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*The nature of things*

**An Interdisciplinary  
Investigation Into The  
Experiences and Impacts of  
Drought For Three Generations  
Of Australian Women**

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**Jane Louise Rich**

B.Dev Stud (Hons)

A thesis submitted for the degree of Doctor of Philosophy  
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## Statement of Originality

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library\*\*, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

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02/July/2014

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Date



# Acknowledgements

*Dear God,*

*We rejoice and give thanks for earthworms,*

*bees, ladybirds and broody hens;*

*for humans tending their gardens, talking to animals,*

*cleaning their homes and singing to themselves;*

*for rising of the sap, the fragrance of growth,*

*the invention of the wheelbarrow and the existence of the teapot,*

*we give thanks. We celebrate and give thanks.*

*Amen (Leunig 2012).*

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*x Again, for Arne x*

*I think we are bound to, and by, nature. We may want to deny this connection and try to believe we control the external world, but every time there's a snowstorm or drought, we know our fate is tied to the world around us*

(Hoffman 2001)

# Table of Contents

## **Chapter 1 ..... 3**

1.1. Australia's Geography: Setting The Scene .....	4
1.2. Theoretical Approaches To Understanding Women's Wellbeing In Drought .....	8
1.3. Research Question And Project Aims .....	15
1.4. Thesis Outline.....	16

## **Chapter 2 ..... 19**

2.1. Introduction .....	19
2.2. Literature Search Strategies.....	20
2.3. Climate Change And Its Health Effects .....	20
2.4. Adaptation To Climate Change - Resilience.....	25
2.5. Droughts In Australia And Effects On Health .....	27
2.6. Women And Rural Life In Australia.....	32
2.6.1.Rural Women And Resilience.....	36
2.7. Women And Drought In Australia .....	38
2.7.1.Women, Ageing And Drought .....	45
2.8. Summary of research gaps .....	49



## **Chapter 3 ..... 52**

3.1. Introduction.....	52
3.2. The Australian Longitudinal Study On Women's Health .....	54
3.3. The Qualitative Dataset.....	56
3.4. Drawing The Sample .....	58
3.5. Inclusion Criteria.....	60
3.6. Description Of Quantitative Measures.....	62
3.7. Sample Characteristics .....	64
3.8. Data Analyses.....	76
3.9. Study One: Thematic Analyses.....	76
3.10. Study Two: Longitudinal Analyses .....	79
3.11. Study Three: Narrative Analyses .....	83
3.11.1.Narrative Analysis Procedure And Method.....	86
3.11.2.Data Analysis .....	89
3.12. Quality And Rigour In Three Qualitative Studies .....	94

## **Chapter 4 ..... 99**

4.1. Thematic Analyses Introduction .....	99
---	----

4.2.	A Thematic Analysis Of The Younger Women's Free-text	
	Comments.....	100
	Theme One: Family Life.....	102
	Theme Two: Financial Stress.....	103
	Theme Three: Reflections on Emotional Wellbeing.....	104
	Conclusion.....	104
4.3.	Thematic Analysis Of The Mid-aged Women's Free-text	
	Comments.....	105
	Theme One: Development of Identity and Self-worth.....	108
	Theme Two: Biological Ageing and Drought.....	110
	Theme Three: Support During Drought.....	111
	Theme Four: Retirement and Plans for the Future.....	113
	Conclusion.....	115
4.4.	Thematic Analysis Of The Older-aged Women's Free-text	
	Comments.....	116
	Theme One: Work and Standard of Living.....	119
	Theme Two: Physical Activity and Resilience in Adversity.....	121
	Theme Three: Connection to Place.....	123
	Theme Four: Service Access.....	125
	Conclusion.....	127
4.5.	Generational Comparison Of Three Thematic Analyses .....	127
4.6.	Conclusion: Thematic Analyses.....	132

## **Chapter 5..... 135**

5.1.	Longitudinal Analyses Introduction.....	135
5.2.	A Longitudinal Analysis of Young Women's Free-text	
	Comments.....	137

5.3.	Young Survey One: 1996.....	140
	Concept One: Environmental.....	140
	Concept Two: Women .....	140
	Concept Three: Affected .....	141
	Concept Four: Health .....	141
	Concept Five: Things .....	141
5.4.	Young Survey Two: 2000 .....	142
	Concept One: Time .....	142
	Concept Two: Week.....	142
	Concept Three: Answers .....	142
	Concept Four: Questions.....	143
	Concept Five: Environmental.....	143
5.5.	Young Survey Three: 2003 .....	143
	Concept One: Due .....	143
	Concept Two: Pregnant.....	144
	Concept Three: Drought.....	144
	Concept Four: Wife .....	144
	Concept Five: Months .....	144
5.6.	Young Survey Four: 2006.....	145
	Concept One: Job .....	145
	Concept Two: Husband.....	145
	Concept Three: Home .....	146
	Concept Four: Months.....	146
	Concept Five: Affected .....	146
5.7.	Young Survey Five: 2009 .....	147
	Concept One: Farmers.....	147
	Concept Two: Farm.....	147
	Concept Three: Regarding .....	148

Concept Four: Income.....	148
Concept Five: Doing .....	148
5.8. A Longitudinal Discussion Of Young Women’s Free-text Comments.....	148
5.9. A Longitudinal Analysis Of Mid-aged Women’s Free-text Comments.....	150
5.10. Mid-aged Survey One: 1996 .....	152
Concept One: Children.....	152
Concept Two: Weight .....	153
Concept Three: Women .....	153
Concept Four: Take.....	153
Concept Five: Days .....	154
5.11. Mid-aged Survey Two: 2000.....	155
Concept One: Involved .....	155
Concept Two: Problem .....	155
Concept Three: Change.....	156
Concept Four: Farming .....	156
Concept Five: Things .....	156
5.12. Mid-aged Survey Three: 2003.....	157
Concept One: Happy .....	157
Concept Two: Working.....	157
Concept Three: Town.....	158
Concept Four: During .....	158
Concept Five: Survey.....	158
5.13. Mid-aged Survey Four: 2006 .....	159
Concept One: Survey .....	159
Concept Two: Days.....	160

Concept Three: Living .....	160
Concept Four: Problems.....	160
Concept Five: Week .....	161
5.14. Mid-aged Survey Five: 2009.....	161
Concept One: Drought .....	161
Concept Two: Care.....	163
Concept Three: Home .....	163
Concept Four: Times .....	163
Concept Five: Income .....	163
5.15. A Longitudinal Discussion Of Mid-aged Women’s Free-text Comments .....	164
5.16. A Longitudinal Analysis Of Older-aged Women’s Free-text Comments .....	167
5.17. Older-aged Survey One: 1996.....	169
Concept One: Problem .....	169
Concept Two: Care.....	170
Concept Three: Things .....	170
Concept Four: Old .....	170
Concept Five: Months .....	171
5.18. Older-aged Survey Two: 1999 .....	171
Concept One: Operation.....	171
Concept Two: Hospital.....	172
Concept Three: Survey.....	172
Concept Four: Days.....	172
Concept Five: Old .....	172
5.19. Older-aged Survey Three: 2003 .....	173
Concept One: Week .....	173

Concept Two: Day .....	173
Concept Three: Farm.....	174
Concept Four: Past .....	174
Concept Five: Country .....	175
 5.20. Older-aged Survey Four: 2005 .....	175
Concept One: Drought .....	175
Concept Two: Garden .....	176
Concept Three: Family.....	177
Concept Four: Take.....	177
Concept Five: Walking .....	177
 5.21. Older-aged Survey Five: 2008 .....	178
Concept One: Age .....	178
Concept Two: Hospital .....	179
Concept Three: Feel .....	179
Concept Four: Son.....	179
Concept Five: Take .....	179
 5.22. A Longitudinal Discussion Of Older-aged Women's Free-text Comments.....	180
 5.23. A Longitudinal Generational Comparison Of Three Cohorts' Free-text Comments .....	184
 5.24. Longitudinal Analyses Conclusion .....	189

## **Chapter 6..... 190**

6.1. Narrative Analyses Introduction .....	190
 6.2. A Young Woman's Narrative.....	192
Portrait of Tracey .....	192

Tracey's Narrative .....	193
6.3. A Mid-aged Woman's Narrative.....	202
Portrait of Wendy .....	202
Wendy's Narrative .....	203
6.4. An Older-aged Woman's Narrative .....	214
Portrait of Alice .....	214
Alice's Narrative .....	215
6.5. A Performative Analysis Of Young, Mid-aged And Older-aged Narratives .....	220
6.6. Narrative Conclusion .....	228
<b>Chapter 7 .....</b>	<b>230</b>
7.1. A Comprehensive Approach To Health.....	232
7.2. Vulnerability In Drought.....	235
7.3. Connection To Place .....	239
7.4. Solastalgia .....	240
7.5. Complexity Of Women's Roles In Drought .....	243
7.6. Policy Implications .....	245
Gender is Key in Policy Development .....	246
Age is Key in Policy Development .....	246
Exceptional Circumstance / Drought Relief Assistance .....	247
Social Connectedness: National Broadband Network .....	247
Mental Health Care .....	248
National Disability Insurance Scheme (NDIS) .....	249

Ageing in Place .....	249
Farm Management Deposit Scheme .....	250
Longitudinal Research is Key .....	250
7.7. Strengths And Limitations.....	251
7.8. Future Directions .....	253
7.9. Final Conclusions .....	254
<b>References .....</b>	<b>257</b>
<b>Appendix A ARIA+ .....</b>	<b>282</b>
<b>Appendix B SF-36.....</b>	<b>286</b>
<b>Appendix C .....</b>	<b>287</b>
<b>Appendix D .....</b>	<b>289</b>
<b>Appendix E How To Interpret A Leximancer Map .....</b>	<b>291</b>
Results: All Cohorts Map .....	295





## List of Tables

TABLE 1 MAILING SCHEDULE FOR ALSWH SURVEYS .....	55
TABLE 2 NUMBERS OF COMMENTS WRITTEN BY WOMEN AT EACH SURVEY WAVE .....	57
TABLE 3 NUMBER OF WOMEN, COMMENTS AND WORDS INCLUDED IN THE SAMPLE, BY COHORT.....	61
TABLE 4 YOUNG WOMEN'S SAMPLE CHARACTERISTICS .....	65
TABLE 5 YOUNGER WOMEN: PRECIPITATION SCORES, NUMBER AND PERCENTAGE OF WOMEN LIVING WITH DRYNESS OR DROUGHT .....	67
TABLE 6: THE MID-AGED WOMEN'S SAMPLE CHARACTERISTICS .....	69
TABLE 7 MID-AGED WOMEN: PRECIPITATION SCORES, NUMBER AND PERCENTAGE OF WOMEN LIVING WITH DRYNESS OR DROUGHT .....	71
TABLE 8: THE OLDER-AGED WOMEN'S SAMPLE CHARACTERISTICS .....	73
TABLE 9 OLDER-AGED WOMEN: PRECIPITATION SCORES, NUMBER AND PERCENTAGE OF WOMEN LIVING WITH DRYNESS OR DROUGHT .....	75
TABLE 10 INTERVIEW SCHEDULE .....	88
TABLE 11 SUMMARY OF THREE METHODS AND AIMS .....	94
TABLE 12 YOUNG WOMEN'S THEMATIC TABLE.....	101
TABLE 13 MID-AGED WOMEN'S THEMATIC TABLE.....	106
TABLE 14 OLDER-AGED WOMEN'S THEMATIC TABLE .....	117
TABLE 15 YOUNG WOMEN'S SURVEY 1 LIKELIHOOD SCORES.....	140

TABLE 16 YOUNG WOMEN’S SURVEY 2 LIKELIHOOD SCORES.....	142
TABLE 17 YOUNG WOMEN’S SURVEY 3 LIKELIHOOD SCORES.....	143
TABLE 18 YOUNG WOMEN’S SURVEY 4 LIKELIHOOD SCORES.....	145
TABLE 19 YOUNG WOMEN’S SURVEY 5 LIKELIHOOD SCORES .....	147
TABLE 20 MID-AGED WOMEN'S SURVEY 1 LIKELIHOOD SCORES .....	152
TABLE 21 MID-AGED WOMEN'S SURVEY 2 LIKELIHOOD SCORES .....	155
TABLE 22 MID-AGED WOMEN'S SURVEY THREE LIKELIHOOD SCORES .....	157
TABLE 23 MID-AGED WOMEN'S SURVEY 4 LIKELIHOOD SCORES .....	159
TABLE 24 MID-AGED WOMEN'S SURVEY 5 LIKELIHOOD SCORES .....	161
TABLE 25 OLDER-AGED WOMEN’S SURVEY 1 LIKELIHOOD SCORES .....	169
TABLE 26 OLDER-AGED WOMEN’S SURVEY 2 LIKELIHOOD SCORES .....	171
TABLE 27 OLDER-AGED WOMEN’S SURVEY 3 LIKELIHOOD SCORES .....	173
TABLE 28 OLDER-AGED WOMEN’S SURVEY 4 LIKELIHOOD SCORES .....	175
TABLE 29 OLDER-AGED WOMEN’S SURVEY 5 LIKELIHOOD SCORES .....	178
TABLE 30 CONCEPTS FROM ALL COHORTS MAP .....	292

# Table of Figures

FIGURE 1 SOLASTALGIA, ADAPTED FROM ALBRECHT (2005).....	13
FIGURE 2 YOUNG WOMEN'S LEXIMANCER MAP .....	139
FIGURE 3 MID-AGED WOMEN'S LEXIMANCER MAP .....	151
FIGURE 4 OLDER-AGED WOMEN'S LEXIMANCER MAP.....	168
FIGURE 5 TRACEY'S HEALTH AND DROUGHT MEASURES OVER TIME .....	192
FIGURE 6 WENDY'S HEALTH AND DROUGHT MEASURES OVER TIME .....	202
FIGURE 7 ALICE'S HEALTH AND DROUGHT MEASURES OVER TIME .....	214
FIGURE 8 ALL COHORTS MAP: YOUNGER, MID-AGED AND OLDER-AGED FREE-TEXT COMMENTS FOR ALL TIME POINTS .....	293
FIGURE 9 HEAT MAP OF CONCEPTS FROM ALL COHORTS' ANALYSIS .....	295

## Abbreviations

ALSWH	Australian Longitudinal Study on Women's Health
ARIA	Accessibility/Remoteness Index of Australia
CWA	Country Women's Association
EC	Exceptional Circumstances
EOI	Expression Of Interest
IPCC	Intergovernmental Panel on Climate Change
NDIS	National Disability Insurance Scheme
NSW	New South Wales

# List of publications and presentations

## Components of this thesis have been published:

**Rich, J. L.**, Wright, S. L., & Loxton, D. (2012). 'Patience, hormone replacement therapy and rain!' Women, ageing and drought in Australia: Narratives from the mid-age cohort of the Australian Longitudinal Study on Women's Health. *Australian Journal of Rural Health*, 20(6), 324-328.

Dobson A, Byles J, Dolja-Gore X, Fitzgerald D, Hockey R, Loxton D, McLaughlin D, Pachana N, Powers J, **Rich J. L.**, Sibbritt D & Tooth L. *Rural, remote and regional differences in women's health: Findings from the Australian Longitudinal Study on Women's Health*. Report prepared for the Australian Government Department of Health & Ageing, June 2011.

## Invited presentations:

International and Interdisciplinary Conference on Emotional Geography, University of Groningen, The Netherlands June 2013. "Ageing in drought – A longitudinal thematic analysis of older women's experiences of drought in Australia" **Jane Louise Rich**, Deborah Loxton and Sarah Wright

The Australian Association of Gerontology NSW Division - Rural Conference Across the divide: lessons on care from urban and rural communities, Cessnock Performing Arts Centre, Cessnock NSW 2011. *Women, Ageing and Drought* **Jane Louise Rich**

Tom Farrell Institute for the Environment, University of Newcastle 2010 *Narratives from women in drought: a longitudinal exploration*. **Jane Louise Rich**.

## Abstract

In the current context of climate change, weather temperatures and droughts are set to increase in intensity and frequency. It is unclear what the adverse health outcomes might be as a result of this experience. Some research suggests that experiences of drought challenge mental health and wellbeing and there are reports of increases in male suicide rates at that time (Hanigan, Butler, Kobic and Hutchinson 2012). What is not certain is how experiences of drought might affect women's health and wellbeing.

This is a public health thesis that draws together information from science, health, geography, and sociology to explore the lived experience of drought for three generations of Australian women. The project examines these experiences through three different studies. Firstly, a *thematic* analysis will explore the diversity and breadth of experiences of women in drought. Secondly, a *longitudinal* analysis will qualitatively explore the experiences of drought over time for Australian women and thirdly, three in-depth *narratives*, from telephone interviews with women, will illustrate the connections between the themes, by presenting women's stories in the wider context of their lives.

Data from the Australian Longitudinal Study on Women's Health (ALSWH) is analysed in these three studies to explore women's experiences of drought. This project is particularly interested in the implications of drought on the ageing and wellbeing of women. Data from three age groups of women is included in the analyses. The younger women were born between 1973-78, the mid-aged women were born between 1946-51 and the older-aged women were born between 1921-26. Three separate studies were conducted in each age group, totalling nine different analyses.

