like to thank those heads of work-sites who participated in the project and all the professionals who 'ticked the questionnaire boxes' and volunteered for an interview. Many residents of the Wimmera Mallee, not only those involved in the project, took a genuine interest in my investigation. I appreciated the opportunity to discuss my work with them, as this was often an effective means of clarifying ideas.

Support staff at the University of Ballarat deserve three cheers for willing assistance. The research librarians, particularly Ms Sue Taylor, often went out of their way to help me overcome difficulties associated with accessing information while living a good distance away from the campus. Also, special mention must be made of Mrs Dianne Clingin, whose encouragement was invaluable in the early phases of this investigation.

Much thanks needs to be extended to the hero of this story, my husband, David. His support for my research has been unfailing, the reality of which translated into extended periods of minding our young family and solving computer-related problems. Finally, without the committed baby-sitting of Joyce Fanning and Aileen Allen, this thesis would not have come to pass.

Table of Contents

	page
Chapter 1. Introduction	1
1.1. Mobility-associated social decline in rural areas	1
1.2. The case for investigating social effects of commuting in rural areas	5
1.3. The objectives and the research question	10
1.4. Structure of the thesis	11
Chapter 2. Designing the investigation	13
2.1. Study design, study area, study population and methods	13
<i>Study design</i>	13
<i>Study area</i>	14
<i>Study population</i>	16
<i>Methods</i>	18
2.2. The concept of community involvement	19
2.3. Developing the conceptual framework	21
<i>Participation</i>	22
<i>Integration</i>	24
<i>Motivation</i>	26
2.4. Study paradigm	31
2.5. Summary	34
Chapter 3. Methodology	37
3.1. Survey construction	38
<i>Filter questions</i>	38
<i>Questions included to determine representativeness of response</i>	38
<i>Commuting questions</i>	39
<i>Community involvement questions</i>	44

<i>Retention and recruitment questions</i>	46
<i>Other questions</i>	51
3.2. Reliability, sampling, ethics and distribution	51
3.3. Summary	54
Chapter 4. Survey Response and data-related issues	55
4.1. Survey response and data processing	55
4.2. Data analysis	56
4.3. Representativeness of response	58
4.4. Commuting volume	64
4.5. Summary	66
Chapter 5. Findings from questionnaire analysis	68
5.1. Community involvement frequencies	68
5.2. Significant differences between commuting status and community involvement	76
<i>Prior rural experience</i>	78
<i>Retention</i>	80
<i>Gender</i>	80
5.3. Post-test controlling for retention and gender	81
5.4. Summary	83
Chapter 6. The second data collection phase	86
6.1. Developing the interview questions	86
6.2. Sampling, interviewing, data reliability and analysis	88
<i>Sampling</i>	88
<i>Interviewing</i>	89
<i>Data reliability</i>	90
<i>Analysis</i>	91
6.3. Mismatched perspectives of work town	91

6.4. Concluding statement	94
Chapter 7. Explanations for statistically significant differences	96
7.1. Commuting status and retention	96
7.2. Commuting status and gender	102
7.3. The ‘reduced time’ hypothesis	111
7.4. Commuting and social benefits	112
7.5. Summary	114
Chapter 8. Discussion and implications	115
8.1. Sustainability and social capital	116
8.2. Preference for a commuting lifestyle	120
8.3. Recruitment factors influential in attracting non-commuters	124
8.4. Initiatives associated with housing and family relationships	128
8.5. Summary	132
Chapter 9. Conclusion	134
9.1. Summary of the investigation	134
9.2. Contribution to a field of study, to knowledge and the national research agenda	139
9.3. Implications for further research	140
9.4. Closing statement on the way values have shaped the investigation	141
Appendix A. Questionnaire and ethics approval	143
Appendix B. Interview schedule	156
List of references	158

List of Tables

	page
Table 2. Community involvement indicators	30
Table 4.3a. 2001 Australian census data and survey responses relating to gender	59
Table 4.3b. 2001 Australian census data and survey responses relating to age	60
Table 4.3c. Number of responses from towns, reclustered by ARIA score	61
Table 4.3d. Number and percentage of responses from professions and worksites	63
Table 4.4. Definition-based commuting status by commuting sheet response	64
Table 5.1a. Frequencies of response to hometown participation variables	70
Table 5.1b. Frequencies of response to hometown motivation variables	74
Table 5.1c. Frequencies of response to hometown integration variables	75
Table 5.2a. Significant differences between commuting status and community involvement	77
Table 5.2b. Prior rural experience by commuting status	79
Table 5.2c. Retention by commuting status	80
Table 5.2d. Gender by commuting status	81
Table 5.3. Significant differences in hometown community involvement by commuting status, controlling simultaneously for gender and retention	82

Table 7.1a. Distance travelled by commuting status	97
Table 7.1b. Frequencies of retention variables	98
Table 7.1c. Significant differences between retention variables and commuting status	99
Table 7.1d. Commuting status by perception of socially 'fitting in'	101
Table 7.2a. Distance traveled to work by gender	103
Table 7.2b. Commuting status by prior rural residence (regrouped) by gender	105
Table 7.2c. Gender by commuters' reasons for travelling to work	105
Table 7.3. Significant differences between long and short-distance travelling commuters and hometown community involvement	111
Table 8.3a. Frequencies of response to recruitment reasons	125
Table 8.3b. Significant differences between recruitment factors and commuting status	126
Table 8.3c. Significant differences between gender and recruitment reasons	127
Table 8.4a. Selling and retention of government-provided rental accommodation in the fourteen study towns	130

List of Figures

Figure 1. Map of the study area

14

Chapter 1. Introduction

Largely as a result of increasing personal mobility during recent decades, there has been a decline in the typically dense, localised social patterns that have traditionally functioned to provide quality of life in small, dry land farming towns in rural Australia. Commuting, as a form of mobility, could potentially be contributing to this decline. Only a few prior investigations have researched this topic and they have drawn conflicting conclusions, despite intuition suggesting that commuters are likely to be less socially active than non-commuters due to travel-related time constraints. Hence, this study's main objective is to determine whether, and if so, why, the community involvement of rural residents who commute out of town to work differs significantly from the community involvement of those who work in their hometown. A secondary objective is to build on the prior investigations to contribute to this fledgling field of research.

This abbreviated rationale for the following investigation is expanded throughout the rest of the introduction. The context of the investigation, focusing upon how mobility has contributed to rural social decline, is discussed in the section 1.1. The succeeding section details the case for the investigation, including recent calls for an investigation into the effects of commuting upon rural social dynamics and a lack of conclusive prior research. The objectives of the investigation and the ensuing primary study question are presented in section 1.3 and the structure of the thesis is detailed in the final section.

1.1. Mobility-associated social decline in rural Australia

Partly due to mobility, the highly localised nature of social participation that has traditionally been characteristic of small rural, place-based communities, has been delocalising and fragmenting in recent decades. Rural residents, both within Australia and overseas, now identify participating in multiple, geographically-dispersed communities which have resulted from networks established largely through personal travel to neighbouring towns for shopping, leisure and work (Smailes, 1995; Urry, 2000; Theodori & Luloff, 2000; Smailes et al, 2005). One Australian example of the gradual

delocalisation of rural, place-based social networks is among long-time residents living in the Gilbert Valley, a dry-land farming area in South Australia. Several decades ago, these residents identified their social networks and hence their community, as largely limited to the confines of their hometown and surrounding farms. Now, they identify belonging to a geographically expansive home community which includes the town they live in, as well as other neighbouring small towns to which they regularly travel for shopping, leisure activities, work and to access services (Smailes & Hugo, 2003).

A further Australian-based example of mobility-related delocalisation of place-based rural social networks include the consequences of economic rationalist policies that were introduced by both federal and state governments during the 1990's. Partly because rural folk generally do have access to personalised transport, government provided services were centralised into large regional towns, thereby forcing the closure, down-grading and/or amalgamation of a plethora of rural schools, hospitals, local government offices and branches of government provided services which had been located in small towns (Vinson, 1999; Municipal Association of Victoria, 2000; Cheers, 1998; Tonts & Black, 2003; Cocklin & Alston, 2003; Hugo, 2005; Dibden & Cocklin, 2005). These policies delocalised social networks by forcing rural folk to travel to some services that used to be available locally, such as secondary schools and hospitals (Cheers, 1998; Tonts & Black, 2003; Cocklin & Alston, 2003a; Hugo, 2005; Dibden & Cocklin, 2005). Furthermore, these policies also forced an out-migration, indeed, almost an exodus, of skilled persons who worked in rural schools, hospitals and local government offices, thereby not only delocalising, but also fragmenting networks and hence rural communities (Tonts & Black, 2003; Cocklin & Alston, 2003a; Hugo, 2005; Dibden & Cocklin, 2005).

Mobility in the form of migration, has also served to fragment dense, localised networks. General out-migration, especially that of youth, has been a feature of rural Australia, since the 1970's and has been most extensive in dry-land farming areas (Kenyon and Black, 2001). Within this general pattern of out-migration, specific migration trends are discernible, including the policy-driven out-migration just mentioned. Another is that of long-time, resident small farmers selling land and shifting to urban or coastal areas due to

dwindling economic returns for the staple produce of dry-land farming, sheep and mixed crops (Tonts, 2005). Also, in recent decades, rural Australia has experienced an in-migration of a low-skilled, welfare-dependent class who seek cheap housing, have little attachment to their place of residence and are not inclined to become actively involved in local affairs (Smailes & Hugo, 2003; Dibden & Cocklin, 2003; Cheshire & Lawrence, 2003).

The literature-reported mobility-associated delocalisation and fragmentation of rural social networks has also been witnessed first-hand by the researcher, who has lived in the Wimmera Mallee for her entire life, with the exception of some years in Melbourne for tertiary training.

This issue is of concern because these networks have traditionally been the source of local social activity that has functioned to support quality of life in small isolated towns, particularly those in dry-land farming areas of rural Australia. These areas of rural Australia comprise much of the inland of the continent. Typically referred to as ‘wheat and sheep’ Australia, they are environmentally and demographically distinguishable from two other ‘types’ of Australian ruralities – peri-urban and coastal settlements and mixed farming areas – by featuring isolated towns of low populations, broad-acre farming land use, a large proportion of maleness due to the manual nature of farming and a high rate of out-migration of young women seeking work (Smailes et al, 2005). Unless otherwise stated, the term ‘rural’ is used throughout the investigation to refer to this type of Australian rurality. This restricted focus of rurality has been selected for the investigation because Australian dry-land farming areas and towns with less than 5,000 people have suffered greater social decline than other rural areas (Productivity Commission, 1999; Hugo, 2001; Kenyon and Black, 2001), and research focusing upon this type of rurality can potentially be of value to these areas.

The relationship between typically dense, localised social networks in small, isolated Australian rural towns and local quality of life in terms of service provisions, has been observed in a number of studies (McIntyre and McIntyre, 1944; Hardee, 1958; Oxley,

1978; ABS, 2000), and is particularly well described in *Smalltown*, (Dempsey, 1990), a longitudinal study of social dynamics in a small, Australian dry land farming town in central Victoria.

Smalltown's low population (3000) prohibits the establishment of both private, profit-making services and some government-based services that would be available to the public in larger towns. Furthermore, its isolated geographical location – more than 100 km from any larger centre – inhibits easy access to services that are not available locally. Consequently, nearly all of *Smalltown's* recreational activities and some welfare services have traditionally been established, maintained and staffed by voluntary labour, and have been financially supported by local fund-raising efforts and donations. Quality of life for local residents, in terms of access to services, has therefore been strongly dependent upon voluntary input. Engaging in activities that contributed to providing, maintaining and fund-raising for such services, locally referred to as 'working for the town', has therefore been communally upheld as a social duty in *Smalltown*. Importantly, local social networks have traditionally upheld this ethic and have been the source of community support. Formal voluntary organizations, such as sporting groups and social clubs, have typically contributed to local affairs beyond the intrinsic interests of the groups themselves by raising funds for local community facilities such as hospitals and schools. Informal social networks have also traditionally 'supported the town'. Individuals and groups of friends attended fund-raising events and community-oriented functions organised by formal groups to which they themselves did not belong, but to which a friend or family member belonged.

While the social networks from which Australian small-town community support has traditionally arisen are being delocalised and eroded, partly as a consequence of increased levels of mobility, isolation and low population remain typical of dry-land farming towns. These two factors, coupled with the withdrawal of government services during the 1990's, means that to maintain quality of life in terms of services and local leisure activities, residents in such towns still have to act voluntarily. For example, the voluntary assistance of individuals and community groups is required to sustain the effective

operation of key institutions including hospitals, kindergartens, schools and some shire-based facilities (Alston, 1995), and some voluntarily provided leisure activities and localised services have closed in rural areas due to lack of volunteers (Smailes & Hugo, 2003). The reduction in services brought about by economic rationalisation policy has resulted in further pressure being placed upon rural institutions to seek volunteers to help maintain local services (Alston, 2005). However, dwindling social networks has led to reduced voluntary activity, a decline in the ethic of 'working for the town' and an in-creeping malaise of 'not bothering' to participate in local affairs (McClelland, 2002), and migration trends have lowered the proportion of rural residents who are willing to act to support local affairs (Alston, 2005).

1.2. The case for investigating social effects of commuting in rural areas

Concurrent with rural social decline during the past few decades has been a rapid increase in the volume of commuting in rural areas. A study focusing upon five, small South-Australian, dry-land farming towns found that the proportion of commuting workers who lived in these settlements rose from three per cent in 1968-70, to 21 per cent in 1980 (Smailes & Hugo, 1985). Similarly dramatic increases are evident in other countries. Within the United States, the number of workers who commuted across county lines, including non-metropolitan counties, rose from 10 percent in 1960 to 21 per cent in 1990 (Fugitt, 1991). In rural Ireland in 1981, 20 per cent of the population of workers commuted in excess of 10 miles in only four counties, while in 1996, these figures were replicated in 22 counties (Horner, 1999). Increasing levels of car ownership (Pisarski, 1996) and job opportunities provided by regional industrialisation (Horner, 1999; Budge, 2005) have been identified as key factors contributing to increased levels of commuting in rural areas.

Given that mobility has been a significant factor contributing to rural social decline, and some investigations have determined that commuting contributes to expanding rural social networks (Smailes 1995; Urry, 2000), an increase in commuting in rural areas has led researchers to postulate that commuting is associated with residents' reduced social

participation in local affairs, which in turn impacts negatively upon small communities. (Reimer, 1997; Tigges & Fugitt, 2003). Some investigators have suggested that the time consumed in the act of commuting reduces the time commuters have available for hometown social participation (Tigges & Fugitt, 2003). Another has postulated that commuting curtails the frequency of individuals' repeated social contact with others in their hometown, and therefore disconnects commuters from their hometown community (Reimer, 1997).¹ These postulations partly arise not only from the current circumstances of rural social decline and increasing commuting levels, but also because of the absence of a substantial body of literature relating to social effects of commuting in rural areas.

Only three dated, prior investigations (Pahl, 1965; Schmidt, 1978; Cawley, 1979, 1980²) have researched effects of commuting upon rural social patterns. All focused upon commuting traditional villages in the hinterlands of regional areas wherein many long-time residents were starting to commute to work in cities. These 'dormitory towns' were starting to emerge throughout the western world several decades ago in response to new employment opportunities triggered by post-war industrialisation and increasing levels of personal car ownership (Pahl, 1965; Schmidt, 1978; Cawley, 1980). Dormitory towns offered researchers the opportunity to observe social changes brought about by both the transition of long-term residents from a traditional to a commuting lifestyle, and by the in-migration of a new, comparatively wealthy class who sought a rural lifestyle but commuted daily to jobs in regional cities. In these investigations, commuting was as much under investigation as were the social changes from an agrarian to a blue-collar life-style, and from a stable traditional community to one that was forced to embrace in-migrating, commuting outsiders.

Schmidt (1978), who used the anthropological, qualitative, methods of participant observation and interviewing to investigate social and cultural effects of commuting in 'Woodborough' in north-eastern USA, found that commuters participated less frequently

¹ Within an urban context, Robert Putnam (2000) has claimed, without evidence, that commuting generates social isolation and specifically, every ten minutes spent commuting decreases social connections by 10 per cent.

² Cawley's two publications resulted from the one investigation.

in local social life than non-commuters. Working class 'commuting households', that is, households wherein the bread-winner commuted out of town to work, engaged less frequently than working class non-commuting households in formal voluntary organizations and informally visiting friends and neighbours. Also, working class households wherein the breadwinner had transferred from a non-commuting to a commuting lifestyle, gradually adopted non-localised, spontaneous, household-based social behaviours that were characteristic of recently in-migrant, white-collar commuting households. This type of social behaviour included family trips out of town on weekends, or engagement in non-local, formal social groups.

Cawley (1979, 1980), who used quantitative and qualitative methods to investigate social changes brought about by commuting in six villages surrounding Galway, Ireland (1979, 1980), also concluded that commuting status was significantly associated with particular social patterns. Like Schmidt (1978), Cawley (1979, 1980) observed that long-time local residents who swapped from a non-commuting to a commuting lifestyle engaged less frequently than non-commuters in traditional, gender-segregated social activities and couple-based social interaction. Furthermore, they developed social patterns that were characteristic of recently in-migrant, white-collar commuters, including a preference for private, non-localised social outings, often to Galway.

While Schmidt (1978) and Cawley (1979, 1980) reached similar conclusions, Pahl (1965) found that social behaviours in a small, traditional village in the London hinterland did not diverge according to commuting status, but instead, differed significantly according to social class. The results of a statistical comparison of social patterns of working class commuting and non-commuting households showed that, irrespective of the breadwinner's commuting status, working class households engaged largely in informal social participation that was almost exclusively village-focused. Few of these households possessed cars and working class commuters travelled out of town by way of public transport. However, significant differences emerged in a class-based comparison of the social patterns of commuting households. Unlike the localised and largely informal social patterns of working class commuting households, middle class commuting households

participated extensively in formal, voluntary organizations and engaged frequently in private, spontaneous and non-localised informal social interaction afforded by personal car ownership.

While findings from these dated investigations partly support both of the recently-projected hypotheses regarding social effects of commuting upon rural communities, (Reimer, 1997; Tigges & Fugitt, 2003), they do not provide consistent or conclusive findings and only one (Schmidt, 1978) provides some evidence-based explanation for observed differences. The 'reduced time' hypotheses (Tigges and Fugitt, 2003) and the 'reduced local connectedness' hypotheses (Reimer, 1997) are both supported to some extent by Schmidt's (1978) findings. Throughout his year-long stretch of participant observation, Schmidt noticed that long-time residents who became commuters gradually became less socially connected to their hometown community due to restricted time, and because their working life did not allow them to maintain social contact with other locals. However, Schmidt's findings and explanations cannot be readily accepted because he openly states that he could not distinguish the extent to which factors other than commuting were impacting upon overall declining levels of social participation in Woodborough. In particular, he observed that car ownership, which was common among the commuters in his study, altered social behaviours from being forcibly localised to non-localised.

Cawley's conclusions (1979, 1980) are more robust than those of Schmidt (1978), because she statistically controlled her quantitative data to test for the effects of potential extraneous variables. By controlling for farm residence as a test variable, she demonstrated that commuting brought about social changes at the household level, independent of the in-migratory, socio-economic and occupational differences between commuters and non-commuters. Cawley did not offer evidence-based explanations to account for emergent significant differences between commuters and non-commuters. She postulated that networks formed through commuting led to delocalised social behaviours of commuters and decreased frequency of commuters' participation in traditional informal social participation. However, Cawley also acknowledged that

increasing car ownership had already been giving rise to increased non-local socialisation in County Galway (1979), and patterns of car ownership between commuters and non-commuters in her investigation were not made explicit. Given the observations of the other two researchers (Pahl, 1965; Schmidt, 1978) it is possible that car ownership among commuters could have been an extraneous variable that influenced Cawley's results. Indeed, despite reaching different conclusions, one common observation shared by all three previous investigations (Pahl, 1965; Schmidt, 1978; Cawley, 1979) is that car ownership increases non-localised social engagement.

The contradictory findings of these few, dated, previous studies, the inconclusiveness of some of the results due to the influence of extraneous variables, and the lack of substantiated explanations to account for observations, do not clearly show whether, and if so, why, commuting affects social patterns in small towns. Given that there have been recent postulations in the literature about the negative social consequences of commuting upon small communities due to lack of time and disconnectedness, there is a need for an investigation regarding social effects of commuting in rural areas which pays particular attention to eliminating potential extraneous variance and focuses upon explanation.

Furthermore, there is a need for research that focuses upon patterns of intra-rural commuting, that is, commuting from one small town to another, as opposed to the dormitory town context investigated in previous research (Pahl, 1965; Schmidt, 1978; Cawley, 1979). Intra-rural commuting is of particular relevance to dry-land farming areas of Australia as these areas feature multiple small towns with relatively few large regional cities (Smailes et al, 2005). The highly significant increase in commuting throughout many Irish counties between 1981 and 1996 included patterns of intra-rural commuting because some counties have no regional cities (Horner, 1999). In Canada, very high levels of intra-rural commuting are evident in provinces that have relatively few large regional centres exhibit (Green & Meyer, 1997). Even where there is commuting accessibility from small towns to major cities or regional towns, patterns of peripheral intra-rural commuting are emerging. In an area lying 48-130 km beyond Toronto, Canada, 93 per cent of commuters were found to travel to locations within their home

county as opposed to commuting to Toronto (Dahms, 1980). In the Gilbert valley in South Australia, (Smailes & Hugo, 1985), despite the fact that two of five small dry-land farming towns are about an hour's drive from the state capital city, the predominant commuting flow is intra-rural.

The lack of any prior study probing social effects of non-dormitory town rural commuting, and the relevance of intra-rural commuting to rural towns, even those within the hinterland of regional cities, points to an unexplored niche for this doctoral investigation to investigate.

1.3. The objectives and the research question

The context of mobility-related social decline in rural areas, particularly in dry-land farming areas of Australia, and the literature-based plausibility of whether commuting is contributing to rural social decline have led to the main objective of this investigation. Primarily, this study aims to determine whether commuting exerts an effect upon traditional social patterns that have characteristically supported quality of life in small, Australian dry-land farming communities. A second objective – contribution to an emerging field of study - is discussed shortly. To achieve the main objective, certain design decisions were made relating to the study population, study area and methods. While these are discussed fully in chapters two and three, they resulted in expressing the main objective in terms of the following research question:

What significant differences are there between the community involvement of commuting and non-commuting professionals working in small towns in north western Victoria?

Very brief definitions of key terms contained within the question are given at this point. *Significant differences* are statistically verifiable differences between cohorts within a sample. *Community* is defined in the traditional rural sociological mode as place-based.³

Place-based community is defined as a localised social system having a sense of belonging and self-identification, having a territorial base and a regular pattern of movement and communications that give rise to a network of local interactions.

(Hugo and Smailes, 2003)

Because community has been defined as place-based, for ease of expression, the term ‘town’ is often used as a substitute for ‘community’. *Community involvement* is defined as an individual’s social engagement which functions to support a place-based community. Unless otherwise stated, *commuters* travel to work in a town other than their hometown and *non-commuters* work in their hometown. A *professional* is defined as a person who holds a job that requires high skill-level and skill-specialisation. This definition is taken from Level 2 of the Australian Standard Classification of Occupations (Australian Bureau of Statistics [ABS], 1997).⁴ *Small towns* are those that have a population of less than 5,000 people (Department of Health and Aged Care, 2001).

The second objective of the investigation is to contribute to a fledgling field of study that has been unexplored for several decades, and wherein findings are inconclusive and contradictory. To meet this objective, the conceptual framework, which is discussed in the next chapter, was moulded around findings from previous investigations in order to enable the comparison of results from this investigation with those from earlier studies.

³ Broadly speaking, distinct from place-based communities, the literature also identifies network-based communities wherein people share a sense of belonging without defined geographical boundaries. Examples of these include communities of practise wherein people share a common interest, and communities of identity, such as ethnic communities. The reasons for defining community as town-based, given that discussion in section 1.1 has shown that mobility is delocalising rural communities, are discussed on pages 40-41 in relation to defining commuting.

⁴ This social group was chosen as the study population to both minimise extraneous variance and maximise findings. A fuller explanation is presented on page 16.

Funding bodies that financially supported this study anticipated that findings would be useful for policy development and professional practise in rural institutions such as schools and hospitals, in turn contributing to rural sustainability.

1.4. Structure of the thesis

The literature is explored in greater detail in chapters two and three, which discuss methodological aspects of the study. Chapter two focuses upon key decisions relating to both the design and the conceptual basis of the study, as well as the paradigmatic perspective that underpins the investigation. Questionnaire construction is largely the subject of chapter three. In chapter four, issues relating to data processing, quality and representativeness are discussed to allow a clearly marked presentation of statistical analyses of questionnaire data in chapter five. Methodological issues associated with the second phase of data collection, face-to-face interviews, are discussed in chapter six. Themes derived from interview data, along with findings from other investigations and from further questionnaire analysis, are presented in chapter seven with a view to offer explanations for the significant associations that arose from questionnaire analysis. The implications of the key finding, which is a direct association between commuting status and retention, are discussed within the broader context of rural sustainability in chapter eight. The final chapter summarises the investigation, details its limitations (methodological, analytical, interpretive), clarifies the study's contribution to knowledge and indicates further avenues for investigation.

Chapter 2. Designing the investigation

The opening section of this chapter focuses upon how key design decisions relating to the study design, the study area, the study population and data-collection methods, have been made with a view to both maximise findings and minimise sampling error, extraneous variance and bias. To best fulfil the objectives of the investigation, a study-specific concept, labelled community involvement, was developed. The rationale for developing this concept, its framework and the variables that are embraced by it are discussed in sections 2.2 and 2.3.

Implicit in the choices relating to key design decisions and the development of the conceptual basis of the investigation is a particular ‘pragmatic’ view of reality. The last section of this chapter details how the overall approach taken to this study positions it within the pragmatic paradigm.

2.1. Study design, study area, study population and methods

Study design

To fulfil the main objective of the investigation, which is to determine whether commuting exerts an effect upon traditional patterns of community involvement in small Australian towns, it seems both intuitive and logical to compare rural commuters and non-commuters in terms of their social patterns, and then to seek explanation for any significant differences. A cross-sectional research design was therefore used for this study because this type of design involves direct comparison of at least two different cohorts (commuters and non-commuters) in relation to a dependent variable (community involvement) at a particular point in time (De Vaus, 2002). Two data collection phases were included to firstly gather data that could be used to determine significant differences between commuters and non-commuters in terms of social patterns, and secondly, to collect information which could help account for emergent significant differences. The rationale for the use of particular methods is discussed shortly.

The study area covers 28,539 square kilometres of north western Victoria and embraces eight statistical local areas (SLA's) including Hindmarsh, Yarriambiack North, Yarriambiack South, Buloke North, Buloke South, Gannawarra, Northern Grampians-St Arnaud, and North Loddon. Statistical local areas were used as the 'building blocks' of the study area to allow establishing the representativeness of questionnaire response according to national census data ⁵, much of which is calculated in relation to SLA's⁶. The boundaries of the study area were circumscribed to exclude large regional towns and embrace small, farming communities to maintain the focus of the investigation upon intra-rural commuting in dry-land farming areas. None of the SLA's included in the study area feature a town wherein the population exceeds 5,000 people.

The study area is geographically typical of dry-land agricultural areas in rural Australia. Small towns (pop. 800 to 3,500) spaced roughly 30 to 50 kilometres apart are inter-dispersed with broad acre farms and smaller settlements featuring a population of a few hundred people, a cluster of houses, a shop or a pub, a church and sometimes a small primary school (Smailes, 1995). All the towns included the study area share an Accessibility Remoteness Index of Australia (ARIA) factor of > 2.00 (Department of Health and Aged Care, 2001), which means they share a similar degree of rurality in terms of isolation from services. Culturally, the study area features a population wherein fewer than 10 per cent were born overseas (ABS community profiles, 2001). This figure is relatively consistent in other Australian dry-land farming areas, for example, 7.4 per cent in Queensland's Darling Downs (ABS, 2006a), 5.4 per cent in New South Wales' north western area (ABS, 2006b) and 8.8 per cent in South Australia's Yorke Peninsula (ABS, 2006c).

Another feature of the chosen study area, a paucity of public transport, helps to reduce the effects of car ownership as a potential extraneous variable. While previous studies indicate that divergent patterns of car ownership between commuters and non-commuters could partially account for differences in social behaviours between both

⁵ Representativeness of response is discussed in chapters three and four.

⁶ Census data relating to the study area has been aggregated from basic community profile and snapshots that are published by the ABS for each SLA. Aggregated data is referenced as (ABS community profiles, 2001). Each community profile is listed independently on page 159 in the list of references.

cohorts (Schmidt, 1978; Pahl, 1965; Cawley, 1979), throughout this investigation's selected study area, car-based travel is almost the sole means of travelling beyond one's hometown. Responses to the 2001 Census question regarding method of travel to work indicate that not one employed worker in the study area travelled to work by train and between a minimum of 0.0 per cent of workers (in Loddon North) and a maximum of 0.4 per cent (Hindmarsh and Yarriambiack South) travelled to work by bus. In contrast, a minimum of 42.4 per cent (Loddon North) and a maximum of 53.6 per cent (Yarriambiack South) of workers in each SLA travelled to work by car as either a passenger or driver and between 9.9 per cent (Buloke South) and 12.6 per cent (Yarriambiack North) either rode a bike or walked (ABS, Community profiles, 2001).

Because of the lack of travel options within the study area, rural residents need cars simply to move beyond their hometown. Additionally, irrespective of commuting status, the high salary-earning capacity of rural professionals, who are the chosen study population, strongly suggests that the vast majority will possess cars.

Study population

Social class is a potentially extraneous variable in this study. Previous research has suggested that it is influential in the social habits of commuters and non-commuters (Schmidt, 1978). Furthermore, in rural areas, levels of community involvement differ according to social class. In both Australia and other western countries, middle and upper class persons living in rural areas have been found to engage more frequently and extensively than lower class persons in formal voluntary organizations and general community affairs (Pahl, 1965; Wild, 1974; Oxley, 1978; Gippsland Institute of Advanced Education, 1978; Stinner et al; 1990; Goudy, 1990; Dempsey, 1990; Theodori & Luloff, 2000).

To eliminate any potential extraneous variance between commuters and non-commuters associated with class-related differences in community involvement, a single, social stratum was selected as the study population. Furthermore, focusing upon a social stratum that characteristically displays high levels of both social participation and commuting, as opposed to low levels, has the added advantage of

increasing the scope within which to observe differences in social participation between commuters and non-commuters.

Professionals were chosen as the study population because they exhibit high levels of both social participation and commuting. Australian professionals have the highest participation rate in voluntary activities than any other social group (ABS, 2000) and Australian rural professionals have traditionally engaged in and held office in formal voluntary activities including sporting groups, service clubs and church (Oxley, 1978; Wild, 1974; Montague, 1981; Boylan et al; 1990). In *Smalltown*, (Dempsey, 1990) three quarters of the middle to upper classes, including professionals, belonged to at least one formal association and 90 per cent of formal voluntary organizations were led by middle to upper class persons. School teachers and their families in three Wimmera towns were found to engage in an average of 8.5 formal voluntary groups, including sporting groups and church, and to hold an average of 1.3 executive positions in such groups (Nunn, 1994).

Professionals, along with other upper strata persons, have been found to commute further than other workers throughout the western world, largely because their salaries allow them to off set commuting costs (Fagnani, 1987; Hanson & Pratt, 1995; Giuliano, 1998; Lee & McDonald, 2003). Furthermore, extensive commuting of professionals is common in rural Australia due to a territorial mode of service delivery. Rural health services, church parishes and local government divisions generally embrace several towns and health professionals, shire workers and clergy are often required to travel between multiple towns to deliver services. For example, within the study area, the West Wimmera Health Service encompasses hospitals located in Nhill, Rainbow, Jeparit, Kaniva, Natimuk and Gorokey, and professionals employed by the service commute between these five towns to provide health care (West Wimmera Health Service, 2001). Clergy also now frequently commute because parishes have expanded to embrace multiple towns as a consequence of dwindling church attendance in recent decades. For instance, within the study area, prior to 1990, the Uniting Church in Australia had in its employment two resident ministers in both Nhill and Kerang, and one resident minister in each of the remaining twelve study towns. (These towns are listed in chapter three where they are discussed in relation to sampling). After a series of parish amalgamations, only seven ministers are

now employed throughout the fourteen study towns with several ministers commuting between several towns (Uniting Church in Australia, 1985, 1990, 1995, 2000, 2005)⁷. In the Anglican Church, the stand-alone parish of Charlton combined with that of Donald, and then with the parish of Birchip, during the 1970's and 1980's. These amalgamations resulted in one minister, instead of three, commuting to service the towns of Birchip, Donald, Wycheproof, Charlton and Wedderburn (Cadzow & Stevens, 1976; Glen, 1996). Similarly, local government amalgamations which occurred in the 1990's and which forced small shires throughout Victoria to combine into larger units encompassing multiple towns (Vinson, 1999; Municipal Association of Victoria, 2000), have resulted in shire-employed professionals having to commute to service several towns.

The combined characteristics of traditionally high levels of formal social participation and high levels of commuting, particularly due to rural service delivery, make rural professionals an ideal study population through which to study social effects of commuting upon traditional social patterns in rural communities.