The first study conducted a *thematic* analysis of women's free-text comments collected by the ALSWH. The aim of this study was to assess drought in the wider context of women's lives and to examine diversity of experiences. This thematic analysis revealed several important insights. **Firstly**, there are generational differences in women's

experiences of drought. **Secondly**, this study revealed the importance of specific events surrounding women and their life in drought, such as raising families, caring for others, and maintaining their health and community involvement. **Thirdly**, this analysis found that gender was an important aspect of experiences of drought. Many women-specific themes were raised.

The second study aimed to uncover the *longitudinal* impact of living in drought. This chapter visually mapped each cohort's survey years and free-text comments to reveal common concepts and themes from the women's free-text comments. Leximancer software was used to assist in analysis. This study found **firstly** that a longitudinal lens is vital for drought research. **Secondly**, this study found that ageing needs to be a vital aspect of drought research. **Thirdly**, mental health is compromised during drought particularly when examined over time.

The third study aimed to enable women to tell their story of drought, through telephone interviews. In the *narrative* analyses the women's experiences were linked to quantitative health and rainfall data collected by the ALSWH. Results from this study build on the findings of the previous two studies by drawing together women's reflections and insights. The narratives provide the links and details between themes. Results found that **firstly**, women have important roles, particularly in caring for their families and husbands during drought. **Secondly**, ageing was raised as an important theme for each cohort's narrative. **Thirdly**, this chapter revealed the incredibly complex experience of drought, drought did not occur in isolation but as part of wider events in life.

This project concludes that drought is a gendered experience. This project adds that both gender and ageing must be considered when planning for future droughts. Together each of these three studies provides vital contributions to the field of gender, health and drought.



# Chapter 1

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## General Introduction

This interdisciplinary project explores the lived experience of drought for three generations of Australian women. The project will examine these experiences in three ways. Firstly, a thematic analysis will explore the diversity and breadth of experiences of women in drought. Secondly, a longitudinal analysis will qualitatively explore the experiences of drought over time for Australian women and thirdly, three in-depth case study narratives will illustrate the connections between the themes, by presenting women's stories in the wider context of their lives. This introductory chapter will describe the Australian geography and the theoretical approaches taken in conducting this investigation.

Drought is a familiar experience for many people in Australia. Australians are accustomed to hot, dry summers, however, in the current context of climate change, weather temperatures and droughts are set to increase in intensity and frequency. However accustomed the people may be, it is unclear what the adverse health outcomes might be as a result of this experience. Some research suggests that experiences of drought challenge mental health and wellbeing and there are reports of increases in male suicide rates at that time (Hanigan, Butler et al. 2012). What is not certain, is how experiences of drought might affect women's health and wellbeing.

Climate change is generally accepted among the scientific community as an event that is real and occurring; weather patterns are changing and sea water temperatures are rising. Given this understanding, it is necessary to prepare for drought that could be more severe than previously experienced in Australia. One way of preparing for droughts is by investigating and listening to those who have lived through drought and sharing lessons learnt from the past. This project examines the experiences of women living

through drought in Australia. This project aims to highlight the mental health and ageing implications for those women over time.

There is a shortage of information exploring women's experiences of drought in Australia, particularly with regard to mental health and ageing. This project draws on data from three cohorts of women who participate in the Australian Longitudinal Study on Women's Health (ALSWH) to investigate the longitudinal health impacts of drought experiences. This introductory chapter will introduce the Australian geographic context before exploring the theoretical approaches taken to uncover Australian women's experiences of drought.

## **1.1. Australia's Geography: Setting The Scene**

Understanding the environmental context of Australia's unique geography is key to understanding the vulnerabilities that Australia faces with the challenges of climate change. Some of the most important features include the topography of the country, soils, biogeographic history and the impact of past and current human activity (Hughes 2010). These aspects of the continent have not only shaped current ecological communities and the existence of current species but also greatly influence the magnitude and direction of climate change impacts.

Australia is the world's sixth largest country. After Antarctica, Australia is the world's second most arid continent (Hughes 2010, Australian Government 2013). Australia is also the world's lowest and flattest continent. Its ocean territory is the world's third largest, spanning three oceans and covering around 12 million square kilometres. Almost seven million square kilometres, or 91% of Australia, is covered by native vegetation. Although this figure may seem high, many of Australia's semi-arid and arid desert landscapes are covered by native plants such as saltbush (Australian Government 2013).

Australia is one of the most biologically diverse countries on the planet. It is home to more than one million species of plants and animals, many of which are found nowhere else in the world. About 85% of flowering plants, 84% of mammals, more than 45% of birds, and 89% of inshore, freshwater fish are unique to Australia. At least 2700 non-native plants (introduced since European settlement) have established populations in Australia (Australian Government 2013). Sixty-eight per cent of these introduced plants are now considered a problem for natural ecosystems (Australian Government Department of Environment and Heritage 2004).

Rainfall in Australia is highly variable and there is a distinct rainfall gradient from coast to inland (Nicholls, Drosowsky and Lavery 1997). The rainfall pattern is concentric around the extensive arid core of the continent, with rainfall intensity high in the tropics and coastal areas (Australian Government 2013). Eighty-seven per cent of annual rainfall is evaporated and approximately 80% of the continent has at least three months of the year without effective precipitation (Hughes 2010). The El Niño and La Niña effects are the biggest drivers of Australia's climate variability, although strong controversy surrounds these effects (Meyers, McIntosh, Pigot and Pook 2007, Hughes 2010). In inland areas especially, the El Niño phenomenon has resulted in prolonged droughts and monsoonal flooding. As a result of this weather pattern, ecological and human communities have had to learn to adapt by developing coping mechanisms to survive climate variability (Keim 2008, Hughes 2010, Jäger and Moll 2010).

The Indigenous people of Australia have a unique relationship with the natural environment. This, in brief, means that the environment, or Country, is a multidimensional construct. For Aboriginal people, Country consists of the plants, animals, people, Dreaming (spirituality), underground, soil, earth, minerals, water and air. There is sea Country and land Country and for some people, sky Country. Country is a place that gives and receives; it is a nourishing and treasured terrain. Country is lived in and lived with (Rose 1996). It would be unjust to explore Australia's geography and natural environment without acknowledging the importance of Australia's

environment for Aboriginal people. This history also helps to situate Australia's current environment and population within its broader context.

Since European arrival Australia's environment and population have seen great change. As mentioned, the introduction of plants and animals has caused changes in the natural environment. Australia's Aboriginal people managed the Australian landscape with the use of traditional farming methods such as fire-stick farming (seasonal burning of vegetation for bush management) and hunting (Stigter, Dawei, Onyewotu and Xurong 2005). Since European settlement and colonisation, Australia has experienced significant environmental change due to agricultural activity, industrialisation, civilisation and economic development. Migration has also had a significant impact on Australia's economic and social development (Kloosterman and Rath 2003). The Australian population is one of the most ethnically diverse societies in the world (Australian Government 2013).

Almost one in four Australian residents was born outside of Australia and many more are first or second generation Australians, the children and grandchildren of migrants and refugees. Overall, the proportion of European born residents is decreasing while the proportion of migrants coming from Asia (Jupp 1995) and Africa is increasing (Australian Government Department of Immigration and Citizenship 2013). This diversity of heritage, together with the culture of Indigenous Australians who have lived on the Australian continent for 50-65,000 years (Migration Heritage Centre NSW 2010), have helped create a uniquely Australian identity and spirit (Australian Government 2013).

The population spread over the country is heavily constituted on the coasts of Australia. The country's vast openness means it has the lowest population density in the world – just 2.7 people per square kilometre, and even smaller in the Northern Territory with only 0.2 people per square kilometre (Australian Bureau of Statistics 2012, Australian

Government 2013). Australia's population is over 23 million with 31% of people living outside the main cities (Australian Bureau of Statistics 2013).

Today, Australia faces great environmental issues. There are concerns over land clearing, the use of natural resource such as coal and uranium, sustainable development (Beg, Morlot, Davidson, Afrane-Okesse, Tyani, Denton, Sokona, Thomas, La Rovere, Parikh, Parikh and Atiq Rahman 2002), an increasing population (Australian Bureau of Statistics 2013), the challenges of the recent 2007-2008 global financial crisis (Claessens, Dell'Araccia, Igan and Laeven 2010) in addition to climate change. Australia is currently emerging from a decade long drought and has recently faced extreme flooding throughout many areas of the country (Giles 2011, Australian Broadcasting Corporation 2013). The most recent significant drought in Australia, known as the Millennium drought, began in 2000. For about a decade since 2000, virtually all eastern states and the south-west regions of Australia have moved in and out of drought (Bates, Kundzewicz, Wu and Palutikof 2008). This Millennium drought was characterised not only by low rainfall but also by higher than average temperatures. All these issues have potential impacts for the environment of Australia and the health and wellbeing of its citizens.

This project aims to consider the environmental context and women's health, exploring drought and wellbeing, with a focus on ageing for Australian women. In order to do this, an understanding of the Australian environment is vital along with sound theoretical underpinnings. A theoretical base enables the research approach to be founded and directed in a considered and purposeful way. There is a combination of four which are employed in this project, to create a holistic methodology in exploring women's health. The following section introduces these approaches.

## **1.2. Theoretical Approaches To Understanding Women's Wellbeing In Drought**

There is a combination of theories employed in this project. This drawing together of interdisciplinary approaches allows for a thorough investigation into women's experiences of drought. The four frameworks brought together in this project include; Bio-psychosocial model of health, Ecosystem Health, Place Pedagogy and Solastalgia. Each of these models and their contributions to this research are detailed in this section. Each of these theories build on the fundamental approach taken in this thesis, that is of recognising gender as an important contributor in the field of geography and human health.

Therefore before introducing the above theories it is necessary to describe and define the use of the concept 'gender' in this thesis and to explore how the framework of gender draws together the above Environmental and Health theories. This thesis values women, their roles, and experiences' thus highlights the importance of recognising gender in research, is at the core of this thesis. In appreciating women and the natural environment this thesis is informed by work from great feminist geographers, including Gayle Rubin (1975) , Carolyn Merchant (1990), and Gillian Rose (1995), in which they give accounts for the origins of the oppression of women and explore the discourses within scientific advances, which they suggest have enabled such oppression. Generally, feminist epistemologies do not make the claim that there are fundamental differences between men and women but that any such differences are a result of socialisation. This thesis also takes on this assumption that gender is fundamentally associated with socialisation, roles and people's own definitions of identity.

Merchant (1990) for instance, in her ground breaking work argued that women were oppressed and neglected in the same way that the scientific revolution freely abused the natural environment. She claims that women were thought to be alike to the environment, a nurturing mother, a provider for mankind, however the reverse of this

was also amongst discourse. The feminine woman was seen to be wild like nature, uncontrollable, could render violence, storms, droughts, and chaos.

Merchant (1990) argues that in the 16th century and in recent times, the metaphor of earth and woman as caring and nurturing will be a fading image as science and capitalism revolutionises the world. Merchant expects that society will value technical advances over the natural environment and hence oppression of the environment and in her argument the oppression of women will continue. It is upon this foundation that enabling women a voice, to be respected and listened to, particularly in the context of drought and agriculture is important.

As will be explored in the following chapter, drought research and women in agriculture have been areas where Australian women's experiences and knowledge have been unexpressed. Gender until more recently, has not been a focus for studies in drought research and agriculture more broadly (Haslam McKenzie and Sheridan 2010). Women have always been a part of the Australian agricultural industry (Liepins 1995); however their value and contributions have not been properly accounted for and their tacit knowledge has not received full recognition in research and academic realms. It is for these reasons, that this thesis argues that gender be recognised in drought research.

This understanding the gender results in the reality that feminism is not simply concerned with sexual differences, but accepts that gender is shaped by experiences and society including language and culture and suggests that all experiences are en-gendered and therefore it is foolish to deny this when investigating people's lived experiences of phenomena (Rose 1995). Consequently, this thesis places gender at forefront and investigates how women themselves perceive their own experiences of drought. This research then places these experiences into broader theoretical frameworks in order to witness the association between gender, place and health.

The bio-psychosocial approach systematically considers biological, psychological and social factors and their complex interactions in understanding health, illness and health

care delivery. This model also provides clear guidelines for clinicians (Borrell-Carrió, Suchman and Epstein 2004) as well as researchers. The importance of recognising the whole human context to illness, from biomedical components such as the organs, cells and tissues as well as the person, family and community is stressed (Engel 1980). This is an important framework when assessing women's wellbeing in drought, as it enables the investigation to be holistic and inclusive of all potential impacting elements on human health. This model enables an investigation into women's experiences of ageing through an understanding of the biological factors associated with changes to physical and mental health in one's life. While the bio-psychosocial view of health is broad in its outreach, it does not directly address environmental influences. One feature that this model lacks is the recognition that the natural environment may also impact health and wellbeing. To bring the two elements, human health and the natural environment, together it is necessary to draw on other schools of thought. The theories employed in this project to create an holistic and interdisciplinary approach include Ecosystem Health (Rapport 2001) and Place Identity (Williams, Patterson, Roggenbuck and Watson 1992), each of which will be used to explore the research questions.

Exploring the link humans have with the natural environment is fundamental in efforts to understand the interaction between climate change and mental health (Jay and Marmot 2009). Ecosystem Health attempts to explain and explore the interrelations between human health and the environment—enveloping ecology, economics, ethics, sociology, environmental management and more (Rapport 2001). This complexity provides a stronger, deeper, more holistic approach to understanding human health.

Rapport (2001) notes that any definition of Ecosystem Health must include a range of aspects from diagnostic indicators, to ecosystem determinants of human health, economic and social consequences through to the interplay between biological and cultural diversity (Rapport 2001). Understanding these interactions involves active collaboration between the ecological, social and health sciences (Rapport, Costanza and McMichael 1998).



For some theorists, understanding this interaction is the first step in acknowledging that human health and wellbeing depend fundamentally on the health of natural environmental processes and products. As the environment experiences changes through global warming or other activities such as mining or agriculture, the ecosystems can become stressed and consequently, may be incapable of supporting human demands. The capacity of the environment to sustain economic activity and human health is, therefore, reduced (Rapport, Costanza et al. 1998).

The environment can pose risks for humans health, directly through exposures to toxic waste, such as mercury and lead. There are also impacts from global and regional environmental degradation. These health impacts could arise from an ecological and social disruption but it is difficult to pin point exactly what the ramifications on human health might be (Sherratt, Griffiths, Robin and Australia 2005). The important concept here is that the environment is the human habitat; it is not merely a potential source of toxicological exposures. Human population health should thus be understood within an ecological framework as an expression of the life-supporting capacity of the environment (Rapport, Costanza et al. 1998). Therefore the approach taken in this study and in exploring this literature, carries forward the assumption that the natural world can have an impact on human health, creating an holistic appreciation of human health and wellbeing. Ecosystem Health is the theory underpinning this approach (Rapport D 2002).

To examine human relationships with the natural world thoroughly however, it is necessary to recognise that the environment is more than a superficial exterior, and that in fact, humans have a relationship with the environment which may shape their wellbeing or sense of self and vice versa.

A strong sense of identity or “place identity” (Williams, Patterson et al. 1992) refers to the relationships one has with the specific physical setting. Symbolic connections and sense of belonging helps one describe oneself, supporting a sense of identity (Cummins,

Curtis, Diez-Roux and Macintyre 2007, Nielsen-Pincus, Hall, Force and Wulforth 2010, Raymond, Brown and Weber 2010). Concepts associated with place, place attachment, place identity and place belonging are a part of the broader framework in which this project is situated. This framework links people's experiences with their environment and their understanding of themselves, to form further insights into women's experiences with drought.

This approach of understanding women's experiences appreciates that 'place' is a teacher, a pedagogical environment (Somerville 2010). People associate themselves with a particular place, generally their day-to-day living environment (Nielsen-Pincus, Hall et al. 2010) and this creates a link between their identity and sense of belonging.

Place pedagogy has a focus on the natural environment. This theory suggests that there are three principles of place pedagogy: firstly, relationships with our environments are constituted in stories and narratives; secondly, that place is a contact zone for diversity to meet and thirdly, the human body is at the centre of this experience (De Carteret 2009, Somerville 2010). It has been widely discussed in geography literature that the body is a tool for the performativity of identity in rural (and non-rural) spaces (Butler 1993, Bryant 1999). The body becomes 'gendered' and 'sexed' through the continued performance of gender in society. The body is seen to reflect power dynamics and is the canvas of feminine or masculine identities (Little 2002). This theory provided a relevant foundation for forming this project, appreciating that women's bodies, their health and their experiences can be shaped by their relationship to spaces around them. This is particularly important when examining women's identity and performance of identity in rural and non-rural spaces. The appreciation of women's lived experiences and their relationship with their environment are key underpinnings of this project.

The difficulty arises when the 'place', with which there is a strong relationship, is changed or damaged, as is the case when drought occurs. Does a degradation of place

have an impact of human health and wellbeing? A theory that attempts to explore this is Solastalgia (Albrecht 2005).

Solastalgia is a framework that considers mental health and the natural environment (Albrecht 2005). It is a relatively new concept developed by an Australian environmental philosopher, Professor Glenn Albrecht. Solastalgia proposes greater meaning and understanding of environmentally induced distress.

*‘As opposed to nostalgia – the melancholia or homesickness experienced by individuals when separated from a loved home—Solastalgia is the distress that is produced by environmental change impacting people while they are directly connected to their home environments’ (Albrecht, Sartore, Connor, Higginbotham, Freeman, Kelly, Stain, Tonna and Pollard 2007, p1).*

The framework of Solastalgia appears to fit well with experiences of drought. People live with drought in their daily lives, potentially suffering and perhaps craving or reminiscing about times when there was rain and when finances and other impacted areas of their lives were easier. These proposed feelings of dislocation or hopelessness can be seen in the concept of Solastalgia.

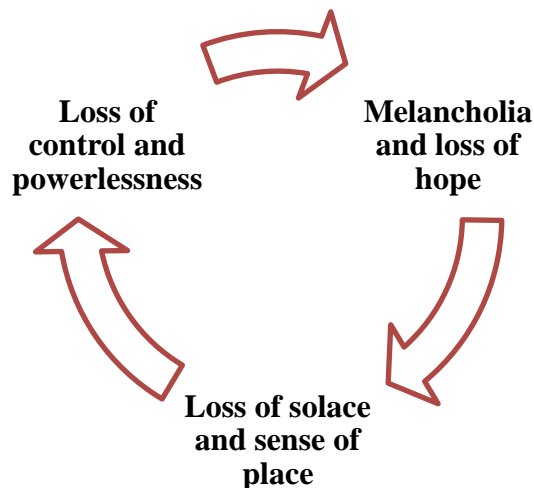


FIGURE 1 SOLASTALGIA, ADAPTED  
FROM ALBRECHT (2005)

Albrecht and colleagues have applied the concept of Solastalgia to mining communities in the Hunter Valley, NSW (Albrecht 2005). The landscape changes associated with resource developments such as mining were found to evoke strong sentiments of alienation, loss, powerlessness, hopelessness and thus Solastalgia. This concept can also be applied to the experience of many Indigenous people around the world, who have been dislocated from their cultural ties to homelands and environmental practices (Parlee, O'Neil and Lutsel K'e Dene First Nation 2007).

Solastalgia is a useful tool to employ when examining peoples' experiences of environmental change and their relationship to the natural world. However, Albrecht and colleagues point out the need for further study and application of Solastalgia to environmental case studies since *"psychiatric effects of drought and other long term environmental degradation have not been the subject of much previous study"* (Albrecht, Sartore et al. 2007, p97). This project will apply the framework of Solastalgia to the experiences of women living with drought in Australia.

Bringing the four theoretical frameworks together; Bio-psychosocial Health, Ecosystem Health, Place theory and Solastalgia, this project provides an holistic and in-depth analysis of women's experiences of drought and contributes to a greater understanding of health, wellbeing and ageing. By taking a bio-psychosocial view and ecosystem view of health, and by considering the attachment of humans to their environment through the lens of place theory, and by considering the loss of place by using Solastalgia, this project thus has a strong foundation for conducting a comprehensive analysis of women's experiences of drought.

This project and the combination of theories create the foundation for a commitment to value women's experiences, knowledge and views.

### 1.3. Research Question And Project Aims

This project investigates the experiences of drought for three generations of women in Australia. It is a longitudinal qualitative project that draws on quantitative demographic and rainfall data to strengthen the understanding of women's experiences in drought. This project will provide evidence for the importance of gender and ageing in discourses of climate change and droughts in Australia. This project asks:

What are the experiences of living in drought for three generations of Australian women?

What are the links between drought, health and emotional wellbeing?

Are there generational differences in experiences of drought?

What are the implications for ageing?

This project provides a woman-centred perspective of droughts in Australia by drawing on qualitative and quantitative data, analysed thematically, over time and in-depth. In particular, this project *investigates* the links between drought and emotional wellbeing and mental health as women age. It *identifies* characteristics that support and assist women in coping with drought and maintaining emotional wellbeing, and it *determines* the generational differences in experiences of drought across the lifespan. These specific aims sit under a broader objective, which is to contribute to the climate change discussion by bringing evidence for the importance of gender and ageing as essential components for policy and planning.

This is an important issue worthy of investigation, particularly through a qualitative and longitudinal lens since there is a lack of research examining women's experiences of drought in Australia. The existing literature is further explored in Chapter Two. Importantly, this project has a focus on ageing which is best explored with prospective,

longitudinal data, data that are analysed here. Ageing has not yet been a focus area of drought research. Understanding women's experiences of drought is key to preparations for drought and drought management, as well as being pivotal in maintaining and enhancing women's health and wellbeing in Australia.

## 1.4. Thesis Outline

In reading this research it is worth noting that the overall thesis is referred to as a project. The particular analyses conducted are referred to as studies. The author decided that the terms young, mid-aged and older-aged be used throughout this thesis to describe the cohorts of women born 1973-78, 1946-51, and 1921-26, who provided the data.

Following this introductory chapter, **Chapter Two** discusses the literature relevant to women and drought in Australia. Literature within an interdisciplinary context, drawing on relevant health discourses as well as discussing the environmental components relevant to this project, is examined.

In **Chapter Three** the methods of the project are explained. This project draws on data from the ALSWH. The ALSWH information is provided, as well as the steps involved in reaching a sub-sample of women for this project. There is an explanation of the three qualitative methods employed for data collected from each of the three age groups of women. The first method is a thematic analysis of free-text survey responses. The second is a longitudinal analysis that examined women's experiences over time by looking at the free-text comments of each ALSWH survey. Thirdly, personal narrative analyses are provided, allowing for a detailed illustration of three women's experiences of drought, each from a different generation.

**Chapter Four**, provides the results from the first study. That study was a thematic analysis of free-text comments written by the women in the ALSWH. The purpose of this analysis was to examine the breadth of diversity in experiences of drought. This

chapter describes the breadth of experiences of Australian women through a comprehensive analysis of main themes. The young women's results are explored first followed by the mid-aged and then older-aged women's results.

The second study undertaken in this project is in **Chapter Five**. It focuses on the longitudinal nature of the women's free-text comments, examining experiences of drought over a 16 year time period. This analysis was done by employing Leximancer, a qualitative software program that creates visual maps based on word-associations. This study explored the free-text comments of each ALSWH survey wave. A survey wave is a survey time point. At the end of each cohort's map analysis there is a longitudinal discussion of the women's experiences.

**Chapter Six** presents the third study undertaken for this project. This study draws on women's experiences through a narrative analysis of women's telephone interviews. It particularly focused on the personal and contextual lived experiences of women in drought, adding depth to the overall project. This chapter also draws on geo-coded rainfall data and linked quantitative health information to provide context and add depth to the women's narratives.

All three studies support the overall aim of this project which is to investigate the lived experiences of women in drought in Australia. These studies provide important insights into women's experiences with drought with respect to ageing and wellbeing. Results are in chapters four, five and six. **Chapter Seven** brings together the findings of this project and places them into the wider context of literature and policy implications. Chapter seven is the final chapter.





# Chapter 2

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## Literature Review

### Drought And Women's Health In Australia

#### 2.1. Introduction

This chapter presents a literature review that explores current research surrounding climate change, drought and women's health in Australia. This review discusses insights from previous research that supports the current investigation by gaining a greater understanding of the experiences of living in drought, for three generations of Australian women. In attempting to review literature about women's experiences of drought in Australia, it became apparent that very little research has been conducted in this area. It therefore became necessary to cast a wide net across a variety of research areas in order to determine the factors that might have influenced women's lived experiences of drought. The review explores literature from an interdisciplinary perspective and draws together information from the disciplines of geography, health, science and sociology to explore the lived experience of drought. Consequently, this review explores literature relevant to rural women in Australia. While the Millennium drought did affected urban Australia, drought impacts in rural Australia are felt in profoundly different ways.

Drought in Australia occurs against a backdrop of climate change and global warming which has generated increasing concern about the capacity for humans to adapt to ever more extreme and frequent weather events, including drought. The ability to survive and maintain good health during drought is a key facet of this thesis.

The first two sections of the literature review examine relevant climate change and adaptation literature for clues that could inform this research. The third section of this chapter describes the nature of Australian drought in more detail and reviews the literature that has reported adverse impacts of drought on the people who live through them. However, that literature has been concerned primarily with economic impact and the health and wellbeing of men. The impact on women is noticeably absent from the majority of the literature. The fourth section focuses on research concerned with women living in rural areas and finally there is a review of the limited literature that has examined women's experiences specifically in drought-affected areas of Australia.

This literature review is an assessment of what is already known in this field, what is missing, and what is called for. The review provides the foundation to further explore and extend knowledge surrounding women's experiences of living in drought in Australia.

## **2.2. Literature Search Strategies**

The literature discussed in this chapter is drawn from searches conducted within academic databases relevant to health and environmental studies. These databases included Medline, Web of Science, Psycinfo and Scopus. Literature from these searches was limited to human studies and the English language. Other relevant sources were manually selected from relevant publications, reference lists and peer reviewed journals. Searches were also undertaken within grey literature including relevant government websites and international organisations. All database and internet searches were saved, updated regularly and maintained in an Endnote library.

## **2.3. Climate Change And Its Health Effects**

Experiences of drought can fit into a broader picture of climate change. Chronic, harsh droughts are expected to increase as climate change impacts are recognised in the environment and within society (Bates, Kundzewicz et al. 2008, Hennessy, Fawcett,

Kirono, Mpelasoka, Jones, Bathols, Whetton, Smith, Howden, Mitchel and Plummer 2008). It is important to create greater understanding and knowledge around the impact of drought (Sartore, Kelly, Stain, Albrecht and Higginbotham 2008) and the experience of living in drought, so that policy can be developed to help communities adapt to drought conditions.

There is strong scientific consensus that global warming is occurring and that it is due largely to human behaviours and the emissions of greenhouse gases (McMichael, Woodruff and Hales 2006, Keim 2008, Patz, Campbell-Lendrum, Gibbs and Woodruff 2008, Kjellstrom T and Weaver H 2009, Wiseman and Edwards 2009, Xun, Khan, Michael and Vineis 2010). The Intergovernmental Panel on Climate Change (IPCC) estimates current global warming to be almost 0.8 °C above pre-industrialised levels. It is projected that this will increase in coming decades (Fritze, Blashki, Burke and Wiseman 2008). Since 1950, average land temperatures in Australia have risen 0.9 °C (Hughes 2010). Some areas of the country have warmed 1.5-2.0 °C over the past 50 years (Hughes 2010). The year 2005 was Australia's hottest year on record with an average temperatures 1.0 °C hotter than previous years, 2009 was the second hottest year on record (Hughes 2010). However, current projections suggest that 2013 will be the hottest year on record as already every calendar month since September 2012 has had temperatures 0.5°C or more above average. The 10 months between September 2012 and June 2013 have seen above normal temperatures for more than 97% of the continent; only the Capricornia district of central Queensland has not been affected (Jones, Trewin, Braganza and Smalley 2013).

A decline in rainfall has been observed for much of east and south-west areas of Australia, while north-western Australia has experienced wetter summers. Alexander, Zhang et al (2006) report in their influential paper that the shift towards dryer summers is wide spread (Alexander, Zhang, Peterson, Caesar, Gleason, Klein Tank, Haylock, Collins, Trewin, Rahimzadeh, Tagipour, Rupa Kumar, Revadekar, Griffiths, Vincent, Stephenson, Burn, Aguilar, Brunet, Taylor, New, Zhai, Rusticucci and Vazquez-Aguirre

2006, Alexander, Hope, Collins, Trewin, Lynch and Nicholls 2007). The scientific community predicts that climate change will continue, with increased temperatures ranging from 1.8-4.0 °C by 2100. It is forecast that climate change may have dramatic and devastating impacts on the environment and on human health (McMichael, Woodruff et al. 2006, Haines 2008, Keim 2008, Patz, Campbell-Lendrum et al. 2008, Capon A and Hanna E 2009, Kjellstrom T and Weaver H 2009, Wiseman and Edwards 2009).

The IPCC estimates that rainfall will be more unpredictable and increases in extreme weather events including floods, droughts, and storms are likely to occur (Suppiah, Hennessy, Whetton, McInnes, Macadam, Bathols, Ricketts and Page 2007). The IPCC suggests that even if emissions are greatly curtailed, the existing accumulation of emissions in the earth's atmosphere will impact global warming and result in significant environmental changes in the near future. Climate change threatens species, biodiversity, human-built infrastructure, the economy and recreational activities (Fritze, Blashki et al. 2008), all of which have potential impacts on societies. The health and wellbeing consequences for the population are relatively unknown. It is essential that Australian and international communities are adequately prepared for such variability and the potential impacts on human health (Confalonieri, Menne., Akhtar., Ebi., Hauengue., Kovats., Revich. and Woodward 2007, Kjellstrom and Weaver 2009).

It is expected that such changes to the natural environment will lead to increased mortality and morbidities. There will be food and water-related diseases, extreme weather and air pollution impacts, vector borne viruses, shortages in food and fresh water supply and displaced populations (McMichael, Woodruff et al. 2006, World Health Organization 2008). The main threatened consequences of climate change, in summary, include:

- impacts of extreme weather events such as heat waves, cyclones, floods, storms and droughts

- changes in patterns of infectious diseases
- effects on food yields
- effects on freshwater supplies
- damage to the functioning of ecosystems (wetlands, oceans, reefs as well as land ecosystems)
- displacement / dislocation of vulnerable populations (low lying islands and coastal populations)
- loss / decrease of livelihoods (Green 2006, Nicholls 2006, Poloczanska, Babcock, Butler, Hobday, Hoegh-Guldberg, Kunz, Matear, Milton, Okey and Richardson 2007, McMichael, Friel, Nyong and Corvalan 2008, Murphy and Timbal 2008, Hunter 2009).

The link between climate change and health is now recognised as a major public health issue (Jay and Marmot 2009, Kjellstrom and Weaver 2009). Risks to human health and wellbeing will arise by direct and indirect pathways of environmental change (Jay and Marmot 2009). Infection, extreme weather events and malnutrition will have the greatest effects in poor and vulnerable populations (McMichael A, Friel, Nyong and Corvalan 2008). One example includes Sub-Saharan Africa, where over 110 million people currently live in areas that are prone to malaria. Climate change could add 20-70 million to this figure (by the 2080s). Such increases would exacerbate poverty and make achieving sustainable health outcomes an even greater challenge (McMichael, Friel et al. 2008).

The links between climate change and health are often complex and intricate. It has been suggested that in Sub-Saharan Africa, predicted droughts could increase the prevalence of HIV infection as impoverished rural families are forced to move into cities where sex work and unsafe sex practices are cultivated (McMichael, Friel et al. 2008). It is clear that the relationship between drought and health is complex and the impacts on human health are multifaceted.

This unequal distribution of the potential impacts of climate change suggests that less developed countries, poorer communities and low income populations are likely to be hardest hit with the health risks associated with climate change (World Health Organization 2008). The most vulnerable populations in Australia include Indigenous people, the elderly, remote communities (or those with little adaptive capacity and access to necessary services), along with people who have pre-existing diseases and disabilities (Green 2006, Confalonieri, Menne. et al. 2007, Patz, Gibbs, Foley, Rogers and Smith 2007, Hunter 2009, Kjellstrom and Weaver 2009).

As well as concern for the physical health of the world's people, it is predicted that climate change will impact the mental health and wellbeing of humans (Patz, McGeehin, Bernard, Ebi, Epstein, Grambsch, Gubler, Reiter, Romieu, Rose, Samet and Trtanji 2000, Fritze, Blashki, Burke and Wiseman 2008, Fritze, Blashki, Burke and Wiseman 2008, Berry, Bowen and Kjellstrom 2010, Nurse, Basher, Bone and Bird 2010, Page and Howard 2010). Regions and communities will experience differing impacts of climate change, based on varying levels of exposure and sensitivity. There is a lack of consensus over the impacts of adverse climate events on mental health. Some empirical studies suggest there is a link (Woodruff, McMichael, Butler and Hales 2006) while others suggest there are no adverse impacts (Powers, Loxton, Baker, Rich and Dobson 2012). While there may be debate surrounding impacts on mental health and wellbeing there is a plethora of research that suggests there is a link between climate change and human health and wellbeing and that it is well worth exploring this link further (Patz, McGeehin et al. 2000, McMichael, Woodruff et al. 2006, McMichael, Friel et al. 2008, Berry 2009, McMichael 2009, McMichael 2009, McMichael, Neira, Bertollini, Campbell-Lendrum and Hales 2009, Berry, Bowen et al. 2010, McMichael 2011).

This current project responds to this call. In drawing on a bio-psychosocial (Engel 1977) view of health and Ecosystem Health (Rapport D 2002) it aims to understand the

influence and impact of social, environmental and economic factors on women's health during experiences of drought.