Methods

The particular choices of study area and population were the main reasons for selecting a self-administered questionnaire as the major method of data collection. Such an instrument is highly suited to quickly gathering information from a dispersed population over a large geographic area. Furthermore, characteristics of the study population favour questionnaire response. Respondents tend to be educated, not aged and female (De Vaus, 2002), and professionals have post-secondary education, those targeted were in current employment and therefore not aged, and females comprise approximately two-thirds of the professionals employed throughout the study area⁸ (ABS, Community Profiles, 2001). Quantitative data were gathered because statistical analysis of such data permits drawing strong conclusions regarding relationships between variables (Maxim, 1999).

⁷ This information has been gathered from annual yearbooks by comparing the number of clergy working in the study towns, at five-year intervals, over the past twenty years.

⁸ Demographic features of the study area's professionals, including gender, are discussed more fully in section 5.1.

Because single method studies are prone to mono-method bias (Cook & Campbell, 1979; Patton, 2000), and multi method studies provide opportunity for greater breadth and depth, including seeking explanation for observable patterns (McKendrick, 1999; Philips, 1998), face-to-face interviews were included as a subsequent method for the purpose of probing underlying causes for relationships that emerged from questionnaire analysis. This phase of the investigation is discussed fully in chapter six.

2.2. The concept of community involvement

The study required a conceptual basis that would enable measuring social effects of commuting upon traditional Australian rural social dynamics, and would also allow comparing findings with those from past investigations (Pahl, 1965; Schmidt, 1978; Cawley, 1979, 1980). The concept of community involvement has been developed because other related concepts in the literature did not easily enable focusing upon what needs to be measured to fulfil both of the objectives.

In seeking a conceptual basis for this investigation, social participation⁹ seemed an obvious choice because of its use in past investigations of Australian rural social dynamics (McIntyre & McIntyre, 1944; Hardee, 1958; Wild, 1974; Oxley, 1978; Dempsey, 1990) and also because discussion of rural social dynamics up to this point in the investigation has largely been in terms of this concept. However, it was not selected because recent research has indicated that the standard, dualistic academic conceptualisation of formal and informal social participation is too limited for investigating social dynamics in small, Australian rural communities. Upon consulting with residents in dry-land farming communities in Western Australia to determine their perceptions of social participation, Coakes (2002), found that the two categories of formal and informal social participation were too obtuse to capture the interconnectedness and function of social participation, as viewed by local residents. They perceived informal and formal social participation as being inseparable from each other and identified incidental acts of community support, such as baking a cake or participating in rostered duties, as expressions of social participation. Furthermore,

⁹ Social capital was also considered as a conceptual basis. The rationale for not choosing it is discussed in chapter eight.

interdependent formal, informal and incidental expressions of social participation were seen as fundamental to sustaining local services and leisure activities, and therefore quality of life, in these small farming communities.

Some consideration was also given to applying a framework from one of the three prior investigations into social effects of commuting upon rural social dynamics. Cawley (1979) was interested in social transition and accordingly, measured effects of commuting upon social patterns and behaviours that theoretically altered in the process of social transition. Pahl (1965) sought to determine whether rurality was simply a state of mind in England's largely urbanised rural landscape and as such, focused upon how in-migrant commuters self-perceived rurality and how they expressed their perception through social participation. Schmidt's grounded investigation (1978) had as its aim a comparison of social patterns of everyday living at the household level between commuting and non-commuting households and hence, his observations were not undertaken using a predetermined framework.

While some of these investigations (Schmidt, 1978; Cawley, 1979, 1980) are useful in that they 'flag' aspects of social life that commuting has been found to impact upon in the past, none of these studies provided a framework which could be replicated in this investigation for the purpose of examining effects of commuting upon the interconnectedness of social engagement and community support as traditionally played out in small, Australian towns. Schmidt (1978) had no predetermined framework and the limitation of the concept of social participation, which was used by Pahl (1965), has already been discussed. While Cawley's interest in social transition led her to measure some variables that are relevant to social processes in small Australian towns, such as informal social participation and local shopping (Dempsey, 1990; Nunn, 1994), she focused largely upon social changes associated with conflict between 'insiders and outsiders', as opposed to simply social effects of commuting (Cawley, 1979, 1980).

Because this investigation required a conceptual basis that would allow meaningful transferability of results with other investigations in the field while simultaneously focusing upon traditional rural Australian social dynamics that support quality of life in place-based communities, the study-specific concept of community involvement

was developed. For the purpose of this investigation, community involvement is defined as an individual's social engagement which functions to support a place-based community. The nomenclature for the concept comes from rural Australian folk discourse that is characteristic of the study area. Throughout the Wimmera-Mallee, people who are active in community affairs are often referred to as 'very involved in things', while those who are socially inactive 'tend not to get involved'.

While community involvement is a conceptual 'first cousin' of social participation, it differs in several ways that make it a more apt concept for studying effects of commuting upon rural social dynamics. As will be shown in the next section, it embraces the interdependence, as opposed to the separateness, of formal and informal and incidental acts of social participation. It focuses beyond expressions of social participation to communally supportive consequences thereof, which are not necessarily considered within studies focusing upon social participation (Coakes, 2002). It also has the flexibility to embrace other expressions of socially based, communally-oriented behaviours and patterns upon which commuting has been found to impact in past investigations.¹⁰

2.3. Developing the conceptual framework

The approach taken to developing the conceptual framework for community involvement is essentially the reverse of mapping content domain (Babbie, 1992; DeVaus, 2002; Trochim, 2004). Instead of prescribing how the content domain of a new concept differs from other similar ones, common social aspects upon which commuting has been found to impact in previous investigations were reduced to three broad social dimensions; participation, motivation and integration. (The development of these dimensions and their 'fit' within the definition of community involvement are discussed shortly.) Taking this approach facilitates meaningful transferability of results between this study and previous investigations in the field and also allows the inclusion of variables that relate to the social participation, integration and motivation of residents in Australian rural communities, specifically professionals. Relevant

¹⁰ Social capital was not selected as the conceptual basis for the investigation for reasons outlined in section 8.1, where it is discussed in relationship to rural sustainability and the findings of this study.

variables included in each dimension have been drawn directly from studies relating to Australian rural community dynamics, rural commuting and rural professionals.

Participation

Participation was cast as one of the three dimensions of the conceptual framework of community involvement because, as already discussed, social participation is conceptually central to studies that have investigated social effects of commuting in rural areas (Schmidt, 1978; Cawley, 1979, 1980), and also Australian rural social dynamics (Hardee, 1958; Wild, 1974; Oxley, 1978; Dempsey, 1990). The seventeen variables used to measure this dimension were chosen because they are likely to be impacted upon by commuting according to previous investigations. Also they are typical expressions of social participation among rural professionals or more generally, rural residents, which serve to support quality of life in small rural towns. Acknowledging Coakes' (2002) observations relating to the interdependence of formal, informal and incidental social participation, many variables which have been included can be undertaken within formal, and/or informal and sometimes incidental contexts.

Because commuters have been previously found to attend formal voluntary activities less frequently than non-commuters (Schmidt, 1978), and research cited in section 2.1 shows that engagement in formal voluntary groups is socially characteristic of Australian rural professionals, included in the 'participation' dimension are the variables; *I participate in community groups*,¹¹ *I lead/hold office in community groups*, *I actively participate in church* and *I play sport*. As fundraising activities and maintenance of facilities are characteristic expressions of community support in small towns which can be undertaken within the context of a formal voluntary organization or as an expression of incidental voluntary community support (Oxley, 1978; Dempsey, 1990), *I actively participate in fund-raising* and *I help at working bees* were included as variables within the participation dimension.

I visit friends and neighbours, was also included as a variable because this expression of informal social participation has been found to be affected by commuting status.

¹¹ Throughout the thesis, variables are usually italicised in the text.

Schmidt (1978) found that visiting neighbours and extended family, which was the main expression of local informal social participation, was undertaken markedly less frequently by commuters than non-commuters. Similarly, Cawley (1979) observed that traditional gender-based patterns of informal social participation, including women visiting each other, were more significantly engaged in by non-commuting than commuting households. Some urban-based studies have also shown that long distance commuters infrequently visit friends and family (Burnley et al; 1997). Importantly, in Australian rural communities, informally visiting friends and neighbours is the key means of sustaining social networks from where localised community support comes (Hardee, 1958; Oxley, 1978; Dempsey, 1990).

The variable *I attend community functions* was also included because rural commuters have been found to attend local community events less frequently than rural non-commuters (Schmidt, 1978; Cawley, 1980) and attendance at local community events is a key expression of communally-supportive social participation in rural Australia which can be undertaken either within the context of a formal voluntary organization or as an incidental act (Hardee, 1958; Oxley, 1978; Dempsey, 1990). Two other variables, *I cook for community groups* and *I purchase fund-raising items and raffle tickets*, reflect communally-supportive behaviours which can be undertaken informally, incidentally or within the context of a formal voluntary organization. While commuting status has not been previously found to bear any relationship with either of these variables, these were included because they are central to communally-supportive behaviours in Australian dry-land farming towns. Cooking for community groups, is a key expression of community participation among rural women (Coakes, 2002) and the majority of the study population are female. Also fund-raising by selling raffle tickets and merchandise is central to the economic survival of many community groups in small towns, and local people often informally or incidentally purchase these items to support local organizations (Oxley, 1978; Dempsey, 1990; Alston, 1995).

I shop locally was included as a variable in the participation dimension because local shopping in small Australian towns is recognised as a sign of community support (Dempsey, 1990), rural professionals, with their regular, well-paid wages are well placed to offer this type of support (Nunn, 1994), and a number of studies have found

a statistically significant relationship between non-commuting status and local shopping in rural areas. Both Schmidt (1978) and Cawley (1980) observed that the shopping patterns of non-commuting households were significantly more localised than those of commuting households. While Schmidt (1978) reported no specific figures, Cawley (1980) demonstrated a statistically highly significant relationship that showed that a local grocery shopping was undertaken by a significantly greater proportion of non-commuting, farm households, than commuting non-farm households. A study based in rural Indiana found that annual local purchases of mostly food, clothing and furniture were found to decrease by US\$9.50 for each additional mile commuters drove to work (Boehm & Pond, 1976). Other investigations have also found a significant relationship between commuting status and local shopping (Pinkerton et al, 1995; Green, 2001) and a simulated model from the late 1990's shows that one newly-arrived household that lived and worked locally increased local sales by \$20,200, while one additional worker who commuted into town increased local sales by \$7,600 annually (Shields & Deller, 1998).

Small communities have traditionally looked to professionals to use their work-related skills and status to support townsfolk and local projects by such acts as providing references, representing the community further afield and offering their professional opinion on issues when sought by the community (Oxley, 1978; Montague, 1981; Dempsey, 1990; Nunn, 1994). To determine whether commuting status exerts any effect upon this distinct form of social participation that has been traditionally characteristic of the study population, the following variables were included: *I use my professional skills in community projects, I use my professional skills to assist towns people, I represent my community beyond the town, I provide references for people, I offer ideas at public forums and I am a sounding board for opinions and ideas.*

Integration

This dimension was included in the conceptual framework because previous studies suggest that commuting inhibits integration. As discussed in the introduction, Schmidt (1978) observed that long-term residents who took up commuting became disconnected with local social networks because it both reduced their time to engage locally, and prevented them from maintaining local social networks during working

hours. Furthermore, both Schmidt (1978) and Cawley (1979, 1980) observed that commuting households chose to socially engage non-locally more frequently than non-commuting households. Schmidt (1978) observed that spontaneous recreation as a nuclear family over a large geographical area was a feature of life in commuter households while Cawley (1980) found that commuting couples more frequently travelled to Galway and other areas for leisure purposes than other types of households.

Two of the thirteen integration variables have been taken directly from the findings of Schmidt (1978) and Cawley (1979, 1980): *Most of my good friends live locally* and *Most of my socialising is done outside of the town*. Because fundamental to social integration in small towns, irrespective of social strata, are feelings of security, which are largely generated by being familiar with other residents and developing some degree of trust (Dempsey, 1990), three variables were included to determine if commuting status impacts upon social integration in terms of a sense of hometown security: *I can trust people in the town*, *I feel safe in the town*, *I feel quite comfortable talking to people in the street*.

The remaining integration variables have been included to determine whether commuting status impacts upon patterns of integration which are typical of Australian rural professionals. Some of these patterns are associated with the largely in-migratory nature of the study population (Wild, 1974; Oxley, 1978; Montague, 1980). In *Smalltown*, over 90 per cent of the resident professionals had in-migrated from other locations (Dempsey, 1992). Because the initial integration of largely in-migrant rural professionals into small rural towns is often through their work-colleagues (Montgomery, 1999; Dempsey, 1992), the variable, *The people I know best are my work colleagues and clients*, was included within the integration dimension. Also, rural professionals often engage in social networks beyond their hometown, usually associated with past work sites. Professionals and other white-collar workers who were employed in Barcaldine, in Queensland, maintained ties with networks of colleagues from past work sites (Montague, 1980), and professionals in *Smalltown* (Dempsey, 1990) often left town on weekends to maintain contact with networks of past friends, particularly if they felt they could not find like-minded people living locally. The two variables, *I tend not to find like-minded people in this town* and *I*

really enjoy the sense of community, were included to determine whether commuting status bore any relationship with seeking networks elsewhere because non-local community was more satisfying.

While rural professionals generally integrate well into small communities, particularly by way of formal organizations, the positions of responsibility that rural professionals hold can be a barrier to integrating socially and the affairs and persona of rural professionals have traditionally been subject to community scrutiny (Oxley, 1978; Montgomery, 1999; Dempsey, 1990; Lonne and Cheers, 2000). Consequently, rural professionals often feel that it is difficult to get to know people beyond their work colleagues, and that they must exhibit exemplary private and professional behaviour to integrate successfully (Montgomery, 1999; Dempsey, 1990; Boylan et al, 1990). Because commuting could potentially be used as an ‘escape route’ from public scrutiny, the following three variables were included: *As a professional, it’s hard to get to know people socially, I feel I must behave well because everyone knows me* and *It bothers me that people know my business*.

Lastly, while rural professionals are largely in-migrant, it is not uncommon for them to return to their hometown after training, in which case they may have dense local kin relationships (Montgomery, 1999; Dempsey, 1990). To determine any potential impact of commuting upon family and kin interaction, the variable *Most family members that I mix with live elsewhere*, was included.

Motivation

A motivation dimension has been included because previous investigation have shown that commuting exerts an effect upon rural persons’ reasons to engage in their local community, and significant differences in motivation between commuters and non-commuters is valuable for trying to account for any emergent relationships between commuting status and participation or integration variables.

As partly discussed in the introduction, previous investigations (Schmidt, 1978; Cawley, 1979, 1980) have found marked differences between commuters and non-commuters in relation to the reasons that motivate them to engage in particular social behaviours. Schmidt (1978) found that contact with local social networks during

working hours, time availability, tiredness and a sense of importance about local social interaction all affect the motivation of commuters and non-commuters to participate in the local social arena.

He observed that long-distance commuters squeezed nearly all of their family recreation and household jobs into the weekend time slot. He identified this time-budget pattern as a key motivator behind the spontaneous pattern of informal socialisation he observed was characteristic of commuting households. Non-commuters were more visible in public places on week nights, than were commuters. For example, only 10 per cent of Woodborough's long-distance commuters played weeknight bowls as opposed to 31 per cent of the total number of non-commuters plus shorter distance commuters. Schmidt found that tiredness motivated commuters to engage less frequently than non-commuters in local affairs. Importantly, he observed that commuting prevented workers from maintaining local social contact during working hours, and this in turn resulted in commuting workers placing less importance upon socialising locally. Schmidt also observed that, more frequently than non-commuters, a mix of interest and willingness to travel motivated middle income commuters to participate in non-local church, school organizations and children's extra-curricular activities and long-distance commuting, male, blue-collar workers to attend men's organizations in nearby towns. Another urban investigation also found that commuters choose to engage in a limited number of social activities, rather than spend small units of time on a broad spread of social activities (O'Dwyer & Coombes, 1999).

Fourteen variables have been developed to measure the motivation dimension of community involvement. Three have been plucked directly from the conclusions of these previous studies: *Time prevents me from becoming too involved*, *Community involvement is not important to me* and *Work-place relationships encourage my involvement in community*. The latter two are indicative of reasons to refrain from, rather than engage in, community involvement.

To determine whether commuting status exerts an effect upon the reasons why rural professionals may or may not engage in their hometown community, included as variables have been factors that have traditionally inspired, obliged or inhibited the

community involvement of rural residents generally, and of the study population in particular. Enjoyment of activities, a sense of duty among long-term residents and the influence of family are all general motivators for engagement in rural communities, irrespective of socio-economic strata (Dempsey, 1990; Nunn, 1994). Hence, the following four variables were included: *I get enjoyment from the activities in which I participate, I get satisfaction from community involvement, I feel a sense of duty to support the town and Family members become involved in the town and I find I become involved through supporting them.* As newcomers, inclusive of professionals, seek friends and enjoy friendship through social participation, (Dempsey, 1990; Oxley, 1978), the following variables were included: *I enjoy the camaraderie that comes from community involvement and The enthusiasm of others inspires me to get involved.* Because a desire for a positive image in the local community has been found to motivate community involvement among upper strata persons (Dempsey, 1990), *Community involvement gives you better standing in the town* was also included.

Rural communities' social expectations of professionals can motivate some rural professionals to engage in formal activities for fear of criticism or social exclusion (Lonne & Cheers, 2000; Montague, 1981; Oxley 1978). These expectations are captured beautifully in the following quote from Dempsey's *Smalltown* (1990, p.48).

Unlike immigrant workers, immigrant professionals are expected to play a role in community activities as well as excel in their occupational activities. School teachers receive the most criticism for failing to conform to the prevailing stereotypical image of the professional: 'people ready to work tirelessly for the community as well as for their pupils and to be exemplary in their behaviour and dress' . . . newcomers, especially those engaged in upper middle-class occupations, are expected by entrenched members of these classes to participate enthusiastically in community activities.

Community expectations of clergy are similar but also include dimensions of frugality and exemplary personal behaviour (Dempsey, 1989). Two indicators of negative motivation have therefore been included, *Non-participation might invite criticism* and *It's easier to go along with things*, as well as two indicators relating to inhibition, *Group interaction is a deterrent from becoming involved* and *Getting too involved makes it difficult to maintain a professional distance.*

In total, 44 variables relating to community involvement have been developed. For convenient reference, they are listed Table 2 in the order in which they appear in the questionnaire. Measurement issues are discussed in the next chapter.

Table 2. Community involvement variables

Participation

I attend community functions.
I play sport.
I participate in community groups.
I lead/hold office in community groups.
I help at working bees.
I purchase fund-raising items and raffle tickets.
I actively participate in fundraising drives.
I cook for community groups.
I visit friends and neighbours.
I actively participate in church.
I use my professional skills to help in community projects.
I use my professional skills to assist towns-people.
I represent my community beyond the town.
I provide references for towns-people.
I shop locally.
I offer ideas at public forums.
I am a sounding board for opinions and ideas.

Motivation

I feel a sense of duty to support the town.
I get satisfaction from community involvement.
I enjoy the camaraderie that comes from community involvement.
Workplace relationships encourage my involvement in community.
Community involvement gives you better standing in the town.
Group interaction is a deterrent from becoming involved.
I get enjoyment from the activities in which I participate.
Non-participation may invite criticism.
Getting too involved makes it difficult to maintain a professional distance.
It's easier to go along with things.
The enthusiasm of others inspires me to get involved.
Community involvement is not important to me.
Family members are involved in the town and I find I become involved through supporting them.
Time prevents me from becoming too involved.

Integration

I really enjoy the sense of community.
The people I know best are my work colleagues and clients.
I can trust people in the town.
Most family members that I mix with live elsewhere.
I feel I must behave well because everyone knows me.
I feel quite comfortable talking to people in the street.
It bothers me that people know my business.
Most of my socialising is done outside of the town.
I feel safe in the town.
I tend not to find like-minded people in this town.
Most of my good friends live locally.
As a professional, it's hard to get to know people socially.
I feel more accountable to people because I know them.

2.4. Study Paradigm

The decisions relating to the study design, area, population, methods and the conceptual basis of the investigation have been made to 'best' provide an answer to the research question, that is, to accurately determine whether commuting causes significant changes in communally-supportive social patterns which are typical of professionals working in small, Australian dry-land farming towns. Both the approach to designing the study and the research question situate the research within the newly emerging pragmatic paradigm, wherein the primary influence that steers research decisions is the question under investigation (Tashakorri & Teddlie, 1998). The following discussion outlines the ontological, epistemological, causal, logical, methodological and axiological perspectives of pragmatism, and then proceeds to detail how the current investigation is embedded within this paradigm.

Pragmatism is a world-view that unites and supercedes traditionally uncompromising paradigmatic positions in terms of logic, epistemology and favoured methods (Howe, 1988; Patton, 1988; Tashakorri & Teddlie, 1998). Pragmatists acknowledge that the opposing ontological (nature of reality) viewpoints of external realities, which are characteristic of positivism and post-positivism, and internally constructed realities, which are central to constructivism, cannot readily be resolved. Pragmatism embraces the ontological and to a certain extent, the epistemological orientation of post-positivism. It recognises that an external and therefore objective reality exists wherein there are clearly recurrent, observable patterns that are causally linked. Epistemologically, all theories and therefore knowledge determined within the pragmatic paradigm are only tentative, because relationships underlying recurrent, observable patterns cannot be wholly verified. One explanation just appears to be less easily refuted than others (Tashakorri & Teddlie, 1998).

Whereas other paradigms embrace one form of logic, pragmatism embraces both inductive and deductive logic. Positivist and constructivist investigations proceed inductively by seeking patterns among large quantities of data and concluding with

generalised observations. In contrast, post-positivist research proceeds deductively, commencing with a potential causal relationship that is either substantiated or refuted through investigation (Blaikie, 2000). One of the criticisms of post-positivism has been that the approach to logic therein does not readily permit inductive reasoning, despite theory development and deductive testing often being preceded by induction (Kuhn, 1970). Rather than logically proceeding down a 'one-way street', pragmatic research journeys through a fundamental cycle of logic. It moves from inductive reasoning – from data to relationships to general inferences or theory – to deductive reasoning which requires gathering further data to either support or refute theory (Brewer & Hunter, 1989; Hammersly, 1992).

Cyclic logic is readily achieved by combining several data collection methods. Indeed, mixed methods are characteristic of studies couched in the pragmatic paradigm (Onwuegbuzie and Teddlie, 2003). Pragmatists identify methods along a continuum from highly structured (quantitative) to minimally structured (qualitative) with different methods implying different sampling procedures, analytical techniques and approaches to establishing reliability and validity of results. The choice to use a particular method reflects either the application of inductive or deductive logic at a particular point in the research cycle, and is based upon the suitability of the method for drawing conclusions from a particular logic (Tashakorri & Teddlie, 1998). Research can commence at any point in the cycle, according to how an investigator may deem it to 'best' answer the research question (Johnson and Christensen, 2004).

An investigator's perception of 'best' leads to the issue of axiology, which is the influence of values in research. While post-positivists acknowledge that objective data collection is desirable for theory testing, they identify that a researcher's values are an inherent component of the research. However the extent to which values intervene can, and should, be controlled. Constructivists, on the other hand, identify no separability between the researcher and the researched and therefore within this paradigm, inquiry is value-bound (Blaikie, 2000). Pragmatists acknowledge that the extent to which values play a part in research is largely dependent upon the nature of the research question and

the point at which the investigation is within the research cycle (Tashakorri & Teddlie, 1998).

Relating the preceding discussion to the current investigation, this study is enmeshed in pragmatism. It is underpinned by the post-positivist ontology of identifiable and replicable causal relationships in an external world. This study has commenced with the orientation, suggested by previous investigations and from mobility-related social changes outlined in the introduction, that there is a likely causal relationship between commuting and community involvement. Data have been gathered within this horizon of expectation. Enmeshed in the approach to developing the conceptual framework is the suggestion of 're-testing' findings from previous investigation, or seeking replicability of results in the mode of a hypothetically driven investigation. Indeed, the framework is inherently predictive, having been built up from factors upon which it is anticipated commuting will impact according to what can be gleaned from previous investigations. Epistemologically, any found associations and ensuing explanations will be necessarily tentative.

Logically, the investigation commences inductively and multiple methods have been used to move through the research cycle. As the decision to use multiple, different methods is dependent upon what the investigator is aiming to discover (Johnson & Christensen, 2004) the choice of methods in this investigation reflect the main objective, which is to establish and explain any statistically verifiable associations between commuting status and community involvement. A quantitative method was selected to first establish whether any association exists between commuting and community involvement, due to the strength of objectively gathered data and statistical analysis for establishing relationships between variables (De Vaus, 2000). Elements of deductive thinking have been used in developing the variables to measure community involvement. In anticipation of various relationships emerging as a consequence of data analysis, a second qualitative method was included for the purpose of probing why particular associations emerged. To support the inferences of the qualitative data collected in the second phase, more survey-

derived data and findings from other investigations have been drawn upon with a view to substantiate possible causes for certain emergent associations (Miller, 2003).

Objective data have been sought in both data collection phases, guided by a view of 'objective subjectivity'. Research needs to be self-reflexive, intellectually honest and transparent in relation to issues of bias, misinterpretation of results and 'judgement of one's judgements' (Philips, 1998). However, results are ultimately shaped by the researcher's perceptions and agendas (Tashakorri & Teddlie, 1998), and hence subjective interpretation is inherent in the process of synthesising information to interpret findings.

Axiologically, the researcher has drawn upon local knowledge and particular values in shaping this research at a variety of levels. One example is the researcher's understanding of social interaction and community sustainability drawn from life experience, and the couching of the study in terms of effects of commuting upon this integrated system. Other examples are discussed at different points throughout the thesis.

Regarding the generalisability of findings, because some association between commuting status and community involvement, as found in this investigation, has been replicated in other rural areas at different times (Schmidt, 1978; Cawley, 1989) it can therefore be generalised (Falk & Guenther, 2006) that in rural areas, commuting status is associated with different levels or expressions of community involvement. However, the study-specific finding of retention and gender intervening requires further testing to substantiate whether it can be generalized to rural areas beyond the Wimmera Mallee.

2.5. Summary

This chapter concludes with a summary of the rationale for key design decisions. A two-phase, cross-sectional study design was implemented for its usefulness in comparing two cohorts in terms of a dependent variable. Inherent weaknesses associated with this design were minimised by the choice of the study area and the study population. An expansive study area featuring small, isolated, dry-land farming towns in north west Victoria was

selected to focus upon intra rural commuting patterns and to reduce sampling error by enabling gathering a large sample of occupationally-diverse professionals. The high dependency upon personal transport throughout the study area coupled with the socio-economic status of professionals, also serve to reduce car ownership as a potentially extraneous variable between commuters and non-commuters. Professionals were selected as the study population because choosing a single stratum of society served to reduce extraneous variance associated with social class. Furthermore, the high levels of both commuting and community involvement among professionals also serves to optimise findings.

The methods of data collection were chosen because of their usefulness for the purpose of the investigation and their relevance to both the size of the study area and characteristics of the study population. A mail out questionnaire was deemed as the most practical means of gathering information and drawing good response from an educated, feminised population dispersed over a wide area. Quantitative data were sought for the purpose of statistically drawing strong conclusions regarding relationships between commuting status and community involvement. A second data collection phase was included to strengthen the research design by enabling explanation for relationships that emerged from survey analysis.

The study-specific concept of community involvement was created due to the lack of a suitable concept in the academic literature that was apt for fulfilling both of the research objectives. The conceptual framework has been based upon findings from previous investigations wherein commuting status has been found to impact upon three broad social dimensions: participation, motivation and integration. Previous studies have found that rural commuters engage less frequently than non-commuters in localised formal and informal social participation, inclusive of shopping. Commuting affects motivation to engage in local social participation by limiting time, preventing daily contact with local social networks and giving rise to a dwindling sense of the importance of local social participation. The integration of commuters is inhibited or eroded by their lesser engagement in the local social arena as well as their distinctive spontaneous, often non-

local and couple or nuclear family oriented mode of social participation. The variables embraced within each dimension have been taken from previous investigations into effects of commuting upon rural social patterns, or from studies focusing upon Australian rural social dynamics and rural professionals. The inclusion of these variables allows measurement of effects of commuting upon traditional rural Australian social patterns and a comparison of findings with those from previous investigations.

Underpinning the approach to the research and the design decisions is a world view that embeds the investigation within the pragmatic paradigm.

Chapter 3. Methodology

This chapter discusses key methodological issues relating to questionnaire construction and distribution. Section 3.1 focuses upon the rationale for the inclusion of the survey questions, which are discussed according to the general order they appear in the survey. Section 3.2 probes issues relating to the reliability of questions, sampling, ethics and distribution.

The questionnaire was issued throughout the study area in August 2002 and interviews were undertaken nine months later, in April 2003. The overall size of the questionnaire was partly determined by personal contact with managers and heads of work-sites throughout the study area. Because the questionnaire was to be distributed through work-sites, as discussed later in this chapter, the researcher contacted by phone and then personally met with the heads of 61 work-sites throughout the study area, of which 58¹² agreed to participate in the investigation. During these meetings, many heads emphasised that staff were unwilling to spend a long period of time completing a survey. Managers of schools and hospitals particularly emphasised this point as these work sites are ‘bombarded’ with questionnaires. In the interest of achieving a strong response, this advice was heeded and the questionnaire was deliberately structured to be brief. It eventuated as a single A3 sized sheet folded in half, with an A4 sized ‘commuting sheet’ inserted in the middle, which was included to gather commuter-specific data. Brevity had the intended effect of encouraging strong response, as explained in the next chapter, however, as discussed shortly, it also imposed limits on the extent and depth of data that could be gathered. The questionnaire and ethics submissions are presented in Appendix A.

¹² For ethical reasons, these work-sites have not been listed as interviewing data cited in later chapters could potentially be ‘tracked’ back to specific individuals working in certain sites.

3.1. Survey construction

Filter questions

A set of filter questions (De Vaus, 2002) were listed on the front page of the questionnaire in order to determine whether respondents were professionals according to the ASCO definition presented in the first chapter. This definition identifies professionals as people who are employed in jobs that require high skill-level and skill-specialisation. Skill level is the formal education required by individuals to enter an occupation and skill specialisation relates to the knowledge required (ABS, 1997). The opening question on the survey directly asked, *Are you a trained professional currently working in a small town (population < 5,000)?* Three succeeding filter questions asked respondents to select the type of profession they worked in (a choice of twelve categories), to indicate their highest educational qualification and to provide the number of years they had spent in post-secondary training. The last two questions were asked in order to determine whether respondents had the skill levels, in terms of post-secondary educational qualifications, to be classified as a professional.

Questions included to determine representativeness of response

Because the ASCO definition is used in Australian censuses (ABS, 1997), it was adopted for this study to enable a direct comparison of demographic features of the sample with those relating to the broader study population as found by the 2001 Australian census. The purpose of determining whether the demographic features of the study population are representative of the broader study population as found by census data, is to address the issue of self-selection bias, which is associated with collecting data via self-reporting questionnaires (Maxim, 1999). Self-selection bias, that is, whether those who choose to become part of a sample differ demographically from the broader study population, can be addressed by establishing whether demographic characteristics of the sample resemble those of the broader study population, according to a second data set (De Vaus, 2002). In this investigation, the 2001 Australian census has been used as the benchmark against which to compare demographic features of the sample.

To determine the representativeness of questionnaire response, questions relating to gender and age were included in the questionnaire, because data relating to the gender and age of professionals were gathered in the 2001 census (ABS, Community Profiles, 2001). In the questionnaire for this investigation, response categories for gender were 'male' or 'female' and those for age included five groupings: 20-24 years of age, 25-34, 35-44, 45-54 and 55 years or over. Few professionals would graduate before their twentieth year and while 55 years is retirement age for some professionals, many people work well beyond it (ABS, 2003). The questionnaire also included the question, *Were you born in Australia?* for which respondents could select 'yes' or 'no'. While no professional-specific census data were available to compare the representativeness of response to this culturally associated question, census data relating to this question are available in relation to the general population throughout the study area (ABS, Community Profiles, 2001).

Commuting questions

Commuting questions were included to determine the volume of commuting throughout the study area, to distinguish commuters from non-commuters, and to gather general data relating to commuting trends.

Very little data is available to compare whether the volume of intra-rural commuting as found in this investigation, reflects the actual volume of intra-rural commuting throughout the study area. The Australian Bureau of Statistics does not calculate commuting volumes associated with small rural towns. The South Australian study which has been cited a few times, revealed that in 1980, 21 per cent of workers commuted (Smailes & Hugo, 1985). While the context of this investigation – dryland farming areas and intra-rural commuting – is relevant to the current investigation, this figure is an unreliable benchmark due to the rapid increase in rural commuting over the past few decades, as was reported in the opening chapter. A more recent study (Research Planning Design Group, 2004) reported on levels of commuting in rural and regional Victoria, however, it focused upon gravitational effects of large regional cities upon commuting, rather than upon intra-rural patterns. For example, this study found that Wodonga and

Wangaratta, which are both regional centres in north eastern Victoria, between them attract in excess of 30 per cent of the workforce from the nearby rural shire of Indigo, while Warrnambool, a regional city in south west Victoria, attracts thirteen per cent of its work-force from between 40-50 kms from the surrounding hinterland.