## **2.4. Adaptation To Climate Change - Resilience**

There is a body of literature that aims to assist societies in their preparedness for climate change. This work is often referred to as climate adaptation (Brewer 2003, Alston 2007, Kjellstrom T and Weaver H 2009, McLeman and Hunter 2010, Amaru and Chhetri 2013). Climate adaptation refers to the capacity of the population to counter and manage the impacts of climate change (McLeman and Hunter 2010). This adaptive capacity can take many forms and depends on the population group, for example humans, animals and plants. Evolutionary adaptation is already occurring. Natural populations are already responding to climate change by shifting their geographical location and changing the timing of their reproduction (Parmesan and Yohe 2003, Hoffmann and Sgró 2011). However, the concern for the human race is that the ability to be adaptive will be too late or inadequate in its capacity to counter climate change (Hoffmann and Sgró 2011). Some literature also suggests that there are challenges to humanity's ability to respond adequately to climate change (Adger, Dessai, Goulden, Hulme, Lorenzoni, Nelson, Naess, Wolf and Wreford 2009) while others suggests adaptation and mitigation is the way forward in dealing with climate adversities (Lobell, Burke, Tebaldi, Mastrandrea, Falcon and Naylor 2008, Visser 2008, Kjellstrom T and Weaver H 2009, Amaru and Chhetri 2013).

Adaptation for the human population can result in a variety of different tasks or approaches. Generally, in adapting to climate change, Grothmann and Patt (2005) suggest that humans can moderate the adverse effects of climate change and even create opportunity to benefit from the climate change. More recently, adaptation has come to be considered an important response option worthy of research and analysis, not simply in order to guide best-practice in terms of mitigation but also to reduce the vulnerability

of groups of people exposed to adverse climate impacts (Grothmann and Patt 2005) and hence reduce the health costs associated with potential consequences of climate change.

In terms of actions used to respond or adapt to climate change, the literature presents a diverse selection of means. Often the initial thoughts around adaptation and assessing capacity to adapt include examination of resources such as finances, infrastructure, housing, education and water trading (Chevin, Lande and Mace 2010, Moss, Edmonds, Hibbard, Manning, Rose, Van Vuuren, Carter, Emori, Kainuma, Kram, Meehl, Mitchell, Nakicenovic, Riahi, Smith, Stouffer, Thomson, Weyant and Wilbanks 2010, Kiem and Austin 2012). While these listed resources are vital to successful adaptation, it is interesting that in more recent years, adaptation approaches have also examined mental capacities and cognitive responses to dealing with climate change, including resilience, ability to flourish and elasticity (Ebi and Semenza 2008, Jäger and Moll 2010, Stehlik 2013). This is a particularly positive advancement as adaptation is not always linear, for example simply moving house it is not always 'simple'. There are memories, relationships and sentimental connections, that may ultimately affect wellbeing. Understanding the cognitive approaches to adaptation allows for an understanding of culture, practice, sentiments, ethics and morals in adapting to climate change. This cognitive element is vital for the study of the health of those adapting to adverse environmental circumstances (Grothmann and Patt 2005, Hunter 2009).

This alternate way of considering adaptation as resilience, provides significant contribution to this current project's exploration of women's experiences of drought. Resilience is a concept that looks at successful coping with or adaptive capacity to an adverse event. Resilience has two parts; firstly, exposure to adversity and secondly, positive adaptation (Luthar and Cicchetti 2000). Resilience can be conceptualised as a process whereby an individual (a woman enduring severe drought) displays positive adjustment such as psychological wellbeing or the absence of psychological distress, despite the adversity. In understanding resilience as a process rather than an inherent trait, methods to promote resilience and insights into the risk factors for not having



resilience, can be better explored (Greenhill, King, Lane and MacDougall 2009). An exploration of women's resilience in rural Australia is provided in section 2.7.

However, it is important to raise ideas of resilience in this adaptation discussion, since resilience may hold the key to women's successful management and adaptation to drought in the face of climate change.

## **2.5. Droughts In Australia And Effects On Health**

This section explores droughts in Australia and the associated weather patterns. It highlights where droughts occur and explores some of the implications of a long term drought.

The Australian Bureau of Meteorology has defined drought as a prolonged, abnormally dry period when there is not enough water for normal needs. Generally, a drought is an acute shortage of water (Bureau of Meteorology Australian Government 2009). The most recent significant drought in Australia, known as the Millennium drought, began in 2000. Since then, virtually all of the eastern states and the south-west regions of Australia have moved in and out of drought for about a decade (Bates, Kundzewicz et al. 2008). The Millennium drought was characterised not only by low rainfall but also by higher than average temperatures. For many places, the severity and duration of drought were unprecedented, with profound environmental, social and economic implications. In southern Australia, the drought lasted from 2000 to 2010, although in some areas it began as early as 1997. For parts of the country, the drought broke in 2010 (in some cases, with extreme flooding); in other places, including the south-west of Western Australia, the extended drought deepened further (Australian Government Department of Sustainability 2011).

Rainfall remains low for the continent of Australia and it appears that rainfall is declining (Nicholls 2006), particularly between March and May (Murphy and Timbal 2008). The real difficulty for much of Australia is the unreliability of rainfall. Australia has one of the lowest rainfall levels of any of the earth's continents (National Water

Commission Australian Government 2005) with only 11% of the continent receiving 'acceptable' annual rainfall (annual average rainfall for agriculture over 800mm) (Stehlik 2000).

Drought has always been a part of the Australian landscape, particularly in more rural or arid locales and along the eastern coast of Australia. Cities were affected by the Millennium drought with Sydney experiencing five years of tight water restrictions (The Age 2009). Typically, Australia experiences drought during El Niño, when the Southern Oscillation swings into the negative phase. Conversely, during La Niña, Australia experiences above normal rainfall, as the Southern Oscillation swings into the positive phase. However with climate change, it is expected that more extreme weather events will occur. Recent research indicates that no longer can periods of El Niño or La Niña be used to predict weather and rainfall patterns (Wang and Hendon 2007).

Droughts are chronic rather than acute experiences. Droughts may last for several years and impact the entire fabric of communities (Sartore 2007). The adaptive capacity of communities to drought requires responses different from an emergency response to an acute event such as a tsunami or flash flood. Drought creeps up on communities and can continue for an unpredictable amount of time. Insecurities in communities arise thus impacting their adaptive capacities (Sartore 2007).

In a recent report published for the National Climate Change Adaptation Research Facility, Kiem and colleagues (2012) explored what adaptation options were available and viable for small inland communities affected by drought. The report highlighted the social, economic and environmental costs and benefits of such schemes based on insights gained from previous droughts in Australia. The report suggests that water trading and market-based instruments are a practical and beneficial response to drought.

Rural communities are likely to bear the brunt of the early stages of climate change. Livelihoods are contracting in some regions; many townships and community institutions have been lost because of drought (Teather 1998, McMichael 2009). The

health risks that people living through drought may experience can derive from direct hazards such as temperature, dust and smoke, and indirect hazards, such as economic distress (Kalis., Miller. and Wilson. 2009). The health risks are purported to be greater for those communities that are geographically or socio-economically vulnerable (McMichael, Friel et al. 2008). However, evidence for these propositions is scarce. This current project will help contribute to knowledge in these areas.

A long term drought often brings with it stresses including loss of income, debt, damage to crops, animals, landscapes and ecosystems. The social and family impacts of drought are often very detrimental (Stehlik, Gray and Lawrence 1999, Stehlik 2000, Dessein and Nevans 2005, Sartore, Hoolahan, Tonna, Kelly and Stain 2005, Stain, Kelly, Lewin, Higginbotham, BeardJ and Hourihan 2008). For example, experiences of drought can be very difficult for communities; feelings of despair, tragedy, family breakdown (Alston and Kent 2004, Hall and Scheltens 2005, Sartore, Hoolahan et al. 2005). and increased suicide rates ,especially in males (Hanigan, Butler et al. 2012) can be seen in drought-affected areas of Australia This research is vital and does provide insights however this current project argues that some of this research is dated, and not nationally representative, therefore making it difficult to transfer the results to a larger sample. The World Health Organisation estimates that by around 2020, the burden of mental health will be greater than that of any other disease category (World Health Organization 2008). This makes the issue of drought and mental health a high-priority for the Australian research and policy-making community (McMichael 2009, Watson 2009).

In 2008, the Australian Government conducted a review of its national drought policy. As part of this review an expert panel examined the social impacts of drought. The panel's report (Kenney, Knight, Stehlik, Peters, Wakelin, West and Young 2008) focused on the language of drought, people's perceptions and importantly, highlighted that drought in Australia is part of the Australian landscape and that for policy to be effective it needed to recognise this. This report called for the approach of policy to be about living with dryness rather than dealing with drought.

This report (Kenney, Knight et al. 2008) recommended that policy should focus on facilitating the social wellbeing of farm families, rural businesses and communities to improve their capacity to live with dryness. This new approach to understanding and interpreting drought reaffirmed the fact that Australia will face periods of prolonged dryness in the future and acknowledged that dryness has an adverse impact on the wellbeing of farm families, rural businesses and communities.

The Kenney report (2008) noted that evidence on the adverse impacts of drought on mental health was mixed. However, this report suggested that little is known about the long-term impacts of chronic dryness on mental health and wellbeing. This report also called for more support for and research about women during this time, stating that there was a lot of support for men, given the higher incidence of suicide, but little for women. This report argued that services were ad hoc and reactive to the urgency of drought which was not successful in providing mental health support during drought (Kenney, Knight et al. 2008). Thus the conclusion, that a long-term approach to using the concept of dryness rather than short-term approach of dealing with individual droughts be employed.

As explored in the drought literature, discussions surrounding suicide and drought often arise. While acknowledging that times of drought are difficult and that drought is unrelenting, it is important to note that the issue of farmer suicide due to drought is somewhat contentious. There has been much anecdotal evidence (Hall and Scheltens 2005, Hussey 2007, Turpin, Bartlett, Kavanagh and Gallois 2007, Hossain, Eley, Coutts and Gorman 2008, Berry, Bowen et al. 2010, Alston 2012) to suggest that the male suicide rates increase during drought, however, this area requires more empirical research.

One recent large scale investigation into farming suicides in New South Wales supports the hypothesis that there is an increase in the suicide rate for males during drought (Hanigan, Butler et al. 2012). This study analysed rainfall from 1970-2007 along with suicide deaths in NSW between the same years. The authors used the Hutchinson Drought Index, this index count the consecutive months of lower-than-median rainfall based on percentiles of rainfall records across the nation. The results indicated an increase in suicide deaths during drought years for males aged 30-49 years. This study also revealed a flow-on effect of drought impacts on younger males aged 10-29 years. The suicide rate for this age group also spiked during drought. Interestingly, this study revealed that there was a statistically significant reduction in female suicide risk during drought (women aged over 30 years). The authors suggest that this is vital information for public health. Understanding the complex nature of drought and its impact of mental health may provide insights into the timing of suicide prevention campaigns and mental health emergency care (Hanigan, Butler et al. 2012). There are limitations associated with this study for example, it should be understood that suicide is a result of both long term and short-term factors and that a causal pathway is not always clear. This complexity is hard to calculate in quantitative analyses. It is also worthwhile to note that qualitative analysis can sometimes provide the depth that is necessary to further understand the nature and context of suicidality in rural communities. There are further limitations to this study in regards to the measure of drought used. Defining drought can be difficult (McMahon and Finlayson 2003) and more recently (Dai 2011) measurements of drought have begun to focus on soil moisture rather than rainfall over time. Controversy has surrounded drought measures for a decades (Heathcote 1969) however, there are few indices available to use when investigating drought and the Hutchinson Drought Index has provided invaluable insights into suicide and drought in Australia.

This relationship between drought and suicide can be viewed via a Solastalgia framework. The Hanigan (2012) study has been the first large empirical investigation

examining suicide and drought. It remains however, that less is known about women in rural life and drought in Australia.

## **2.6. Women And Rural Life In Australia**

*“...the role of meaning of place in sustaining wellbeing...”*

(Rowles and Ravdal 2002 quoted in Chapman 2009, p27)

Rural Australia is marked by great social and economic change. Despite experiencing extended droughts and other extreme weather events, unstable commodity prices, debt, environmental degradation, difficulties in accessing services and demographic shifts towards city living (Dale-Hallett and Diffey 2006) 31.4% of the Australian population continue to reside outside major cities (Australian Bureau of Statistics 2013). The difficulties associated with living outside urban centres affect many areas of daily life. There has been much research focused on the challenges of rural life (Harvey 2007, Bryant L and Pini B 2009, Fragar, Stain, Perkins, Kelly, Fuller, Coleman, Lewin and Wilson 2010). However, there is less exploration of the positive experiences of living in rural Australia or why people choose to remain in country areas. This section reviews literature that examines women and their experiences of rural and farm life, followed by research findings concerned with resilience, and strength in rural women.

Within the discipline of human geography, gender and rurality have provided major foci for research (Little and Austin 1996, Teather 1998, Stehlik 2000, Little 2002, Pini 2002, Pini, Panelli and Sawyer 2008, Alston 2009). This literature has provided a foundation for understanding rural women and their contextual experiences. Many researchers have investigated issues of identity, sexuality, work and the environment in relation to gender (Pini 2002, Wendt and Boylan 2008, Wendt 2009). Often this research has explored the masculinity of societies and how women can experience marginalization within in this setting (Panelli 2006). In a farm setting, Muenstermann (2009) suggests that it is particularly challenging to be a woman. According to Muenstermann (2009) the idea of

‘man on the land’ is an ingrained ideology in Australia. Farming is seen as a male occupation and women are peripheral to the existence of the male farmer (Muenstermann 2009).

Further ideologies or discourses around ‘man’ and ‘woman’ on the farm were explored in Liepins (1998). Liepins (1998) explores power and meanings of gender and representations in agriculture. Her research is similar to the later arguments raised by Muenstermann (2009). Liepins (1998) presents six main conceptual identities belonging to rural discourses: tough men farm (hegemonic masculinity of the farm); powerful men lead agriculture (hegemonic masculinity in industrial affairs); relatives and carers (traditional farming femininity); the ‘real’ woman farmer (alternative occupational femininity on farms); SNAFs (sensitive new age farmers) on farms (new masculinities in farming) and lastly, the alternative agricultural activist (femininity in industry politics). Liepins (1998) explores each of these identities in-depth however for the purpose of this review, it is worthwhile recognising that these discourses relate to women and their experience with rurality and identity. Liepins provides a framework or set of concepts that recognise and assesses women’s and men’s roles within the rural context.

Alston (2009) recognised the gendered experiences of farming and how power relations are addressed in the roles of male and female on a farm. Alston notes the different roles each gender has and how living in rural, drought-affected or farming communities can impact males and females differently. The harsh impacts of rural living, especially those of drought, can be felt across all aspects of life.

Income, career, family and social connections are tied into the farm or rural milieu, both of which may be affected by drought. Previous drought research suggests that males and females respond and react differently in times of drought (Stehlik 2000, Alston and Kent 2004, Alston 2006, Albrecht, Sartore et al. 2007). Alston (2009) suggests that this is due to their different roles within agriculture.

*'Men are more likely to be attending to the heartbreak and constant physically demanding tasks of feeding livestock, carting water, destroying frail animals and generally coping with the realities of a barren and eroding landscape. Women, on the other hand, are more likely to be assisting with farm tasks and working off the farm for income needed for the family to survive in agriculture' (Alston 2009, p 146 ).*

Alston's research explores the gender impacts of drought and rural living, concluding that males are more likely to be socially isolated and depressed, whereas women are more likely to be interacting in the community, monitoring their families health and ignoring their own health and welfare (Alston 2009). However, it is also argued that that may a simplistic view of the interactions that occur in farm life. Other research shows that often, the females on the farm are not merely assistants but are heavily involved in farm operations and activity (Teather 1998, Jennings and Stehlik 2000, Stehlik 2003, Pini 2005, Harvey 2007). Often women's roles are all-encompassing, ranging from livestock care to business management, completing most of household work and having responsibility for children and family (Muenstermann 2009). Pini (2005) explores the increase in the number of women involved in agriculture in Australia and concludes that women's entry to positions of agricultural leadership does not necessarily suggest that a more inclusive or equitable Australian farming sector is emerging. Alston (2009) confirms this and suggests that the agriculture sector and particular drought policies are 'gender blind', despite the advancement in recognising the gendered experience of drought.

Bryant's (1999) work is relevant here also. In examining identities and performance of rural identities Bryant observes that there are, in terms she coins, 'feminine pride' and 'masculine pride' identities in rural settings. The 'feminine pride' is nurturing, calming, caring and helpful in contrast to 'masculine pride' which is physical, strong, highly skilled and labor intensive (Bryant 1999). It is clear that there is a gender imbalance and that the conceptual identities explored by Liepins (1998) exist in rural industries and settings. Much of this literature challenges stereotypes and explores how these stereotypes of gender are reinforced in rural society. Such dominant discourses and



concepts of identity have been shown to have an impact on the health and mental wellbeing of rural women. Previous research has shown a strong link between identity, good health and rural women (Little 2002, Harvey 2007, Raymond, Brown et al. 2010, Rich, Wright and Loxton 2012).

Understanding what helps or assists rural women's mental health and wellbeing is a vital component of this current project. In 2003 at the seventh National Rural Health Conference, Outram presented a summary of women's health in rural areas. Outram (2003) conducted a cross-sectional study of 14,000 participants in order to gain insight into their experiences of seeking psychological help in rural Australia. In short, Outram's research suggests that seeking psychological help in rural areas is much harder than in urban areas as maintaining confidentiality is often difficult. As one participant of the study noted, *'in a small town, privacy and confidentiality are issues'* (Outram 2003, p4). Similarly, often social networks are much smaller and *'everyone knew everyone else's business...I couldn't really talk to him [Doctor], he's a friend'* (Outram 2003, p4). Other research has also shown that access to women-specific services is difficult in rural and remote areas (Byles, Powers, Chojenta and Warner-Smith 2006, Panelli, Gallagher and Kearns 2006, Harvey 2007).

Availability of and access to appropriate services is particularly important to women as they age (Byles, Loxton, Berecki, Dolja-Gore, Gibson, Hockey, Robinson, Parkinson, Adamson, Lucke, Powers, Young and Dobson 2008). It is known that ageing populations require more services (Byles, Loxton et al. 2008). In drought this may mean targeted or specialised services. The experience of service access and equity is an important focus of this current project.

Panelli and Gallagher (2006) suggest that there is a link missing between the intersection of health service policy, health service provision and access experiences for rural women (Panelli, Gallagher et al. 2006). Drawing on women's experiences of accessing services during drought will address this recognised missing link. Living in

rural environments presents great challenges; but there is little research on the resilience of rural women.

### **2.6.1. Rural Women And Resilience**

*Disaster resilience is composed of (1) the absorbing capacity, (2) the buffering capacity, and (3) response to the event and recovery from the damage sustained (Keim 2008, pg 509)*

As explored, living in a rural or remote locale presents challenges for health and wellbeing. The difficulties arising may be further challenged during drought. This section focuses on what is known about rural women and their ability to remain resilient in the face of adverse circumstances. Resilience may be a way of interpreting approaches to climate adaptation. Building resilience might be a key component to remaining adaptive and strong in the face of climate changes and increased projections of drought.

One qualitative study which explored resilience in a rural Queensland community (14 participants, eight males and six females) concluded that being resilient was not a stable state of being and that people move in and out of resilience throughout their lives. Findings indicated that for some women resilience meant an acceptance of the stressor yet not internalising that stress and resilient people would tend to accept and ask for help when needed (Hegney, Buikstra, Baker, Rogers-Clark, Pearce, Ross, King and Watson-Luke 2007).

This research suggests that there is a link between health, resilience and the need for services in order to maintain good mental wellbeing.

Past research has found that there is a positive link between a strong sense of identity, resilience and mental health (Wainer and Chesters 2000, Kawachi and Berkman 2001, McColl 2007, Alston and Kent 2008, Caldwell and Boyd 2009, Puskar, Bernardo, Ren,

Haley, Tark, Switala, Siemon, Puskar, Bernardo, Ren, Haley, Tark, Switala and Siemon 2010, Hart G, Berry H and Tonna H 2011). In a study from the USA the researchers explored gender differences in self-esteem and optimism, in rural young people, the researchers worked with 193 students from a local high school in Pennsylvania and asked them to complete a survey including the Rosenberg Self-Esteem Scale and the Optimism Scale-Life Orientation Test-Revised. In both self-esteem and optimism the younger women scored significantly less than the young males in the group. This result suggested that there are implications for young women in rural areas of the USA and that special focus needs to be given to the mental health of women of all ages in rural areas (Puskar, Bernardo et al. 2010). In a mixed-methods study conducted in 2009, Greenhill and colleagues set out to explore this notion of resilience in farming families. The research team worked with 80 American families (N participants =148), to gain a greater understanding of their capacity to withstand adverse farming conditions (namely drought). Their conclusion is that resilience is a complex phenomenon and needs to be understood in a wider social setting that includes finances, and social connectivity as these elements have a role in women's ability to remain resilient (Greenhill, King et al. 2009).

In a meta-synthesis of the literature surrounding rural women in Australia, Harvey (2007) emphasises the important link between self-identity and good mental health. In the review, identity is described as a positive association with the land. This identity enabled women to cope with adversity, to be organised and consequently this strength contributed to feelings of physical and mental strength. Identity in Alston's Australian research suggests that identity (2006) is multifaceted and she recognised the many identities of rural farm women. For instance, the public and private self and the multiple roles women may play. In doing so, Alston argues that a strong sense of identity can support positive coping abilities and good mental health and wellbeing. Harvey (2007) argues that still not enough is known about rural women and the role that identity plays in their health and wellbeing, suggesting it is not known how rural Australian women

negotiate their identity (Harvey 2007). This has consequences for public health and the mental wellbeing of Australian rural women.

Harvey (2007) concludes “research which draws on the voices of women themselves is needed to explicate this further” (Harvey 2007, p10). This current project sets to answer some of these questions. It draws on women’s voices and experiences to further examine the link between drought and women’s health and wellbeing.

## 2.7. Women And Drought In Australia

*“I love a sunburnt country,  
A land of sweeping plains,  
Of ragged mountain ranges,  
Of droughts and flooding rains.  
I love her far horizons, I love her jewel-sea,  
Her beauty and her terror-  
The wide brown land for me!”*

(Mackellar 1906)

The purpose of this section is to focus on research that has examined the impact of drought on Australian women. Only five studies pertaining particularly to women existed at the time of writing. Here these studies are reviewed followed by a review of literature examining women, ageing and drought in Australia.

During the 1990’s Stehlik and colleagues conducted a project that became pivotal to drought research in Australia (Stehlik, Gray et al. 1999). It explored the experiences of families during the drought of 1995-97 and was part of a commissioned report for the Rural Industries Research and Development Corporation. In this time frame, the majority of the eastern states of the country were in drought. This drought lasted for a decade in many areas, particularly in Queensland and New South Wales. As such, this

was an appropriate time to investigate the needs and experiences of drought for those in the midst of it.

This report (Stehlik, Gray et al. 1999) aimed to determine any gender differences in experiences of drought. Interviews were conducted with 103 adults from Queensland and New South Wales. The adults were from farming households that were predominately beef producers in Queensland and sheep/wheat producers in New South Wales. Males and females were interviewed separately to explore gender differences in experiences. Results highlighted that gender is an important variable in any disaster research and that males and females respond and react to drought differently. The research identified several areas that are of particular importance to women during drought (Stehlik, Gray et al. 1999).

Firstly, the study recognised the important contribution females make in terms of decision making. However, the women themselves did not perceive their contribution as important and instead, viewed themselves as not being the predominant decision-maker, particularly during drought (Stehlik, Gray et al. 1999). This is an important consideration since it begins to provide insights into power dynamics and feelings of inequality experienced by women on farms.

The study's results indicated that family life was at the forefront of the women's lives. Even in the harsh reality of drought, many women were committed to their belief that the rural environment was the best place for them to raise their families. During this time the pressures of family life and farm management were also explored (Stehlik, Gray et al. 1999).

It is important to note that there was a difference in the way the males and females perceived, and related to the drought. For instance, the men spoke of the extra pressure on them to do extra work outdoors while the women spoke of the increased indoor work and how finances were stretched to accommodate diverse needs. Finally, the study explored the sanctuary of the garden and how spirituality assisted these women through

the hard times of drought. The garden played two roles; for some women it remained a haven but for others, the garden became a place of sadness as the need for water meant it was diverted from recreation use or was not available at all. This finding, of women's relationships to their gardens does have some connotations to the theory explored earlier, Solastalgia (environmental sadness) (Albrecht 2005).

This report on drought in the 1990's (Stehlik, Gray et al. 1999) has provided several important insights for women's experience and management of drought. It was one of the first studies in Australia to explore gender in drought research and has since become an important pointer to understanding the lived experience of drought, rural life and climate change in Australia (Pini 2005, Alston and Mason 2008, Alston, Dietsch, Davies, Shackleton and McLeod 2009, Bryant L and Pini B 2009, Eriksen, Gill and Head 2010, Alston 2011). This report and subsequent publications (Stehlik, Gray et al. 1999, Stehlik 2000) have contributed significantly to knowledge and academic literature in the field of women and drought. There are some limitations of this research; the analysis was not longitudinal or nationally sampled, this research did not focus on the diversity of women for example their age, health and socioeconomic status and also now, this research is now 16 years old. This critique is necessary but it is also important to recognise the contributions of this report. The report was an holistic and in-depth approach to assessing gender differences in drought through a social constructionist lens. This current project extends the work of Stehlik and colleagues by examining women's experiences over time.

The second study to explore drought in Australia was concerned with social issues (Alston and Kent 2004) and the third investigated the experience and impact of drought on Australian children (Dean and Stain 2007).

Drought may not only severely impact industry and economic structures but also the social fabric of communities. In a report conducted by Alston and colleagues (2004) commissioned by NSW Agriculture, the social consequences of drought, in the rural

areas of Bourke, Condobolin and Deniliquin were investigated (Alston and Kent 2004). Only those themes relevant to this current project have been included in this review.

The report explored the division of labor on farms and how it results in different experiences of drought. Similar to Stehlik's work (Stehlik, Gray et al. 1999, Stehlik 2000), Alston and Kent (2004) examined how women generally worked inside the home while the men were more likely to be outside on the farm. The report adds that women are also more likely to be working off-farm which became a heavy responsibility with extra income required to support the household during the drought.

The methodology for the research conducted by Alston and Kent (2004) was largely qualitative with in-depth interviews conducted with farm family members (62) and with key informants (60) including Rural Financial Counsellors, health and welfare service providers, teachers, local government personnel and small business owners in the towns surveyed. The data were analysed thematically.

The results indicated that there were different health outcomes for men and women during the drought (measured qualitatively). The report commented that medical specialists' advice, child care and access to General Practitioners were difficult to access during drought, due to the financial strain caused by drought. It was concluded that women had a monitorial role over their husbands' health and wellbeing, as well as their own (Alston and Kent 2004). This information has important implications for this current project.

An important implication for this current project is that the Alston and Kent (2004) report raised concern for the elderly in isolated and drought-affected areas. Little is known about the elderly living in drought. Many older farming people are isolated from their communities and families because of the lack of funds and the costs of accessing services. Several aged farming family members reported that they have no possibility of retiring because of the debt load built up through the drought and because there is no real estate market to enable them to be able to sell their property. This concern and lack

of knowledge speaks directly to the aims of this current project – to investigate the links between drought, emotional wellbeing and mental health as women age. The limitations associated with this report are that the report did not focus solely on women, therefore the components of the report relevant to women and wellbeing was limited. However, the relevant findings of the report do provide some important insights for women in drought-affected areas. This report was also based in NSW so it is possible that the transferability of findings may be limited.

Dean and Stain (2007) explored children's experiences of drought. Their study has some conclusions which are important to this current project, even though their study did not focus on gender. Students from rural schools were invited to participate, resulting in 84 students in classes ranging from year 5 to year 12. The analysis was both quantitative and qualitative. Semi-structured interviews and focus groups were used as the primary data collection method. Themes identified from the first focus group were included in a survey to enhance the understanding of possible impacts on the emotional distress levels of children and adolescents. The survey was then completed by students after each focus group. The data collection occurred in the class room setting, over a period of 10 weeks (Dean and Stain 2007).

Dean and Stain's work (2007) provides insights into the whole family experience of drought. Understanding the emotional strain on children is an important perspective to take when exploring family life and experiences of mothers in drought. Experiences of motherhood were not explored specifically in their paper, but it highlighted the impact of drought on family life. Consequently, it will be important to investigate the experiences of motherhood for women in drought in this current project. Dean and Stain (2007) also suggests that little is known of the long term effects for families and individuals during drought.



There have been two smaller, yet important studies that explored the experience of drought for women; an oral history narrative (Anderson 2008) and a qualitative study of 17 rural women in South Australia (Logan and Ranzijn 2009).

An important contribution from the results of Logan and Ranzijn's (2009) work is their conclusion. Findings revealed that there are positive experiences and strengths gained during times of drought. This study was refreshing in its reminder that there is great strength in rural Australia and that women particularly, draw upon this strength during difficult drought times. This study did not avoid the issue of the harshness that the women interviewed faced during drought, rather it provided the women with an opportunity to show their resilience and passion for life on the land to the research community (Logan and Ranzijn 2009).

Anderson's (2008) results from working with women in Victoria emphasised that drought can be perceived as a battle ground. Tensions between economics and agriculture exist and a loss of social capital can occur as farming families move out of drought-affected communities. All of this impacts the community fabric. The study also emphasised the individualised experiences of drought and how the drought can be defined in terms of the lived experience and perceived impact upon community and family life. The doctoral research project was an oral history exploration of the experience of drought for 22 people in the Mallee district of Victoria, Australia (Anderson 2008).

The studies explored in this review have provided important insights into drought, women and Australia. However, each study had limitations including small sample sizes, restricted locations, being cross-sectional analysis rather than longitudinal and often, or was not strictly focused on women only. As a result there is paucity of knowledge surrounding the longer term impacts of experiences of drought for Australian women. Each study suggested that more research is needed to further understand the impacts of drought for women and advise policy that supports women

during drought, acknowledging the gendered differences and needs of people in drought- affected areas.

Within the drought literature there is conjecture about consequences of climate change, yet little tangible analysis has been conducted and empirical evidence currently is scarce. One study recently published has taken a longitudinal quantitative approach to exploring the impact of adverse environmental circumstances and concludes that for Australian women, there was no association between health as a result of living in an area declared as drought, Exceptional Circumstances (EC) declared location. This paper concluded that firstly, perhaps EC benefit payments do provide a buffer for negative health outcomes, and secondly, the stresses associated with urban and city life are just as stressful or harmful to women's health as those associated with EC declared areas (Powers, Loxton et al. 2012).

Longitudinal analysis is particularly important to drought research since droughts are chronic events that force communities to spend time managing and dealing with associated problems. Droughts are complex and impacts are multifaceted. Caldwell (2009) writes on the longitudinal nature of drought, saying that an interview at a single point in time may not be enough to encapsulate the experience of drought for women. Caldwell (2009) calls for longitudinal engagement with participants in order to fully understand maladaptive coping or difficulties with mental health.

Enarson (1998) argues that better understanding of long term impacts of natural disasters could be gained with a gendered research agenda. The research task would include a longitudinal investigation into gender and equity. Alston's work, around gender blindness within Australian drought policy, also encourages the recognition of gender (Alston 2009). In placing drought back into a broader body of literature, Coelho and colleagues (2004) raise the point that gender differences have generally been overlooked in disaster research.

It is also important to mention that there has been little literature that explores ageing women and drought.

### **2.7.1. Women, Ageing And Drought**

*“Narratives of successful ageing, like all narratives, are never told in a vacuum. Rather, there must be those who are able to hear them, often stretching themselves beyond their own experiences, even beyond their own cultural frameworks. This has strong implications for researchers of successful ageing: together, we must try to meet the challenge of listening to diversity” (Andrews 2009, p73).*

Droughts are not acute events; instead they are chronic and long-lasting. Consequently, a drought has ramifications for ageing. During a drought women may undergo a range of ageing experiences and life transitions. To understand the concept of ‘ageing well’, researchers must understand the locations in which people are ageing, and the relationships that they have with those places as this relationship may impact the health and wellbeing of the ageing persons. Byles (2006) suggests that it is important to recognise the differences in ageing in different locations; experiences of ageing is likely to vary greatly between people living in large capital cities and those living in rural parts of Australia (Byles, Powers et al. 2006).

Acknowledging the role that place and context plays in ageing enables the development of policies that better suit the ageing population living in particular locations (Keating 2008, Chapman 2009). Place attachment intrinsically occurs over time. Based on frequency of exposure, familiarity is an important aspect of place attachment (Shenk, Kuwahara and Zablotzky 2004). As mentioned earlier, for some women, ageing occurs against a backdrop of prolonged drought. It is also likely that older adults will draw on memories and stories of their home which shape their identity. This section explores ageing in this broader context and ageing in rural Australia. Currently there are no studies that explore women’s experiences of ageing in drought-affected areas of Australia.

As background to this issue, it is vital that the rapidly increasing ageing population of Australia is understood. Currently 15% of the population is aged over 65 and it is projected to increase to 25% in 2056. It is predicted that the proportion over 85 will increase from 1.6% in 2006 to 7.3% in 2056 (Australia Bureau of Statistics 2010). The Director of the Ageing and Life Course Programme in the World Health Organization has stated that “*population ageing is the demographic imperative of the 21<sup>st</sup> century*” (Keating 2008, p2). The world has a large ageing population (Byles, Powers et al. 2006). Given this, there is a vital need for more research, particularly when climate projections are considered. A research agenda which takes account of each of these factors, ageing population, drought and climate change, is required to determine what is necessary to better the health and wellbeing of Australia’s people.

Understanding the role of the environment in the course of ageing is a classic field of gerontology (Birren and Schaie 2001). Walker and Hiller (2007) undertook a qualitative investigation to explore how older women perceive the social and physical dimensions of their neighbourhoods. Twenty women aged between 75 and 93 years were interviewed over two sessions. This was an interesting study that acknowledged the role of place or environment within an ageing context and the relationships that people have with their environment. This study provided insights into the importance of social support networks as well as psychological and physical support services for older women as age increases (Walker and Hiller 2007). Results showed that a reciprocal and trusting relationship with neighbours underpinned older women’s sense of satisfaction with, and feeling of security within the neighbourhood. Living in close proximity to services and existing social networks were also seen as important. Women’s stories demonstrated that they were able to draw on both existing social networks and neighbours, to sustain their independence and social connection within the community. Women living in disadvantaged areas were more aware of social disconnection in their neighbourhoods and highlighted that traffic noise and pollution diminished their neighbourhood environment (Walker and Hiller 2007). Understanding these aspects has

implications for older women's health and wellbeing, particularly when assessing how older women remain resilient and independent in a rural setting.