Because no generally comparable data are available with which to compare intra-rural commuting levels in rural Victoria, defining commuting was not dependent upon aligning the definition with that from another study for the purpose of comparing commuting volumes. Following the example of previous investigations (Schmidt, 1978; Cawley, 1979; Pahl, 1965), commuting has been defined as travelling to work beyond one's hometown's borders. This definition renders non-commuters as those whose working and non-working lives converge upon a single place-based community and commuters as those who divide their working and non-working lives between two or more place-based communities. This definition presupposes that rural communities are place-based, geographically bounded entities comprising of a single town that has identifiable borders, and, by extension, that community involvement is acted out and therefore measurable within the same town-centred boundaries.

Discussion in the introductory chapter, which showed that rural residents' sense of community now exceeds single, place-based towns largely because of mobility, leads to questioning the authenticity of measuring community involvement within the confines of a single place-based community, which in turn leads to questioning whether commuting should be defined in relation to workers crossing boundaries that delineate place-based communities. However, despite changing perceptions regarding the geographical spread of rural communities, this particular definition of commuting is useful for investigating whether commuting exerts an effect upon social activity that has traditionally been characteristic of rural, place-based communities and which are the focus of this investigation. Also, applying this definition allows the investigation to fulfil its second objective by allowing a direct comparison of findings from this investigation with those from prior research.

Bearing in mind that research has disputed the reality of single-town centred place-based communities in rural areas, several interview questions were developed in the second phase of the investigation to determine the authenticity of a single, place-based 'hometown' in relation to rural professional's perceptions of community and their location of community involvement. Responses to these questions, which are discussed in chapter six, confirm the authenticity of a single, place-based 'hometown' community as being the site of meaningful community involvement, and therefore confirm the aptness of defining commuting in terms of crossing the borders of small towns.

Defining commuting in terms of place-based communities required defining town borders. While other investigations pre-determined town boundaries according to church-related divisions (Cawley, 1979) or common agreement among long-living local people (Schmidt, 1978), circumscribing town boundaries for this investigation proved to be complicated due to a distinct, gender-based, residential characteristic of professionals in dry-land farming areas of Australia. Many professionals are female, farm-dwelling professionals – usually teachers and nurses who have married farmers – and farm dwellers characteristically travel into a nearby town to shop, access services and socialise (Garnaut et al, 1999). Simply overlaying pre-determined boundaries around each town would not accurately distinguish female, farm-resident, commuting professionals from those who are non-commuters. In other words, prescribed boundaries would not separate these women into those whose working and non-working lives both centre upon one town (non-commuters) or those whose working and non-working lives are divided between multiple communities (commuters).

In seeking a satisfactory solution to this issue, neither models from prior investigations nor conventional accessibility measures were useful. Schmidt's (1978) nuanced approach, which involved using local informants to identify whether residents living on surrounding farms were part of the local community or 'the next town over', would have been suitable but the size of the study area rendered it impractical. Conventional accessibility measures, of which commuting is an example, comprise of three fundamental elements: a reference location, which is defined as the point from which

access to one or more locations is evaluated (such as a home or a zone surrounding a home), a destination (for example, a work-site or zone surrounding a work-site) and the effect of the physical separation of the two (Hanson & Schwab, 1987). Because conventional accessibility measures are inherently dependent upon pre-defining starting and ending points of a commuting journey, any use of these also requires predefining borders.

Hence, the commuting status of respondents was determined without predefining boundaries. Instead, a definition-based commuting question was included in the survey that asked respondents whether they lived and worked in ‘the same’ or ‘different’ towns. The word ‘town’ was used throughout the questionnaire as a lay-term for place-based community. Three selection categories were included in this question. Two of these simply asked if respondents lived and worked in either the same or separate small towns, or in the vicinity. This phrase was included because farm-dwelling professionals don’t live in a town, but recognise themselves as living in the vicinity of their hometown. However, the third category asked if respondents worked in a small town, but lived in a town with a population that exceeded 5,000 people. This category was included to gain some data to support or refute anecdotal evidence gathered from heads of work-sites during the study, who collectively reported that there appears to be a growing trend of professionals living in large regional centres and travelling very long distances to rural work-sites. Respondents who identified living and working in the same small town were classified as non-commuters and those who identified living and working in separate towns, whether large or small, were classified as commuters.¹³

Several other commuting questions were included to help gain a clearer understanding of commuting patterns throughout the study area and why some professionals choose to commute, rather than work in their hometown. To determine commuting distances, included was the question *How far do you travel to work one way?*, for which five response categories were provided, ranging from ‘less than 5 km’ to ‘over 75 km’. To determine the number of professionals who commute between multiple towns, that is, the

¹³ This classification of commuters and non-commuters was only initial. As discussed in chapter four, the term ‘commuter’ was eventually applied to respondents who completed a commuting sheet.

proportion of territorial commuters, the survey also included the question, *Please list how many towns you work in during one week.*

A question probing commuting reasons was included on the commuting sheet. The seven variables relating to this question were either drawn from other studies that have investigated influences upon workers' decisions to commute or, they reflect settlement and integration patterns associated with the study population. Because the neo-classical, urban-economic model for commuting activity, which was developed in the 1960's and has largely been validated over time, shows that commuting decisions are largely influenced by economic determinants, particularly trading cheaper housing for a longer commuting trip (Rouwendal & Meijer, 2001), the variable, *Housing is cheaper elsewhere* was included. The variable *My hometown is another town*, was included because lifestyle choices associated with preferences for a particular residential location or a certain type of housing affect commuting decision (Pooley, 2003; Rouwendal & Meijer, 2001). Indeed, the previous studies which have been the foundation of the current investigation (Pahl, 1965; Schmidt, 1978; Cawley, 1980) found that white-collar workers commuted for lifestyle reasons, and commuting patterns in rural and regional Victoria are predominately associated with workers selecting a residential location due to lifestyle reasons, which does not correspond with their work location (Research Planning Design Group, 2004).

The remaining five variables relate to settlement and integration patterns among the study population. *My partner has a job in another town* was included because the employment of professionals in dry-land farming areas often involves a migration trend wherein a partnered male professional gains employment, the couple establish residence in the town of his employment, and the female partner commutes to whatever work is available around the local area (Dempsey, 1990). Already explained has been the relationship between farm-dwelling professionals, work-towns and hometowns, which led to the inclusion of the variable *I live on a farm and am drawn to another town because of closer proximity* in this commuting question. Furthermore, evidence gathered anecdotally from work site managers during the research, suggested a seemingly growing number of

professionals choosing to live in large regional towns and commute long-distance to small rural sites which led to including the variable *The town I live in has more facilities. Living in a different town helps me maintain a professional distance*, was included because some professionals can only manage their working life in small towns by isolating themselves from local communities (Boylan et al, 1990), and commuting could be used as an escape strategy to avoid the social pressures applied to small town professionals, which were discussed in relation to developing integration variables. An 'other' option was also available. The response categories for the seven variables associated with this question were either 'yes' or 'no', and in order to develop an overall picture of factors influencing commuting, respondents could select as many variables as they felt were relevant to their situation.

Additionally, respondents were asked about their work status because of an anomaly in the literature. While full-time work has usually been an incentive for workers to commute further distances and part-time work is usually associated with non-commuting (Giuliano, 1998), a rise in casual and part-time work in the Australian work force in recent years (Barnes et al, 1999; O'Connor et al, 2001) has been associated with increased levels of commuting in regional Victoria (Research Planning Design Group, 2004). Given competing findings in different investigations, a question relating to work status was included to determine its impact upon commuting.

Community involvement questions

The 44 community involvement variables, which were discussed in chapter two, were presented in the survey as three questions relating to participation, integration and motivation. All of the variables were measured ordinally, using four lexical response categories. Ordinal measurement and lexical response categories were selected because these measurement strategies are widely applicable, easily understood and therefore likely to draw a high frequency of response (Maxim, 1999). In contrast, questions requiring specific numeric frequencies may not be answered reliably or even at all as recalling detailed information is not an easy task for many people and respondents can be unwilling to reveal specific, private information, such as the amount of money they spend

on local shopping (Sheatsley, 1983). Regarding optimal numbers of response categories, there is little consensus beyond convention (Maxim, 1999), although limited response categories can produce low variance (De Vaus, 2002). Four response categories permitted breadth without excess and eliminated a neutral mid-point category, such as 'can't decide'. While it has been argued that excluding a neutral choice creates measurement error by forcing response when a neutral position may accurately reflect a respondent's attitude (Converse & Presser, 1986), excluding a neutral category eliminates lazy answers and 'fence sitters' (De Vaus, 2002; Maxim, 1999).

The seventeen participation variables were measured in terms of frequency using four response categories labelled 'very often', 'fairly often', 'occasionally' and 'never'. The fourteen motivation variables and the twelve integration variables were measured in terms of attitude using four response categories labelled 'strongly agree', 'agree', 'disagree' and 'strongly disagree'. While some integration variables lent themselves to being measured in terms of frequency, others suited an attitude scale. The latter choice did not exclude measurement of those indicators more suited to a frequency-based response.

Serious thought was given to asking for more detail in relation to some of the community involvement variables, such as numeric frequencies of attendance and activities undertaken within the context of a formal group. However, such detail was not pursued in order to maintain the brevity of the questionnaire. As mentioned previously, management of work-sites emphasised that long surveys do not get completed and in the interest of gaining a good proportion of response, extra questions seeking detailed information were not included.

However, data relating to the work-town community involvement of commuters was also gathered to determine the extent to which commuting both encourages non-localised social engagement and fosters a sense of community elsewhere than in one's hometown. To gather separate work-town and hometown data, the community involvement questions, which featured the three groupings of participation, motivation and integration

indicators, were included twice, once in the body of the questionnaire and again on the commuting sheet. The community involvement questions on the commuting sheet were asked in relation to commuters' hometowns, while those asked in the body of the questionnaire were asked in relation to all respondents' work-towns. Non-commuters' work town responses therefore doubled as their hometown responses. Repeating these questions in relation to both work and hometowns permitted three key analyses which are discussed more fully in subsequent chapters: a comparison of the work-town community involvement of commuters and non-commuters, a comparison of the hometown community involvement of both cohorts, and a comparison of the work and hometown community involvement of commuters alone.

Additionally, the question, *How do you see yourself socially 'fitting in'?* was included to determine professionals' self-perception of connectedness to both their hometown and their work-town. This question was included in the body of the survey and was also repeated on the commuting sheet to collect responses relating to commuters' hometowns. It was anticipated that this question would be a type of 'universal indicator' regarding commuting status and connectedness to community. Respondents were asked to select one of three ordinal-measured, lexical response categories, ranging from less to more connected. These were, 'on the edge', 'part of the crowd' and 'right in the hub'.

Retention and recruitment questions

Recruiting and retaining rural professionals, that is, attracting professionals to rural work sites and sustaining length of employment, are both global concerns that have given rise to a good deal of research, some of which is cited at relevant points throughout this investigation. Throughout the broader Wimmera-Mallee, attracting and retaining skilled labour, inclusive of professionals, has been identified as one of five key, critical issues (Institute for Regional and Rural Research, 2003). While the themes of recruitment and retention are slightly at a tangent to this investigation's focus upon community involvement, the chosen method of a mail-out survey offered the opportunity to gather area-specific data relating to the recruitment and retention of professionals that could be of practical value to those throughout the area who supported the research. Several

questions relating to recruitment and retention were therefore included in the questionnaire.

To determine factors influencing the recruitment of professionals throughout the study area, a question was included which asked respondents about the reasons they had taken up employment in their current work-town. Because of the focus of the investigation upon town-centred communities, the recruiting question focused upon recruitment to work-towns, as opposed to recruitment to a particular work-site or to a certain position or even to the study area as a whole. This question featured 22 variables that had been developed from a literature-based, three part 'work, family and lifestyle' framework of factors that have repeatedly been found to influence the recruitment of rural professionals. Job-related reasons, followed by family-related elements then lifestyle and career enhancement reasons have the greatest influence over the recruitment of rural teachers, nurses and social workers (Montgomery, 1999). The recruitment of rural social workers is primarily associated with job related reasons, followed by lifestyle reasons, followed by a third cluster of 'other' reasons, including the influence of the location of a partner's job and not having another job offer (Lonne & Cheers, 2000). The recruitment of Australian rural nurses is most significantly influenced by partnering, either by marrying a local partner or shifting into a rural area due to a partner's job, followed by lifestyle reasons (Hegney & McCarthy, 2000).

Using this 'work, family and lifestyle' framework, the variables included in the recruitment question in the survey were: *It was the only job I could get at the time, It was the best job I could get at the time, I got the job I wanted, I got offered work, I got offered a well-paid job, I got a promotion.* The relationship-based variables were: *I met a partner who lived in the area, Extended family live in the area, I came back to my hometown, Aged relatives needed care, My partner got a job here and A family member had to move for their health.* Lifestyle-related recruitment variables included: *I wanted to make a fresh start, I wanted to leave the city, I always wanted to live in the country and I needed to live in the country for my health.*

Furthermore, recruitment incentives such as cheap rental housing (GEHA, 1995), bonded scholarships and payments (Rural Medical Bonded Scholarships, 2006) and recruitment programs which involve undergraduate professionals taking training placements in rural areas (Humphreys & Rolley, 1998), have been shown to be effective in attracting professionals to rural areas. Consequently, the following incentive-based variables were included in the recruitment question: *I was offered low rent accommodation, The housing was cheap, I was on a bonded traineeship, I was paid an incentive to work in rural areas, and I did a university placement that led to a job.* An 'other' category was also included. Two response categories, 'yes' and 'no', were provided for all of the 22 variables in the recruitment question and respondents were not required to limit the number of variables to which they could respond.

To determine factors that influence the retention of professionals throughout the study area, a retention question was included which asked respondents about the reasons they remained working in their current work-town. Retention was defined in relation to the length of time spent working in a particular town, because town-based community involvement is the focus of the investigation. Retention could also have been defined in relation to respondents' length of working in a particular work-site or in a certain position, however, neither of these perspectives of retention accurately expose the length of a professional's working life within one place-based community. The variables included in this question were based upon a threefold framework of retention factors that have been repeatedly found to influence the retention of rural professionals; job factors, community factors and personal factors. Boylan and McSwan (1998) found that of 427 long-staying (> five years) teachers in rural New South Wales, 39 per cent stayed for work reasons, primarily job satisfaction; 37 per cent stayed for personal reasons relating to family, purchasing housing and identifying their work-community as their home; 21 per cent identified community reasons as most influential in their retention, including enjoyment of social relationships, country lifestyle and the friendly nature of country people and three per cent remained for idiosyncratic reasons. Similarly, the retention of nurses in rural and remote Queensland is largely due to job satisfaction, positive community relationships including knowing the community well, and personal reasons

including spouse employment (Hegney & McCarthy, 2000; Hegney et al, 2002).

Satisfaction with both work and community has been identified as central to the retention of Australian rural medical practitioners (Hays et al, 1997; MacIsaac et al, 2000). These three clusters of factors have also been found to underpin the retention of Australian rural social workers (Lonne & Cheers, 2000), rural teachers in the United States (Haughey & Murphy, 1985) and Canadian rural health professionals, teachers and social workers (Montgomery, 1999).

The framework of job factors, community factors and personal issues was used as a basis for developing 27 variables for the retention question included in the questionnaire.

Because of the focus of this investigation upon community, many community and lifestyle factors were included. These were; *There's a greater sense of community, I enjoy country people, I enjoy the clubs, I enjoy the social networks, I like knowing many people in depth, There's a slower rate of change, There's less crime, I enjoy the slower pace of life, There's less multiculturalism, I enjoy the simplicity of life, It's environmentally clean, There's few traffic and parking hassles and I like to be close to nature.* Variables relating to personal retention reasons were: *It's a good place to raise a family, Aged relatives need care, My partner prefers small town life, I have extended family living locally, I feel I can be myself, I have to live here for my health and The housing is cheap.*

Two positive work-related variables were included: *I'm happy with my work* and *My job pays well.* Three other work-related 'negative' variables; *I'm on contract, I haven't been able to get another job* and *I haven't been able to get a better job,* and the personal factor *I can't afford to shift* were also included because sometimes retention is associated with negative factors such as not being able to afford the financial cost of relocation, or not being able to gain a position elsewhere (Boylan et al, 1990). The second last variable may not necessarily be negative as some respondents may have reached the 'top of the tree' and therefore may literally not be able to get a better job. An 'other' category was also included.

The retention questions were measured using five response categories: ‘strongly agree’, ‘agree’, ‘disagree’, ‘strongly disagree’ and ‘doesn’t apply’. The last neutral category was included to enable respondents to provide clearer information about the relevance of a factor in relation to their long-term retention. For example, without a ‘doesn’t apply’ category, ‘disagree’ and ‘strongly disagree’ responses to a variable such as *It is a good place to raise a family*, may have multiple meanings. It may mean that a respondent with a family disagrees that such a reason influenced their longer years of retention or alternatively, that a respondent is single and this factor has been irrelevant to their retention. Respondents were not required to limit the number of variables in their response in order to develop an overall picture of influences upon rural professionals’ retention.

Further questions relating to the recruitment and retention of professionals were also included. Respondents were asked to write down the year they commenced working in their current work-town and this date was used as a benchmark from which to calculate each respondent’s length of retention. Also, the survey included a question relating to prior rural experience because professionals who have lived in rural areas for a good number of years are more likely to take up a position in a rural area and remain longer (Kamien & Buttfield, 1990; Strasser et al, 1997; Montgomery, 1999; Wilkinson et al, 2000; Hegney et al, 2002). This question included six choice categories of which respondents were asked to select only one: *I had lived in the area most of my life, I had lived in the area at some stage for at least a year, I had lived in another rural area for at least a year, I had only had holidays in rural areas, I had only done work experience in rural areas and I had never lived in a rural area*. The ‘area’ was defined as being within a 75 km radius of respondents’ work-towns as this distance equates with a literature-based commuting tolerance zone of 30-45 minutes, which very few workers are willing to exceed (Levinson, 1997; Johansson et al, 2001). Respondents were also asked to indicate the total number of years they had spent living and working in small towns and the number of years they intended to remain living in their current location.

Other questions

Respondents were asked about the number of dependent children they have because women with young children will strive to minimize the distance they travel to work (Hanson & Pratt, 1990; Fagnani, 1994), the majority of professionals working throughout the study area are female (ABS, Community Profiles, 2001) and children's leisure, sporting and schooling activities draw people into community involvement in rural towns (Dempsey, 1992). Professional women with dependent children may be less likely to commute and more likely to be involved in community life in which case dependent children could be an extraneous variable relating to non-commuting and aspects of community involvement. Because this potential extraneous variable could not be excluded by the study design in the same way that socio-economic strata and car ownership were excluded by the choices of study population and area, it was included in the questionnaire for the purpose of post-test 'controlling', which is discussed fully in the chapter five.

Last, but not least, the final question on the survey invited respondents to participate in a voluntary follow up interview as part of the second data collection phase of the investigation. Those who were interested were asked to provide their name and a contact phone number. These interviews were to form the second phase of data collection, which is discussed fully in chapter six.

3.2. Reliability, sampling, ethics and distribution

The reliability of the questionnaire in terms of the clarity of the questions (De Vaus, 2002) was assessed by piloting it on a group of twelve recently retired rural professionals. Retirees were selected because other local, currently employed professionals would be receiving a copy of the survey. While most questions posed no difficulty, each member of the pilot group, independently of one other, reported that the original wording of the negative and inhibitive motivation variables was too awkward. These were initially phrased as 'I' statements. However, in response to feedback from the pilot group, they were consequently re-phrased to exclude the first person. For example, *Non-participation*

may invite criticism was originally worded as *If I do not participate, people will criticise me*. Although rewording shifted the focus of each of these indicators from being a statement of personal motivation to one of general agreement with an observation, a retest, involving the same participants, exposed no further concerns.

Drawing a sample from the study population was largely governed by practical concerns, the methodological need of a large sample to reduce sampling bias, as well as the agenda of the funding bodies, which was to focus upon sustainability of rural institutions such as hospitals, schools and government departments. Because bulk survey distribution minimises economic and time-related costs, the questionnaire was forwarded to professional employees in the following work-sites: primary and secondary schools or comprehensive P-12 colleges, hospitals, land and water management work-sites, local government offices and some private enterprises. Such work-sites were identified in fourteen towns in the study area: Nhill, Dimboola and Rainbow in the SLA of Hindmarsh; Hopetoun in the SLA of Yarriambiack North; Warracknabeal in Yarriambiack South; Sea Lake, Birchip and Wycheproof in Buloke North; Charlton and Donald in Buloke South; St Arnaud in Northern Grampians; Kerang and Cohuna in Gannawarra and Boort in Loddon-North.

Part time and casual staff were forwarded questionnaires in response to information gleaned from the meetings with work-site management. Heads of work-sites reported that they employed a good number of casual and part-time employees and excluding non-full time staff would considerably reduce the sample size. Furthermore, census data that is used for representativeness of responses tallies professionals according to the ASCO definition, and not according to work status.

Additionally, clergy and medical practitioners, both of whom usually work individually in rural areas, were also included in the sample. The former were included because the role of the clergyman has a strong community focus and in small Australian rural towns, there has always been a high community expectation that clergy participate in local voluntary groups and events (Dempsey, 1989). Medical doctors were included because

attracting doctors to rural areas is a significant issue (Pathman et al, 1994; Veitch et al, 1999; Rabinowitz et al, 1999) and area-specific data relating to attracting and retaining rural general practitioners could be of value throughout the study area.

Excluded from the sample were those professionals who were either self-employed or who worked in institutions which employed few professionals. For example, primary schools located in very small towns like Minyip or Beulah, which are both indicated on the map on page 14, were not targeted due to the small number of teachers employed therein. The findings are therefore skewed in favour of professionals who are largely 'team players.' While a good-sized sample was achieved, to what extent the skewing of the sample affects the findings is unknown. This is one of the limitations of the investigation.

Prior to distributing the questionnaire, ethics approval was sought and granted by the University of Ballarat, the Catholic Education Office and the Department of Education and Training. After gaining ethics approval (see Appendix A),¹⁴ each participating work-site was forwarded a plain language statement of the research with a request that it be completed and returned to the researcher, along with a statement of the number of professionals who were employed at the site. Upon receiving the returned plain language statement from a work site, the appropriate number of questionnaires was then forwarded. These were accompanied by a cover letter that asked work-site management to distribute one copy of the survey to every full-time, part-time and casual professional employee. The cover letter also asked that if too many surveys were supplied, they should be returned to the researcher in the reply-paid envelope provided. Each survey included a letter that explained the study and invited individual recipients to complete the survey and return it in the reply-paid envelope.

¹⁴ An ethics extension was obtained from the university to gather data in the second phase of the investigation, as most of the questions that were asked during interviewing could not be determined prior to analysing questionnaire data.

In August, 2002, copies of the questionnaire were forwarded to 1,155 full-time, part-time or casually employed teachers, nurses, doctors¹⁵, health professionals, clergy,¹⁶ land-care and shire-employed professionals and some privately employed professionals, working in specific sites in fourteen study towns in north west Victoria. This figure represents 63 per cent of the number of professionals (n=1834) who were living throughout the study area at the time of 2001 Australian Census (ABS, Community Profiles, 2001), which was undertaken about one year prior to issuing the questionnaire. The questionnaire was issued only once because of the ethical issues of redistributing surveys in work-sites without foreknowledge of who had responded and who had not. The second phase of the investigation was undertaken nine months later, in April, 2003.

3.3. Summary

This chapter has detailed questionnaire construction and discussed issues relating to reliability, sampling, ethics and distribution. The survey was comprised of several types of questions including filter questions, which were included to determine whether respondents were professionals according to the ASCO definition, and demographic questions that could be used to determine the representativeness of the sample in order to address the issue of self-selection bias. Also included were commuting questions, which have been designed to distinguish commuters from non-commuters and to determine the commuting volume and other related trends. Community involvement questions relating to both work towns and hometowns have a central place in the questionnaire and recruitment and retention questions were included to provide data which could be used by those who supported the research. Other questions have also been included.

A mixture of local knowledge, rural values and pragmatism, which has been drawn upon to maximise results and minimise time and cost restrictions, have been influential in the

¹⁵ Doctors were issued questionnaires as part of bulk survey delivery to health professionals working in hospitals.

¹⁶ Clergy were mailed a plain language statement, a copy of the questionnaire and a consent form accompanied by a letter inviting their participation and requesting them to return the latter two items. Their addresses were located via denominational listings in local phone directories.

key methodological decisions which have been presented in this chapter. The researcher's awareness of the value of personal contact throughout the study area resulted in personally visiting management at each work-site. A willingness to 'hear' what local management suggested resulted in designing a brief questionnaire for the purpose of increasing response, including casual and part-time employees in the sample, and seeking information relating to the anecdotally-reported increase in long-distance commuting professionals. An understanding of the travel patterns of farm residents underpinned the decision not to pre-define community boundaries to distinguish commuters from non-commuters, but instead, to include a definition-based commuting question in the survey. Knowledge about rural professionals led to testing the reliability of the questionnaire upon retired professionals as opposed to other workers. In the spirit of characteristically rural reciprocity, recruitment and retention questions were included in the questionnaire and medical practitioners were included in the sample to gather data that could be of benefit to those who supported the research. The use of ordinal measurement and lexical response categories in the questionnaire were for the practical purposes of reducing non-response by not demanding detailed answers relating to community involvement.

Chapter 4. Survey response and data-related issues

Prior to presenting statistical analyses of community involvement data in chapter five, this chapter discusses survey response and data processing, the statistical tests applied to analyse questionnaire data, the representativeness of questionnaire response in terms of demographic characteristics of the broader study population and the proportion of respondents who commute.

4.1. Survey response and data processing

Of the 1,155 copies of the survey issued, 563 valid responses were received along with 18 invalid responses and 97 excess returns. The 18 invalid responses were either returns from respondents who declared that they were not employed in a professional capacity, or returns in which unclear occupation and/or qualifications raised doubt as to whether a respondent was employed as a professional. The 97 excess returns were unmarked questionnaires that had been returned from work-sites where the number of surveys that had been forwarded exceeded the number of professional employees. The excess returns were interpreted as reflecting inaccuracies in the initial estimates of the sample size. To accurately calculate response to the questionnaire, both the 97 excess returns and the eighteen invalid responses were deducted from the initial sample size of 1,155. This reduced the effective sample size to 1,040. Of this figure, the 563 valid returns represent a 54 per cent response. In terms of the overall population of professionals who were recorded as living in the study area at the time of the 2001 Australian Census (n=1834), responses were received from 31 per cent, or roughly a third of the study population (ABS, Community Profiles, 2001).

Responses from valid returns were entered into an EXCEL spread-sheet according to a coding frame which was developed after the questionnaire was issued. In the process of coding and entering data, four main issues arose: non-whole numerical values, non-response, coding errors and 'fence sitters' (De Vaus, 2002). The latter are responses that are marked exactly on a line dividing two response categories. Each of these four issues

were addressed accordingly. Non-whole numerical responses – for example, a response of 4.5 years to the question asking ‘*number of years having worked in current work-town*’ – were simply rounded to the nearest whole number. Non-response was handled by entering no response and the number of non-responses, also called missing cases, is often provided when tabulated data is presented throughout the rest of this investigation. Coding errors were determined by closely inspecting the data for any obvious mistakes and by performing valid range checks. The latter involves seeking figures that exceed the coded numbers used for particular responses (De Vaus, 2000). Detected errors were amended. Fence-sitters’ responses were largely evident in response to community involvement questions. These responses were entered as if the ‘tick’ was intended for the category to the immediate right. This had the effect of scaling ‘up’ responses for participation variables, from less to more frequently, and scaling ‘down’ motivation and integration responses, from stronger through to weaker levels of agreement.¹⁷ While the prevalence of fence-sitting in the community involvement questions could suggest that a more accurate reflection of respondents’ participation, motivation and integration could have been gained if a neutral category had been provided, many fence-sitting responses were not marked in the centre – the possible neutral mid-point – of the four response categories for the community involvement questions.

For the purpose of statistical analysis, ‘clean’ coded data were exported into the computer-based, statistical processing program, SPSS.

4.2. Data analysis

Both the chi square test of statistical significance, which is denoted by χ^2 , and the Mann Whitney U test have been used for the statistical analyses undertaken in this investigation. Both tests are non-parametric tests, that is, they involve no assumption about population distribution, and are used to support or refute a null hypothesis about

¹⁷ This approach may have resulted in some skewing of response by creating the perception that overall, professionals participate more frequently than reported, and that they are less motivated and integrated than reported.

whether a significant relationship observed in a sample actually exists in the broader population from which the sample was drawn (Daniel, 1990).

The chi square test involves comparing the observed frequencies between two variables with the frequencies that would be expected if no association existed between them in the broader population. If the resultant χ^2 statistic does not exceed a certain standardized critical value (these are accessible in many statistical books, or online, and are associated with the degrees of freedom involved the calculation), then the null hypothesis is sustained. In other words, two variables do not differ significantly. In contrast, if the calculation produces a χ^2 statistic that exceeds the relevant critical value, then the null hypothesis is refuted and a significant difference is considered to exist between two variables within the broader population (Daniel, 1990). Several criteria are required to apply the chi square test. The sample must be randomly drawn from the study population, measured variables must be independent, the analysis must use numeric as opposed to percentage-based frequencies and cells – where two variables intersect – must have a minimum of five cases (Connor-Linton, 2003).

These criteria have been met by the data to which chi square analysis has been applied in this investigation. The sample has been randomly, as opposed to purposely selected, from among a study population working in a particular location. Measured variables are independent of each other. Numeric frequencies have been used. (Depending upon the context, these may or may not be presented in tabulated form prior to the discussion of each chi square test in the thesis). Where cells with less than five cases emerged the test was re-performed with aggregated data (Daniel, 1990). For example, questions that required the respondent to write down a numerical figure, such as the number of years they have worked in their current work-town, resulted in many separate categories, some of which had less than five cases. To permit effective analysis using the chi square test, responses were aggregated into several clusters, each spanning five years. Details of data aggregation are provided where relevant.

Unlike the chi square test, which involves comparing relationships between cells, the Mann Whitney U test involves comparing the means of responses from two cohorts in relation to a particular variable. Data from both cohorts are pooled and ranked from either highest to lowest. The ranks are totalled and averaged for each population and the means are then compared to determine if they differ significantly. Because there are no assumptions about underlying population distribution, the only condition for this test is that the samples from both populations are randomly selected (Daniel, 2000). This test was mostly used for analyses including the community involvement variables because it was suitable for handling the multiple tied ranks that resulted from the four response categories.

For both the chi square test and the Mann Whitney U test, a relationship between two variables is considered to be statistically significant if a p value of .05 or less is obtained. This value refers to the probability that a significant difference has not emerged by chance. A p value of .05 or less is the accepted benchmark in sociological research for identifying that a relationship is significant (Maxim, 1999), and it indicates that there is a 5 per cent probability (or less) that a particular relationship between two variables has resulted by chance. In other words, there is a 95 per cent or greater probability that a relationship between two variables in a sample actually exists within the broader population from which the sample was selected. Because as the p value decreases, there is an increasing probability that a significant relationship found between two variables is not the product of chance, the lower the p value, the higher the degree of significance. A relationship for which the p value has only one zero, such as .05, is recognised as having low significance (De Vaus, 2002). Those which have two zeros have a moderate degree of significance and those featuring three zeros – .0005 – have high significance. If the results of either a chi square test or a Mann Whitney U test give rise to a p value of .0005, then there is almost 100 per cent certainty that the relationship found between two variables within a sample is actually present within the study population.

4.3. Representativeness of response

As discussed in chapter three, the survey was designed to gather data which could be used to determine if those professionals who self-selected to respond to the questionnaire differed significantly from those professionals who chose not to respond. To determine if self-selection resulted in any bias within the sample, chi square tests were applied to ascertain whether the observed frequencies relating to the gender and age of questionnaire respondents differed significantly from expected frequencies generated by an external source. The latter were derived from aggregated figures relating to the age and gender of professionals who were living in each of the SLA's in the study area at the time of the 2001 Australian Census. Questionnaire data were collected about a year after the census.

The frequencies that have been used in the chi square test relating to the representativeness of gender are displayed in Table 4.3a. The observed frequencies are listed in the first row. The middle row shows the census-based frequencies from which the expected frequencies were calculated. These were calculated by expressing the numeric census-based frequencies of male and female professionals as percentages of the total number of professionals who were living in the study area at the time of the 2001 Australian census. These percentages were then applied to the observed frequencies to establish the expected proportion of responses, which were then converted to the numeric expected frequencies listed in the bottom row of Table 4.3a.

Table 4.3a. 2001 Australian census data and survey responses relating to gender

	Male professionals		Female professionals	
	N	%	N	%
Observed frequencies from survey responses	207	38	344	62
Observed frequencies from 2001 census data for the study area	629	34	1,205	66
Expected frequencies of survey responses, based upon census percentages	191	34	372	66

Key: Percentages are rounded to the nearest whole number. Twelve missing cases.

A χ^2 statistic of 2.047 (df = 1) was obtained. As this does not exceed the critical value of 3.841, the null hypothesis is sustained. Survey response is therefore representative of the gender balance of the study area's professionals, according to 2001 census data.