There is a plethora of research that supports the argument that there is a strong link between healthy ageing and place (Andrews, Cutchin, McCracken, Phillips and Wiles 2007, Chapman 2009). Importantly, in theorising about ageing and place, Chapman (2009) writes that by understanding that place is a part of people and people are a part of place, one can appreciate that the experience of ageing well is linked to the physical, socio-cultural and historical threads of a place. This approach to understanding ageing has strong links to the theories employed in this current project, appreciating health in its fullest context by linking the Bio-psychosocial model and Ecosystem Health (Engel 1977, Rapport, Costanza et al. 1998) models. To date, no research addressing ageing well in drought-affected communities has been found.

In a research project in the USA, the authors investigated older women's connection to their home and possessions (Shenk, Kuwahara et al. 2004), similar to this current project, the USA study drew on place theory. The study conducted in-depth interviews with four older widows (64-80 years of age), who remained living in the homes where they had lived with their husbands. This study was not examining drought or rural issues, however, conclusions can be drawn from the investigation into older women's connections to place. The findings relevant to this study include; identity and connection to home.

Firstly, this study revealed that the women's identities were tied to their home environments, family and relationships. Even painful memories such as the death of loved ones remained important for identity definition and helped create meaning. Also, finding meaning in one's role was important for self-identity, such as creating a loving home. Secondly, this study also showed that comfort was a key aspect of attachment in the home, each woman in this study spoke of comfort as being a key aspect of their home. This concept combines both physical and emotional comfort derived from the

familiarity and other characteristics of the home. Through living in a home for a long time, there is a level of comfort based on familiarity and ease in performing routine tasks. The level of comfort changes over time and, perhaps, when the home no longer retains a high level of comfort and convenience, it is the time to consider moving (Shenk, Kuwahara et al. 2004). This idea of comfort, ease and decision making may have similar implications for older women living in drought-affected areas.

There has been very little research concerned with women, ageing and drought in Australia. One particularly relevant source is an opinion piece by Graham Horton and colleagues published in the *Australasian Journal on Ageing*. It suggests that older Australians in rural areas have long faced challenges to their health and in the face of climate change, an amplification of these challenges may occur (Horton, Hanna and Kelly 2010). This opinion piece does not address women solely, but does raise a point about the ageing population and the agricultural sector that face great risks in climate change. The opinion piece noted that the average age of agricultural workers is increasing alongside decreasing income and growing isolating social circumstances. Each of these aspects has an impact on the health and wellbeing of the ageing population. This opinion piece concludes that health researchers have an obligation to face this challenge and that preparation for ageing populations and climate change must occur. Horton (2010) argues that this is an opportunity for public policy to engage with community in order to mitigate climate change impact (Horton, Hanna et al. 2010).

In respect to drought and women, Alston (2009) touches on ageing. Many women affected by drought find themselves locked into off-farm work because of the need to financially support their families and contribute to running the farm:

*‘...because of the mounting farm debt as families borrowed heavily for livestock feed and water, women realised work would be a feature of their lives long after the drought broke’* (Alston 2009, p148).

Furthermore, impacts of drought do not simply disappear when it rains. Alston (2009) points to the topic of retirement and relationships. For many women who are in intimate

relationships, having to work off-farm or having one's partner work off-farm may have great emotional and personal impacts. However, there has been no research to date which has explored this matter further.

Greenhill and colleagues (Greenhill, King et al. 2009) touch on the issues of ageing and drought in South Australia, suggesting that drought impacts older farmers more severely than younger farmers. Semi-structured interviews resulted in the suggestion that often, women take on the emotional responsibility of buffering these impacts – which in turn impacts their emotional wellbeing as they age. Harvey (2007) looks at how women maintain their health and wellbeing in rural areas. The author claims that rural women in Australia appear to be coping quite well despite a lack of services, harsh environmental conditions and overall rural disadvantage. However, little research has delved further into the experience of living in drought with a focus on ageing for Australian women.

The literature explored in this section demonstrates that experiences of severe and chronic droughts may have impacts on not only women's health and wellbeing but on their ability to make choices for the future. Retirement, social isolation and biological issues have been raised as issues requiring further analysis and government support. Given the increasing age of the Australian population the need for understanding ageing, and ageing in place, is vital. Therefore, it is an appropriate and necessary component of this research to investigate women's experiences of drought using age and gender as key concepts for analysis.

## **2.8. Summary of research gaps**

This review has covered many areas of literature pertaining to this current project which is an interdisciplinary investigation into women's experiences of drought in Australia over time. It is clear that there is a strong body of work surrounding some of the issues that this current project explores (that is climate change, drought, health, women and

drought), however what is most obvious is that there is very little information drawing these areas together and that ageing has been ignored largely neglected.

There is a significant amount of literature exploring the resilience of women in rural areas (Alston and Kent 2008, Keim 2008, Greenhill, King et al. 2009, Maybery, Pope, Hodgins, Hitchenor and Shepherd 2009, Dean and Stain 2010), but there is little research specifically on women, resilience and drought-affected areas. Much of the drought research suggests that resilience is an important component in dealing with rural hardships, yet little research has gone beyond this to explore how resilience for women is manifested or maintained. Research is yet to explore the meaning of resilience as an adaptive mechanism for women in dealing with drought in a climate change context.

Of the literature reviewed in this chapter it has become clear that there are many shortcomings of previous research and that there has been limited research conducted exploring women's experiences of drought over time in Australia. Namely, previous research has not analysed national data, has not examined generational differences, has been mostly based on interview data and has generally not drawn on rainfall data. To date, no researcher has undertaken a longitudinal study that explores the experiences of drought and its impacts for women in Australia. This current project fills that research gap by analysing information given by women over a 16 year time period. It explores their experiences of ageing and health during that time - their lived experiences of drought in Australia.

It is forecast that climate change is going to be a challenge for human health. Droughts will increase in frequency and intensity and understanding what this may mean for women and health is vital for planning health and drought policies. It is pertinent that issues of ageing be included in any research relevant to women, drought, health and wellbeing.



This current project investigates the lived experiences of drought for women in Australia. It is a longitudinal, qualitative project that draws on quantitative demographic and rainfall data to strengthen the understanding of women's experiences in drought. This project provides evidence for the importance of gender and ageing in discourses around climate change and droughts in Australia. Consequently, this project asks:

What are the experiences of living in drought for three generations of Australian women?

What are the links between drought, health and emotional wellbeing?

Are there generational differences in experiences of drought?

What are the implications for ageing?

The next chapter explains how these questions are answered. It will describe the three different studies undertaken and the methods employed in order to respond to the above research task.

# Chapter 3

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## Methods

### 3.1. Introduction

This chapter describes the methods used for this investigation into women's experiences of drought in Australia. The chapter and the overall project are founded on an appreciation of the achievements of feminism and of qualitative methodology. The theoretical underpinnings of this project were explained in Chapter One. The methods were driven by an appreciation of context, feminist principles and an holistic understanding of women's health and wellbeing. Specific principles relevant to feminist methodologies for this thesis included the ability to; contribute to women's liberation through producing knowledge derived from women themselves, the methods used in attaining this knowledge should not be oppressive, develop perspectives that challenge dominant traditions and is reflective upon itself (Fonow and Cook 1991). This chapter will explore how these principles were upheld throughout this research project.

Feminism values the lived experience and recommends that conclusions drawn from research need to be understood from the viewpoint of those who live it (McDowell and Sharp 1999, Speedy 2008). In taking this methodological view point forward, it was important that women's words and stories were heard and analysed appropriately. This resulted in an appreciation of the free-text comments from the Australian Longitudinal Study on Women's Health (ALSWH), a novel approach to data analyses. The comments were written by women and were un-elicited in the context of drought. Being prospective and un-scripted meant that what was written was most important to that woman at that point in time. The fundamental aspects of attribution theory substantiate this claim. Attribution theory is a concept in social psychology that explains the processes by which individuals explain the causes of behaviour and events. There are

two components to human motivation within attribution theory, external and internal actors. This theory suggests that people are constantly trying to explain their world in terms that have meaning and relevance to themselves and that the internal processes that enable one to define such experiences are of importance to that person in that point in time, the internal processes are controllable. This is the internal attribution concept. Whereas the external actor include experiences which are outside the control of the individual (Weiner 2006, Weiner 2011). So, to link this with the participants in this thesis, women were free to choose if they wrote a free-text comment at the back of the survey to the unguided question “*Have we missed anything?*” As such, participants comments can be valued as important and it can be recognised that they contain significance; describing relevant issues in their lives.

This uncovering of women’s experiences and comments ensured that, as McDowell and Sharp (1999) argue, the research derived from the view point of those who experienced ‘it’, in this current project the experiences of drought. This appreciation of women’s perspectives was employed when interviewing women about their experiences of drought. This appreciation was essential in developing the feminist methodological stance of this thesis.

Three studies were conducted with data collected from three cohorts (young, mid-aged and older women’s data), totalling nine separate analyses and presented in the three results chapters. This chapter will describe the data used in this project, beginning with details about the ALSWH and how the sample was drawn. Next the three studies and the three methods used to analyse the data are explained. Three methods each contributed different insights into women’s lived experiences of drought. The thematic analysis of the free-text comments, qualitative longitudinal map analyses, and in-depth narrative case studies using survey data and data collected from telephone interviews. The thematic analyses illustrated the breadth of experiences. The qualitative longitudinal analyses revealed changes over time and the interviews provided an in-

depth personalised narrative, a story that demonstrated the lived experience of drought in the wider context of women's lives and activities.

### **3.2. The Australian Longitudinal Study On Women's Health**

The Australian Longitudinal Study on Women's Health is a longitudinal population based survey. ALSWH examines the health of three large cohorts of Australian women. ALSWH was first funded in 1995. The study was designed as a comprehensive investigation to explore factors influencing women's health and wellbeing in an Australian context. The study goes beyond the narrow focus that equates women's health with reproduction and sexual health and takes a much broader view of women's health over a lifespan (Brown, Bryson, Byles, Dobson, Manderson, Schofield and Williams 1996). The ALSWH project acknowledges the social, environmental and personal factors of women's lives and their health, driven by an appreciation of the bio-psychosocial model of health (Engel 1977, Rapport, Costanza et al. 1998).

By looking at women's needs, views, lifestyle and health factors, the ALSWH provides information to assist health departments plan for the future. Research based on ALSWH data provides an evidence base that enables development of policies relevant to Australian women in the twenty first century (The Australian Longitudinal Study on Women's Health 2008).

ALSWH is a joint study based at the University of Newcastle and the University of Queensland. The ALSWH involves approximately 40 000 Australian women who take part in a mailed survey about every three years. In 1996, women were invited to participate in the ALSWH via a recruitment arrangement with Medicare (publicly funded national health care scheme) (Australian Government Department of Human Services 2013). Invitations were mailed by Medicare to women across the country on behalf of the ALSWH study. Women responded to the baseline surveys for the main cohorts in 1996. Because of uncertainties about the accuracy of the Medicare database,

response rates cannot be exactly specified. It is estimated that 41%-42% of younger women responded, 53-56% of mid-aged women responded, and 37-40% of older-aged women responded to the initial invitation to participate (Australian Longitudinal Study on Women's Health 2013).

The ALSWH sample is broadly representative of the female population in Australia within the sampled aged groups and is currently in its eighteenth year (Lee, Dobson, Brown W, Bryson L, Byles J, Warner-Smith P and Young A 2005). ALSWH includes three cohorts of women. Participants in the older-aged cohort were born between 1921-26, those in the mid-aged group were born between 1946- 1951, and the youngest participants were born between 1973-78. Table 1 illustrates the mailing schedule for the ALSWH surveys.

TABLE 1 MAILING SCHEDULE FOR ALSWH SURVEYS

Cohort	1996	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13
<b>Younger</b>	x			x			x			x			x			x	
<b>Mid-aged</b>	x	x			x			x			x			x			X
<b>Older-aged</b>	x		x			x			x			x			x		
	S1	S2			S3			S4			S5			S6			

The ALSWH study participants have a strong relationship with the study. The participants often write to the study, telephone or comment about their connection with the ALSWH on the back of the survey. They often update researchers about their health and other life events (Adamson and Chojenta 2007, Loxton, Byles, Dobson and W 2007). This current project will make use of the free-text comments made by participants in order to further explore Australian women's experiences with drought. The longitudinal nature of these data allows for the investigation into experiences of drought and is particularly useful when examining coping and adaptive capacities, providing insights into changes over time.

### 3.3. The Qualitative Dataset

The ALSWH qualitative dataset is a collection of comments made by participants of the longitudinal study. The ALSWH self-report postal survey consists of mainly quantitative survey items. The qualitative comments analysed in this research project were written in response to the final open question:

*“Have we missed anything? If you have ANYTHING else you would like to tell us, please write on the lines below.”*

The existing ALSWH qualitative data are a unique national resource. The comments in these databases are diverse and include comments from women discussing a variety of life experiences. These data were in line with the feminist approach of this current project and provided the opportunity to use inductive research methods. As these free-text comments are responses to an open-ended question, it can be suggested that the subject choices of the women were of particular importance to the women at that time and in the context of completing a survey about health and wellbeing.

The comments were collected for each cohort of women in the study, at each survey wave. Table 2 indicates the scope and size of each dataset. Some ALSWH participants wrote at one time point only while others wrote up to five times, that is each time a survey was completed. At the time of the analyses, there were five qualitative datasets per cohort, all of which were used in this current project.

TABLE 2 NUMBERS OF COMMENTS WRITTEN BY WOMEN AT EACH SURVEY WAVE

<b>Cohort</b>	<b><sup>a</sup>N (%)</b>	<b>Survey 1 Comments</b>	<b>Survey 2 Comments</b>	<b>Survey 3 Comments</b>	<b>Survey 4 Comments</b>	<b>Survey 5 Comments</b>	<b>N comments</b>	<b>N words</b>
<b>Younger</b>	6739 (46%)	2423	1948	2266	2394	2415	11 446	560 022
<b>Mid-aged</b>	6706 (49%)	2447	2058	2672	2967	3731	13 875	828 309
<b>Older-aged</b>	7900 (59%)	3399	4695	3955	3603	2485	18 137	1 159 061
<b>Total</b>		8269	8701	8893	8964	8630	43 485	2 547392

<sup>a</sup> Percentage of cohort that ever wrote a comment.

Analysing open, directive and participant driven ‘snap shots’ of information collected through free-text comments is a novel approach to research. Free-text comments are often collected in population based postal surveys; however such comments are generally sought for quality control of the survey items and participant feedback. For this current project to draw on these type of data is an innovative methodological approach and has been a pioneering task for the advancement of qualitative data analysis (O’Cathain and Thomas 2004, York, Churchman, Woodard, Wainright and Rau-Foster 2012, Rich, Chojenta and Loxton 2013).

In a recently published paper, validating the ALSWH free-text comments as data (Rich, Chojenta et al. 2013), the authors investigated the differences between those women who wrote comments at the back of the survey and those who did not. The findings from this research highlighted important differences in the health status of responders compared with non-responders. Across all three cohorts and at different time points, women who commented tended to have poorer physical health (except for women aged 82–87) and lower levels of Social Functioning. They had experienced more life events, were less likely to be partnered, and except for women aged 18–23 years, and were more likely to have higher levels of education, than women who did not comment. This is important information to be aware of, especially when drawing conclusions from the data analysis. It is also important to note that the topics women wrote about must have had a particular saliency for them. It highlights their motivation to add to their information by taking time to write a comment at the completion of a lengthy survey.

### **3.4. Drawing The Sample**

This current investigation into women’s health and wellbeing in drought drew on a sample of participants from the larger ALSWH study. In order to access the ALSWH data approval was sought from the ALSWH steering committee. This process began by submitting an Expression Of Interest (EOI) to the ALSWH. This EOI outlined the research question, how the data would be managed and analysed. Every six months a



project update form was completed and continual approval of the access to the data was granted.

Drawing the sample of women from the ALSWH qualitative dataset was an iterative process, given the large volume of data (over 2.5 million words, see Table 2). It was important to become familiar with ‘how’ the women wrote about their experiences with drought, in order to extract the sample from the greater pool. To begin this process, a key word search was conducted. Due to the breadth of each dataset, an attempt was made to use keyword searches in order to capture relevant comments about experiences with drought. Key word searches have been shown to be a useful method in analysing large qualitative datasets (Seale 2003). For example, by looking at blogs, Seale (2003) examined gender differences in the way relatives and friends of cancer patients write about their experiences online. In this paper, Seale emphasises the strengths of keyword analysis of large datasets. Seale states that keyword analysis and identification can be an interpretive method since its essential purpose is to identify meaningful constellations of words that ‘make sense’ in terms of an emerging theme or topic.

The first keyword search was conducted on the mid-aged women’s data using the words: *drought; draught* (in order to pick up incorrect data entry); *garden; cold; sunshine; resilience; enviro\*; humid; weather; remote; farm; dry; rural; geography; rain; bush; urban; fire; wet; climate; water; country* and *hot*. Each of these words proved successful in uncovering text that described experiences of drought. However, this method highlighted the diverse ways that drought can be described by the written word. This method of key word searching, in being reductionist, might have resulted in many relevant free-text comments being missed. Experiences of drought therefore might not be included in the analysis. As a result, it was decided to manually read a portion of the data in order to obtain any further ways of describing drought and rural experiences, which may have necessitated widening the key word search.

This second approach to drawing the sample was trialled with the older-aged women's data. Twenty per cent of the free-text comments were read by the researcher in order to become familiar with the language used in the women's writing and to determine if other key words identified experiences of drought. Twenty per cent of the older-aged cohort comprised 1600 participants with over 6000 comments. It was possible to note relevant key words and to determine whether those key words would have derived from reading just 10% of the data.

Key words identified from the 20% sample included *heat; cool; hot; weather; garden; farm; country; rural; bush; fire; rain; environment; climate; humid; drought* and *sunshine*. When compared with the 10% sample, over 50% of the relevant comments were missed.

As a result of trialling the two key word approaches in drawing the sample of data for this analysis, it became obvious that reading each comment in each dataset would lead to the smallest identification error rate and would help to ensure that all comments associated with living in drought were included in this current project.

### **3.5. Inclusion Criteria**

In deciding to read each comment from 1996 until 2009 collected by the ALSWH (total number = 2 547392 words) it was important to have a clear but flexible inclusion criterion. If any woman, at any time point had written about drought in any way, that comment, along with comments made by that same participant at all five survey waves were included in this current project dataset.

The process of reading each comment reinforced the decision to cease the keyword search and read the entire ALSWH dataset. As the women were not 'pigeon-holed' into a preconceived assumption of what an experience of drought would mean or how it would be described, reading all comments was an iterative and holistic approach.

Comments from the younger cohort were read first. This was followed by the older-aged cohort and then mid-aged cohort's data.

Results from reading each comment written by ALSWH participants from 1996-2009 can be seen in Table 3. This table gives the number of participants who wrote about their experience of drought from each cohort and the total number of comments per dataset. The final sample included 98 women, who had written 386 comments over the course of the ALSWH.

TABLE 3 NUMBER OF WOMEN, COMMENTS AND WORDS INCLUDED IN THE SAMPLE, BY COHORT.

<b>Cohort</b>	<b>N participants</b>	<b>N comments</b>	<b>N words</b>
<b>Younger</b>	6	21	1 712
<b>Mid-aged</b>	77	258	17 618
<b>Older-aged</b>	15	107	4 627
<b>Total</b>	98	386	23 957

Results from reading the qualitative data highlight differences between the cohorts. The final sample of women included in this current project sample was diverse. This current project employed several methods in order to fully investigate women's experiences of drought. The variability in the number and scope of the free-text comments from the younger women was greatly compensated for by the ability to link the qualitative data to detailed demographic information and precipitation data, thus enhancing the analyses. This combination of data provided a transparent representation of who the women were and thus a context for the findings. The materials used to collect demographic information and precipitation data that relate to the sample are presented in the next section. This final sample of participants and their comments were included for each study of this project. The comments were analysed thematically (Study One), longitudinally (Study Two) and finally, women were invited to participate in an

interview (Study Three). Study Three's data collection and narrative methods are described in section 3.9.

### 3.6. Description Of Quantitative Measures

Several quantitative demographics were used to describe the three groups of women included in this current project. These demographic variables were drawn from the quantitative data available from the ALSWH. Variables were examined at each time point of the survey for the identified women using SAS 9.2 (SAS Institute Inc 1999).

The variables used to describe the samples follow:

#### *Relationship Status*

Participants were asked at each survey about their marital status. The response options were *Married*, *Defacto*, *Separated*, *Divorced* and *Widowed*. For this analysis, the options were dichotomised into *partnered* and *unpartnered*. The options *Married*, *Defacto* were coded as *partnered*, and *Separated*, *Divorced* and *Widowed* were coded as *unpartnered*.

#### *Area of Residence*

Participants provided their postcode at each survey wave in order to assess areas of residence. Accessibility/Remoteness Index of Australia (ARIA) coding is used for this variable (GISCA 2012). The differing ARIA areas include Major cities of Australia, Inner regional Australia, Outer regional Australia, Remote Australia and Very remote Australia. These options were dichotomised into Outer regional/remote areas and Accessible areas. *Major cities of Australia*, *Inner regional Australia* were coded as *Accessible* while *Outer regional Australia*, *Remote Australia* and *Very remote Australia* were combined and coded as *Outer regional/remote* areas. Appendix A describes this measure in more detail.

### *Income Management*

Participants are asked how they manage on their available income. There were five response options; *It is impossible*, *It is difficult all the time*, *It is difficult some of the time*, *It is not too bad*, and *It is easy*. These options were dichotomised. *It is impossible*, *It is difficult all the time*, *It is difficult some of the time*, were coded as *It is difficult*. *It is not too bad*, *It is easy*, were coded as *Not difficult*.

### *Age*

At each survey, participants provided their date of birth, from which their age was assessed.

### *General Health and Mental Health*

The Medical Outcomes Survey Short Form Health Survey (SF-36) was used to describe both general and mental health (Ware and Sherbourne 1992, Ware, Snow K, Kosinski M and Gandek B 1994). The SF-36 is a self-report, 36 item scale measuring health-related quality of life. Thirty-five items are used to construct eight subscales including, General Health Perceptions, Physical Functioning, Bodily Pain, Vitality, Mental Health, Social Functioning, Role Limitations due to Emotional Health, Role Limitations due to Physical Health. An additional item measures health transition. The SF-36 is asked at each ALSWH survey. Appendix B describes this measure in more detail. This is a score from 0 to 100 with a higher score reflecting better health-related quality of life.

### *Parity*

Participants were questioned about the number of live births experienced. These data were categorised into 0, 1, 2, 3, 4 or more live births.

### *Precipitation / Rain Fall Data*

The Hutchinson Drought Index (Hanigan, Butler et al. 2012) was used to assess precipitation. This index counts the consecutive months of lower-than-median rainfall based on percentiles of rainfall records across the nation. There are three categories, 0, 1 and 2. Zero indicates normal rainfall or no dryness. A score of one indicates one to four consecutive months of below threshold rainfall (hereafter described as *dryness*) and a score of two indicates five or more consecutive months of below threshold rainfall (hereafter described as *drought*). This index was linked to the longitude and latitudes of ALSWH participants.

The following tables (Tables 4 – 9) describe the characteristics of the sample identified for this current project and the relevant precipitation data.

## **3.7. Sample Characteristics**

The following tables and figures describe the diverse sample of participants in this current project.

TABLE 4 YOUNG WOMEN'S SAMPLE CHARACTERISTICS

Characteristics	Survey				
	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5
	N (%)	N (%)	N (%)	N (%)	N (%)
<b>Relationship status</b>					
<b>Partnered</b>	2(33)	1(17)	5(83)	4(67)	4(67)
<b>Un-partnered</b>	4(67)	4(67)	1(17)	1(17)	1(17)
<b>Missing data</b>	0	1(17)	0	1(17)	1(17)
<b>Parity</b>					
<b>No children</b>	6(100)	4(67)	3(50)	3(50)	2(33)
<b>One child</b>	0	2(33)	2(33)	0	0
<b>Two children</b>	0	0	1(17)	1(17)	1(17)
<b>Three children</b>	0	0	0	0	1(17)
<b>Four children or more</b>	0	0	0	1(17)	1(17)
<b>Missing</b>	0	0	0	1(17)	1(17)
<b>Income management</b>					
<b>Difficult</b>	2(33)	-	3(50)	0	2(33)
<b>Not difficult</b>	4(67)	-	3(50)	5(83)	3(50)
<b>Missing data</b>	0	-	0	1(17)	1(17)

Survey					
Characteristics	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5
<b>Area of residence</b>					
<b>Outer regional / remote</b>	4(67)	5(83)	5(83)	3(50)	2(33)
<b>Accessible</b>	2(33)	1(17)	1(17)	2(33)	3(50)
<b>Missing data</b>	0	0	1(17)	1(17)	1(17)
<b>Median (range)</b>					
<b>Age in years</b>					
	20.9 (19.3 – 21.6)	24.6 (23.2 – 25.8)	27.8 (26.1 – 28.3)	30.6 (29.1 – 31.3)	33.7 (32.1 – 34.5)
<b>General Health</b>					
	79.5(37.0 – 97.0)	82.0 (52.0 – 7.0)	74.5 (67.0 – 82.0)	82.0 (47.0 – 92.0)	72.0 (67.0 – 87.0)
<b>Mental Health</b>					
	62.0 (44.0 – 88.0)	82.0 (36.0 – 92.0)	78.0 (52.0 – 80.0)	80.0 (68.0 – 92.0)	72.0 ( 72.0 – 84.0)

In the first ALSWH survey, area of residence was measured using ARIA, whereas ARIA+ was used in subsequent surveys, as detailed in Appendix A  
The income management question was not asked in the second Younger women's ALSWH survey



Table 4 highlights the difference in demographics at various life stages for the young women. As can be seen in Survey One, no women had yet given birth but by Survey Five 67% of the group had had children. It is also interesting to note, that in this small sample, as women began having families, they moved from outer regional and remote areas to more accessible areas. The General Health of most women was quite stable apart from a small change in the second survey. There was a general positive increase in the mental health of this group since baseline; however there have been fluctuations over time.

TABLE 5 YOUNGER WOMEN: PRECIPITATION SCORES, NUMBER AND PERCENTAGE OF WOMEN LIVING WITH DRYNESS OR DROUGHT

Year	Survey	Dryness Index	Frequency	%
1996	1	normal rainfall	4	66.7
		dryness	2	33.3
		drought	0	0.0
2000	2	normal rainfall	5	83.3
		dryness	1	16.7
		drought	0	0.0
2003	3	normal rainfall	0	0.0
		dryness	2	33.3
		drought	4	66.7
2006	4	.*	1	16.7
		normal rainfall	3	50.0
		dryness	2	33.3
		drought	0	0.0

\*A dot (.) indicates missing data

Table 5 illustrates the categorical rainfall for the youngest cohort in this project. It is clear that the percentage of women in drought increased over the study period, reflecting Australia's weather pattern. Specifically, in the first survey the majority of this cohort was not experiencing drought conditions (66.7%). By Survey Three this fact

had changed. By then the majority of the cohort was experiencing drought conditions with 33.3% experiencing dryness and 66.7% experiencing drought.

When these data were collected and linked to the ALSWH data, the young cohort of women were yet to complete the fifth survey, hence missing Survey Five data.

TABLE 6: THE MID-AGED WOMEN'S SAMPLE CHARACTERISTICS

Characteristics	Survey				
	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5
	N (%)	N (%)	N (%)	N (%)	N (%)
<b>Relationship status</b>					
<b>Partnered</b>	73(95)	70(91)	60(78)	61(79)	60(78)
<b>Un-partnered</b>	4(5)	4(5)	7(9)	8(10)	10(13)
<b>Missing data</b>	0	3(4)	10(13)	8(10)	7(9)
<b>Parity</b>					
<b>No children</b>	7(9)	7(9)	7(9)	7(9)	7(9)
<b>One child</b>	3(4)	3(4)	3(4)	3(4)	3(4)
<b>Two children</b>	20(26)	20(26)	20(26)	20(26)	20(26)
<b>Three children</b>	24(31)	24(31)	24(31)	24(31)	24(31)
<b>Four or more children</b>	16(21)	16(21)	16(21)	16(21)	16(21)
<b>Missing</b>	7(9)	7(9)	7(9)	7(9)	7(9)
<b>Income management</b>					
<b>Difficult</b>	48(62)	38(49)	30(39)	29(38)	42(55)
<b>Not difficult</b>	29(38)	31(40)	38(49)	40(52)	27(35)
<b>Missing data</b>	0	8(10)	9(12)	8(10)	8(10)

Characteristics	Survey				
	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5
<b>Area of residence</b>					
<b>Outer regional / remote</b>	47(61)	47(61)	42(55)	40(52)	37(48)
<b>Accessible</b>	30(39)	25(32)	23(30)	30(39)	33(43)
<b>Missing data</b>	0	5(6)	12(16)	7(9)	7(9)
<b>Median (range)</b>					
<b>Age in years</b>					
	47.6 (45.3 – 50.1)	49.6 (47.2 – 52.4)	52.6 (50.1 – 55.1)	55.3 (53.1 – 58.0)	58.5 (56.1 – 61.0)
<b>General Health</b>					
	77.0 (20.0 – 100)	82.0 (25.0 – 100.0)	77.0 (25.0 – 100.0)	77.0 (20.0 – 100.0)	77.0 (20.0 – 100.0)
<b>Mental Health</b>					
	80.0 (32.0 – 96.0)	80.0 (24.0 – 96.0)	80.0 (24.0 – 100.0)	80.0 (36.0 – 100.0)	80.0 (20.0 – 100.0)

Table 6 highlights some socio-demographic information of the mid-aged women in this project. It is interesting to note that 95% of these women were married or in a relationship in Survey One and that by Survey Five this figure had changed to 78%. A similar change can also be recognised in the area of residence of these women. In the first survey, 61% lived in outer or remote areas and by Survey Five only 48% of them remained in this zone. It is interesting to note that General Health has been quite stable over the survey period with slight increases from Survey One to Survey Two. The mental health of these women improved over the study period.

TABLE 7 MID-AGED WOMEN: PRECIPITATION SCORES, NUMBER AND PERCENTAGE OF WOMEN LIVING WITH DRYNESS OR DROUGHT

Year	Survey	Dryness Index	Frequency	%
1996	1	.	1	1.3
		normal rainfall	63	81.8
		dryness	8	10.4
		drought	5	6.5
1998	2	.	6	7.8
		normal rainfall	41	53.2
		dryness	15	19.5
		drought	15	19.5
2001	3	.	13	16.9
		normal rainfall	45	58.4
		dryness	13	16.9
		drought	6	7.8
2004	4	.	8	10.4
		normal rainfall	36	46.8
		dryness	31	40.3
		drought	2	2.6
2007	5	.	8	10.4
		normal rainfall	15	19.5
		dryness	8	10.4
		drought	46	59.7

Dot (.) means missing data

Table 7 illustrates the rainfall data for the mid-aged group of women in this current project. It is important to recognise that the number of those experiencing drought increased over the study period which included the duration of the Millennium drought. It is particularly interesting to note results from Survey Five when about 60% of the women were experiencing drought, with over 11 months of below average rain fall.

TABLE 8: THE OLDER-AGED WOMEN'S SAMPLE CHARACTERISTICS

Characteristics	Survey				
	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5
<b>Relationship status</b>					
<b>Partnered</b>	11(92)	9(75)	8(67)	7(58)	6(50)
<b>Un-partnered</b>	1(8)	2(17)	4(33)	4(33)	3(25)
<b>Missing data</b>	0	1(8)	0	1(8)	3(25)
<b>Parity</b>					
<b>No children</b>	1(8)	81(8)	1(8)	1(8)	1(8)
<b>One child</b>	1(8)	1(8)	1(8)	1(8)	1(8)
<b>Two children</b>	4(33)	4(33)	4(33)	4(33)	4(33)
<b>Three children</b>	2(17)	2(17)	2(17)	2(17)	2(17)
<b>Four or more children</b>	4(33)	4(33)	4(33)	4(33)	4(33)
<b>Missing</b>	0	0	0	0	0
<b>Income management</b>					
<b>Difficult</b>	7(58)	5(42)	2(17)	5(42)	9(75)
<b>Not difficult</b>	5(42)	6(50)	10(83)	6(50)	0
<b>Missing data</b>	0	1(8)	0	1(8)	3(25)

Characteristics	Survey				
	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5
<b>Area of residence</b>					
<b>Outer regional / remote</b>	7(58)	6(50)	6(50)	6(50)	5(42)
<b>Accessible</b>	5(42)	5(42)	6(50)	5(42)	4(33)
<b>Missing data</b>	0	1(8)	0	1(8)	3(25)
<b>Median (range)</b>					
<b>Age in years</b>					
	72.0 (70.5 – 73.8)	74.7 (73.2 – 76.6)	77.6 (76.2 – 79.6)	80.7(79.2 – 82.7)	84.3 (82.2 – 85.7)
<b>General health</b>					
	77.0 (15.0 – 95.0)	77.0 (35.0 – 100.0)	82.0 (37.0 – 100.0)	77.0(30.0 – 97.0)	77.0 (37.0 – 97.0)
<b>Mental health</b>					
	80.0 (52.0 – 100.0)	76.0 (48.0 – 100.0)	88.0 (48.0 – 100.0)	84.0 (50.0 – 96.0)	86.0 (60.0 – 96.0)



Table 8 highlights the demographics of the oldest group of women in this study. It is interesting to note that the mental health of this group has improved over the study period. General Health was highest at the third survey and has since declined from a score of 76 to a score of 72. By Survey Five, 75% of this group reported that it was difficult or impossible to manage on their income.