An initial chi square analysis that was undertaken to determine the representativeness of age was recalculated due to the emergence of multiple small cells. Frequencies relating to each of the five response categories for age were aggregated into two categories, which were divided at 45 years. The observed and expected frequencies used to calculate the chi square statistic are shown in Table 4.3b. The expected frequencies were calculated from 2001 census data in the same way as those relating to gender.

Table 4.3b. 2001 Australian census data and survey responses relating to age

	Age < 45		Age 45 +	
	N	%	N	%
Observed frequencies from survey responses	280	49	283	51
Observed frequencies from 2001 census data for the combined study area SLAs	997	54	837	46
Expected frequencies of survey responses, based upon census percentages	304	54	259	46

Key: Percentages are rounded to the nearest whole number. Four missing cases.

The resultant χ^2 value of 4.118 (df = 1) exceeds the critical value of 3.841 and therefore the null hypothesis is rejected. Survey response is biased in favour of professionals aged 45 years or more. The 51 per cent questionnaire response rate from older professionals slightly misrepresents the broader population of professionals throughout the study area, wherein only 46 per cent were aged 45 years or more at the time of the 2001 census.

Possibly, a greater proportion of older professionals returned surveys, or, the professions surveyed comprised of a greater proportion of older professionals, or, some professionals aged from 44 to 45 between the time of the census and the time the survey was issued.

Whatever the cause of the bias, the difference between survey response and census findings amounts to approximately 26 respondents. This slight sampling bias is not large enough to significantly threaten the overall findings of the research.

No other census data was available relating specifically to the demographic profile of professionals throughout the study area. However, as referred to in chapter two, the 2001 census showed that at least 90 per cent of the population in each SLA in the study area were Australian-born and 91 per cent of survey respondents also claimed to be Australian born.

Further chi square tests were undertaken to determine whether the sample was internally biased in terms of the proportions of returns received from different locations throughout the study area and from particular professions. Regarding location, responses from the fourteen study towns were aggregated into three groups according to similarity of ARIA remoteness scores. This aggregation, which is shown in the first two columns of Table 4.3c, enabled the viewing of response in terms of isolation.

Table 4.3c. Number of responses from towns, reclustered by ARIA score

ARIA Groups	Towns	ARIA score	Surveys Issued	Excess returns	Expected frequencies*	Observed, valid frequencies
Group 1 ARIA < 3	St Arnaud	2.52	123	7	116	63
	Cohuna	2.62	85	4	81	50
	Kerang	2.75	185	30	155	92
	Boort	2.87	65	10	55	44
	Charlton	2.98	71	1	70	37
Group 1 Totals			529	52	477	286
Group 2 ARIA 3 <3.9	Donald	3.19	59	0	59	35
	Wycheproof	3.25	50	11	39	27
	Warracknabeal	3.67	113	2	111	37
	Dimboola	3.69	66	4	62	27
	Birchip	3.86	53	8	45	31
Group 2 Totals			341	25	316	157
Group 3 ARIA 3.9 +	Sea Lake	3.90	55	3	52	26
	Nhill	4.25	139	6	133	52
	Hopetoun	4.57	39	0	39	11
	Rainbow	4.88	52	11	41	15
Group 3 Totals			285	20	265	104
Totals			1155	97	1040 **	563**

Key. *Number of surveys issued less excess returns. ** Sixteen returns from unknown locations and 18 invalid returns were received. These figures are included in the totals for expected frequencies and observed valid frequencies respectively. For analytical purposes, it was assumed that these returns were evenly distributed throughout the three ARIA groups.

The observed frequencies used in the chi square test were the three group totals listed in boldface in column six of Table 4.3c, and the expected frequencies were those group totals listed in boldface in column five. The expected frequencies were calculated by subtracting the number of excess returns received from each town (listed in column four) from the number of surveys issued to each town (listed in column three). The obtained chi square statistic, $\chi^2 = 10.34$, (df=2) exceeded the critical value of 5.99, which led to rejecting the null hypothesis. Response is therefore biased against the remotest locations. Professionals living in the farthest-flung towns returned significantly fewer surveys. Determining representativeness of response relating to profession was complicated because, as a consequence of distributing the questionnaires through work-sites, the expected frequencies for each profession could not be accurately determined. Some sites employ professionals who work in different fields. For example, while schools employ mostly teachers, they may also employ a school nurse and a librarian and while hospitals employ mostly health professionals, they may also employ business professionals. While a breakdown of the numbers of staff who worked in different professions within sites was requested in the early phases of the investigation, this information was not always provided. Consequently, no accurate expected frequencies could be determined relating to the specific number of questionnaires issued to each of the twelve different types of profession that were listed in the second question of the questionnaire. However, specific frequencies were available relating to the number of surveys issued to each work-site. These were used as the expected frequencies because the vast majority of professionals working in schools are teachers, and similarly the vast majority of those employed in hospitals are health professionals. The observed frequencies used were three corresponding clusters of professions; teachers, health professionals and 'other' professionals.

Table 4.3d summarises the frequencies used in calculating the chi square test to determine sampling bias in relation to profession. The expected frequencies are shown in the last column and the observed frequencies are shown in the third column. The first column shows the number of responses from each of the twelve categories of profession that were provided on the questionnaire.

Table 4.3d. Number and percentage of responses from professions and worksites

Professions	Valid Returns	Professional groups	Observed frequencies		Worksite types	Surveys issued to worksite types (expected frequencies)	
	N		N	%		N	%
Primary teaching	110	Teachers	308	55%	Schools	675	58%
Secondary teaching	198						
Allied Health	26	Health professionals	163	29%	Hospitals	328	29 %
Medicine	10						
Nursing	127						
Accounting	11	Other professionals	92	16%	Other sites	152	13%
Agriculture	16						
Business	6						
Engineering	17						
Forestry	0						
Theology	17						
Other	25						
Totals	563						

Key: Percentages are rounded to the nearest whole number. * Excess returns were necessarily included in the chi square test relating to profession as it is not known from which work-sites such returns came. For analytical purposes, it was assumed that excess returns were evenly distributed between professions and work-sites.

The proportions of returns received from teachers, health professionals and other professionals were not significantly different in terms of what was expected, because the obtained χ^2 statistic of 5.72 (df=2) did not exceed the critical value of 5.99.

To summarize this section, the sample of rural professionals who self-selected to respond to the questionnaire are representative of the broader study population in terms of gender and profession. However, some sampling bias is evident in relation to age and location. Significantly more older (> 45 years) than younger professionals responded to the questionnaire, and a significantly smaller proportion of returns was received from the remotest towns to which the survey was sent.

4.4. Commuting volume

Response to the definition-based commuting question included in the survey, which asked respondents whether they lived and worked in the same or different towns, showed that 170 of the 563 respondents were commuters by definition. (Ten respondents did not provide an answer to this question.) In other words, 31 per cent of the respondents identified that they worked elsewhere than in their hometown. Respondents who lived and worked in separate towns were asked to complete the commuting sheet. However, only 157 respondents (28 per cent) completed commuting sheets. The inconsistency between the number of respondents who were commuters by definition, and the number who completed commuting sheets, is probed prior to the claiming a reliable commuting volume.

Table 4.4 shows the intersecting frequencies of those respondents who are commuters by definition and those who completed commuting sheets. The combined figures in rows one and two of the second column show that 37 commuters by definition did not complete a commuting sheet. In contrast, an anomalous 21 non-commuters by definition completed commuting sheets (third row, column one). This table also shows that 47 respondents, or 9 per cent of the sample, live in regional towns.

Table 4.4. Definition-based commuting status by commuting sheet response

	Completed commuting sheet	Unmarked commuting sheet	Totals	
	N	N	N	%
Commuters by definition				
I work in a small town but live in a town where the population is more than 5000 people.	36	11	47	9
I live in a different small town (or in the vicinity) to the one in which I work.	96	26	122	22
Non-commuters by definition				
I live and work in the same small town (or in the vicinity).	21	362	383	69
Totals	153	399	552	100

Key: Eleven missing cases. Percentages are rounded to the nearest whole number.

These anomalies are partially attributable to the blurred boundary between commuting and work-related travel. The point at which routine-based commuting differs from less regular, work-related travel is unclear as the literature presents no consistent division between both types of work trips. For example, territorial professionals can be classified as either commuters, or as non-commuters who undertake work-related travel, depending upon how commuting status is viewed. While those working 'travelling jobs', such as territorial professionals, are sometimes classified as commuters because they 'travel to work' (Pisarski, 1996; Schmidt, 1979; Hugo & Smailes, 2003), other research, of which the Australian census is an example (Robertson, 2000), classifies commuters according to whether their work and home addresses are in different, pre-determined zones. Under such a zone-based system of assigning commuting status, small-town territorial professionals whose residential and work address are within the one small town or zone, irrespective of whether they commute to work in multiple other towns, would be identified as *non-commuters*.

That indistinct boundaries between work-related travel and commuting have partly given rise to the anomalous figures shown in Table 4.4a is indicated by interview evidence and unsolicited survey comments. Of the twenty-four interviewees who participated in the second phase of the investigation, five were among the anomalous 21 non-commuters who completed a commuting sheet. All five interviewees verbally reported that they worked in multiple sites of which their main work-site was in their hometown. Hence in response to the definition-based commuting question in the survey, each claimed that they 'lived and worked in the same small town'. However, because they also worked in towns that were not their hometown, they each completed a commuting sheet. It is quite possible that others among the anomalous 21 'travelling non-commuters' in Table 4.4a were also territorial employees who worked predominantly from their hometown.

Of the 37 self-identified commuters who returned unmarked commuting sheets, an unsolicited comment written upon a return suggests the same blurred edges between commuting and work-related travel are partially the cause for this anomaly. In response to the question asking about 'the number of towns worked in weekly', one respondent

voluntarily wrote that while he mostly worked out of the shire offices in his hometown, he might work in up to ten towns in any one week. Despite this self-confessed amount of weekly travel and his self-identification as a commuter by definition, this respondent returned an unmarked commuting sheet. While this may have been data entry error or negligence, both of which could also account for anomalous findings, this return had an air of organised thoroughness about it including tidy, accurate responses and articulate notes to the researcher. These qualities, combined with the comment, suggest that this respondent decided against, rather than neglected completing his commuting sheet, possibly because his hometown was his main work-town.

While there is evidence that the ‘grey area’ between commuting and work-related travel has contributed to some anomalous responses in Table 4.4a, there is no way of determining how many of the total 58 (21+37) anomalous responses have resulted from these blurred boundaries. In terms of establishing a reliable commuting volume, the 31 per cent definition-based commuting volume, including the anomalies, is considered as accurately reflecting the actual proportion of commuting professionals among the study population. However, ensuing analyses in chapters five, seven and eight have been carried out using the data gathered on the completed commuting sheet as representative of responses from commuters. Henceforth, unless indicated otherwise, the term ‘commuters’, when used in reference to this investigation,¹⁸ refers specifically to the 157 respondents who returned completed commuting sheets and the term ‘non-commuters’ refers to those 406 respondents who did not.

4.5. Summary

The key findings presented in this chapter are summarised here in using general terms and proportions rather than exact figures. Surveys were returned from approximately half of the professionals who were targeted to receive a questionnaire, which amounted to about one third of the study population. The data was entered into EXCEL, checked for errors, and then exported into the computer program, SPSS for statistical analysis. The

¹⁸ The terms ‘commuters’ and ‘non-commuters’ are sometimes used in a general sense when discussing other research. The context should be clear.

main statistical test used to analyse the data has been the chi square test. A Mann Whitney U test has also been used where appropriate. An alpha level of .05 has been used to interpret the significance of findings in every analysis throughout the investigation, unless otherwise stated.

The demographic representativeness of response was determined by comparing the gender balance and age spread of the sample with 2001 Australian census data relating to professionals living in the study area. The sample is representative of the broader study population in terms of gender, however significantly fewer returns than expected were received from younger professionals (< 45 years). While the sample is not biased in terms of profession, significantly fewer returns than expected were received from professionals who worked in the most isolated towns in the study area.

Nearly a third of rural professionals commute in the sense that they share their working and non-working life between multiple communities. However, the term 'commuter', as it is henceforth used in reference to the participants in this investigation, applies to those respondents (n=157, 28 per cent) who completed the commuting sheet included in their questionnaire. The term 'non-commuter' refers to those 406 respondents who did not.

Chapter 5. Findings from questionnaire analysis

This chapter commences with a discussion of the frequencies of response to the hometown community involvement questions. The statistical analysis of community involvement by commuting status is discussed in section 5.2, along with procedures applied to both adjust for error and seek potentially extraneous variables. The final results, after post-test controlling, are presented in section 5.3. Work-town data analyses have been omitted for reasons that are discussed in chapter six.

5.1. Community involvement frequencies

The frequencies of response to the hometown participation, motivation and integration variables are displayed in Tables 5.1a, 5.1b and 5.1c respectively. These variables are listed in the order they appear on the questionnaire. The frequencies associated with each response category are reported as percentages of the number of valid responses to each category to allow ease of comparison with percentage-based findings from other investigations. The number of valid responses and the number of missing cases are also provided in the last two columns of both tables.

To facilitate interpretation, the frequencies are discussed in terms of ‘positive response frequency’, which is a study specific construct that refers to the sum of positive responses for each variable, expressed as a percentage of the valid responses. Positive response frequencies are listed in a separate column in each of the three frequency tables. For the participation indicators, shown in Table 5.1a, positive response frequency translates as the percentage of aggregated ‘fairly often’ and ‘very often’ responses for a particular variable.¹⁹ For both the motivation and integration variables, it refers to the percentage of aggregated ‘agree’ and ‘strongly agree’ responses. A 50 per cent or more positive response frequency is referred to as ‘high positive response’. This means that the majority of a cohort claim to engage either ‘fairly often’ or ‘very often’ on a particular

¹⁹ Consideration was given to weighting responses. However expressing the number of positive responses to each variable as a percentage is particularly advantageous for showing the frequency with which rural professionals engage in each of the seventeen listed participation variables.

participation variable, or 'agree' or 'agree strongly' on a particular motivation or integration variable. In contrast, 'low positive response' frequency means that *less* than 50 per cent of a cohort – the minority – claim to engage either 'never' or 'occasionally' on participation variables or 'disagree' or 'disagree strongly' on motivation and integration variables. Similarly, 'very low positive response' frequency means that less than 25 per cent of respondents provided a positive response. An alternative interpretation of low and very low positive response is that more than 50 per cent or 75 per cent of valid responses respectively, the majority in either case, engage either 'never' or 'occasionally' on participation variables or 'disagree' or 'disagree strongly' on motivation and integration variables.

Table 5.1a. Frequencies of response to hometown participation variables

Participation variables		Responses %					Number of valid responses	Number of missing cases
		Positive response	Never	Occasionally	Fairly often	Very often		
I attend community functions	Commuters	48	6	46	32	16	149	8
	Non-commuters	55	3	42	39	16	396	10
I play sport	Commuters	30	43	27	15	15	145	12
	Non-commuters	39	31	31	17	22	377	29
I participate in community groups	Commuters	39	15	46	25	14	145	12
	Non-commuters	47	11	42	30	17	384	22
I actively participate in church	Commuters	27	54	19	11	16	144	13
	Non-commuters	25	56	19	8	17	389	17
I lead/hold office in community groups.	Commuters	29	43	28	15	14	143	14
	Non-commuters	35	36	29	19	16	382	24
I help at working bees	Commuters	32	25	43	21	11	143	14
	Non-commuters	34	18	48	25	9	389	17
I actively participate in fundraising drives	Commuters	39	25	36	28	11	142	15
	Non-commuters	46	17	37	27	19	383	23
I cook for community groups	Commuters	21	43	36	17	4	142	15
	Non-commuters	18	51	31	12	6	383	23
I visit friends and neighbours	Commuters	61	6	33	40	21	147	10
	Non-commuters	65	5	30	43	22	388	18
I purchase fund-raising items and raffle tickets	Commuters	65	5	30	43	22	146	11
	Non-commuters	77	4	19	38	39	397	9
I shop locally	Commuters	77	2	21	33	44	145	12
	Non-commuters	93	1	6	37	56	400	6
I use my professional skills to help in community projects	Commuters	32	26	42	23	9	143	14
	Non-commuters	34	15	51	23	11	394	12
I use my professional skills to assist towns-people	Commuters	31	21	48	22	9	146	11
	Non-commuters	40	12	48	26	14	377	29
I represent my community beyond the town	Commuters	25	34	41	17	8	142	15
	Non-commuters	38	30	42	19	9	378	28
I provide references for towns-people	Commuters	16	39	45	13	3	143	14
	Non-commuters	25	31	44	17	8	383	23
I offer ideas at public forums	Commuters	20	34	46	14	6	142	15
	Non-commuters	25	28	47	20	5	382	24
I am a sounding board for opinions and ideas	Commuters	27	27	46	23	4	145	12
	Non-commuters	30	15	55	24	6	383	23

Key: Percentages have been rounded to the nearest whole number.

Table 5.1a shows high positive response on only four variables: *I visit friends and neighbours*, *I purchase fund-raising items and raffle tickets*, *I shop locally* and *I attend community functions*. The latter variable exhibits high positive response only in relation to non-commuters. While it would be unrealistic to expect high positive response frequency on some variables that are ‘occasional’ by nature, for example, *writing*

*references*²⁰ or *offering ideas at public forums*, the majority of rural professionals throughout the study participate no more than frequently than ‘occasionally’ on most of the participation variables.

A crude comparison of some of the ‘never’ frequencies listed in Table 5.1a, with those found or implied in other studies focusing upon Australian rural communities suggest that minimum levels of social engagement among professionals are greater now than in the past, irrespective of commuting status. Three quarters of the middle to upper classes, including professionals, belonged to at least one formal voluntary association in *Smalltown* (Dempsey, 1990). By implication 25 per cent of *Smalltown’s* upper socio-economic strata did not engage in any formal groups. In contrast, Table 5.1a shows that 15 per cent of commuters and 11 per cent of non-commuters reported never participating in formal community groups. Also, in a study undertaken in small towns in Gippsland, Victoria (Department of Social Security, 1978²¹), eleven percent of professionals were found to belong to no formal group. Furthermore, this study found that 46 per cent of professionals never played sport and 61 per cent never went to church. The frequencies in Table 5.1a show that 43 per cent of commuters and 31 per cent of non-commuters reported never playing sport and 54 per cent of commuters and 51 per cent of non-commuters never went to church.

While the preceding information suggests that a greater proportion of Victoria’s current rural professionals undertake a *minimum* level of formal social participation than those in preceding decades, further comparison of formal social participation frequencies between different studies suggests that professionals may not be as *extensively* involved in formal voluntary associations as they once were. Nunn (1994) found that the eleven school teachers who taught at Kaniva Consolidated School in the Wimmera Mallee area, participated in an average of 5.8 formal voluntary organizations, mostly sport and school-related organizations. While this figure is a mean, and refers to teachers only, as opposed to a mix of professionals, it suggests that every one of these staff members was

²⁰ For ease of expression, variables from survey questions are often referred to in an abbreviated, italicised, grammatically altered style, as exemplified here.

²¹ The figures cited from this investigation are interpreted from Table 6.13, p.108.

extensively engaged in local affairs. In comparison, less than half of the professionals in this investigation engaged extensively in formal voluntary activities. Table 5.1a shows that 47 percent of non-commuters and 39 per cent of commuters reported that they participated in community groups either 'fairly often' or 'often'.

The preceding comparison is crude, partly because there has been no consistent classification regarding the status of various professions in research focusing upon social dynamics in Australian small towns. While professionals in this investigation have been classified according to ASCO, in *Smalltown*, doctors and clergy are classified as professionals while nurses and teachers are not (Dempsey, 1990). The classification of professionals in the Gippsland study (Gippsland Institute of Advanced Education, 1978) is unclear but they are distinguished from white-collar workers and from other middle class persons. Other investigations have used the term 'spiralist' – workers whose career advancement requires them to 'move on' – to embrace some of the professions included in the current study. For example, Oxley (1978), categorised doctors, lawyers, pharmacists, dentists, allied health workers and clergy as professionals, but classified school principals and senior shire employees as upper spiralists and teachers, nurses and junior shire employees as lower spiralists. Because of incongruous definitions of professionals, discussion that compares characteristics of professionals in this study with those presented in earlier Australian investigations is therefore general.

The suggestion that professionals are not as extensively engaged in local formal voluntary associations both 'fits' with the starting point of this investigation, declining social engagement in small towns, and aligns with Smailes' (2002) findings relating to rural dilution. In investigating rural towns in South Australia, Smailes found that deconcentrated local social networks generated by a mix of factors including patterns of migration, a 'week-end' population and a general delocalisation of social interaction brought about by mobility, contributed to lowering levels of participation in formal voluntary groups.

Despite generally low frequencies of participation, Table 5.1b shows that respondents reported being highly motivated to socially engage in their hometown community. Commuters and non-commuters share high positive response on those variables relating to self-fulfillment and motivation from other people. These variables include *a sense of duty, satisfaction, work-place relationships, camaraderie, enjoyment, better standing, enthusiasm* and *the impact of family members*. Negative motivators including *Its easier to go along with things* and *Non-participation may invite criticism*, attracted low positive response from both commuters and non-commuters. Very low positive response frequencies were scored on two inhibitive factors: less than 25 per cent of respondents agreed that *Group interaction is a deterrent from getting too involved* and that *Getting too involved makes it difficult to maintain a professional distance*.

Table 5.1b. Frequencies of response to hometown motivation variables

Motivation variables		Responses %					Number of valid responses	Number of missing cases
		Positive response	Strongly agree	Agree	Disagree	Strongly disagree		
I feel a sense of duty to support the town	Commuters	88	32	56	10	2	143	14
	Non-commuters	93	33	60	6	1	388	18
I get satisfaction from community involvement	Commuters	91	26	65	6	3	144	13
	Non-commuters	96	28	68	3	1	387	19
I enjoy the camaraderie that comes from community involvement	Commuters	91	25	68	5	2	141	16
	Non-commuters	95	29	66	4	1	385	21
Workplace relationships encourage my involvement in community	Commuters	87	18	69	11	2	141	16
	Non-commuters	91	21	70	8	1	385	21
Community involvement gives you better standing in the town	Commuters	70	8	62	26	4	138	19
	Non-commuters	81	19	62	16	3	382	24
Group interaction is a deterrent from becoming involved	Commuters	15	1	14	73	12	136	21
	Non-commuters	16	4	12	65	19	362	54
I get enjoyment from the activities in which I participate	Commuters	95	25	70	3	2	143	14
	Non-commuters	99	34	65	.5	.5	383	23
Non-participation may invite criticism	Commuters	47	8	39	48	5	138	19
	Non-commuters	44	6	38	48	8	376	30
Getting too involved makes it difficult to maintain a professional distance	Commuters	30	6	24	56	14	140	17
	Non-commuters	28	6	22	55	17	378	28
Its easier to go along with things	Commuters	40	3	37	54	6	138	19
	Non-commuters	38	2	36	54	8	370	36
The enthusiasm of others inspires me to get involved	Commuters	73	10	63	25	2	140	17
	Non-commuters	78	7	71	20	2	376	30
Family members are involved in the town and I become involved through supporting them.	Commuters	68	19	49	23	9	136	21
	Non-commuters	62	15	47	26	12	356	50
Community involvement is not important to me	Commuters	65	15	50	32	3	137	20
	Non-commuters	68	13	55	27	5	375	31
Time prevents me from becoming too involved	Commuters	76	26	50	19	5	146	11
	Non-commuters	66	16	50	31	3	385	21

Key: Percentages have been rounded to the nearest whole number.

The low to very low positive response scored on inhibitive and negative indicators suggests that the unexpectedly low reported frequencies of participation are not due to inhibitive or negative factors. Instead, the high positive response on *Time prevents me from becoming too involved* and *Community involvement is not important to me* suggests that these two factors contribute low reported levels of participation. Two-thirds of non-commuters, and over four-fifths of commuters agreed that time restricted community involvement and two-thirds of each cohort somewhat curiously agreed that *Community involvement is not important to me*. These findings indicate that professionals,

irrespective of commuting status, have limited time to engage in participation and that local social engagement is not central to their social life.

However, both commuters and non-commuters reported being equally well-integrated. Table 5.1c shows that both cohorts share high positive response on positive integration and security-based indicators including *accountability to others*, *good public behaviour*, *trust*, *safeness* and *ease of talking to people in the street*.

Table 5.1c. Frequencies of response to hometown integration variables

Integration variables		Responses %					Number of valid responses	Number of missing cases
		Positive response	Strongly agree	Agree	Disagree	Strongly disagree		
I really enjoy the sense of community	Commuters	85	26	59	12	3	135	22
	Non-commuters	94	31	63	6	0	389	17
The people I know best are my work colleagues and clients	Commuters	46	8	38	45	9	131	26
	Non-commuters	72	25	47	26	2	393	13
I can trust people in the town	Commuters	90	13	77	8	2	131	26
	Non-commuters	85	11	74	14	1	385	21
Most family members that I mix with live elsewhere	Commuters	90	13	77	8	2	131	26
	Non-commuters	72	37	35	24	4	388	18
I feel I must behave well because everyone knows me	Commuters	57	10	47	40	3	131	26
	Non-commuters	72	19	53	26	2	386	20
I feel quite comfortable talking to people in the street	Commuters	94	33	61	4	2	134	23
	Non-commuters	95	37	58	4	1	398	8
It bothers me that people know my business	Commuters	31	8	23	63	6	132	25
	Non-commuters	41	8	33	52	7	393	13
Most of my socialising is done outside of the town	Commuters	34	8	26	58	8	132	25
	Non-commuters	26	9	17	61	13	389	17
I feel safe in the town	Commuters	96	30	66	4	0	135	22
	Non-commuters	97	35	62	3	0	397	9
I tend not to find like-minded people in this town	Commuters	33	8	25	60	7	134	23
	Non-commuters	26	6	20	65	9	382	24
Most of my good friends live locally	Commuters	53	6	47	38	9	133	24
	Non-commuters	54	11	43	37	9	386	20
As a professional, it's hard to get to know people socially	Commuters	22	4	18	65	13	130	27
	Non-commuters	19	4	15	63	18	393	13
I feel more accountable to people because I know them	Commuters	70	7	63	27	3	131	26
	Non-commuters	73	10	63	25	2	389	17

Key: Percentages have been rounded to the nearest whole number.

Non-commuters reported high positive response frequencies for knowing *work-colleagues and clients best*. However the low positive response frequency reported by commuters on this variable is probably linked to the fact that the majority of commuters' work colleagues and clients live in commuters' work-towns and are therefore not easily accessed for socializing after hours. The emergence of low positive response on inhibitive and negative factors indicates that rural professionals are generally well-integrated into their hometown. A minority of respondents did not *find like-minded people locally*, found *it hard to get to know people socially due to being a professional* and *mostly socialized out of their hometown*. The frequencies for the latter variable indicate that the majority of respondents engage socially in their hometown, which supports the authenticity of the assumption underpinning the methodology that professionals' hometowns are, to them, meaningful sites of community involvement.

Overall, the community involvement frequencies create the impression that rural professionals engage sparingly in hometown social participation despite claiming high levels of motivation and integration. In comparison to other studies of rural Australian social dynamics, formal social participation appears to have remained constant or slightly increased at a base level. However extensive participation in many community groups appears to be a dwindling social lifestyle among rural professionals. The frequencies suggest the limited time and a relatively low sense of the importance of community involvement to professionals are contributing factors to overall low levels of participation.

5.2. Significant differences between commuting status and community involvement

To determine whether there are significantly different patterns of community involvement between commuting and non-commuting professionals, a Mann Whitney U test was used to analyse commuting status by each of the 44 community involvement variables. Both cohorts differed significantly upon only twelve variables, and all but one favoured non-commuting status. These results are displayed in Table 5.2a.

Table 5.2a. Significant differences between commuting status and community involvement

Participation	<i>p</i> values
I purchase fund-raising items/raffle tickets	.0005
I shop locally	.001
I play sport	.012
I use my professional skills to assist towns-people	.013
I actively participate in fund-raising	.032
I provide references for townspeople	.031
Motivation	
Community involvement gives you better standing in the town	.0005
Time prevents me from becoming too involved	.008*
I get enjoyment from the activities in which I participate	.020
Integration	
The people I know best are my work colleagues and clients	.0005
I feel I must behave well because everybody knows me	.001
I really enjoy the sense of community	.042

Key: *This relationship favours commuting professionals. Alpha value is .05.

Furthermore, to eliminate significant differences that may be the product of chance, an error adjustment procedure was applied to these results. The chosen procedure, Bonferroni's adjustment for error, involves increasing the power of analysis by dividing the alpha level by the number of parameters being tested (Maxim, 1999). Upon dividing the previously chosen alpha level of .05 by the number of variables in each of the three community involvement questions, this process resulted in a new alpha level of $\alpha < .003$ for participation variables and $\alpha < .004$ for both the motivation and integration variables.

Application of the new alpha levels resulted in the elimination of all but five of the significant relationships listed in Table 5.2a. Participation variables for which the *p* value is less than the new alpha level of .003 include *I purchase fund-raising items/raffle tickets* and *I shop locally*. Integration and motivation indicators for which the *p* value is less than .004 include *Community involvement gives you better standing in the town*, *The people I know best are my work colleagues and clients* and *I feel I must behave well because everybody knows me*.

Having isolated five variables of community involvement that differ significantly according to commuting status, there remains the question as to whether these

associations are solely dependent upon commuting status alone, or whether extraneous variables, that is, other possible differences between commuters and non-commuters, could be underpinning these significant differences.

To determine the influence of extraneous variables, post-test controlling was undertaken. This procedure, which is explained more fully in the next section, involves reanalysing the significant relationships between commuters and non-commuters while simultaneously testing for the influence of other extraneous variables (De Vaus, 2002). As discussed in chapter two, this investigation was designed to minimise the influence of extraneous variables that have been exposed in previous investigations (Pahl, 1965; Schmidt, 1978; Cawley, 1979, 1980). However, other potential influences, such as dependent children, which was discussed in chapter three, were determined by seeking whether commuting status is significantly associated with demographic or other variables in the questionnaire that could be indirectly influencing the significant relationships which have emerged.

Using a chi square test, each of the following variables was analysed by commuting status: *profession* and *age* (using the regrouped categories that were discussed in chapter four), *prior rural experience*, *work status*, *gender*, *number of dependent children*, *nationality*, *number of years having lived in small towns*, *total number of years having worked in small towns*, *number of years intending to remain living in current location* and *number of years having worked in current work-town* (referred to as retention). Regarding the last four variables, responses were re-clustered into groups of five years after multiple small cells emerged during initial analyses. Of the above-listed variables, retention ($p < .0005$), prior rural experience ($p < .0005$) and gender ($p = .016$) showed significant differences in relation to commuting status. The potential influence of each of these as extraneous variables is discussed in turn.

Prior rural experience

A cross-tabulation of responses to the question relating to prior rural experience by commuting status is displayed in Table 5.2b.

Table 5.2b. Prior rural experience by commuting status

When I commenced working in this town I had . . .	Commuters		Non-commuters	
	N	%	N	%
. . .lived in the area most of my life (within a 75 km radius)	62	39	96	24
. . .lived in the area for at least a year	26	17	48	12
. . .lived in another rural area for at least a year	58	37	185	46
. . .only ever had holidays in a rural area	5	3	17	4
. . .only ever done work experience or itinerant labour in a rural area	0	0	6	2
. . .never lived in a rural area	6	4	48	12
Totals	157	100	400	100

Key: Percentages have been rounded to the nearest whole number. Six missing cases.

Two visual aggregations of this data are useful for interpreting the difference between commuters' and non-commuters' lengths of prior rural living. The combined percentages in the top *three* rows show that 93 per cent of commuters, as opposed to 82 per cent of non-commuters, had lived in *a rural area* for at least a year prior to taking up employment in their current work-town. The combined percentages in the top *two* rows show that 56 per cent of commuters, as opposed to only 36 per cent of non-commuters, had lived in *the local area* prior to working in their current work-town. In both combinations of figures, the majority of non-commuters have experienced shorter lengths of rural living than commuters, whether locally or elsewhere.

At first glance, it seems intuitively unlikely that non-commuters' overall shorter years of rural living are the underlying cause for their higher reported frequencies relating to *local shopping, purchasing fund-raising items, enjoyment of community, sense of public behaviour and knowing work-colleagues*. Furthermore, the literature indicates that social participation and attachment to community increase with length of residence (Brown, 1993; Dempsey, 1990; Albrecht, 1980). Theoretically, as the majority of commuters display longer periods of local living, they should show higher levels of hometown community involvement. As this is not the case, this variable was not considered to have any potential influence upon the statistically determined relationships.

Retention

In contrast, retention was applied as a control variable. The cross-tabulation of the frequencies of commuting status by retention, which is shown in Table 5.2c, reveals that non-commuting professionals have significantly higher long-term retention rates. Sixty five per cent had been employed in their current work-town for more than five years (totalling the percentages for non-commuters in the all but the first row) and 53 per cent exceeded ten years. On the other hand, only 48 per cent of commuters had worked in their current work-town for more than five years (totalling the percentages for commuters in the all but the first row), and 31 per cent exceeded ten years.

Table 5.2c. Retention by commuting status

Years worked in one town	Commuters		Non-commuters	
	N	%	N	%
1 to 5 years	80	52	141	35
6 to 10 years	27	17	48	12
11 to 15 years	16	10	49	12
16 to 20 years	14	9	70	18
Over 20 years	18	12	93	23
Totals	155	100	401	100

Key: Percentages have been rounded to nearest whole number. Eight missing cases.

Because studies of the retention of rural allied health workers (Sacco, 1994; Lonne & Cheers 2000; Montgomery, 1999), rural GP's (Hays et al, 2003; Rabinowitz, 1988; 1999), and rural teachers (Haughey & Murphy, 1985; Boylan et al, 1990; Boylan & McSwan, 1998; Montgomery, 1999) have found a positive correlation between engagement in local community and longer periods of retention, it is plausible that the higher levels of retention among non-commuters in this study could have indirectly influenced the significant relationships found between non-commuting and community involvement.

Gender

Gender was also applied as a control variable because expressions of community involvement are gender-dependent in rural Australia. In relation to formal voluntary activities, men tend to predominate in sport and service clubs while women tend to

participate formally through church, charities, cultural associations and supportive auxiliaries (Wild, 1974; Gippsland Institute of Advanced Education, 1978; Dempsey, 1990; Alston, 1995). While these gender-based patterns of community involvement relate to formal activities, it is plausible that gender could also be influencing those significant differences that emerged in the preceding section because the majority of commuters are female, as shown in the cross-tabulation of commuting status by gender that is displayed in Table 5.2d.

Table 5.2d. Gender by commuting status

Gender	Commuters		Non-commuters	
	N	%	N	%
Male	45	29	161	40
Female	108	71	236	60
Totals	153	100	397	100

Key: Percentages have been rounded to the nearest whole number. Thirteen missing cases.

5.3. Post-test controlling for retention and gender

The test variable of retention was reduced to two categories because of the emergence of multiple small cells during an initial analysis. The categories of ‘short term’ (five years or less, and ‘long term’ (>five years) were created. The decision to classify long-term retention as exceeding five years was arbitrary. The literature revealed no consistently applied benchmark for the long-term retention of rural professionals with studies defining it as exceeding six years (Boylan & McSwan, 1998), four years (McSwan et al, 1988) or less (Lonne & Cheers, 2000). For ease of expression, the terms ‘long-staying’ and ‘short-staying’ are used when discussing retention. For example, ‘short-staying females’, refers to female professionals who have worked in the one location for less than five years.

The potential effects of gender and retention were controlled for simultaneously by creating four new test variables from all the possible combinations of gender and retention: short-staying males, short-staying females, long-staying males and long-staying females. A Mann Whitney U test was applied to four separate re-analyses of commuting status by the five significant differences found in section 5.2, each time

controlling for one of the four new test variables. The initial p values for the five significant differences, which are collectively called the zero order relationship (De Vaus, 2002) and the p values that resulted after applying control variables, are displayed in Table 5.3. All significant differences are in relation to non-commuting.

Table 5.3. Significant differences in hometown community involvement by commuting status, controlling simultaneously for gender and retention

Community involvement variables to which controlling has been applied.	Zero order relationship	Male < 5 years	Female < 5 years	Male > 5 years	Female > 5 years
I purchase fund-raising items and raffle tickets.	.0005	.673	.529	.050	.0005
I shop locally.	.001	.217	.258	.039	.0005
Community involvement gives you better standing.	.0005	.066	.162	.513	.001
The people I know best are my work colleagues and clients.	.0005	.006	.0005	.552	.0005
I feel I must behave well because everyone knows me.	.001	.162	.016	.514	.034

To claim there is a direct association between commuting status and any of the five variables displayed in Table 5.3, the probability that an actual association exists between commuting status and a particular variable within the study population must remain above 95 per cent when all combinations of gender and retention are factored into a reanalysis. In other words, to claim that commuting status has a direct association with any of the five variables, p values measuring between .0005 and .05 must be evident in each column across one entire row. As this is not the case for any of the variables, commuting status bears no direct association with hometown community involvement.

However, these five variables are indirectly associated with commuting status via the influence of retention and gender. In the first, fourth and fifth columns in rows one and two of Table 5.3, p values of less than .05 indicate that retention intervenes in relation to *shopping locally* and *purchasing fund-raising items and raffle tickets*. Long staying, non-commuting professionals engage in these two aspects of community involvement significantly more frequently than long-staying commuters or short-staying professionals. Gender alone intervenes in the association between commuting status and *I feel I must*

behave well because everybody knows me as p values of less than .05 in columns one, three and five indicate that non-commuting females feel significantly more aware of the need to display good public behaviour than commuting females or male professionals.

Both gender and retention intervene in the relationship between commuting status and *Community involvement gives you better standing in the town*. The high degree of significance in the last column of the third row of Table 5.3 indicates that a significantly greater number of long-staying, female non-commuting professionals aim to gain better standing through community involvement than either male professionals, commuters or short staying professionals. Similarly, both retention and gender intervene on the significant relationship between commuting status and *The people I know best are my work-colleagues and clients*. Indeed, this variable comes very close to displaying a direct relationship with commuting status as except for column three, significant differences are evident across the entire row associated with this variable. In other words, except among long-staying males, non-commuting professionals interact to a more significant extent with colleagues and clients than do commuting professionals. Consideration was given to whether the inconsistency associated with long-staying male professionals is actually a Type II error, and that there actually is a direct relationship between commuting status and *knowing work-colleagues and clients*. However, recalculation and checking revealed no error in the analyses.

A further interesting observation is that the highest levels of significance are predominantly associated with long-staying, female professionals. Among this cohort, there is a significant relationship between non-commuting status and each of the variables listed in Table 5.3.

5.4. Summary

In response to the research question, there are five significant differences between the community involvement of commuting and non-commuting professionals working in

small towns in north-western Victoria, which are indirectly influenced by gender and retention.

The steps that led to this conclusion commenced with discussing the frequencies of response to the community involvement variables. A combination of relatively low reported participation frequencies with high integration and motivation frequencies indicates that rural professionals are relatively inactive in terms of participation, but are well integrated and motivated to engage in their hometown community. A comparison of the percentage-based frequencies of formal social participation variables with those from earlier studies of rural Australian social dynamics suggests that while a greater proportion of professionals currently engage in some type of formal social activity than in past years, fewer professionals currently engage in multiple groups and clubs. The traditional pattern of rural professionals engaging in many, local formal voluntary organizations, appears to be waning.

The analyses of each of the 44 community involvement variables by commuting status showed twelve significant differences between commuters' and non-commuters' hometown community involvement, which were reduced to five, after adjusting for error.

To determine whether these five differences were indirectly influenced by factors other than commuting status, the test variables of gender and retention, which were determined by seeking significant demographic and work-related differences between commuters and non-commuters, were applied as post-test control variables. The results of controlling led to the conclusion that, while commuting status is not directly associated with community involvement, different combinations of commuting status, gender and retention are associated.

Possible explanations for the associations between commuting status and both gender and retention, as well as for the intervention of these two variables, are discussed in chapter seven. Because these explanations draw largely upon interview data, the second phase of the investigation is first discussed in detail in chapter six.

Chapter 6. The second data collection phase

Face-to-face interviewing was chosen as the means of gathering data for this phase of the investigation because this method allows the researcher to follow through threads of inquiry to enable establishing factors of association (Neuman, 2000). Interviewees were asked the questions which are listed in Appendix B, and which are discussed in detail in the section 6.1. Sampling, interviewing procedures, the reliability of the acquired data and data analysis are detailed in the succeeding chapter. While most of the themes derived from the interview data are discussed in chapters seven and eight, the last section of this chapter discusses themes that arose from analysis of questions relating to community boundaries and broader networks in order to account for excluding work-town community involvement analyses from the investigation.

6.1. Developing the interview questions

The interview questions fulfilled a number of purposes. While they were primarily designed to gather data to fulfil the explanative aim of this phase of the investigation, some were also developed to validate key concepts that have been used in the investigation, including the chosen definitions of community, commuting and community involvement. Other questions have been included to gather data relating to issues that have been unexplored in other investigations, such as an association between commuting and professional distance, and yet others are hypothetical questions associated with commuting. Each of the interview questions is discussed in relation to their purpose.

To establish likely causes for the significant relationship between retention and commuting status, interviewees were asked: *Why did you take up the job you currently hold and why do you stay working in this job?* To gather data relating to social networks and community involvement which could be explored in order to explain some of the indirect relationships that surfaced from questionnaire analysis, interviewees were asked: *Please tell me about your hometown networks. If your work-town is different from your*

hometown, please tell me about your work-town networks. Please describe ways in which you are involved in your hometown/work-town.

The issue of maintaining professional distance was explored by asking, *Could you explain how you maintain a professional distance working in this community/these communities?* This issue was probed because a relationship between maintaining distance and commuting status has not been explored in the literature and, as discussed in the next chapter, responses to the survey question that asked about ‘reasons for commuting’ show that professional distance is an influential, gender-based factor in commuting decisions.

Because this investigation focuses upon social changes in place-based rural communities, and the literature cited in the introduction indicates that rural residents have a geographically increased perception of local community due to mobility, a number of interview questions were designed to probe respondents’ perceptions about community boundaries, extended networks and commuting. These questions include: *How would you define a community? Please describe what you think are the boundaries of your hometown, Please tell me about any wider networks you have that extend beyond your hometown, Do you think of these networks as communities? Why/why not?* and *Do you see yourself as a commuter? Why/why not?* Commuting interviewees were also asked *Please describe what you think are the boundaries of your work-town and Please tell me about any wider networks you have that extend beyond your work town.*

As a dimension of mobility, and in accordance with previous investigations (Schmidt, 1978; Cawley, 1979, 1980), commuting has been viewed from the outset of this investigation as a socially disruptive agent that has contributed to dispersing rural communities. However, precisely because travel to work has been found to give rise to extended networks, commuting could potentially return social benefits, via these networks to small communities. Also, the possibility that commuting could potentially be a positive social force in rural areas has been largely unexamined in the literature. Hence commuting interviewees were asked two interrelated questions, *In what way(s) does*

working outside your hometown allow you to draw upon wider networks? In what sense, if at all, is this beneficial to your hometown?

Because non-commuters exhibit higher retention rates, and longer retention rates of professionals are of benefit to small communities, commuting interviewees were asked a further three hypothetical questions to probe whether incentives could be used to entice commuters to become non-commuters by either taking up a position in their hometown or relocating: *If a similar job came up closer to your hometown, would you take it?*

Why/why not? If you were offered incentives to move to your work-town would you shift?

Why/why not? If you have a contract work position, would you shift to your work-town if offered a permanent position? Why/why not? Lastly, commuting interviewees were also asked: *Are there any other comments you want to make regarding commuting and your connections to your hometown and/or work-town?*

Consideration was given to asking interviewees about specific shopping habits, given the emergence of significant relationships between non-commuting, local shopping and retention. However, details relating to local shopping were not probed because local shopping is a sensitive subject in the Wimmera Mallee and it was deemed best not to seek further, specific information than had already been given in the questionnaire.

6.2. Sampling, interviewing, data reliability and analysis

Sampling

Because the explanative purpose of the second phase of this investigation logically implied gathering data from among the sample that had responded to the first phase, interviewees were recruited via the final question on the survey. This question asked respondents if they would be interested in participating in a face-to-face interview and 160 respondents volunteered by providing their name and a telephone contact number.

The time consuming nature of face-to-face interviewing necessitated selecting a sample from among these volunteers. Of a variety of purposeful sampling strategies employed in

qualitative research, stratified purposeful sampling was utilised because it facilitates comparison between highlighted subgroups (Creswell, 2003; Patton, 2002) and is therefore useful for seeking potential factors of association for the survey-found significant differences relating to retention, gender and commuting status. Four different stratification categories were created: short-staying male and female professionals and long-staying male and female professionals. A total of twenty-four commuting and non-commuting interviewees were selected, a figure which allowed the stratification of six interviewees in each of the four categories and permitted both breadth of data collection and manageability in terms of time and data handling.

The procedure of selecting the sample involved grouping the returned surveys from the 160 volunteers into each of the four gender and retention-based stratification categories. All of the returns from long-staying females were bundled into a pile, as were those from long-staying females, short staying males and long-staying males. From each bundle of surveys, a questionnaire was randomly selected and the respondent was phoned. If there was no response, or a respondent declined, the questionnaire was laid aside and the same process was undertaken with another survey. This procedure was repeated until a total of six responses were obtained for each stratification category. A mix of commuters and non-commuters was included in each category.

Interviewing

Those who agreed to be interviewed were forwarded both a plain language statement and a consent form, and a time was arranged for a thirty minute interview at a location of their choice. In most cases, those who were selected chose to be interviewed at their work-site or occasionally, at their home. Interviews were undertaken during April 2003, approximately nine months after the questionnaire was issued. They were taped and then transcribed by a professional transcriber, and both electronic and multiple hard-copy transcriptions were forwarded to the researcher.

Data reliability

Substantiating the reliability of qualitative data can be difficult because often, no other relevant data is available with which to compare it (Adler and Adler, 1998). To establish the reliability of interview data in this investigation, interviewees' claims were matched, as far as possible, with their questionnaire responses, using the rationale that if responses were found to be similar between both data collection phases, which are separated in time by nine months, then the data is reliable in the sense that it accurately reflects the lived experience of interviewees.

Obviously, some data could not be matched as several interview questions deliberately probed aspects of interviewees' lives that the questionnaire did not. For example, no survey questions provided data with which to compare verbalised responses to the interview question, *Could you explain how you maintain a professional distance working in this community/these communities?* Furthermore, interviewees' verbal responses were more detailed than the 'boxed' responses provided on the questionnaire. Also, as already discussed in chapter four, some commuting interviewees were territorial workers who did not complete their commuting sheets. Consequently, their responses to interview-based commuting questions could not be compared with questionnaire data.

However, where observable and comparable, there was strong correspondence between questionnaire-derived and interview-acquired data. Each interviewees' verbal responses to the questions, *Please describe the ways in which you are involved in your work-town/hometown* and *Please tell me about your work-town/hometown networks* were remarkably consistent when compared with each interviewee's questionnaire responses. For example, interviewees who verbally reported that they engaged in several formal groups, indicated in their questionnaire responses that they participate in formal groups 'fairly often.' Consistency was also evident when comparing interviewees' questionnaire responses to recruitment and retention reasons with their verbalised responses to the interview question *Why did you take up the job you currently hold and why do you stay working in this job?* Interviewees who stated that family relationships were the main influence that contributed to them remaining working in the one town also indicated this

response upon their questionnaire. Similarly, commuting, demographic and other data which interviewees verbalised during the course of their interview (for example, distance travelled to work, the number of years spent working in a current position and the relationship between work-town and hometown), were consistently confirmed by corresponding questionnaire responses.

Analysis

The analysis of interviewees' responses was undertaken without the aid of specialised computer software. Using a code and retrieval approach to data analysis, all of the responses to each question were grouped together in their relevant stratification category by 'cutting and pasting' the electronic transcriptions. For example, all the responses to the first question from the six female, short staying interviewees were grouped together; those from the female, long-staying interviewees were grouped together, and so forth. The stratified responses relating to each question were then analysed for common themes. Individual themes were then presented in the form of a data display (Miles & Huberman, 1994), that is, a list of the themes presented in a condensed form that allows the researcher to easily peruse all the themes at a glance. For each interview question, emergent themes from each stratification category were then compared to determine any marked differences in responses between long and short-staying female interviewees and long and short-staying male interviewees.

6.3. Mismatched perspectives of work-town

The line of argument that led to excluding work-town community involvement analyses is presented in brief, prior to detailing evidence for it. Interviewees identified with a place-based perspective of their hometown community centering largely upon a single town. However, territorial commuting professionals, who number roughly half of the commuters in the sample, identify their work-town as being dispersed among several towns, rather than centering upon any one town. Furthermore, commuters identified that the relationships they establish over their multiple work towns equate with community, as opposed to being simply a network of relationships. It is therefore questionable whether

the work- town community involvement responses gathered in the questionnaire, which implied a single town focus, reflect the work-town community involvement of the many territorial commuters in the sample. Work-town analyses were therefore omitted from the thesis. The following discussion provides evidence for this abbreviated line of argument.

Two main themes emerged in relation to how interviewees' perceived the boundaries of their hometown. Most identified these as coinciding with markers such as de-restriction speed signs, lapsed local government divisions " . . . the old shire boundaries," or some surrounding farming area " . . . the rural families, probably living maybe in a twenty kilometre radius." However, other interviewees defined their hometown's boundaries in relation to the 'range' from where people living beyond the town travelled to access local services including shops, schools and health facilities. A commuting teacher identified the boundaries of his hometown, Swan Hill,²² as encompassing, " . . . a few smaller towns around and they'd have to be included because a lot of people would travel into Swan Hill for shopping and social events." One interviewee identified the boundaries of her hometown, Bendigo, as both place-based yet simultaneously expanding out through her work territory due to service provision.

I see Bendigo in a number of ways. I see Bendigo on the map and you know maybe the boundary of Bendigo [stretching] out as far as Kangaroo Flat, out White Hill way, and then I see it sort of reaching out too . . . Bendigo services do provide outreach services.

Through the eyes of interviewees, hometown communities clearly centre upon a single town with competing views about the extent of radial boundaries, some of which include smaller satellite towns that are dependent upon larger towns for services. These responses substantiate underpinning the investigation with a place-based perspective of 'hometown', and therefore of commuting as exceeding town boundaries to travel to work.

²² In some quotes, names of work-towns have been retained to convey to readers an idea of the spatial perceptions of community reported by interviewees. Where individual interviewees could be identified due to the nature of their profession, eg. a clergyman or medical doctor, names of towns have been deleted.

However, commuting interviewees' perceptions of their work-town borders are not centred upon single towns. A commuting nurse reported, "I look at the boundaries of Nhill [work-town] as incorporating the West Wimmera Health Service . . . Kaniva, Natimuk, Goroke, Jeparit, Rainbow." A commuting clergyman identified the boundaries of his parish as his work town, saying "I see [hometown] and [other parish town] as one because it's my parish." Of three shire-employed commuting professionals, one identified the borders of her work-town as the boundaries of the three local government areas that her position covered. Another one perceived his work-town as being the two shires in which he worked and the third perceived his work-town as extending for a 100 km radius, equating with the area he covered for work purposes.

The finding that commuting professionals have a sense of a dispersed work community embracing multiple towns, largely devoid of a central focus, coupled with the finding that 82 commuters worked in more than one town, suggests that it cannot be assumed that work town community involvement is undertaken within a single, place-based community, as implied in the notion of 'work-town' in the questionnaire.

Furthermore, commuting interviewees identified that their work-town networks are of a communal nature rather than a loose series of relationships, and that these networks were the site of meaningful community involvement. Responses to the question regarding perceptions of what constitutes a community, show that it is seen as more than just a network of relationships. Interviewees generally identified community as largely place-based relationships that have a supportive dimension, using phrases such as ' . . . its where you live and you help others out,' and ' . . . it's a supportive group who live in the one location.'

Commuting interviewees identified their work-towns as communities because the networks they established through work had a supportive and integrated dimension, despite being geographically dispersed and non-centralised. In contrast, interviewees, including commuters, identified that they did not consider other non-centralised, dispersed social networks they participated in as communities. Responses to the question, *Please tell me about any wider networks you have that extend beyond your work-town/hometown* show that

most interviewees, irrespective of commuting status, have wider social networks throughout the study area resulting from sport, leisure activities, spiritual pursuits, children's activities family and friendship. The following quote from a commuting nurse typifies such networks.

Well, the football club league extends up to Ouyen and Manangatang, two and a half hours away. I have close friends that I socialise frequently with in Horsham, so I go to Horsham fairly often. My family are in Melbourne and St Arnaud and other places, so yeah, we're getting out of the town fairly often to functions or sporting events and we also made the children play basketball in Hopetoun as well.

However, in response to the ensuing questions, *Do you think of these networks as communities? Why/why not?* few interviewees identified such networks as communities. They said that they lacked the integrated, caring and supportive dimension that most interviewees articulated was central to their perception of community. Dispersed geographical networks that commuters establish through work appear to be distinct from other dispersed, leisure-based networks because they are largely communal.

Responses to these questions indicate that among territorial commuters, work-towns are perceived as geographically dispersed communities as opposed to a single place-based entity as implied by the term 'work-town' in the questionnaire. The incongruity between commuters' actual perceptions of work towns and the notion implied by the questionnaire draw into question what exactly responses to the work town community involvement questions mean. Hence, frequencies and analyses relating to work-town community involvement were omitted from the investigation.

6.4. Concluding statement

The discussion in this chapter detailed the interview questions and their purpose in relation to the aim of the second data collection phase, and focused upon issues relating to sampling, interviewing, data reliability and analysis. Data were presented to substantiate the validity of the place-based perspective of hometown focusing upon a single, central town, which was implied in the questionnaire. Further related analysis showed that among commuting interviewees, their concept of work-town brought into

question that which underpinned the survey, leading to omitting work-town analyses from the investigation.

The themes that emerged from analysing the interview data and which are presented throughout the next two chapters, give the overall impression that the association between commuting status upon community involvement exceeds the few, indirect significant differences that resulted from questionnaire analysis. Quotes and viewpoints indicate that through the eyes of interviewees, work journeys restrict social activities and connectedness to community, independent of length of retention and gender. The apparent disparity between both data sets is not unexpected because interview data have been analysed and presented with a view to emphasising thematic contrast between the verbalised responses from interviewees in each of four purposefully-selected stratification categories. However, the interview-derived themes are not used as evidence in isolation. Where possible, findings from other investigations and further questionnaire analysis are drawn upon to develop some tentative explanation to account for the statistically verifiable differences that emerged in chapter five.

Chapter 7. Explanations for statistically significant differences

The purpose of the discussion in this chapter is to try to account for why commuting status is directly associated with both gender and retention, and why these two variables intervened in associations between commuting status and some community involvement variables.

In section 7.1, a number of different data sources have been used to show that the association between commuting status and retention is underpinned by non-commuting fostering hometown connectedness, which in turn encourages long-term retention. Similarly, findings from previous investigations, questionnaire analysis and interview themes, which are discussed in section 7.2, indicate that the direct association between gender and commuting status is linked to a settlement pattern that is characteristic among female professionals in dry-land farming areas. As the chapter progresses, commuting is exposed as a force for inhibiting connectedness over time and this appears to partly account for why retention indirectly intervenes on associations between commuting status and some aspects of community involvement. Discussion exposes new findings, implications for future research and unexpected themes.

7.1. Commuting status and retention

The significant association between commuting and retention was largely unexpected. The literature was therefore searched to determine if any other studies have found an association between these two variables. Some urban-based research has established a positive correlation between shorter-than-average commutes and longer periods of job retention (Levinson, 1997; Madden, 1981). This correlation is thought to be a consequence of economic factors, particularly the cost of relocating a residence or travelling to a further work-site (Van Ommeren et al, 2000). Shorter-than-average commutes can be equated with non-commuting in this investigation because, as shown in Table 7.1a, three quarters of non-commuters, as opposed to only ten per cent of commuters, travel less than five kilometers to work.

Table 7.1a. Distances travelled by commuting status

Distances travelled (km)	Commuting professionals		Non-commuting professionals	
	N	%	N	%
<5	16	10	299	75
6-20	6	4	53	13
21-50	83	54	39	10
51-75	30	19	2	1
75+	20	13	7	2
Totals	155	100	400	100%

Key: Eight missing cases. Some totals exceed 100% due to rounding.

Bearing this urban-based economic hypothesis in mind, factors relating to the long-term retention of commuting and non-commuting professionals in this investigation were sought by statistically analysing responses to the ‘retention factors’ survey question by commuting status.²³ Table 7.1b shows the aggregated frequencies of ‘agree’ and ‘strongly agree’ response to each of the retention factors listed in the survey. Broadly, job satisfaction and a combination of community and life-style factors stand out as the two main factors relating to professionals’ periods of retention throughout the study area. These two clusters of retention reasons correspond to findings from other investigations that were discussed in chapter two in relation to generating this particular survey question.

²³ This ‘retention factors’ question is separate to the retention question that asked respondents how many years they have worked in the one town. Incidentally, because commuters exhibit shorter lengths of retention and they are mostly female, it was thought that retention may be gender-linked. However chi square analysis of retention by gender revealed no significant difference between the lengths of retention of male and female professionals.

Table 7.1b. Frequencies of retention variables

Retention variables	Sum of 'agree' and 'strongly agree' responses
I'm happy with my work	496
I enjoy country people	475
There's a greater sense of community	427
It's a good place to raise a family	406
I like to be close to nature	394
There's few traffic and parking hassles	389
It's environmentally clean	386
My job pays well	368
I enjoy the simplicity of life	367
I feel I can be myself	340
I enjoy the social networks	339
I enjoy the slower pace of life	328
There's less crime	293
I enjoy the clubs	249
I like knowing many people in depth	248
My partner prefers small-town life	235
The housing is cheap	223
I have extended family living locally	178
There's a slower rate of change	134
I'm on contract	118
There's lack of multiculturalism	112
Aged relatives need care	75
I can't afford to shift	70
I haven't been able to get a better job	56
Other (<i>please specify</i>)	52 (mixed responses)
I have to live here for my health	37
I haven't been able to get another job	34

Key: Respondents were not required to limit their number of responses and hence the frequency figures are not cumulative.

Significant differences between these retention factors and commuting status were determined by applying a Mann Whitney U test. The results, all of which favour non-commuting status, are displayed in Table 7.1c.

Table 7.1c. Significant differences between retention variables and commuting status

Retention variables	<i>p</i> values	Positive responses N	'Do not apply' responses N	Missing Cases N
There is a greater sense of community	.0005	427	38	50
I enjoy the clubs	.0005	249	112	61
I enjoy the social networks	.001	339	61	59
The housing is cheap	.003	223	168	56
It is a good place to raise a family	.012	406	88	44
There is less crime	.021	293	83	54
Aged relatives need care	.048	75	321	62

Key. All significant relationships favour non-commuters.

To provide a clear picture of significant differences between particular retention variables and commuting status, Table 7.1c includes the *p* values, the relevant frequencies from the previous table reprinted for easy reference, the number of 'do not apply' responses and the number of missing cases. Collectively, this information shows not only significant differences, but also the extent of association of throughout the study population. For example, the figures relating to the first variable listed in Table 7.1c, *There is a greater sense of community*, show that this factor is highly associated with the overall retention of long-staying professionals and specifically in the retention of non-commuters. Not only did 427 respondents provide a positive response, but only 38 indicated that this variable was not associated with their retention and a further 50 omitted a response. In contrast, the variable, *Aged relatives need care*, has been more significant in the retention of non-commuting than commuting professionals, but does not hold great sway overall in retaining rural professionals throughout the study area as only 75 respondents indicated agreement while 321 respondents identified that this variable 'did not apply' to them and a further 62 provided no response.

The figures in Table 7.1c show that the urban-based, economically-driven hypothesis can only partly account for the association between long-term retention and commuting status found in this investigation. While cheap housing has moderate significance in relation to retaining non-commuting professionals, the strongest associations are key aspects of community involvement including *There is a greater sense of community*, *I enjoy the*

clubs and *I enjoy the social network*. Lifestyle variables and personal relationship-related variables including *It is a good place to raise a family*, *Aged relatives need care*, *There is less crime* and *I enjoy country people*, are also influential. Social factors, rather than economic factors, are most significantly associated with the retention of non-commuting professionals.

The association between community involvement, home ownership and long-term retention of non-commuting rural professionals was also voiced among interviewees. In response to the interview question, *Why did you take up the job you currently hold and why do you stay working in this job?* a long-staying, non-commuting male teacher said, “Once we had the kids, then [my partner] returned to work . . . and by then the kids had built up networks.” Another long-staying non-commuting teacher remained living and working in the one location for many years because it was “. . . just a nice area, no reason to move, we owned our own house . . . both had employment.”

The finding that community and social networks are significantly associated with non-commuting, rural professionals’ retention reflects the conclusion of other research that has found an association between the long-term retention of professionals and community engagement, independent of commuting status. Studies of retention factors among rural professionals have found a strong positive association between community involvement, particularly engagement in formal social activities, and the retention of rural allied health workers and social workers (Montgomery, 1999; Sacco, 1994; Lonne & Cheers, 2000), medical practitioners (Mills 1997; Hays et al, 2003; Rabinowitz, 1988, 1999) and teachers (Haughey & Murphy, 1985; Boylan et al, 1990; Boylan & McSwan, 1998). The finding in this investigation that the association between commuting status and long-term retention is most strongly influenced by community involvement suggests that the relationship between rural professionals’ retention and community engagement, which has been found in the above-cited investigations, is actually fortified by living and working within the one place-based community. This observation has important implications for the retention of rural professionals that are discussed fully in the next chapter.

Having established that the association between retention and commuting status is linked to community involvement, some attempt is now made to account for why post-test controlling found that retention intervenes on significant differences between commuting status and *local shopping, purchasing fund-raising items, relationships with work-colleagues* and, among female professionals, *good social standing*. While no interview questions probed monetary themes, data can assist in accounting for the last two of these variables, which are discussed in the next section because they are associated with both retention and gender.

Generally, further survey analysis and interview data create a picture of non-commuting fostering hometown community connectedness over time, which offers an indirect explanation for why retention intervenes on these associations.

The figures shown in Table 7.1d indicate that non-commuters perceive themselves as being more socially connected to their hometown than commuters. Chi square analysis of commuting by the question relating to socially ‘fitting in’ to one’s hometown revealed a statistically significant relationship ($p < .009$), in which a significantly greater proportion of non-commuters than commuters identified themselves as being ‘right in the hub’, while more commuters than non-commuters identified themselves as being socially ‘on the edge’ of their hometown.

Table 7.1d. Commuting status by perception of socially ‘fitting in’

	How do you see yourself socially ‘fitting in’ to your hometown?							
	On the edge		Part of the crowd		Right in the hub		Total	
	N	%	N	%	N	%	N	%
Commuters	49	32	83	55	20	13	152	100
Non-commuters	74	19	234	60	82	21	390	100

Key: Percentages are rounded to the nearest whole number. Fourteen missing cases.

Commuting interviewees reported that their travel-to-work inhibited their hometown connectedness by restricting their opportunity to socialise locally. A male, shire professional identified that his commuting left him ‘out of the loop’. He said, “Working

away from your hometown, you miss a lot. You [don't get] to hear things . . . to meet more people." A member of the clergy articulated that commuting generated a sense of social disconnectedness for her.

Look, [commuting] is a two edged sword. It's great having the space, but it also means I feel disconnected from the community . . . [my job is] about building and connecting community.

A male engineer also said that his long-distance commuting prevented him from participating in formal organizations, which in turn impinged upon his sense of connectedness to his hometown.

There's no doubt about it that if you play sport you'll fit into a whole range of groups very quickly and one of the problems I find is that I actually commute and then it doesn't allow you to participate in a whole range of sports.

Commuting appears to inhibit both community involvement and hence long term retention because it appears to restrict developing hometown social connectedness. In contrast, non-commuting and a sense of being part of the social fabric of one's hometown are highly associated. After a span of several years, non-commuting professionals become connected to their hometown community via social networks and groups, which enmeshes them into the community and thereby contributes to longer periods of retention, which in turn feed economic benefits (*local shopping* and *fundraising*) to small towns.

7.2. Commuting status and gender

While a considerable body of research has found a significant relationship between gender and commuting status, the common conclusion is that men are more likely than women to commute and they will usually commute further (Peters & MacDonald, 1994; Blumen, 1994; Hanson & Pratt, 1995; Turner & Niemeier, 1997; Freedman & Kern, 1997; Wyly, 1998; Macdonald, 1999). Additionally, research that has compared the work-trip lengths of male and female professionals has found no significant difference in

the distances they travel to work (Hanson & Pratt, 1995; Brooker Gross & Maraffra, 1985).

This study has found the opposite pattern: more female than male professionals commute and on average, the women commute further than the men. The data presented in Table 7.2a, shows that almost three quarters of the male questionnaire respondents, as opposed to approximately half of the females, worked less than 5 km from home. A chi square analysis of distance traveled by gender yielded a highly significant difference ($p < .0005$).

Table 7.2a. Distances traveled to work by gender

Distances traveled to work, one-way	Male		Female	
	N	%	N	%
< 5	143	71	165	49
6-20	12	6	46	13
21-50	27	13	93	27
51-75	12	6	19	6
>75	9	4	17	5
Total	203	100	340	100

Key: Percentages have been rounded to the nearest whole number. Twenty missing cases.

Only a handful of other studies, which all focused upon partnered women (Brooker-Gross & Maraffa, 1985; Singell & Lilleydahl, 1986; Kwan, 1999; Camstra, 1994), have found instances where females commute further than males. Kwan found that among 72 mostly managerial and professional subjects, the majority of full-time working women ($n = 28$) traveled an average of 15.8 km to work, while their male partners averaged 11.9 km. Camstra (1994) found that after couples shift, the commuting distance increases more for women, particularly among ‘modern’ couples who cohabitated later (aged greater than 26) and postponed child bearing (after three years of cohabitation, or not at all). While the occupational status of the sample in Camstra’s study was not detailed, it is reasonable to assume that career-oriented professionals would fall into the ‘modern lifestyle’ category.

Neither Kwan (1999) nor Camstra (1994) provided evidence-based explanations for their observations. However Singell and Lilleydahl (1986) and Brooker-Gross & Maraffa

(1985) concluded that longer commutes among partnered women resulted from their choice of residential location preceding their choice of work location, the former being influenced largely by the male partner's job location. The findings of these two studies reflect the in-migration pattern that Dempsey (1990) observed was characteristic of rural professionals, which was referred to in chapter three of the current study,

Analyses of questionnaire data and themes from interview data show that the explanation put forth by Singell and Lilleydahl (1986) and Brooker-Gross and Maraffa (1985) accounts for the unexpected significant relationship between gender and commuting status which has been found in this investigation.

That the higher proportion of female commuters in this study results from female professionals establishing a residential location prior to a work location was first suggested by the figures relating to commuting status and prior rural experience shown in Table 5.2b. An unexpectedly high proportion of respondent commuters, the majority of whom are female, claimed to have lived in the area for most of their lives or for at least a year before taking up work in their current sites. In contrast, the majority of non-commuting respondents (most male respondents were non-commuters) had not lived locally prior to taking up work in their current work-town. In other words, these figures suggested that commuting status, and therefore gender, might be significantly associated with in-migration to the study area either before or upon gaining local employment.

To confirm any such association, gender, commuting status and responses to the 'prior rural experience' question were statistically analysed. Responses to the latter questions were grouped into two new categories comprising of those who had established residential location prior to job location and those who had not. The former included the combined responses from those who claimed to have *lived in the area most of my life* and *lived in the area for at least a year*. The latter category included combined responses to the other four variables, *only ever had holidays in the country*, *only ever did work experience*, *had worked in another rural area for at least a year* and *had never lived in the country*.

The results of two separate chi square analyses, which involved the numeric figures shown in Table 7.2b, showed a highly significant gender-based commuting and migration pattern ($p < .009$ for commuters and $p < .0005$ for non-commuters). Proportionally, 63 per cent of female commuters had established residential location prior to gaining employment in their current work-town. In contrast, 79 per cent of male respondents established their residential location upon gaining employment in the area.

Table 7.2b. Commuting status by prior rural residence (regrouped) by gender

		Male		Female		Total	
		N	%	N	%	N	%
Commuters	Established residential location prior	18	40	68	63	86	56
	Had not	27	60	40	37	67	44
	Totals	45	100	108	100	153	100
Non-commuters	Established residential location prior	33	21	107	46	140	36
	Had not	127	79	125	54	252	64
	Totals	160	100	232	100	392	100

Key: Percentages have been rounded to the nearest whole number. Eighteen missing cases.

That female commuters have established their residential location in relation to a male partner's work-site is confirmed by cross tabulating gender by commuting reasons, as shown in Table 7.2c.

Table 7.2c. Gender by commuters' reasons for travelling to work

Commuters' reasons for travelling to work	Male N	Female N
My hometown is another town	28	73
My partner has a job in the town I live in	17	47
Living in another town helps me maintain a professional distance	13	42
I live on a farm and am drawn to another town because of closer proximity	7	42
The town I live in has more facilities	13	21
Housing is cheaper elsewhere	3	3
Other	3	3

Key: Respondents were not restricted in the number of responses they could select and hence figures are not cumulative.

Forty seven commuting female professionals, or 44 per cent of the 108 females classified as commuters, reported that they travelled beyond their hometown to work because they lived in their partner's work-town and 42 (39 per cent) reported that they commuted because they lived on a farm, presumably their husband's. These two categories of responses are not mutually exclusive as respondents were not restricted in the number of categories they could select for the commuting reasons question. However, while there could be some overlap, partnering clearly influences commuting female professionals' choice of residential location.

The conclusion that the high proportion of female commuters in this study is due to the influence of the location of a male partner's work-site upon a couples' choice of residential location is also supported by interview data. Of the twelve female professionals interviewed, excepting one single woman, all had established their current residence in deference to their husband's location of employment. Some of these "... moved here because hubby got a job." Others either in-migrated to their husband's hometown upon marrying, or, in-migrated to the area for work purposes as single women and then eventually married locally-living partners and took up residence according to their husband's work location. Those female interviewees who commuted to work did so because of either promotion, wanting to work in a particular site or because job relocation forced them. Further discussion about why these women have chosen not to accept a position in their hometown, is presented in section 8.2 in the next chapter.

While the preceding discussion provides good evidence to show that the unusual gender balance of commuters in the study area results from a distinct settlement pattern associated with females selecting their residential location according to personal relationships, rather than personal job location, there is little direct evidence which can account for why gender intervenes in some relationships between commuting and community involvement.

Findings from previous investigations that have studied the social impact of commuting in rural areas have not focused upon gender differences in commuting. While Pahl (1965)

commented upon the social patterns of commuters' largely non-working wives and Cawley (1979, 1980) noted that some young girls were commuting to Galway for factory and office work, both researchers focused almost exclusively upon men. Schmidt (1978) included 26 women in his investigation of which 18 commuted. However, he was interested in changes to household dynamics and consequently he interviewed commuting couples with a view to gathering data about their lifestyle rather than isolating gender-based patterns.

Interview data could not directly account for why long-staying non-commuting females were significantly more motivated to participate in activities for *better standing* than male professionals or commuting females, or why female, non-commuting respondents *felt they must behave well because everyone knows them*, or why both gender and retention intervened on *knowing work colleagues and clients best*. However, what does shine through the data is the connectedness of female professionals with work colleagues, in part due to the nature of the professions in which women work. Several interview themes were exposed which suggest that commuting inhibits this connectedness while non-commuting fosters it.

In relation to *knowing work colleagues and clients best*, interview data suggest that the lack of significance on this particular variable between male, long-staying commuting and non-commuting professionals is due to men, over time, becoming less dependent upon work mates as a social arena. As shown by the following two quotes, regardless of commuting status, long-staying male interviewees reported that their social networks extended through formal organizations and sporting teams.

If you don't play sport you are an outsider, so my networks in town revolve around sporting clubs, outside of work that is obviously. So with my networks it would essentially be coming to work during the day, and weeknights it would be something around sport training, cricket, football, golf, whatever that might happen to be. Then on weekends, it revolves around playing that sport and socially interacting with the other people afterwards on a Saturday night or a Sunday whatever it might happen to be. (Commuting, long-staying, male land-care worker.)

Similarly, a non-commuting, long-staying, male school teacher reported:

Well, social networks, we've got staff colleagues, teachers and their spouses. I'm involved in the golf club, I'm in Lions Club, and I do a bit of work in the various stages for the football club, and cricket club.

In contrast, short staying, male interviewees indicated that their social life was strongly bound with work colleagues. A commuting school teacher who had been employed in the area for less than two years said:

It's not purely a one dimensional relationship. It's not turn up at work and say "Hi", and at the end of the day go home necessarily. We have lots of social events. We tell each other stuff about what's going on in our personal lives and take an interest.

However, among female interviewees, irrespective of the length of time they may have spent working in their current position, a consistently reported theme was that work colleagues were their main social group. A few women without family reported that their whole social life was shared with co-workers. The following comment from a short staying, non-commuting nurse was typical: "My social life is being with my work people and, I think nurses always get along well with nurses."

Commuting inhibits this connectedness. One female interviewee who had nursed at her local hospital for years, and had then taken up a position to which she commuted elsewhere for career advancement, lamented that she no longer sustained the close network of work colleagues in her hometown. Her connection with work colleagues in her new work-town was weak because commuting denied her the opportunity to bond with them after hours.

I started off as a nurse in [hometown]. I've noticed that I'm a bit more distant from colleagues that I used to work with closely because you just don't have the same connections and work based relationships and I probably miss that, because I am pretty much a practitioner. I don't have that same . . . that very same camaraderie that you get from being a nurse with other nurses. It's different. I don't have the

same work related social networks because of the distance, so where as now I'm based in [work-town]. I don't tend to stay after work and have drinks and things like that because my family's 45 minutes away. So yeah, life's lacking in that respect.

Interview data also suggest that female professionals tend to form and sustain close social networks with work-colleagues partly because of the need for the high levels of confidentiality in the professions in which women predominate. Ten of the twelve female interviewees were health professionals who reported that because of confidentiality issues, they had developed a barrage of socially-evasive strategies to maintain a professional distance. These include avoiding close relationships, public places, certain individuals and some social situations as well as maintaining after-hours relationships with work-mates. The need for confidentiality therefore is an important factor underscoring the close bonding of female professionals. In contrast, among male interviewees, the need to establish distance via evasion was mentioned by only one man. Almost half of the male interviewees felt no need to distance themselves from the local population and some stated that maintaining a high public profile benefited them in their professions. The high level of confidentiality required by female professionals, due largely to the professions in which women predominate, also helps to explain the differences in the gender-based frequencies figures relating to professional distance which were presented in Table 7.2c. Forty-two female professionals, as opposed to only 13 male professionals, commute to maintain professional distance.

The finding that *non-commuting* females socialise more significantly with work-colleagues than commuting females, could be due to non-commuters having the opportunity to do so more so than their commuting sisters. This potential explanation is suggested in the previous quote from the nurse who missed the camaraderie of her old site, but was precluded from it in her new site due to commuting. Furthermore, the trend of female professionals needing to maintain confidentiality and therefore adopting evasive tactics may partially explain why female non-commuting professionals feel more

bound to *behave well in public*, independent of retention, and over time, come to use community involvement to seek better *social standing*.

As isolated professionals have been shown to sustain shorter periods of retention (Boylan et al, 1990; Montgomery, 1999; Lonne & Cheers, 2000), and commuting generates social disconnectedness, lack of integration with work-colleagues caused by commuting may account for lesser retention rates among the mostly female commuters. Further research investigating links between commuting status, gender, integration and retention may expose important findings that could have implications for the retention of rural, female professionals.

7.3. The ‘reduced time’ hypothesis

The discussion in this chapter supports the ‘reduced local connectedness’ hypothesis that was referred to in the first chapter (Reimer, 1997) and which was supported by Schmidt’s findings (1978). A combination of interview data and questionnaire analysis indicate that commuting does inhibit hometown connectedness by reducing the opportunity for hometown social contact. The other hypothesis referred to in the introduction was the ‘reduced time’ hypothesis (Tigges & Fugitt, 2003). Schmidt (1978) also observed that commuters who travelled relatively short distances were more socially active on weeknights than commuters who travelled in excess of 30 miles. The latter group reported that reduced time, caused by their long work trip, prevented them from engaging in local social events during the week.

To determine whether the data gathered in this investigation can shed any light on the ‘reduced time’ hypothesis, a Mann Whitney U test was used to analyse the 44 community involvement variables by responses to the question about ‘distance traveled to work’. The five selection categories that were included for the latter question were reduced to two.²⁴ Responses from commuters who reported travelling in excess of 50 km (n= 50) were

²⁴ Because of the focus of commuting restricting time for social engagement, non-commuters were excluded from this analysis.

grouped together as long-distance commuters. It was assumed that this group would spend a minimum of one hour traveling each day and would therefore have considerably reduced time available for social activity. Those who reportedly travelled 50 km or less were labelled as short-distance commuters. The results of the analysis are displayed in Table 7.3. However, after applying a Bon-Ferroni error adjustment process (recalling from chapter five that this gave rise to new alpha levels of $\alpha < .003$ for participation variables and $\alpha < .004$ for both motivation and integration variables) not one of these relationships emerged as being beyond the possibility of chance.

Table 7.3. Significant differences between long and short-distance commuters and hometown community involvement

Participation	<i>p</i> value
I participate in community groups	.050
I use my professional skills to help in community projects	.022
I use my professional skills to assist towns-people	.005
I actively participate in church	.010
Motivation	
I get satisfaction from community participation	.039
I feel a sense of duty to support the town	.025
The enthusiasm of others inspires me to participate	.027
Social integration	
I really enjoy the sense of community	.011
I can trust people in the town	.030
I feel quite comfortable talking to people in the street	.006

Key: All significant differences fall in the direction of shorter distance commuters.

According to statistical analysis of questionnaire data, differences in time spent travelling, according to distance, have no significant effect upon commuters' community involvement. Thus, the findings of this investigation do not support the 'reduced time' hypothesis. However, it is worth recalling that the frequencies relating to the motivation variable *Time prevents me from becoming too involved*, which are displayed in Table 5.1b, on page 74, indicate that the study group as a whole, irrespective of commuting status, feel that they do not have enough time for community engagement.

7.4. Commuting and social benefits

While the prevailing image of commuting projected by interviewees' responses indicates that it inhibits hometown connectedness, an unexpected interview theme emerged which suggests that commuting can return social benefits to small towns.

Nearly all interviewees, irrespective of commuting status, articulated that increased professionalism was a key expression of their community involvement. Increased professionalism includes doing one's job well, taking on further training, being professionally accountable to the wider community, organizing professionally-related community events and participating as a representative of a particular profession in public promotions and community-based groups. For example, a male, non-commuting land-care worker reported, "I hold position in the community and I feel that if I don't continue to do it I'm going to let people down". A non-commuting nurse reported that:

I work in a hospital and I think my aim is to provide the best of care the best of service and I think by developing yourself professionally you're actually up to date and you know what's going on and you know what the latest is.

Importantly, commuting interviewees identified that their travel to work increased their professionalism in a way that returned social benefits to their hometowns. They reported that travelling between several work-sites or simply working beyond their hometown aided them to better serve their work and home communities because it increased their professionalism. Access to non-hometown or multiple work-sites furnished them with knowledge of the latest techniques in their field, better follow-up strategies, the ability to access and enhance collaborative partnerships across the region and access to information and knowledge via a wider circle of professional contacts. Less professionally oriented expressions of community involvement were also reported as being facilitated by commuting, included acting as an informal courier service. The following comment from a commuting shire professional includes some of the above cited means by which commuting reportedly enhances community involvement.

I work for a local government body that covers a wide area and I guess I've got access to resources or information about resources. I've a vehicle, which I commute

in, but I always fill it up in my hometown, you know, just to support business in my hometown, like I pay all my bills in the post office in my hometown . . . That means it's going to help the post office stay there a bit longer. In some ways [commuting] helps to strengthen bonds in my home town, because I'm always picking up prescriptions and dropping things off, which is fine by me and I'm really happy to do that.

A particularly interesting interpretation of commuting facilitating greater professionalism was the relative anonymity it permits. Commuting interviewees for who worked in fields where confidentiality is a concern, reported that both clients and employers valued their non-local residence status. A commuting health worker said that commuting is

. . . valuable to the people out here because they actually have a worker coming into their community who's from a different location and I think that sort of respects peoples' privacy and their confidentiality. For the people in these towns don't want everyone to know that they're coming to a health service or seeing a social worker. So the fact I don't live in the towns adds to that privacy that I'm coming in from outside.

Similarly, a cleric found that her employers desired that she commute to a particular work-town so that her 'non-local' status would win the confidence of the young people with whom she was to work.

In fact one of the reasons why [work-town] accepted [me] is because I didn't live in [work-town] . . . The committee said, " We'd prefer it if you didn't [live here] because we want you to be an outside person. You can come in and the kids will talk to you because you're an outsider and you can go away again." . . . Yeah, the kids very much checked [me] out when I started; where I lived and how often I'd come over and what contact I had with other people and because I didn't have anything, that was OK.

The strong, interview-based theme of commuting returning benefits to small towns in the form of increased professionalism, and this being identified by interviewees as a key expression of their community involvement, requires further investigation.

7.5. Summary

Interview data and further questionnaire analysis show that the association between commuting status and retention linked to both community involvement and cheap housing, while the association between commuting status and gender appears to result from a distinct, gender-based settlement pattern that is characteristic among female professionals in Australian, dry-land farming communities.

In attempting to offer some explanation for why gender and retention intervene on associations between commuting status and some aspects of community involvement, combined findings from further survey analysis, interview data and some literature show that non-commuting professionals develop a greater sense of hometown connectedness than commuters. This connectedness, in turn, tends to give rise to longer periods of retention among non-commuters than commuters. Commuting appears to both weaken this connectedness and to affect gender-based patterns of integration among female professionals.

Because non-commuting encourages 'settling down' in rural towns, via offering the opportunity for greater social connectedness than afforded by commuting, the significant relationship between commuting status and retention has considerable implications for the social and economic future of rural Australia. Chapter eight therefore explores how non-commuting, via retention, can contribute to rural sustainability.

Chapter 8. Discussion and implications

The social and economic sustainability of dry land, rural Australia can be enhanced if longer retention rates among rural professionals can be achieved. In this era, when mobility disperses and dilutes communities in rural areas, non-commuting is an agent for fostering place-based networks by encouraging longer lengths of retention. The previous chapter has shown that long-staying, non-commuting professionals financially contribute to sustaining their hometown by shopping locally and supporting fund-raising more frequently than commuting or short-staying professionals. This chapter shows that, from a purely service-based perspective, increased retention contributes to rural sustainability by stabilising service provision and reducing economic and social costs relating to practitioner turn over. Furthermore, the association between non-commuting and long-term retention is a foundation for developing social capital in rural areas. Among non-commuters in this investigation, length of retention is associated with length of residence. Extended periods of residence are associated with the development of localised social networks, which are the foundation of social capital, which has been identified as a key ingredient in the social economic and environmental future of rural Australia.

The following section provides a brief account of the concepts of sustainability and social capital and discusses how non-commuting could be linked to both of these in rural areas. Because commuting professionals develop a preference for commuting, as demonstrated in section 8.2, longer retention rates, and therefore rural sustainability, can be encouraged if in-migrant non-commuting professionals can be recruited to rural areas. Professionals that settle into the area and commence commuting are unlikely to become non-commuters. Questionnaire and interview data are examined in section 8.3 to determine factors that are significantly associated with the recruitment of non-commuting rural professionals. Based upon findings relating to housing and relationships, initiatives are then proposed which could be used to attract non-commuting professionals, and thereby pave the way for longer periods of retention and hence rural sustainability.

8.1. Sustainability and social capital

Recently, the concept of 'sustainability' has been used extensively in academic discourse and literature pertaining to the economic, environmental and social future of rural Australia (for example, Scott et al, 2000; Rogers & Ryan, 2001; Giddings et al, 2002; Cocklin & Alston, 2003; Smailes & Hugo, 2003; Black, 2005; Tonts, 2005). While definitions of sustainability vary, the term is used to refer to maintaining or preserving economic, environmental and social elements that are needed for quality of life among future generations (Rogers & Ryan, 2001; Giddings et al; 2002; Black, 2005).

Furthermore, while there is considerable debate regarding what exactly should be sustained, for how long and for what purpose (Scott et al, 2000; Black, 2005), there is little disagreement that strong local networks, which are frequently discussed in terms of social capital, are vital for sustaining rural areas for future generations (Cocklin & Alston, 2003; Smailes & Hugo, 2003).

The long-term retention of professionals is vital for sustainable service provision in rural areas, as short-term retention burdens small communities with heavy economic and social costs. It is this particular concern that has given rise to much of the literature relating to recruiting and retaining rural professionals. Frequent short appointments of professionals and long-standing vacancies disrupt continuity of care, undermine public confidence in local institutions and impose financial costs upon small, low budget rural institutions (Mills, 1997; Montgomery, 1999). The inconvenience to the community, the embarrassment to local institutions and the financial cost involved is reported by Mills (1997), who occupied a position on a board of a rural hospital in Western Australia. She witnessed the employment of seven locums during a twelve-month period prior to the appointment of a permanent doctor. Not only did this rapid turn-over of locums greatly inconvenience the community and cast the hospital board in a bad light, but the expenses associated with advertising, housing and transporting locums, superannuation and insurance cost the cash-strapped local government in excess of \$20,000. Retaining practitioners long-term, which can be facilitated by encouraging professionals to live in their work town, side-steps these economic and social issues. It allows time for

professionals to develop relationships with clients and coworkers and to become skilled in handling the local community (Humphries and Rolley, 1998).

The long-term retention of rural professionals can also contribute to sustaining rural areas by paving the way for the development of social capital. While there are several definitions of social capital, all focus upon network-based action that feeds benefits back to the network and individuals therein. Woolcock and Naryan (2001) define social capital as ‘the networks that facilitate collective action’ while Bordieu (1985) defines it in relation to aggregated resources associated with networks that can be harnessed for individual gain. Putnam’s definition (Putnam et al; 1993), ‘the norms, networks and trust that facilitate coordination and cooperation for mutual benefit’, is frequently cited. Social capital has been identified as being produced by a process of social interactions of ‘microinteractions’ within the context of meso and macrosocial order (Falk and Kilpatrick, 2000). Social capital formed both within and beyond communities – bonding and bridging social capital respectively – is important for sustaining both local environment (Pepperdine, 2000; Cocklin & Dibden, 2005) and local economy (Productivity Commission, 2003). In particular, the development of localised, place-based networks is recognised internationally as part of the equation of sustainable futures in rural areas (Sarageldin, 1996; World Bank, 1995; Government of Western Australia, 2003).

Considerable thought was given to using social capital as the conceptual basis for this investigation due to its currency, and because it bears close resemblance to the concept of community involvement. Integration and active social participation for the common good, which are both central to the concept of community involvement, have been found to be among both the outcomes and the determinants of social capital (Onyx & Bullen, 1997; Falk & Kilpatrick, 2000; Winter, 2000; Narayan & Cassidy, 2001). However, other attributes of social capital, such as tolerance, self-reliance and pro-activity beyond one’s own community (Black & Hughes, 2001), do not readily correspond with the localised rural social patterns that have typically contributed to quality of life in terms of service provision, and which have therefore been the focus of this investigation. Furthermore, as

discussed in chapter two, the conceptual framework of this study was designed to enable comparison of findings from this study with those from previous investigations that have researched social effects of commuting in rural areas.

While social capital has not been used as the conceptual framework for this study, the significant relationship between non-commuting and retention that has been found in this investigation has implications for the development of social capital, and therefore the sustainability of rural communities. Non-commuting professionals' periods of retention can be directly equated with their minimum period of hometown residence.²⁵ Data that were presented in Table 7.2b show that 64 per cent of non-commuters did not live in the local area prior to gaining local employment and the remainder were already living locally prior to taking up a position in their current work-town. In other words, for non-commuting respondents, length of retention equates with a minimum length of residence in one location. Also, Table 5.2c shows that the majority of non-commuters (65 per cent) have worked and lived in excess of five years in the one location. The majority of non-commuting respondents have therefore lived a minimum of five years in their current work-town.

Length of residence is an important precursor and predictor of social capital as time and stability are required for people to develop local networks and community connectedness (Glaeser, 2000). Residents who have lived more than five years in one location exhibit strong local networks and high frequencies of formal and informal participation (Albrecht, 1980). Furthermore, community attachment – a sense of connectedness to place – is high among those who have resided for long periods in the one rural location (Kasarda & Janowitz, 1974; Goudy, 1990; Theodori & Luloff, 2000). Residents who are greatly attached to their hometown have been found to spend more money purchasing goods and services locally (Cowell & Green, 1994). Connectedness to community, via enmeshment in networks and engagement in formal voluntary groups, increases with length of residence and functions to prevent out-migration in rural areas (Montague, 1981; Uhlenburg, 1973). Hence, the association between non-commuting and long-term

²⁵ While it can be claimed that non-commuters' lengths of retention equate with a minimum length of residence in their current work-town, the same cannot be claimed for commuters.

retention and therefore long-term residence, points to non-commuting as a means of enabling the social stability from which rural social capital and hence sustainability can emerge.²⁶

The centrality of fostering social capital to rural sustainability, particularly in areas where social networks have been reduced and dispersed, has resulted in calls for government policy and initiatives to encourage its development (Alston, 2000; Tonts, 2005). The development of social capital is a strong focus of place-based policy (Atterton, 2001), which supports the needs of particular localities or regions, as opposed to sectorally-applied policy which relates to responsibilities of different government departments (OECD, 2003). Using the categorisation of ‘dry-land farming areas’ as a specific type of rural Australian place (Smailes et al, 2005), the findings of this investigation suggest that place-based social capital, and therefore rural sustainability, could be developed by a government initiative that encourages the employment of non-commuting, and therefore longer-staying, professionals. The suggestion that government instigates such an initiative extends from the observation that rural professionals are largely employed by the state in fields such as health, education, local government and land-care management. A minimum of 70 per cent of the questionnaire respondents (675 school teachers and 127 nurses, see Table 4.3c), are government employees throughout the study area.

As there are ample jobs for rural professionals, the simplest approach to attracting non-commuting professionals is to offer commuting professionals a job in their hometown. However, the discussion in the next section demonstrates that commuters are not likely to become non-commuters, because they develop a preference for commuting which is associated with professional distance, work-site attachment and/or enjoyment of the daily

²⁶ This discussion raises the issue as to whether length of residence, rather than retention, bears a significant relationship with commuting status. The data in Table 5.3c shows that 56 per cent of commuters, had lived locally prior to taking up employment in their current work-town. Assuming that residential location has been constant among commuters, which is a reasonable assumption given that commuters generally choose to travel further to work rather than relocate their residence (Elliason et al; 2003), then we would expect to see significant relationships between commuting and both hometown connectedness and community involvement, if some other factor was not inhibiting this. However, this is not the case and furthermore, chapter seven demonstrated that commuting inhibits connectedness. Thus, the relationship between length of retention and commuting status is not disguising a relationship between commuting status and length of residence.

travel. Hence, any initiative oriented towards employing non-commuting professionals should focus upon recruiting in-migrant, non-commuting professionals, as opposed to attracting those who are already living in the area and who commute to work.

8.2. Preference for a commuting lifestyle

All commuting interviewees were asked if they would take up a position closer to home if one became available. Two said “yes”, because it would give them more free time for social activities and several reported that their hometown was also one of their work-towns. However, most claimed they would not take up any such job offer because they either preferred the professional distance commuting afforded, they were attached to their work community and/or they enjoyed the daily travel.

Many commuting interviewees stated that establishing professional distance between themselves and their clients was an incentive to work elsewhere than in one’s hometown. The following quote from a commuting shire worker outlines the high social expectation and sense of ‘ownership’ that small Australian communities have of professionals living and working within a town.

The only problem we do have in the country, when you’ve got people commuting to jobs, is community ownership by the community . . . When particularly local government councils come to appoint you, they want you to come and bring your expertise . . .bring everything with you, so that you become an extra within that community. That’s the expectation in rural Victoria.

Interviewees articulated that commuting allowed them to avoid such community expectations. A male, shire-employed professional reported that commuting allowed him to “. . . escape back to [hometown] and hopefully no-one’s going to ring or anything”. A male, commuting teacher preferred “. . . the professional distance. I like the fact that I don’t see the kids all the time. I can slobber around on weekends and don’t get into trouble for it the next day”. Another male, commuting, shire-employed professional commented that commuting “. . . gave you that breathing space, so you’re able to focus

better on the issue rather than getting involved in the real nitty gritty . . . Yeah, keep your distance”.

In contrast to male commuting interviewees, female, commuting interviewees regarded professional distance as mentally distancing oneself from the day’s problems as opposed to physically removing oneself from one’s workplace. They typically reported that the actual time spent travelling as opposed to the physical distance separating work and home was the reason they preferred to work elsewhere than their hometowns. A commuting nurse said: “. . . it gives me time over the hour and a quarter to switch off. By the time I’ve got home I’ve totally forgotten what I did for the day.” A commuting social worker reported that:

I think there is an advantage in commuting, because . . . I travel to work so I sort of step into that work role as I come to work, and then when I leave work I travel back to [hometown]. I sort of debrief in the car and disconnect from work and then go back into my home environment and I think that’s really valuable.

Some commuting interviewees reported that they would not take up a position closer to home because they enjoyed their current work-site, or they preferred small-rural work-sites and country clientele. A commuting social worker who lived in a large regional town said, “I applied for this job because I really like rural community.” A school-teacher who travelled in excess of 110 km one way to work, and who had the choice of working in the large regional town that was his hometown said, “You know, its forty thousand kilometres and four thousand dollars worth of petrol [annually], wear and tear on the car, but then you get here and it’s a brilliant place to be”. Two commuting nurses independently reported that after they each shifted to larger regional towns (for their husband’s business), they travelled a long distance back to their past rural work-site specifically to maintain social contact with co-workers. In both cases, the interviewees had been offered work in their new hometown, and their husbands had asked them to stop commuting due to the cost, but work-place friends, and in one case, family, influenced these interviewees to commute long-distance on a part-time basis. One of them articulated this statement.

I've been doing it [working at work-town hospital, which used to be old hometown] for nearly 30 years – 28 years on and off . . . I had retired and because we'd moved to [new home-town], we had a business and we sold that and once they'd heard I'd retired they quickly rang me up and said, "Come and work for six weeks and fill in so we can all have holidays," and that was just over two years ago . . . That's why I'm still commuting, because I am 60 km's away, because of staff shortages. I get very spoilt with my shifts so I work an evening then an early and stay here with Mum and Dad the night . . . (my) husband thinks all I'm doing is wearing out a car. He can't see why I couldn't just walk two blocks to the hospital in [new hometown] to work.

Furthermore, commuters appear to develop a preference for commuting which prevents them from accepting employment closer to home. Many commuting interviewees reported that the very act of travelling was enjoyable and the time spent driving was valued as 'unwinding' or thinking time.. One male engineer who travelled 75 km each way daily reported, "I use the time in commuting productively. I find with cruise control, it's not a drag driving, I've been doing it for eight years now and don't really get tired of it". A female nurse who commuted between three towns stated:

I find the travel time to be therapeutic . . . You know a lot of people, particularly people who have lived in the small town all their lives and never had to travel far, they can't understand why, how I can cope with all the travelling. But if you lived in Melbourne, you would spend 45 minutes on a train or a tram, whereas mine's a nice drive apart from the odd occasion when it rains or it's foggy. It's a relaxing drive. I get to listen to the radio. I often get a lot of thinking done, planning classes for next day, get my ideas . . .

For similar reasons, a long-distance commuting teacher valued car-pooling:

One big benefit of travelling as in car pooling, . . . you do a lot of work coming and going just in general conversation with the car pool . . . disseminating what's happened, planning for the next day, bouncing ideas and that sort of stuff . . . I call it brain dead time. Well, for an hour and a bit travelling, by the time I get home, most of the day's been talked about, where as I know from previous employment – it might only be ten minutes away from home. You get home and

you talk to wife about work . . . but here it's all done before you get home, so it's a big bonus.

The finding that commuters enjoy their daily work trips is supported by Schmidt (1978), who found that long-distance commuters (>30 miles) developed a preference for 'unwinding time.' Similarly, commuting workers in an urban setting were found to enjoy driving, appreciate the thinking time and enjoy looking at scenery (Lothlorien & Mokhtarian, 2001), and seven per cent actually wanted longer commutes specifically to unwind between work and home. In contrast, the influence of both professional distance and rural work-site preference upon commuting decisions appears to be unreported elsewhere.

In response to interview questions that asked commuting interviewees if they would relocate to their work-town if they were offered incentives such as higher salary, cheap housing, promotion and a non-contract position, most commuting interviewees also reported that they probably would not shift due to hometown entrenchment. Collectively, commuting interviewees articulated that what would prevent them from shifting is the 'glue' that holds non-commuting professionals in their work-towns, including social entrenchment, family ties, home ownership/cheap housing and community networks. A commuting health professional said, "I have a family property . . . and there are strong links with my husband's family, so there are strong ties to my hometown." A commuting teacher responded by saying: ". . . you can't just talk money all the time . . . because then you're looking for family who have set up in Bendigo and our networks are set-up there." Another commuting teacher said, "Just can't! We've sort of probably too far entrenched . . . the kids in particular."

Despite the similarity of commuters' and non-commuters' responses in relation to hometown social entrenchment preventing out-migration, it is important to recall that questionnaire analysis showed that commuters do not exhibit the self-perceived level of 'socially-fitting in' that non-commuters do, and long-term job retention is not a by-product of commuters' hometown entrenchment. Commuting therefore does not appear

to facilitate the hometown connectivity and locational stability that non-commuting seems to encourage.

In terms of potentially converting commuters to non-commuters with a view to increasing retention, and thereby contributing to the sustainability of rural areas, few commuting interviewees would choose to shorten the distance between home and work, either by taking up work closer to home, or shifting to their work-town, despite incentives. These findings suggest that any initiative to attract non-commuters should target recruiting in-migrant professionals, as opposed to locally living commuting professionals.

8.3. Recruitment factors influential in attracting non-commuters

One major difficulty associated with recruiting rural professionals is that they are drawn from a restricted pool of migrant workers who are willing to shift their residential location to take up a position (Montague, 1981; Dempsey, 1990). Migrant workers are a small and unusual proportion of the labour market because the vast majority of workers will generally choose to commute long-distance or remain under-employed rather than relocate for work-purposes (Van Ham et al, 2001; Elliason et al, 2003). Those that do migrate tend to be males, single people (Elliason et al, 2003; Van Ham et al, 2001) and/or upper socio-economic strata workers including professionals (Romani et al; 2003) who shift either for good wages (Van Ham et al, 2001) or because of a restricted local job market (Elliason et al, 2003).

Features of the study population correspond with this picture of migrant workers. The majority of the sample, irrespective of individual commuting status, shifted into the area upon gaining employment (60 per cent, see Table 7.2b, p.105). Also, the frequencies of recruitment reasons, which are displayed in Table 8.3a in descending order, show that good wages (n=153) as opposed to restricted job market (n=40, *It was the only job I could get at the time*), attracted these predominantly migrant workers to the study area.

Table 8.3a. Frequencies of response to recruitment reasons

I took up work in this town because . . .	Frequencies of positive responses
I got the job I wanted	283
I got offered work	207
I got a well-paid job	153
It was the best job I could get at the time	147
I met a partner who lived in the area	125
I always wanted to live in the country	123
Extended family live in the area	83
My partner got a job here	64
I came back to my hometown	63
I got a promotion	53
I wanted to leave the city	51
I wanted to make a fresh start	48
The housing was cheap	43
I was offered low rent accommodation	41
It was the only job I could get at the time	40
I did a university placement that led to a job	32
Other (<i>please specify</i>)	27
I was on a bonded traineeship	21
I was paid an incentive to work in a rural area	15
Aged relatives needed care	11
I needed to live in the country for my health	8
A family member had to move for their health	2

Key. Respondents were not required to limit their number of responses and hence the frequencies are not cumulative.

The frequencies also show that the top four factors that attracted professionals to the study area are ‘job’ reasons. These are followed by a cluster of relationship and life-style based reasons associated with *partnering*, *extended family* and preference for *country/hometown living*. The influence of job-related factors followed by relationship-based factors in the recruitment of the study population is consistent with findings from the research that was used to develop the variables listed in this question (Montgomery, 1999; Lonnie & Cheers, 2000; Hegney & McCarthy, 2000). Furthermore, the low frequencies associated with recruitment strategies including offering *paid incentives* (n=15) *bonded traineeships* (n =21) and *rural placements* (n=32), indicate that at the time of gathering the data, these strategies exerted little influence upon attracting professionals to the study area. In contrast, the high frequency associated with being *offered work*

(n=207) suggests that ‘head-hunting’, irrespective of commuting status, is a more effective recruitment technique than offering paid incentives and traineeships.

To determine any factors that are significantly associated the recruitment of non-commuting professionals that could be used strategically to specifically attract this cohort to rural areas, a chi square test was applied to each of the recruitment variables by commuting status. Non-commuters differed from commuters on four variables, which are listed in decreasing order of significance in Table 8.3b.

Table 8.3b. Significant differences between recruitment factors and commuting status

I took up work in this town because . . .	<i>p</i> value
I was offered low rent accommodation	.023
I always wanted to live in the country	.028
I met a partner who lived here	.029*
The housing was cheap	.031

Key: * This difference favours commuters.

Cheap accommodation, both rental and non-rental, is a significant factor in attracting non-commuting professionals. This corresponds closely with the association between cheap housing and the retention of non-commuting professionals, which was discussed in chapter seven. The link between cheap housing and both the recruitment and retention of non-commuting professionals suggests that an initiative associated with cheap housing would be beneficial to the sustainability of rural areas. Such an initiative is probed more extensively shortly.

The significance associated with the variable, ‘I always wanted to live in the country’, in Table 8.3b, indicates that there are a cohort of professionals who always intended to live and work in the country and who are significantly more likely to settle into their work-town than commute. The frequency attached to this variable (n=123, Table 8.3a) indicates that 22 per cent of the sample, of which a significant majority are non-commuters, settled into the study area independent of any recruitment initiative.

The only significant factor favouring the recruitment of commuting professionals in Table 8.3b is *I met a partner who lived here*, which, given the relationship between gender and commuting status that has been discussed in chapter seven, suggests that gender may be influencing recruitment variables.

This implied interconnectedness of commuting status, recruitment reasons and gender led to analysing recruitment variables by gender. The significant differences that resulted from a chi square test of gender by recruitment variables, which are displayed in Table 8.3c in order of decreasing significance, show that recruitment patterns of rural professionals are highly gendered. This in turn suggests that recruitment initiatives to attract commuting and non-commuting professionals also need to be mindful of the gender of professionals, particularly when recruiting for occupationally-segregated professions such as nursing and teaching.

Table 8.3c. Significant differences between gender and recruitment reasons

Recruitment reasons	<i>p</i> values
The housing was cheap	.0005
I got a promotion	.0005
I met a partner who lived in the area	.0005*
My partner got a job here	.0005*
I came back to my hometown	.001*
Extended family live in the area	.032*

Key: * The direction of the association favours female professionals. Respondents were not required to limit their number of responses and hence the figures in the last column are not cumulative.

Table 8.3c shows that two variables, relating to cheap housing and promotion, are highly significant factors associated with attracting male professionals to the study area. Cheap housing is also significant in attracting non-commuting professionals. Four variables, those marked with an asterix, are highly associated with attracting female professionals, of which *meeting a locally living partner* is highly associated with recruiting commuting professionals. The other variables listed in Table 8.3c show that relationships and family are significant factors in the recruitment of female professionals, of which the majority are non-commuters (236 females as opposed to 161 males).

Furthermore, an analysis of retention variables by gender using a chi square test, shows that cheap housing and relationships are also highly associated with the retention of both male and female professionals. Reported here in words, rather than tabulated figures, three highly significant relationships, each scoring $p < .0005$, linked the retention of female professionals with *local extended family*, *partner preferring rural life* and *care of aged relatives*. Also, a highly significant difference ($p < .0005$) emerged between gender and *cheap housing*, with more than 50 per cent of male respondents indicating that this factor was either ‘strongly’ or ‘very strongly’ associated with their decision to remain working in their current work-town.

Collectively, the data presented in this section shows that recruitment initiatives focusing upon housing could potentially be highly effective in attracting and retaining male, non-commuting professionals, while those targeting family connections could be influential in attracting and retaining female professionals, the majority of whom are non-commuters. The next section presents further data supporting the potential value of such initiatives in the recruitment and retention of rural professionals, and therefore the sustainability of rural areas.

8.4. Initiatives associated with housing and family relationships

Findings from other investigations and data gathered from interviewees support the potential effectiveness of a housing program for attracting non-commuting rural professionals. Several recent investigations have found that lack of housing options, particularly quality housing, has had a negative influence upon recruiting professionals in rural and regional areas of Victoria. A broad, qualitative study of issues associated with housing in small (pop. 3,000 to 10,000) rural Victorian towns (Nankervis, 2005) found that there was a significant undersupply of quality rental housing available for rural professionals. Real estate agents reported that their main enquiries for rental properties were for quality housing for professionals, and some organizations reported taking head-leases on properties to rent to staff. Nankervis (2005) found that the lack of quality rental

housing available in rural Victoria prevented professionals from taking up work in rural and regional areas. He writes:

. . . the lack of quality housing also constrains the input of professions. . . . This point was strongly made by interviewees who noted the difficulties in attracting professionals. While the actual salaries may be attractive, and rents (when available) lower than the metro area, professionals, when there is an alternative, will opt for a lifestyle which does not disadvantage them in relation to health, education, etc, and general quality of life . . . Housing quality has a direct relationship with quality of lifestyle, and thus has a strong relationship to the attractiveness of a job location.

An anecdotal account of how lack of quality housing in rural Victoria has deterred professionals from taking up positions in small towns, has been also been noted in the Regional Atlas of Victoria (2001). In the course of the current investigation, heads of work-sites across the study area also anecdotally recounted instances where positions offered to professionals had been declined because of the unavailability of quality housing.

The Victorian State Government used to maintain a supply of subsidised rental housing for transient government employees, including professionals, in rural and regional Victoria. However, another consequence of the economic rationalist policies of the 1990's was the dismantling of the government body that provided and maintained this housing, the Government Employee Housing Authority (GEHA). Between the years 1992 to 1995, GEHA housing was sold off and within the fourteen study towns, 230 state government houses and units were reduced to 92 dwellings (GEHA, 1995). Table 8.4a shows the number of government dwellings both sold and retained in these towns by the conclusion of 1995. One house, not referred to in the table, was also held in Rainbow for state-employed, land-care professionals (GEHA, 1995).

Table 8.4a. Selling and retention of GEHA-provided rental accommodation in the fourteen study towns

Town	Number of dwellings sold	Number retained for education	Number retained for police
Kerang	29	0	2
Warracknabeal	15	3	1
Charlton	14	3	1
Cohuna	14	10	2
Boort	14	3	1
Birchip	13	3	2
Nhill	12	10	1
Wycheproof	12	7	1
Dimboola:	11	5	1
Donald	11	8	1
Sea Lake	8	7	2
St Arnaud	8	2	3
Rainbow	6	8	1
Hopetoun	6	6	1

The majority of the remaining housing was left in the most isolated of the fourteen towns specifically because of restricted rental markets in remote locations. The most modern and well-maintained dwellings were kept and upon the cessation of GEHA, the management of these was handed over to individual government departments, such as education (GEHA, 1995).²⁷

Based upon the findings of the current investigation, the dismantling of GEHA would have been an enormous loss to small towns as such housing would have been highly likely to have attracted male, non-commuting professionals, thereby encouraging longer lengths of retention, and contributing to rural sustainability. Indeed, one interviewee who was a land-care professional commented upon his experience of the effectiveness of GEHA housing as an incentive to remain working in rural Victoria. He stated:

I've moved around a dozen times, in the past. [The land-care authority] used to provide incentives to move. They would provide housing and that's all been sold off and that's no longer available. It certainly made life very easy to shift,

²⁷ Housing for local government professionals was also greatly reduced when the many small shires across the Wimmera-Mallee were forced to amalgamate during the early 1990's. Churches still do have housing for clergy and most towns still boast a doctor's residence.

because you can have the hassle of trying to find a residence and there was one there that was provided of a reasonable standard. There were also incentives. They allowed you depreciation on the furniture, they paid all your moving fees and all that type of stuff. It was cheap rent, subsidised rent. It was only a percentage of your salary at the time.

The data presented thus far in this section show that there is a strong association between cheap, quality housing and recruiting non-commuting, male professionals. Additionally, home ownership is a contributing factor to developing social capital (Di Pasquale and Glaeser, 1999). Hence, a housing initiative that makes available cheap, quality housing in rural areas, for rent or purchase, has the potential of attracting non-commuting professionals, thereby setting the scene for longer retention periods and rural sustainability in terms of sustained service-provision and the foundation for the development of social capital.

An initiative associated with partnering single female professionals could also be successful. The association between partnering and the recruitment of female professionals to the study area has already been discussed in chapter seven. Other investigations have also observed this recruitment trend. Marrying a local partner, particularly a farmer, is a highly significant factor in the recruitment and retention of female Australian rural nurses (Hegney and McCarthy, 2000; Hegney et al, 2002) and almost a third of female rural doctors in rural Victoria work in the country because their partner wants to live there (Wainer, 2001). As relationships tend to influence the recruitment and retention of female professionals, some thought could be given to an initiative to attract female professionals by finding partners from among single resident rural males. While some commercial initiatives have already made some attempt to address this issue in terms of wives for farmers (Australian Women's Weekly, 2001; www.beautblokes.com.au), this strategy has not been undertaken with a view to recruiting female professionals to rural areas.

Attracting female professionals to the study area is important not only because they are needed to fill positions in the gender-segregated professions of health and education that

employ the majority of professionals in rural areas, but, as outlined in the first chapter, the study area is demographically typical of inland farming communities that experience a large out-migration of young females. Attracting young female professionals is therefore important from a population-building perspective of sustainability. Hugo (2005), who has identified an already existing internal migration pattern of people in the 20's and 30's returning to rural areas, emphasises the importance of maintaining this flow simply to boost population in dry-land farming areas.

8.5. Summary

The significant association between commuting status and retention has considerable implications for the sustainability of dry land farming areas of Australia. From a service-based perspective, the long-term retention of professionals reduces the social and financial costs that are associated with rapid practitioner turn over. Furthermore, the equilibrium of long-term retention and long-term residence for non-commuters promotes connectedness and attachment to place, which is vital for the development of local networks which lay the foundation for place-based bonding social capital.

As the major employer of professionals in rural areas, government can directly contribute to the sustainability of dry-land farming areas by implementing place-based initiatives to attract non-commuting professionals to such areas, in turn contributing to the development of place-based social capital in rural areas. Strategies focusing upon attracting in-migrant, non-commuting professionals would be most successful because commuting professionals are not likely to take up work in their hometown or relocate to their work-town. They develop a preference for a commuting lifestyle associated with maintaining professional distance, working in particular sites and enjoying the very act of travelling to work, and become entrenched in their hometown due to home ownership and family reasons.

Significant recruitment differences between commuters and non-commuters, which are also highly associated with both retention and gender, suggest that initiatives relating to

housing and partnering could be successful. Findings from other investigations also support the value and likely success of such initiatives in attracting non-commuting rural professionals.

Chapter 9. Conclusion

This thesis culminates with a concise summary of the aims, structure and findings of the investigation, a discussion about the contribution this study makes to knowledge, a cluster of implications for further investigation and a concluding statement relating to the influence of local knowledge and values upon this research.

9.1. Summary of the investigation

This study commenced from concern about declining localised social networks in small (pop. <5,000) dry-land farming towns in rural Australia. Dense, localised social networks have been the source of localised social agency that has traditionally functioned to provide and support leisure activities and services in small, isolated towns. Increased mobility, both in terms of personal car ownership and migration, has dispersed and fragmented local networks in rural areas, thereby reducing a community sense of importance to 'support the town', the pool of ready volunteers and the willingness to do so. This investigation aimed to determine the role that commuting, as a form of mobility, plays in rural social decline.

The literature indicated a timeliness for an investigation into social effects of commuting in rural areas. As discussed in the first chapter, academics have recently postulated that an increased number of commuting workers in rural areas is contributing to rural social decline. Furthermore, two (Schmidt, 1978; Cawley, 1979, 1980) of three dated relevant investigations have concluded that commuting does bring about changes in the social patterns of commuters and their households. However, the findings from these investigations are questionable due to extraneous variance, especially the potential influence of car ownership upon different patterns of social engagement between commuters and non-commuters. Also, only one (Schmidt, 1978) offered evidence-based explanations for observed differences in the social patterns of commuters. Additionally, previous investigations have all focused upon the 'dormitory town' context which is not largely relevant to commuting patterns in dry-land farming area of Australia wherein

there are multiple, widely spaced small towns and few regional cities. Collectively, these factors indicated the need for a fresh investigation into social effects of commuting in rural areas that was designed to limit extraneous variance, to offer considerable explanation for observable patterns between commuters and non-commuters, and that focused upon a more relevant context than dormitory towns.

The investigation had two objectives. The main one was to determine whether commuting affects individuals' community involvement in small (pop. < 5,000) towns in dry-land farming areas of Australia, and the second was to contribute to a body of knowledge relating to social effects of commuting in rural areas. The primary objective was expressed as a research question in terms of key design choices:

What significant differences are there between the community involvement of commuting and non-commuting professionals working in small towns in north western Victoria?

The decisions relating to the study design, study area and study population that are encapsulated in this question were made to reduce extraneous variance, sampling error and bias associated with cross sectional research designs, and to focus the investigation upon intra-rural commuting patterns in dry-land farming areas. As discussed in chapter two, a large, typical dry-land farming area located in north western Victoria, was selected as the study area because it allowed gathering data from a large number of occupationally-diverse rural professionals, thereby reducing sampling error. Also, a lack of regular public transport in the study area, and therefore high dependency upon personal transport, greatly reduced the likelihood of car ownership as an extraneous variable. Professionals were chosen as the study population to reduce potential extraneous variance associated with socio-economic strata, and because their characteristically high levels of commuting and social participation maximise the scope within which to observe any differences in the social patterns of commuters and non-commuters. The selected methods, a mail out questionnaire followed by face-to-face interviewing some nine months later, were chosen to gather quantitative data from a

dispersed study population for the purpose of determining statistically significant relationships, and to gather a second round of data that could be used to account for why statistically verifiable significant differences emerged.

Community involvement, the study-specific conceptual basis of the investigation was developed, in lieu of suitable concepts in the literature, to fulfil both of the study's objectives. The framework for the concept was based upon three broad social dimensions, participation, integration and motivation, upon which commuting has been found to impact in some past investigations. Variables included in each dimension were drawn from previous studies that have investigated social effects of commuting, rural social dynamics and rural professionals. Incorporating these into the framework allowed measuring effects of commuting upon both traditionally supportive social behaviours undertaken by rural professionals, and upon variables which were representative of the type of social dynamics commuting had been found to impact upon in previous investigations. Including the latter variables allowed points of comparability between the findings from this investigation and previous studies.

As discussed in chapter three, the questionnaire was designed to gather demographic data which could be used to determine representativeness of response, data relating to commuting and community involvement, and recruitment and retention data, which could be of use to local stake holders who supported the investigation. A series of filter questions was included to ensure that responses from only ASCO defined professionals were gathered in the sample. Prior to issuing the questionnaire to occupationally-diverse professionals working in fourteen towns via bulk postage to work sites, it was piloted on retired professionals and ethics approval was obtained.

A comparison of the spread of ages and the gender-balance of professionals in the sample with those living in the broader study area during the 2001 census, showed that the sample who returned questionnaires is demographically representative of the broader population in terms of gender. However, slightly more professionals aged in excess of 45 years returned questionnaires than those aged 45 years or less. Also, response was not

biased in relation to profession, however significantly fewer responses were received from the most remote study towns. These biases are data collection limitation, while the skewing of the sample towards 'team playing' professionals is a methodological limitation of the investigation.

Of the sample, 31 per cent commuted out of their hometown to work. Statistical analysis of commuting status by the 44 community involvement variables including post-test controlling, which was discussed in chapter five, led to the conclusion that commuting status is indirectly associated with five aspects of community involvement via job retention and gender. After a minimum of five years of retention, non-commuters contribute to the local economy by *shopping locally* and *purchasing fund-raising items* more frequently in their hometown than commuters. With the exception of long-staying males, non-commuters are significantly more connected to their *work colleagues and clients* than are commuters. A combination of long-term retention, non-commuting status and gender motivates professionals to engage in community involvement in order to *gain better social standing in their hometown*. Non-commuting female professionals are significantly more in agreement that they feel they *must behave well because everybody knows me*, than are commuting females or male professionals.

The discussion in chapter six focused upon methodological aspects of the second data collection phase, including both the development of the interview questions in relation to findings from questionnaire analysis and the stratification of the sample according to retention and gender for the purpose of enabling comparative thematic analysis. Interview-derived themes, further statistical analyses of questionnaire data and findings from other investigations that were presented in chapter seven, suggest that social and housing factors have given rise to the significant differences between retention and non-commuting, and the unusual gender balance among commuters is related to a settlement pattern which is typical of female professionals in rural areas. The intervention of retention in relation to commuting status and community involvement is associated with non-commuters' higher levels of hometown community connectedness over time. The influence of gender appears to be associated with gender differences in the integration of

professionals, particularly the reliance of female professionals upon work colleagues as a social network.

Long-term retention reduces social and financial costs associated with rapid practitioner turn-over, and, more importantly, stabilises people in one location. Stability over time is an important precursor to the development of social capital, which has been identified as vital for halting economic, environmental and social decline in rural areas. Initiatives that encourage the employment of non-commuting professionals stand to encourage long-term retention and these socially-beneficial spin offs which can contribute to a sustainable future in small towns. Much of the discussion in chapter eight was given over to proposing recruitment initiatives based upon cheap housing and relationships, which have both been shown to be significantly associated with the recruitment of non-commuting professionals of different genders.

9.2. Contribution to a field of study, to knowledge and the national research agenda

In terms of contributing to a field of investigation, which has been the second objective of this study, the results of this study appear to reflect those of Pahl (1965), who concluded that commuting status does not exert any direct effect upon social patterns. Factors upon which commuting was found to impact in previous investigations were moulded into the conceptual framework, for the purpose of facilitating a direct comparison of findings from this investigation with others in the field. However, none of these were directly associated with commuting status in this investigation. Furthermore, the conclusion of the current investigation is strengthened by the fact that the study was designed to eliminate extraneous variance that had been identified in previous investigations (Schmidt, 1978, Cawley, 1979, 1989) and statistically significant differences were subject to post-test controlling. However, this thesis has found that commuting indirectly contributes to social decline, by limiting the opportunity for commuters to mix with hometown residents. In this sense, the findings reflect those of Schmidt (1978).

Where this investigation makes an original and valuable contribution to knowledge is in establishing the association between non-commuting and retention, its link with social factors and the important implications this has for rural sustainability. Combined data from a variety of sources presented in chapter seven, suggest that both living and working within one place-based community feeds a process wherein professionals become integrated into the community through local social life and choose to remain working in the one town for significantly longer lengths of time than commuters. Commuting appears to restrict this process by reducing commuters' connectedness to people in their hometown. While urban-based studies have found an association between short travel to work times and job retention due to economic factors, in rural areas, this association largely stems from social integration. Non-commuting therefore appears to function as social 'adhesive'. The importance of this finding is the implications it has for rural sustainability in terms of future service provision, 'scene setting' for the development of social capital and the economic contribution long-staying non-commuters eventually come to make to their community in relation to local shopping and purchasing fund-raising items.

The original findings of this investigation contribute to a priority area of research in Australia. 'Sustaining the regions', which includes determining social factors which can contribute to reinvigorating rural and regional areas, is one of five national research priorities identified by the Australian Research Council (2003). Furthermore, an exhaustive literature review of issues relating to rural Australia (Black et al, 2000) identifies that further research is necessary to identify conditions that contribute to social development or decline in rural communities.

Unexpectedly, while the main findings from this research point to non-commuting as a factor in the development of place-based bonding social capital, qualitative evidence was presented in chapter eight which suggests that commuting enhances the development of bridging social capital, and thereby contributes a dimension to rural sustainability not afforded by non-commuting.

The findings also have international implications. Because the retention of rural professionals is a global concern, and issues relating to rural professionals are generally common throughout the western world (Montgomery, 1999), the association between long-term retention and non-commuting, and the ensuing positive social consequences are likely to be relevant to rural areas in other countries.

9.3. Implications for further research

During the course of this study, implications for further studies and avenues for future research have been exposed. Importantly, commuting has a valid place as a variable in future studies investigating the retention of rural professionals. The significant relationship between community involvement and long-term retention of rural professionals, which has already been found in multiple investigations, may well be dependent upon commuting status. Furthermore, future research associated with community connectedness should consider including commuting status as a variable because of the significant relationship between these two variables.

In seeking factors that are associated with commuters' decision to work elsewhere than their hometown, this study has shown that in this region and among this cohort, social factors hold greater sway than financial factors. These include the influence of the quality of particular work-sites and type of clientele, professionals' desire to maintain both workplace and client distance. Such social factors need to be embraced in future labour market mobility research and further investigation of the association of these factors with commuting patterns would be useful.

Gender-based findings have implications for recruiting and retaining female professionals. The conclusion that social factors hold considerable sway over where female professionals choose to live and work has implications for the recruitment of rural professionals working in gender-segregated professions such as nursing and teaching. Also, gender-based patterns of small town integration imply that isolation of female

professionals is important in maintaining the retention of this cohort. This latter point would be worth further investigation, along with the following themes.

Effects of work-place camaraderie, type of clients and preferred distance from clients/work-places upon rural workers' decisions to commute remain largely uninvestigated. Associations between these social factors and work journey lengths have been introduced by interviewees and, as part of the qualitative method of the investigations, are statistically unverifiable. Further research regarding the extent to which these factors influence rural workers to commute would be of value as globally, non-economic determinants, particularly lifestyle, are becoming influential in decisions to commute.

A wide-scale quantitative investigation into positive social aspects associated with the development of commuting-based work communities would be timely, given the emergent qualitative evidence that commuting returns social benefits to small towns in terms of broader networks and enhanced skill levels.

9.4. Closing statement on the way values have shaped the investigation

An interesting feature of this study is the way in which local knowledge and values, which are a consequence of the researcher's long years of living in the Wimmera Mallee, have shaped the investigation. The investigator identifies with collective voices in rural sociology which argue that those with first-hand experience of a research site are 'tuned into' subtleties that literature-based knowledge misses, and that this strengthens rather than weakens research design and data analysis (Harper, 1991; Carlson, 1992; Fitchen, 1991).

Local knowledge regarding patterns of travel among the farming community resulted in distinguishing commuters from non-commuters by asking a definition-based commuting question, as opposed to allocating commuting status according to pre-defined community boundaries, and thereby inauthentically classifying the commuting status of farm-

dwelling professionals. On the other hand, local knowledge about the sensitivity of local shopping inhibited, rather than developed, an important line of enquiry. Greater probing of shopping patterns would have been useful in fleshing out the relationship between retention, commuting status and local spending habits. Also local stakeholders would have found good use for 'data in dollars'.

While local knowledge shaped the investigation in relation to design and data gathering, shared local values have influenced design decisions in a way that drew a strong response to the questionnaire, and gave rise to the originality of this investigation.

Being aware of the high esteem with which personal contact is regarded throughout the area, considerable cost was expended to promote the investigation by visiting every research site. This in turn yielded information that influenced data collection. A brief questionnaire was designed to ensure a strong response to a single, mail out distribution of the questionnaire. It seemed to be effective as response was 54 per cent. Also, data were gathered relating to a perceived increase in the number of professionals who are essentially choosing the reverse of the 'dormitory towns', that is they live in large regional cities and out commute to small rural work-sites (9 per cent of the sample).

To reciprocate local stake-holders' support for the project, recruitment and retention questions were included during data gathering even though these themes were at a tangent to the main focus of the study. However, in an unexpected twist, the inclusion of these questions gave rise to the key finding of the research and hence its original contribution to knowledge. Values, therefore, have been the main influence that led to the original contribution this investigation has to make.

Study what interests and is of value to you, study it in the different ways that you deem appropriate, and use the results in ways that can bring about positive results within your value system. (Tashakorri and Teddlie, 1998, p.30)

APPENDIX A: SURVEY

1. Are you a trained professional currently working in a small town (less than 5000)?

Yes. Please go to question 2.

**No. Do not continue.
Please return survey.**

2. Please select your professional field by ticking one box only

Accounting

Agriculture

Allied health profession

Business

Engineering

Forestry

Medical doctor

Nursing

Primary teacher

Secondary doctor

Theology

Other

3. Please tick your highest qualification

Advanced Diploma

Bachelor degree

Honours degree

Grad. Diploma

Masters

Doctorate

4. How many years of university study have you completed equivalent to full time

5. In what year did you commence working in this town?

6. Please list how many towns you work in during one week:

7. When I commenced work in this town I had . . . (please tick one)

- I had lived in the area most of my life.
(Within 75 km)
- I had lived in the area at some stage for at least a year.
- I had lived in another rural area for at least a year.
- I had only ever had holidays in a rural area.
- I had only done work experience or itinerant labour in a rural area.
- I had never lived in a rural area.

9. How far do you travel to work one way?

- Less than 5 km
- 6-20km 21-50km
- 51-75km over 75 km

10. Please tick the most appropriate.

- I work in a small town but live in a town where the population is more than 5000 people.
- I live in a different small town (or in the vicinity) to the one in which I work.
- I live and work in the same town (or in the vicinity)

8. I took up work in this town because . . .	Yes	No
It was the only job I could get at the time		
It was the best job I could get at the time		
I got the job I wanted		
I got offered work		
I got a well-paid job		
I did a university placement that led to a job		
I was on a bonded traineeship		
I was paid an incentive to work in a rural area		
I was offered low rent accommodation		
I got a promotion		
The housing was cheap		
I needed to live in the country for my health		
A family member had to move for their health		
Aged relatives needed care		
My partner got a job here		
I met a partner who lived here		
Extended family live in the area		
I came back to my hometown		
I wanted to make a fresh start		
I wanted to leave the city		
I always wanted to live in the country		
Other (please specify)		

11. Do you work: (please tick one)

- part-time
- casual
- full-time

12. How many more years do you intend to live in the town you now live in?

13. Total number of years you have lived in small towns: (pop. less than 5000)

14. In the small town in which you <u>work</u> , do you do any of the following?	Never	Occasional	Fairly often	Very often
I attend community functions				
I play sport				
I participate in community groups				
I lead/hold office in community groups.				
I help at working bees				
I purchase fund-raising items and raffle tickets				
I actively participate in fundraising drives				
I cook for community groups				
I visit friends and neighbours				
I actively participate in church				
I use my professional skills to help in community projects				
I use my professional skills to assist towns-people				
I represent my community beyond the town				
I provide references for towns-people				
I shop locally				
I offer ideas at public forums				
I am a sounding board for opinions and ideas				

16. Total number of years you have worked in small towns:

17. How do you see yourself ‘fitting in’ to the town in which you work? (Please tick one)

- On the edge
- Part of the crowd
- Right in the hub

15. In the small town in which you <u>work</u> , why do / don’t you get involved?	Strongly agree	Agree	Disagree	Strongly disagree
I feel a sense of duty to support the town				
I get satisfaction from community involvement				
I enjoy the camaraderie that comes from community involvement				
Workplace relationships encourage my involvement in community.				
Community involvement gives you better standing in the town				
Group interaction is a deterrent from becoming involved				
I get enjoyment from the activities in which I participate				
Non-participation may invite criticism				
Getting too involved makes it difficult to maintain a professional distance				
It’s easier to go along with things				
The enthusiasm of others inspires me to get involved				
Community involvement is not important to me				
Family members are involved in the town and I find I become involved through supporting them.				
Time prevents me from becoming too involved				

18. Age:

- 20 -24,
- 25-34,
- 35-44,
- 45-54,
- 55 or over.

19. Number of dependent children living with you?

20. Gender:

- Male
- Female

21. Were you born in Australia?

- Yes
- No

21 Thinking about the town you <u>work</u> in, please indicate your agreement or disagreement about the following.	Strongly agree	Agree	Disagree	Strongly disagree
I really enjoy the sense of community				
The people I know best are my work colleagues and clients				
I can trust people in the town				
Most family members that I mix with live elsewhere				
I feel I must behave well because everyone knows me				
I feel quite comfortable talking to people in the street				
It bothers me that people know my business				
Most of my socialising is done outside of the town				
I feel safe in the town				
I tend not to find like-minded people in this town				
Most of my good friends live locally				
As a professional, it's hard to get to know people socially				
I feel more accountable to people because I know them				

25. I've remained working in this town because . . .	Strongly agree	Agree	Disagree	Strongly disagree	Doesn't apply
My job pays well					
I'm on contract					
I'm happy with my work					
The housing is cheap					
Aged relatives need care					
I haven't been able to get another job					
I haven't been able to get a better job					
I have extended family living locally					
There's a slower rate of change					
There's less crime					
I enjoy the slower pace of life					
There's lack of multiculturalism					
There's a greater sense of community					
I enjoy country people					
I enjoy the clubs					
I enjoy the simplicity of life					
I like knowing many people in depth					
I enjoy the social networks					
It's a good place to raise a family					
I feel can be myself					
I have to live here for my health.					
I like to be close to nature					
It's environmentally clean					
There's few traffic and parking hassles					
I can't afford to shift					
My partner prefers small-town life					
Other (<i>please specify</i>)					

If you live in a different town to the one you work in, please also fill out the coloured insert.

Thank you very much for taking the time to complete this survey. If you would like to volunteer for a possible follow-up interview, would you kindly provide your name and a convenient contact number. Your details will remain confidential and will not be used for any other purpose.

Name:

Ph:

*If you have any concerns about the conduct of this research, please contact:
The Executive Officer, Human Research Ethics Committee, P.O. Box 663
University of Ballarat, Mt Helen, 3353. Ph. 5327 9756*

***Please complete this insert if you live in a different town to the one in which you work.
If you live and work in the same town, don't answer any questions on this page.***

26. I live in a different town to the one I work in because . . .	yes	no
My hometown is another town		
Living in a different town helps me maintain a professional distance		
The town I live in has more facilities		
I live on a farm and am drawn to another town because of closer proximity		
My partner has a job in the town I live in		
Housing is cheaper elsewhere		
Other (<i>please specify</i>)		

**22a. How do you see yourself 'fitting in' to the town in which you live?
(Please tick one)**

- On the edge Part of the crowd Right in the hub

14a. In the small town in which you <u>live</u> , do you do any of the following?	Never	Occasionally	Fairly often	Very often
I attend community functions				
I play sport				
I participate in community groups				
I lead/hold office in community groups.				
I help at working bees				
I purchase fund-raising items and raffle tickets				
I actively participate in fundraising drives				
I cook for community groups				
I help friends and neighbours				
I actively participate in church				
I use my professional skills in community projects				
I use my professional skills to assist towns people				
I represent my community beyond the town				
I provide references for towns-people				
I shop locally				
I offer ideas at public forums				
I am a sounding board for opinions and ideas				

15a. In the small town in which you <u>live</u> , why do / don't you get involved?	Strongly agree	Agree	Disagree	Strongly disagree
I feel a sense of duty to support the town				
I get satisfaction from community involvement				
I enjoy the camaraderie that comes from community involvement				
Workplace relationships encourage my involvement in community.				
Community involvement gives you better standing in the town				
Group interaction is a deterrent from becoming involved				
I get enjoyment from the activities in which I participate				
Non-participation may invite criticism				
Getting too involved makes it difficult to maintain a professional distance				
It's easier to go along with things				
The enthusiasm of others inspires me to get involved				
Community involvement is not important to me				
Family members are involved in the town and I find I become involved through supporting them.				
Time prevents me from becoming too involved				

21a. Thinking about the town you <u>live</u> in, please indicate your agreement or disagreement about the following.	Strongly agree	Agree	Disagree	Strongly disagree
I really enjoy the sense of community				
The people I know best are my work colleagues and clients				
I can trust people in the town				
Most family members that I mix with live elsewhere				
I feel I must behave well because everyone knows me				
I feel quite comfortable talking to people in the street				
It bothers me that people know my business				
Most of my socialising is done outside of the town				
I feel safe in the town				
I tend not to find like-minded people in this town				
Most of my good friends live locally				
As a professional, it's hard to get to know people socially				
I feel more accountable to people because I know them				

UNIVERSITY of BALLARAT

COPY

2 April 2003

This is to certify that

Project No.: 02/88**Project Title:** Rural Professionals: Why do they come and go and what do they do for the town?.**Chief Researcher:** B Golding**Associate Researcher:** D Devers

has been granted approval by the Human Research Ethics Committee at University of Ballarat in accordance with our guidelines and subsequent amendments. This approval is granted for the researcher to approach individual members of the public to request their consent to participate in the research project. If the researcher wishes to conduct research in other agencies, letters from these agencies will also be required. Please forward these letters to the Executive Officer, Human Research Ethics Committee.

A progress report is due at the completion of your project.

Extension of your project beyond the expiry date will require approval from the Ethics Committee.

Approval Date: 01/04/2003

Expiry Date: 01/06/2003



Chair, HREC (or delegate): Ms Kirsty Bernard, Acting Executive Officer, HREC

The Human Research Ethics Committee operates in accordance with the National Statement on Ethical Conduct in Research involving Humans, 1999.

Mt Helen Campus

University Drive, Mount Helen,
P.O. Box 663 Ballarat, Victoria,
3353 Australia

Telephone: (03) 5327 9000
Facsimile: (03) 5327 9545
<http://www.ballarat.edu.au>





Department of Education & Training

Office of School Education

SOS 002188

30 July 2002

Ms Deanna Devers
School of Education
University of Ballarat
PO Box 663
BALLARAT 3353

Dear Ms Devers

Thank you for your application of 20 June 2002 in which you request permission to conduct a research study in government schools titled: *Small Town Professionals: They Just Come and Go and What Do They Do For the Town?*

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. Should your institution's ethics committee require changes or you decide to make changes, these changes must be submitted to the Department of Education, Employment and Training for its consideration before you proceed.
2. You obtain approval for the research to be conducted in each school directly from the principal. Details of your research, copies of this letter of approval and the letter of approval from the relevant ethics committee are to be provided to the principal. The final decision as to whether or not your research can proceed in a school rests with the principal.

2 Treasury Place
East Melbourne, Victoria 3002
Telephone +61 3 9637 2000
DX 210083

GPO Box 4367
Melbourne, Victoria 3001



3. No student is to participate in this research study unless they are willing to do so and parental permission is received. Sufficient information must be provided to enable parents to make an informed decision and their consent must be obtained in writing.
4. As a matter of courtesy, you should advise the relevant Regional Director of the schools you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director.
5. Any extensions or variations to the research proposal, additional research involving use of the data collected, or publication of the data beyond that normally associated with academic studies will require a further research approval submission.
6. At the conclusion of your study, a copy or summary of the research findings should be forwarded to me at the above address.

I wish you well with your research study. Should you have further enquiries on this matter, please contact Louise Dressing, Senior Policy Officer, School and Community Development Division, on 9637 2349.

Yours sincerely,



Norm Dean
Manager
School Community Links & Networks

encl.

Appendix B

Interview schedule

Questions 11 to 15 were asked of commuters only. The term hometown/work-town in questions three, four and six refers to further questioning of commuters. Respondents who identified that they worked in a town other than their hometown were asked about their community involvement in their work community.

1. Please tell me about your hometown networks.
2. If your work-town is different from your hometown, please tell me about your work-town networks.
3. Please describe ways in which you are involved in your hometown/work-town.
4. Please describe what you think are the boundaries of your hometown/work-town.
5. How would you define a community?
6. Please tell me about any wider networks you have that extend beyond your hometown/work-town.
7. Do you think of these networks as communities? Why/why not?
8. Do you see yourself as a commuter? Why/why not?
9. Why did you take up the job you currently hold and why do you stay working in this job?
10. Could you explain how you maintain a professional distance working in this community/these communities?

11. If a similar job came up closer to your hometown, would you take it? Why/why not?
12. If you were offered incentives to move to your work-town would you shift? Why/why not?
13. If you have a contract work position, would you shift to your work-town if you were offered a permanent position?
14. In what way(s) does working outside your hometown allow you to draw upon wider networks? In what sense, if at all, is this beneficial to your hometown?
15. Are there any other comments you want to make regarding commuting and your connections to your hometown and/or work-town?

List of references

- Adler, P.A. and Adler, P. (1998) Observational techniques. In *Collecting and interpreting qualitative materials*. ed. Denzin, N. and Lincoln, Y., Thousand Oaks, California: Sage, 88-116.
- Albrecht, S.L. (1980) Social participation, community attachment, and quality of life in the rapidly industrialising rural community. Paper presented at the 5th World Congress for Rural Sociology, Mexico City, August 7-12.
- Alston, M. (1995) *Women on the land: The hidden heart of rural Australia*. Sydney: University of New South Wales Press.
- Alston, M. (2000) Social capital in rural Australia. Working paper for the international conference, *The Third Sector: For what and for whom?* International Society for Third Sector Research, Dublin, 5-8, July.
- Alston, M. (2005) Gender perspectives in Australian Rural Community Life. In *Sustainability and change in rural Australia*. ed. Cocklin, C. and Dibden, J., Sydney: University of New South Wales Press, 139-158.
- Atterton, J. (2001) *The role of civil society and the business community in rural restructuring*. Report for the Scottish Executive Central Research Unit, Agricultural Policy Co-ordination and Rural Development Research Program, Research Findings No 10. Aberdeen: The Arkleton Centre for Rural Development Research.
- Australian Bureau of Statistics. (1997) *Australian standard classification of occupation*, 2nd edition. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2000) *Voluntary Work, Australia 2000*. Cat 4441.0, Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 225102980 Hindmarsh (S) (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 225107631 Yarriambiack (S) - North (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 225107632 Yarriambiack (S) - South (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 230101271 Buloke (S) - North (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 230101272 Buloke (S) - South (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 230152250 Gannawarra (S) (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) Census Basic Community Profile and Snapshot, 23510 North Loddon (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2001) National regional profile, 22505581, N Grampians (S) - St Arnaud (Statistical Local Area). At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2003) Work - Paid work: Changes in labour force participation across generations, *Australian Social Trends*. At URL

www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2006a) National regional profile: Darling Downs (statistical division), classifications code 320. At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2006b) National regional profile: Southwest (statistical division), classifications code 510. At URL www.abs.gov.au/ausstats

Australian Bureau of Statistics. (2006c) National regional profile: Yorke and lower north (statistical division), classifications code 415. At URL www.abs.gov.au/ausstats

Australian Research Council. (2002) *National research priorities and associated priority goals for 2002-2003*. PDF format available at URL www.arc.gov.au/grant

Australian Women's Weekly, (2001) Wives for Aussie farmers, April 25th, 18-22.

Babbie, E.R. (1992) *The practice of social research*. Belmont, California: Wadsworth.

Barnes, P., Johnson, R., Kulys, A. and Hook, S. (1999) *Productivity and the structure of employment*, Productivity Commission staff research paper, Canberra: AusInfo.

Beautblokes in Harrow, internet page at URL www.Beautblokes.com.au

Black, A. and Hughes, P. (2001) *The identification and analysis of indicators of community strength and outcomes*. Canberra: Department of Family and Community Services.

Black, A. (2005) Rural communities and sustainability. In *Sustainability and change in rural Australia*. ed. Cocklin, C. and Dibden, J., Sydney: University of New South Wales Press, 20-37.

Black, A., Duff, J., Sagers, S. and Baines, P. (2000) *Rural communities and rural social issues: priorities for research*. Canberra: Rural Industries Research & Development Corporation.

Blaikie, N. (2000) *Designing social research*. Cambridge: Polity Press.

Black, A. and Hughes, P. (2001) Social capital and the sustainability of rural or remote communities: evidence from the Australian Community Survey. In *A dynamic balance: social capital and sustainable community development*, ed. Dale, A. and Onyx, J., Georgetown: University of British Columbia, 159-175.

Blumen, O. (1994) Gender differences in the journey to work. *Urban Geography*, 15: 223-245.

Boehm, W.T. and Pond, M.T. (1976) Job location, retail purchasing patterns and local economic development. *Growth and Change*, January: 7-12.

Bourdieu, P. (1985) The Forms of Capital. In *Handbook of Theory and Research for the Sociology of Education*. ed. Richardson, J.G., New York: Greenwood Press.

Boylan, C. and McSwan, D. (1998) Long-staying rural teachers: who are they? *Australian Journal of Education*, 42(1): 49-65.

Boylan, C., Squires, D., Sinclair, R., Jacob, A., Nolan, B., Edwards, J., Smith, A. and O'Malley, D. (1990) Retaining teachers in rural schools: satisfaction, commitment and lifestyle. In *What does social justice mean for education in rural Australia?* Proceedings of the sixth national SPERA conference, July, Albury.

Brewer, J. and Hunter, A. (1989) *Multimethod research: a synthesis of styles*. Newbury Park, California: Sage.

Brooker-Gross, S.R. and Marrafra, T.A. (1985) Commuting distance and gender among non-metropolitan university employees. *Professional Geographer*, 37: 303-310.

Brown, R.B. (1993) Rural community satisfaction and attachment in mass consumer society. *Rural Sociology*, 58: 387-403.

Budge, T. (2005) Sponge cities and small towns: a new economic partnership. Paper presented at the second conference for the *Future of Australia's Country Towns*, Bendigo, July.

Burnley, I. H., Murphy, P. A. and Jenner, A. (1997) Selecting suburbia: residential relocation to outer Sydney. *Urban Studies*, 34(7): 1109-27.

Cadzow, G. and Stevens, D. (1976) *Charlton Anglican centenary*. Donald: Times Print.

Camstra, R. (1994) Commuting and gender in a lifestyle perspective. *Urban Studies*, 33(2): 283-300.

Carlson, R.V. (1992) What does it mean to work in a rural setting? A study of rural influences. *Journal of Rural and Small Schools*, 5(1): 41-47.

Cawley, M.E. (1979) Rural industrialisation and social change in western Ireland. *Sociologia Ruralis*, 19: 43-57.

Cawley, M.E. (1980) Aspects of rural-urban integration in western Ireland. *Irish Geography*, 13: 20-32.

Cheers, B. (1998) *Welfare bushed: social care in rural Australia*. Aldershot: Ashgate.

Cheshire, L. and Lawrence, G. (2003) Monto, Queensland. In *Community sustainability in rural Australia: a question of capital?* ed. Cocklin, C. and Alston, M., Wagga Wagga: Centre for Rural Social Research, Charles Sturt University, 10-37.

Coakes, S.J. (2002) Defining the nature of participation in rural Australian communities. *Journal of Community Psychology*, 30(60): 635.

- Cocklin, C. and Alston, M. (2003) *Community sustainability in rural Australia: a question of capital?* Wagga Wagga: Centre for Rural Social Research, Charles Sturt University.
- Connor-Linton, J. (2003) *Chi square tutorial*, Department of Linguistics, Georgetown University, at URL <www.georgetown.edu/faculty/ballc/webtools>
- Converse, P.E. and Presser, S. (1986) *Survey questions: Handcrafting the standardized questionnaire*. Beverly Hills: Sage University Paper Series on quantitative applications in the social sciences, 7-63.
- Cook, T.D. and Campbell, D.T. (1979) *Quasi-experimentation: design & analysis issues for field settings*. Chicago: Rand McNally College.
- Cowell, D.K. and Green, G.P. (1994) Community attachment and spending locations: the importance of place in household consumption. *Social Science Quarterly*, 75: 637-55.
- Creswell, J. (2003) *Research design: qualitative, quantitative and mixed methods approaches*, Thousand Oaks: Sage.
- Dahms, F.A. (1980) The evolving spatial organization of small settlements in the country side – an Ontario example. *Tidjschrift voor economische en sociale geografie*, 71: 395-206.
- Daniel, W. (1990) *Applied non-parametric statistics*, 2nd edition. Boston: PWS-Kent.
- De Vaus, D. (2002) *Surveys in social research*, 5th edition. St Leonards, New South Wales: Allen and Unwin.
- Dempsey, K. (1989) Is religion still relevant? *Sociological analysis*, 50(3): 247-263.
- Dempsey, K. (1990) *Smalltown: a study of social inequality, cohesion and belonging*. Melbourne: Oxford University.

Denzin, N. and Lincoln, Y. (1994) *Collecting and interpreting qualitative materials*. Thousand Oaks, California: Sage.

Department of Health and Aged Care, (2001) *Measuring remoteness: accessibility/remoteness index of Australia (ARIA)*, Occasional papers: new series no. 14. Canberra: Department of Health and Ageing.

Dibden, J. and Cocklin, C. (2003) 'Tarra', Victoria, in *Community sustainability in rural Australia: a question of capital?* ed. Cocklin, C. and Alston, M., Wagga Wagga: Centre for Rural Social Research, 170-201.

Dibden, J. and Cocklin, C. (2005) Introduction in *Sustainability and change in rural Australia*. ed. Cocklin, C. and Dibden, J. Sydney: University of New South Wales Press, 1-18.

Di pasquale, D and Glaeser, E. (1999) Incentives and social capital: are homeowners better citizens? *Journal of urban economics*, 45 (2): 354-384.

Fagnani, J. (1987) Daily commuting time: the stakes for working mothers in France. *Transportation Research Record*, 1135: 26-30.

Falk, I. and Kilpatrick, S. (2000) What is social capital? A study of rural communities. *Sociologica Ruralis*, 40(1): 87-110.

Fitchen, J. (1991) How do you know what to ask if you haven't listened first? Using anthropological methods to prepare for survey research. *The Rural Sociologist*, 10 (2): 15-22.

Freedman, O. and Kern, C. R. (1997) A Model of Workplace and Residence Choice in Two-Worker Households. *Regional Science and Urban Economics*, 27(3): 241-60.

Fugitt, G. V. (1991) Commuting and the rural-urban hierarchy. *Journal of Rural Studies*, 7(4): 459-466.

- Garnaut, J., Rasheed, C. and Rodrigues, C. (1999) *Farmers at work: the gender division*. Canberra: Australian Bureau of Agricultural and Resource Economics.
- Giddings, B., Hopwood, B. and O'Brien, G. (2002) Environment, economy and society: fitting them together in sustainable development. *Sustainable development*, 10: 187-96.
- Gippsland Institute of Advanced Education. (1978) *A Study of the Use of Community and Information Services*. Report to the Town and Country Planning Board, Melbourne: Department of Social Security.
- Giuliano, G. (1998) Information technology, work-patterns and intra-metropolitan location: a case study. *Urban Studies*, 35: 1077-1095.
- Glaeser, E. (2000) The formation of social capital. Paper presented at the international workshop on *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*, Quebec, March.
- Glen, M. (1996) *St Paul's Anglican church, Birchip*. Unpublished pamphlet.
- Goudy, W. (1990) Community attachment in a rural region. *Rural Sociology*, 55 (2): 178-198.
- Government Employee Housing Authority. (1995) *Government Employee Housing Authority Report*.
- Government of Western Australia. (2003) *Hope for the future: the Western Australia state sustainability strategy*, Perth: Department of the Premier and the Cabinet, Policy Development Unit.
- Green, G.P. (2001) *Kenosha County commuters study*. Report, Kenosha County Economic Development Corporation, Madison: University of Wisconsin.

- Green, M.B. and Meyer, S.P. (1997) An overview of commuting in Canada with special emphasis on rural commuting and employment. *Journal of Rural Studies*, 13(2): 163-175.
- Hammersly, M. (1992) Deconstructing the qualitative – quantitative divide. In *Mixing methods: Qualitative and Quantitative Research*, ed. Brannen, J., Hants, England: Avebury Press, 189-203.
- Hanson, S. and Pratt, G. (1995) *Gender, work and space*. New York: Routledge.
- Hanson, S. and Schwab, M. (1987) Accessibility and intra-urban travel. *Environment and Planning A*, 19:735-48.
- Hardee, G. (1958) *Factors influencing social participation in an Australian rural community and in selected American rural areas*. University of Kentucky: unpublished PhD thesis.
- Harper, D. (1991) On “methodological monoism” in rural sociology. *Rural Sociology*, 56(1): 70-88.
- Haughey, M.L and Murphy, P.J. (1985) Why teachers stay in rural schools: A British Columbia report. *Education Research and Perspectives*, 12(1), 37-45.
- Hays, R., Veitch, C., Cheers, B. and Crossland, L.J. (1997) Why rural doctors leave their practice. *Australian Journal of Rural Health*, 5: 198-203.
- Hegney, D. and McCarthy, A. (2000) Job satisfaction and nurses in rural Australia. *Journal of Nursing Administration*, 30(7/8): 342-350.
- Hegney, D., McCarthy, A., Rogers-Clark, C. and Gorman, R. (2002) Retaining rural and remote area nurses. *Journal of Nursing Administration*, 32(3): 128-135.
- Horner, A. (1999) The tiger stirring: aspects of commuting in the Republic of Ireland, 1981-1996. *Irish Geography*, 32(2): 99-111.

Howe, K.R. (1988) Against the quantitative-qualitative incompatibility thesis or dogmas die hard. *Educational Researcher*, 17(8), 10-16.

Hugo, G. (2001) What is really happening in rural and regional populations? *The future of Australia's country towns*, ed. Rogers, M. F. and Collins, Y. M. J., Bendigo: Centre for Sustainable Rural Communities, Latrobe University, 57-71.

Hugo, G. (2005) The State of Rural Populations. *Sustainability and change in rural Australia*, ed. Cocklin, C. and Dibden, J., Sydney: University of New South Wales Press, 56-79.

Humphrey, J.S. and Rolley, F. (1998) A modified framework for rural general practice: the importance of recruitment and retention. *Social Science and Medicine*, 46(8): 939-945.

Institute for Regional and Rural Research. (2003) *Critical issues facing Rural Regions*. Regional research framework, position paper No. 2, University of Ballarat.

Johnson, B. and Christensen, L. (2004) *Educational research: quantitative, qualitative and mixed approaches*, research edition, 2nd edition, Boston: Pearson Education.

Kamien, M. and Butfield, I. (1990) Some solutions to the shortage of general practitioners in rural Australia, Part 1: selection of medical students. *Medical Journal of Australia*, 16: 105-107.

Kasarda, J. and Janowitz, M. (1974) Community attachment in mass society. *American Sociological Review*, 39: 328-339.

Kenyon P. and Black, A. (2001) *Small town renewal overview and case studies*. Canberra: Rural Industries Research and Development Corporation.

Kuhn, T.S. (1970) *The structure of scientific revolutions*, 2nd edition. Chicago: Chicago University Press.

- Kwan, M.P. (1999) Gender, the home-work link, and space-time patterns of non-employment activities. *Economic Geography*, 75(4): 370-394.
- Lee, B.S. and McDonald, J. F. (2003) Determinants of commuting time and distance for Seoul residents: the impact of family status on the commuting time of women. *Urban Studies*, 40(7): 1283-1302.
- Levinson, D. (1997) Job and housing tenure and the journey to work. *Annals of Regional Science*, 31: 451-471.
- Lonne, B. and Cheers, B. (2000) Personal and professional adjustments of social workers to rural and remote practice: implications for improved retention. In *Issues affecting rural communities* (11), Proceedings of the international conference, Rural Communities and Identities in the Global Millennium, Nanaimo, British Columbia, Canada, May 1-5: 48-53.
- Lothlorien, S. and Mokhtarian, P. (2001) The positive utility of the commute: modelling ideal commute-time and relative desired commute amount. *Transportation*, 28: 179-205.
- MacDonald, H.I. (1999) Women's employment and commuting: explaining the links, *Journal of Planning Literature*, 13: 267-283.
- MacIsaac, P., Snowdon, T., Thompson, R., Crossland, L. & Veitch, C. (2000) General practitioners leaving rural practice in Western Victoria, *Australian Journal of Rural Health*, 8: 68-72.
- Madden, J.F. (1981) Why women work closer to home. *Urban Studies*, 18:181-194.
- Maxim, P. (1999) *Quantitative research methods in the social sciences*. New York: Oxford University Press, 1999.
- McClelland, F. (2002) *A study of volunteerism in small rural towns*. Horsham: Wimmera Volunteers Inc.

- McIntyre, A.J. and McIntyre, J. J. (1944) *Country towns of Victoria: a social survey*. Melbourne: Melbourne University Press.
- McKendrick, J.H. (1999) Multi-method research: an introduction to its application in population geography. *Professional Geographer*, 51(1): 40-50.
- McSwan, D., Duck, G., Webb, E., & Cunningham, D. (1988) *Teaching in rural and isolated areas of Queensland*. Toowong: Board of Teacher Education, James Cook University.
- Medical rural bonded scholarships. (2006) Summary of scholarship information, (PDF 22KB) Available at URL <www.health.gov.au/internet/wcms/publishing>
- Miles, M.B. and Huberman, A.M. (1994) *Qualitative data analysis: an expanded sourcebook*. Thousand Oaks, California: Sage.
- Miller, S. (2003) Impact of mixed methods design on inference quality. *Handbook of mixed methods in social and behavioural research*. ed. Tashakorri, A. and Teddlie, C., Thousand Oaks: Sage.
- Mills, I. (1997) Recruiting general practitioners to rural areas: one community's experience. *Australian Journal of Rural Health*, 5: 194-197.
- Montague, M. (1981) Community Structure and mobility in a Queensland country town. In *Beyond the city: case studies in community structure and development*, ed. Bowman, M., Melbourne: Longman Cheshire, 166-187.
- Montgomery, J. (1999) *An investigation into the issues shared by professionals living and working in rural communities in British Columbia*. Townsville: James Cook University, unpublished PhD thesis.
- Municipal Association of Victoria. (2000) *Economic and financial challenges for small rural councils*, Melbourne: Milbur.

- Nankervis, M. (2005) Residential property markets in small country towns: some methodological issues and scoping study results. Paper presented at the second conference for the *Future of Australia's Country Towns*, July, Bendigo.
- Narayan, D. and Cassidy, M.F. (2001) A dimensional approach to measuring social capital: development and validation of a social capital inventory. *Current Sociology*, 49(2): 59-102.
- Neuman, L. (2000) *Social research methods: qualitative and quantitative approaches*, 3rd edition. Boston: Pearson
- Nunn, J. (1994) The importance of the school to a rural town. *Education in rural Australia*, 4(1): 1-6.
- O'Connor K., Stimson R. and Daly M. (2001) *Australia's Changing Economic Geography: A society dividing*. South Melbourne: Oxford University Press.
- O'Dwyer, B. and Coombes, P. (1999) Long-distance commuting: quality of life and journey experience. In *Proceedings from the twenty-third Australasian Transport Research Forum*, Perth, part 2: 995-1006.
- Onwuegbuzie, A. and Teddlie, C. (2003) A framework for analysing data in mixed methods research. *Handbook of mixed methods in social and behavioural research*. ed. Tashakorri, A. and Teddlie, C., Thousand Oaks: Sage.
- Onyx, J. and Bullen, P. (1997) *Measuring social capital in five communities in New South Wales*. Lindfield, New South Wales: Centre for Australian Community Organisations and Management, University of Technology, Sydney.
- Organisation for Economic Co-operation and Development. (2003) *Future of Rural Policy: From sectoral to place-based policy in rural areas*. Paris: Organisation for Economic Co-operation and Development,

- Oxley, H.G. (1978) *Mateship in local organization*. 2nd edition. St Lucia: University of Queensland Press.
- Pahl, R.E. (1965) Class and community in English commuter villages. *Sociologia Ruralis*, 5: 5-23.
- Pathman, D., Konrad, T. and Agnew, C. (1994) Studying the retention of rural physicians. *The Journal of Rural Health*, 10(3): 183–192.
- Patton, M. Q. (1988) Paradigms and pragmatism. In *Qualitative approaches to evaluation in education: the silent scientific revolution*, ed. Fetterman, D.M., New York: Praeger, 116 – 137.
- Patton, M.Q. (2000) *Qualitative research and evaluation methods*. London: Sage.
- Pepperdine, S. (2001) Social indicators of rural community sustainability: An example from the Woody Yallock catchment. In *The future of Australia's country towns*, ed.
- Rogers M. F. and Collins, Y. M. J., Bendigo: Centre for Sustainable Regional Communities, Latrobe University, 124-134.
- Peters, A.H. and McDonald, H.I. (1994) The work-trips of rural non-metropolitan, women in Iowa. *Growth and Change*, 25: 335-51.
- Philips, L.J. (1998) Combining quantitative and qualitative approaches to social research in human geography – an impossible mixture? *Environment and Planning*, 30: 261 –276.
- Pinkerton, J.R., Hassinger, E.W. and O'Brien, D.J. (1995) In-shopping by residents of small communities. *Rural Sociology*, 60(3): 467-480.
- Pisarski, A.E. (1996) *Commuting in America: a national report on commuting patterns and trends*. Washington: Eno Transportation Foundation.

Pooley, C. (2003) Mobility in the twentieth century: substituting commuting for migration? In *Geographies of British modernity: space and society in the twentieth century*. Oxford: Blackwell, 80-96.

Productivity Commission, (1999) *Impact of competition policy reforms on rural and regional Australia*. Canberra: Ausinfo.

Productivity Commission, (2003) *Social capital: Reviewing the concept and its policy implications*. Canberra: Commonwealth of Australia.

Putnam, R. (2000) *Bowling alone*. New York: Simon and Schuster.

Putnam, R., Leonardi R., and Nanetti, R. (1993) *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.

Rabinowitz, H. (1988) Evaluation of a selective medical school admissions policy to increase the number of family physicians in rural and underserved areas. *The New England Journal of Medicine*, 319: 480–486.

Rabinowitz, H., Diamond J., Markham, F. and Hazelwood, C. (1999) A program to increase the number of family physicians in rural and underserved areas: Impact after 22 years. *The Journal of the American Medical Association*, 281(3): 255–260.

Research Planning Design Group, (2004) *Regional dynamics*. Report to the Department of Innovation, Industry and Regional Development.

Reimer, B. (1997) Informal rural networks: their contribution to “making a living” and creating rural employment. In Bollman, R. and Bryden, J., *Rural employment: An international perspective*, Oxford and New York: CAB International, 396-409.

Robertson, E. (2000) *1996 Census data quality: journey to work*. Canberra: Australian Bureau of Statistics, Census Working Paper, 00/1.

- Rogers, M. & Ryan, R. (2001) The triple bottom line for sustainable community development. *Local Environment*, 6(3): 279–289.
- Romani, J., Surinach, J. and Artis, M. (2003) Are commuting and residential mobility decisions simultaneous? The case of Catalonia, Spain. *Regional Studies*, 37(8): 813-26.
- Rouwendal, J. and Meijer, E. (2001) Preferences for housing, jobs, and commuting: a mixed logit analysis. *Journal of Regional Science*, August 41(3): 475-505.
- Sacco, M. (1994) Skills and requirements of rural human service organizations. In *Proceedings from the international conference on issues affecting rural communities, Townsville, July*: 99-105.
- Sarageldin, I. (1996), *Sustainability and the wealth of Nations: first steps in an ongoing journey*. Environmentally Sustainable Development Studies and Monograph Series No. 5, Washington, D.C: The World Bank.
- Schmidt, L. (1978) *The social and cultural impact of commuting upon a US rural town*. University of Syracuse, unpublished PhD thesis.
- Scott, K., Park, J. and Cocklin, C. (2000) From ‘sustainable rural communities’ to ‘social sustainability’: Giving voice to diversity in Mangakahia Valley, New Zealand. *Journal of Rural Studies*, 16(4): 422-46.
- Sheatsley, P.B. (1983) Questionnaire construction and item writing. In *Handbook of survey research*, ed. Rossi, P.H., Wright, J.D. and Anderson, A.B., New York: Academic Press, 195-230.
- Shields, M. and Deller, S.C. (1998) Commuting’s effect on local market retail performance. *Review of Regional Studies*, 28(2): 71-89.
- Singell, L. and Lilydale, J. (1986) An empirical analysis of the commute to work patterns of males and females in two earner households. *Urban Studies*, 23: 119-130.

Smailes, P., Griffen T. and Argent, N. (2005) The changing social framework. In *Sustainability and change in rural Australia*, ed. Cocklin, C. and Dibden, J., Sydney: University of New South Wales, 80-101.

Smailes, P. (1995) The enigma of social sustainability in rural Australia, *Australian Geographer*, 29(2): 140-150.

Smailes, P. (2002) From rural dilution to multifunctional countryside: some pointers to the future from South Australia. *Australian Geographer*, 33(1): 79-95.

Smailes, P.J. and Hugo, G.J. (2003) The Gilbert Valley, South Australia. In *Community sustainability in rural Australia: a question of capital?* ed. Cocklin, C. and Alston, M., Wagga Wagga: Centre for Rural Social Research, Charles Sturt University, 65-106.

Smailes, P.J. and Hugo, G.J. (1985) A process view of the population turnaround: an Australian rural case study. *Journal of Rural Studies*, 1(1): 31-43.

Stinner, W., Van Loon, M., Chung, S.W. and Byun, Y. (1990) Community size, individual social position and community attachment. *Rural Sociology*, 55(4): 494-520.

Strasser, R., Kamien, M., Hays, R. and Carson, D. (1997) *National rural general practice study*. Monash University Centre for Rural Health: Moe.

Tashakkori, A. and Teddlie, C. (1998) *Mixed Methodology*. London: Sage.

Theodori, G. and Luloff, A.E. (2000) Urbanization and community attachment in rural areas. *Society and Natural Resources*, 13(5): 399-420.

Tigges, L. M. and Fugitt, G. V. (2003) Commuting: a good job nearby. In *Challenges for rural America in the twenty-first century*, ed. Brown, D. L. and Swanson, L.E., Pennsylvania: Pennsylvania State University Press, 166-176.

Tonts, M. and Black, A. (2003) Narrogin, Western Australia. In *Community sustainability in rural Australia: a question of capital?* ed. Cocklin, C. and Alston, M., Wagga Wagga: Centre for rural social research, Charles Sturt University, 107-134.

Tonts, M.(2005) Government policy and rural sustainability. In *Sustainability and change in rural Australia*. ed. Cocklin, C. and Dibden, J., Sydney: University of New South Wales Press, 194-211.

Trochim, W. M. (2004) *The web centre for social research methods*. Internet page at URL < www.socialresearchmethods.net>

Turner, T. and Neiemeier, D. (1997) Travel to work and household responsibility: new evidence. *Transportation*, 24: 397–419.

Uhlenburg, P. (1973) Non-economic determinants of non-migration: sociological considerations for migration theory. *Rural Sociology*, 38: 296-311.

Uniting Church in Australia, (1985) *Directory*. Melbourne: Uniting Church in Australia, Synod of Victoria.

Uniting Church in Australia, (1990) *Directory*. Melbourne: Uniting Church in Australia, Synod of Victoria.

Uniting Church in Australia, (1995) *Directory*. Melbourne: Uniting Church in Australia, Synod of Victoria.

Uniting Church in Australia, (2000) *Directory*. Melbourne: Uniting Church in Australia, Synod of Victoria.

Uniting Church in Australia, (2005) *Directory*. Melbourne: Uniting Church in Australia, Synod of Victoria.

- Urry, J. (2000) Sociology of time and space. In *Blackwell Companion to Social Theory*, 2nd Ed., ed Turner, B., Malden, Massachusetts: Blackwell, 416-444.
- van Ham, M., Mulder, C. and Hooimeijer, P. (2001) Spatial Flexibility in Job Mobility: Macrolevel Opportunities and Microlevel Restrictions. *Environment and Planning A*, May, 33(5): 921-40.
- Van Ommeren, J., Rietveld, P. and Nijkamp, P. (2000) Job mobility, residential mobility and commuting: a theoretical analysis using search theory. *Annals of Regional Science*, 34: 213-232.
- Veitch, C., Harte, J., Hays, R., Pashen, D. and Clark, D. (1999) Community participation in the recruitment and retention of rural doctors: Methodological and logistical considerations. *Australian Journal of Rural Health*, 7: 206–211.
- Victorian State Government. (2001) *Regional Matters: An Atlas of Regional Victoria*. Internet page at URL <<http://www.info.vic.gov.au/resources/atlas/index.html>>
- Vinson, T. (1999) *Unequal in life: the distribution of social disadvantage in Victoria and New South Wales*, Melbourne: Jesuit Social Services.
- Wainer, J. (2001) *Female doctors in rural Victoria*. Melbourne: Rural Workforce Agency Victoria.
- West Wimmera Health Services. (2001) West Wimmera Health Service annual report. Nhill: West Wimmera Health Service.
- Wild, R.A. (1974) *Bradstow: a study of status, class and power in a small Australian town*. Sydney: Angus and Robertson.
- Wilkinson, B., Beilby, J., Thompson, D., Laven, G., Chamberlain, N. and Laurence, C. (2000) Associations between rural background and where South Australian general practitioners work. *Rural Health*, 173: 137-140.

Winter, I. (2000) Major themes and debates in the social capital literature: the Australian connection. In *Social capital and public policy in Australia*, ed. Winter, I., Canberra: Australian Institute of Family Studies, Commonwealth of Australia, 17-42.

Woolcock, M. and Narayan, D. (2000) Social Capital: Implications for development, theory, research and policy. *World Bank Research Observer*, 15(2): 225-249.

World Bank. (1995) *Monitoring Environmental Progress: A Report on Work in Progress*, Washington, D.C.

Wyly, E.K. (1998) Containment and mismatch: gender differences in commuting in metropolitan labor markets. *Urban Geography*, 19: 395-430.