TABLE 9 OLDER-AGED WOMEN: PRECIPITATION SCORES, NUMBER AND PERCENTAGE OF WOMEN LIVING WITH DRYNESS OR DROUGHT

Year	Survey	Dryness Index	Frequency	%
1996	1	normal rainfall	13	86.7
	1	dryness	1	6.7
	1	drought	1	6.7
1999	2	.	1	6.7
	2	normal rainfall	10	66.7
	2	dryness	4	26.7
	2	drought	0	0.0
	3	normal rainfall	9	60.0
	3	dryness	5	33.3
	3	drought	1	6.7
	4	.	1	6.7
	4	normal rainfall	6	40.0
2005	4	dryness	7	46.7
	4	drought	1	6.7
	5	.	1	6.7
2008	5	normal rainfall	10	66.7
	5	dryness	1	6.7
	5	drought	1	6.7

Table 9 presents the rainfall information for the oldest-aged group of women in this study. Of interest is that over the study period it appears that few women were experiencing drought. However, it is important to recognise the age of the women; many older women had moved away from properties and relocated to towns or aged

care facilities. Their reflections and comments on drought were often pre-1996 (when the ALSWH study began). This feature will be further explored in the results chapters.

### 3.8. Data Analyses

The next section of this chapter describes the three analyses undertaken. The first is a thematic analysis, the second a qualitative longitudinal analysis and the third an in-depth narrative analysis illustrating the lived experiences of drought for Australian women. Each methodological study had a specific aim and purpose. The thematic analysis investigated breadth of experiences, the longitudinal analysis examined changes over time, and the narratives (from telephone interviews) offered an in-depth personal account of drought. This combination of methods resulted in a rich and thorough investigation into women's experiences.

### 3.9. Study One: Thematic Analyses

*This approach results in revealing the often silenced themes or experiences which may be missed if a quantitative approach was employed (Naples 2003).*

The thematic analysis was the first study of this project. The aim of this analysis was to reveal the breadth and diversity of women's experiences of drought. Once the sample was finalised, the free-text comments were analysed. The methods employed in this current project draw on the interpretative traditions within qualitative research (Broom and Adams 2009) and focused on establishing an in-depth understanding of the experiences of the respondents in their contexts (Elliott, Fischer and Rennie 1999, Denzin and Lincoln 2005). This methodological approach fits with the theoretical underpinnings of this research, an holistic approach to understanding women's experiences of drought in Australia. The analysis drew on the theories of Place Pedagogy and Ecosystem Health. Particular attention was paid to the way women spoke of place and to identify the relationship this had with their mental health and wellbeing.

A thematic analysis involves the identification of themes in order to report patterns and changes within the data. Thematic analysis enables the researchers to organise data and be able to re-present it in a systematic way. Braun and Clarke (2006) argue that thematic analysis is a qualitative research method in its own right and needs not to be embedded in analytical traditions such as grounded theory or discourse analysis. Thematic analysis can be a pragmatic approach to analysing data and has been used extensively in both health and geography research (Broom and Adams 2009, Dean and Stain 2010, Pini, Mayes and McDonald 2010, Woods 2010). As a result of this theoretical freedom, thematic analysis provides a flexible and useful method that can result in rich and complex findings (Braun and Clarke 2006).

This freedom does not result in a *laissez-faire* approach to procedure and analysis. Importantly, there are guidelines and principles that must be employed when conducting a thematic analysis to ensure quality and rigour. It is important for the researcher to be diligent and upfront with these considerations. For example, what constitutes a theme, is the theme relevant to the research question and how does the researcher write about the prevalence of a theme? (Braun and Clarke 2006).

For this analysis a theme was constituted if there was a relationship between an experience of drought and a wider life situation and if this experience was particularly focused on women's experiences of rural life and drought in Australia. This meant that a theme was not based on frequency of counts in the data but of the importance between the situation and drought, for example family life and drought. A theme was also constituted if there was a direct link between it and the research question.

This consideration also answers the question of relevance (Braun and Clarke 2006). A theme was given priority and importance if it was relevant to the research question. This is particularly important to note given the nature of the data being analysed. The free-text survey comments were not elicited in the context of the research question. That is, they were not made in response to questions about drought or rural Australia. Often the

women wrote about many life events or experiences that were not related to their experience of drought. For example, a participant might have written about recent surgical procedures or visitors over Christmas. Again, relevance was not based on a quantifiable measure but on whether or not the theme captured something important that was relevant to the research question (Braun and Clarke 2006).

A further consideration asks the researcher to divulge their own style when writing about prevalence (Braun and Clarke 2006). Throughout the analyses in this current project terms such as “some women wrote that”; “many women experienced” are used. Again, this consideration is not a quantifiable figure but rather enables the reader to understand that the theme *really* did exist and was worth reporting. Braun and Clarke recommend that prevalence be identified in the output of the research by drawing on the data to illustrate the point. The data extracts demonstrate the validity of prevalence. Using vivid examples that capture the essence of the theme without unnecessary complexity, is vital in presenting themes. The extract should be easily identifiable as an example of the issue. Yet it is important that the analysis presents more than data (Bazely 2009). The data extracts must to be embedded within the analysis and interpretation, creating a compelling argument.

This analysis was not driven by the need to quantify responses. The role of a qualitative researcher is to assist in uncovering what is not known about a particular phenomenon and to unmask minority experiences (Naples 2003). Feminist theories emphasise the need to challenge sexism, racism, colonialism, class and other forms of inequalities in order to encourage and support social change (Lather 1988, McDowell and Sharp 1999). As Naples (2003) highlights, feminism has an ‘activist goal of challenging inequality in all its complex guises’ (Naples 2003, p13). This approach results in revealing the often silenced themes or experiences that may be missed if a quantitative approach was employed.

The thematic analysis commenced following the guidelines presented by Braun and Clarke (2006) that is familiarisation of the data by reading and understanding how each woman wrote about her experiences of drought. After reading each comment a manual process of coding was undertaken. Events were linked and the relationships between experiences, activities and the context of drought were recognised. This process was repeated for each cohort. Each cohorts' results appear in tables that list the themes derived from this analysis and are accompanied by examples of comments to support the theme.

Rigour and validity were ensured in the qualitative analysis by following the guidelines of Braun and Clarke (2006). A further discussion of how qualitative rigour was maintained for the whole project is in the conclusion of this chapter (see section 3.12).

This thematic analysis aimed to reveal experiences of drought in the wider context of women's lives and to determine whether the impacts of drought differed for different generations of Australian women. Following each cohort's respective thematic analysis, there is a generational comparison based on the themes derived in each analysis.

### **3.10. Study Two: Longitudinal Analyses**

*Leximancer is a text analytics tool that can be used to analyse the content of collections of textual documents and to display the extracted information visually...displayed by means of a conceptual map that provides a bird's eye view of the material, representing the main concepts contained within the text as well as information about how they are related (Leximancer 2013, pg 4)*

As mentioned in the previous chapter, drought is a chronic, rather than an acute event. Given this, ageing occurs during drought. It is necessary therefore to examine the impact of drought on women and their wellbeing with a longitudinal approach. The aim of Study Two was to examine the experiences of women in drought over time and to assess impacts, experiences and changes to health and wellbeing.

Leximancer software was used to conduct the longitudinal analysis of the free-text comments. Through the use of Leximancer software the researcher was able to provide visual maps of qualitative data (women's free-text comments), uncovering the most common themes or concepts, and relationships. This software uses word-association information to elicit emergent concepts from the text (Smith and Humphreys 2006). Word frequency and location are used to generate taxonomies that are presented as maps showing the relationships between common concepts. Leximancer software was used to conduct an automatic analysis of the qualitative datasets, per cohort. This analytical tool enables the generation of a taxonomy that is derived from the data itself. It offers an efficient way of conceptually mapping, in this case, qualitative longitudinal datasets. This type of automatic analysis is grounded, exploratory and the researcher is removed from making any judgements or preconceptions regarding the coding of the data.

This analysis was designed to reveal associations or details that could be missed if the analysis was focused on one point in time only. The exploratory nature of the software could reveal connections that were strongly driven by the data, as opposed to the thematic analysis (Study One) which involved greater researcher input and interpretation. A Leximancer analysis requires the researcher to interpret the findings. However, the findings are initially based on a derivative approach and allow the data to speak in its own right, based on word-associations.

To run a Leximancer analysis it was necessary that the data be organised in such a way that allowed Leximancer to 'read' it. This involved exporting the data from Access into Excel, ensuring that the Header settings were activated. The Header cells contained the survey years. These cells enabled Leximancer to tag the location for where the data belonged or where the data had greater number of connections. Instructions on how to interpret a Leximancer map is described in the introduction of Chapter Five, there is also a detailed explanation in Appendix E. There were several settings that the researcher could adjust, however, in this analysis, all but one was kept at the default

setting. The *Text Processing* setting was manipulated. It was important to adjust this setting from 'two' sentences to 'one' sentence because in normal language, sentence meaning is usually created in about two sentences. Therefore Leximancer, by default, reads the data in two sentence blocks, assuming that the two sentences contain similar content. However, the nature of the ALSWH data and free-text comments does not always fulfil this assumption. Participants often sporadically jump from one brief sentence to another topic in the next sentence.

Leximancer counted the words in the dataset and more importantly, counted relationships between words. As a result of this count, a map was produced that visually represents these relationships and themes.

With the map produced, decisions were made in regard to how it could be analysed. There is a plethora of options surrounding how a Leximancer map can be analysed (Leximancer 2013). However, as this study's aim was particularly concerned with changes and connections over time. The decision was made to examine each particular time point per cohort and then mine deeper into that time point to uncover what were the most important concepts at that time. For example, which concepts were more likely to appear at a particular time point compared with the other four time points? The five concepts that were most closely associated to a particular time point were analysed.

The next step in this analysis involved further mining of the concept within the time point. For instance, a time point (survey wave) was selected in a dataset, then the five concepts that were related to that time point were examined. A process of reviewing the relevant free-text comments belonging to the concepts, of the time point, followed. The five concepts particular to that point in time were analysed. These five concepts provide a snap shot of the topics women wrote about and how they described their life experiences. Furthermore, this summary aimed to express the importance of the concept and how it related to experiences of drought. This process was repeated for each time

point in each cohort, resulting in five time points with five concepts for each cohort (75 concepts in total).

This approach to the analysis had many benefits; most importantly, this method was systematic and could be applied to each cohort's map. This was important for consistency across the three cohorts' analyses. Other benefits included the option to incorporate the use of likelihood scores to establish the percentage of relativity and connectivity between the concept and time point. This allowed the relevance of the particular concept to that time point, to be assessed. Another benefit of using the likelihood scores was a calculation could be made of how the concept was shared throughout the overall dataset. For example, was the concept common across time? The advantage of examining the map via the time points was the ability to link the time points and women's comments to rainfall data, strengthening the analysis and providing further context to the women's comments.

The tables of concepts and scores were created in Excel and formatted accordingly. The maps were extracted from Leximancer into open source software, Inkscape (Inkscape 2012). This allowed the researcher to draw on the map, as it was a Scalable Vector Graphic (svgs), as such the survey titles could be added. The maps' colours and fonts were enhanced for visual ease.

In a recent application of Leximancer (Rich, Chojenta et al. 2013), the researchers sought to investigate changes over time using the free-text comments from the ALSWH. Results from this study showed that the free-text comments could be used for this purpose and it was a valid qualitative method. The authors tested their analysis against a qualitative framework (Kitto, Chesters and Grbich 2008), concluding that this method adhered to the principles of qualitative analysis. The authors argued that the principles of Clarification, Justification, Procedural Rigour, Representativeness, Interpretation, Reflexivity, and Transferability could be met by this type of analysis. For this current longitudinal investigation of drought and its effects, this recent paper suggests that



methods employed were appropriate. A further discussion of how this current project employed these principles of quality in qualitative research can be found in section 3.10.

Results from this longitudinal map analysis can be read in Chapter Five, further explanations of how to interpret and read the Leximancer maps can be found in Appendix E.

### **3.11. Study Three: Narrative Analyses**

*“Stories are a part of human life. Humans from early on learn to respond, react, retell and relate to stories...humans are ‘narrative animals’ because from childhood many of us are immersed in the experience of play, storytelling, favourite stories and made up stories. Lived experiences provide an opportunity for others to gain a glimpse into someone else’s story. Asking what you did, why you did it, saying what I did and saying why I did it, pondering the differences in each account, and recognising what was not shared, are the very basic fundamentals of narrative” (MacIntyre 1984).*

The third study aimed to provide an in-depth illustration of women’s lived experiences of drought. This analysis drew on telephone interview data. The narrative analyses took account of the wider context of drought and illustrated the relationship drought has with daily life. These narratives are detailed descriptions of the connections between the themes that were explored in Study One. The narratives also connect the women’s experiences in time as explored in Study Two. These narratives drew together findings from Study One and Study Two by creating in-depth illustrations of women’s lives and focused on the connections between themes (Study One) and points in time (Study Two).

Narrative is a principle factor of human interaction (Speedy 2008). Ochs and Capps’ (2001) in their definition of narrative analysis suggests that the method is a complex, discursive and cognitive discourse that routinely overlaps with other forms of analysis methods, commonly thematic and content discourses (Ochs and Capps 2001). However,

the vital difference with narrative analysis is that it takes one step further than simply identifying themes. It draws out the meaningful *connections* between themes, events, content, the author and the consumer (Riessman 1993, Hydén 1997). The identification of this meaning and connection is imperative in the process of narrative thinking, making and understanding (Munslow 2007).

When asking participants to convey a story about their life or experiences, the qualitative researcher is actually assisting in the creation of storytelling (Ochs and Capps 2001). This interaction is highly context specific. The story that derives has its own silences and statements which are embedded within these dynamics (Broom, Hand and Tovey 2009). When attempting to understand someone's life experience it is important that it is explored within that person's cultural context. Complex intertwining of meanings with individual character, personal and cultural values indicate that incorporation of context is vital. Ultimately, these factors shape how the researcher interprets and presents that life story (Shenk, Davis, Peacock and Moore 2002).

Understanding the lived experience, and world of others is a complex task; re-presenting this in scholarly work is even more intricate. The world of lived experience is an area in which feminist researchers have long been involved (McDowell and Sharp 1999, Ochs and Capps 2001, Pini 2002, Reed and Mitchell 2003, Broom, Hand et al. 2009). Narrative analysis is important to feminist work as narrative provides and appreciates diversity. and perspective (Byrne 2003). Starting from the perspective of women's everyday lives, feminists challenge the idea that one can presume a shared understanding of the world (Wibben 2010). As in this current project, the perspectives and views points of individual women's experiences of drought is appreciated and drawn on to explore women's experiences of drought in Australia.

Narrative inquiry and analysis is appropriate for the social sciences as firstly they are *chronological*, secondly they are *meaningful* and thirdly, they are *social* (Elliott 2005). Following this understanding, this current project employed this approach in the

interpretation and analysis of telephone interview data. The authors of narrative analysis often refer to their work as 'co-researcher' or 'co-authored'. It is a form of research alongside people, delving into matters that are of concern to them. In working with the interview transcripts, the concept of 'co-authorship' is relevant. The women's stories are the essence of this analysis. Using the women's interview responses to develop personal narratives was an avenue to use language to embed meaning (Elliott 2005). Narrators may start out with a seamless rendition of events, only to have expectations changed when the meaning between the events and the language emphasises something greater than the simple tale suggests (Ochs and Capps 2001). In this way, narratives are shaped by those who experience them and then by those who retell them (Ochs and Capps 2001, Pini 2002). This is an important point; the acknowledgement of researchers place in the re-presenting of someone else's narrative (Naples 2003, Denzin and Lincoln 2005).

In maintaining researcher reflexivity it was important that the researcher understood her role, her 'place' and was insightful to recognise, or be aware of, where her bias might lie. The researcher is a young Australian born woman who has a strong love of the natural environment which stems from her childhood growing up in regional Australia, albeit on the coast. The researcher's undergraduate degree in Geography enabled the relevant training and knowledge to further explore the role of the natural environment in human life. As someone who strives for justice and appreciates diversity it was fitting for the researcher to investigate women's experiences of drought, connecting with women and valuing their stories and experiences. To ensure reflexivity was maintained the researcher had regular supervision meetings in which discussions of analyses and results were explored. The researcher also maintained journals and notes which described thought processes, challenges and revelations. Results of analyses were regularly presented at conferences and workshops. This enabled feedback and critique which was important in validating and ensuring the rigour of this project. There is a further discussion detailing the qualitative rigour of this project in section 3.12.

In using narrative analysis, space is provided for participants to demonstrate their making of knowledge and experience. “As far as human affairs are concerned it is...through narrative that we make sense of the wider, more differentiated, and more complex texts and contexts of our experience” (Brockmeier and Harre quoted in Powles 2004 ,p1). In understanding and exploring women’s experiences of living and coping in drought in Studies One and Two, it became obvious that a narrative approach to this study would be appropriate. If narrative is fundamental to how people understand their lives and the world around them, researchers should be attentive to their stories and place emphasis and empathy towards human experiences in scholarly and academic work (Powles 2004, Holland, Thomson and Henderson 2006).

### **3.11.1. Narrative Analysis Procedure And Method**

The narrative analysis in this current project drew on telephone interview data. Interviews were conducted with eight participants in order to record three in-depth narrative case studies, one narrative per cohort. Riessman (2005) argues that structural narratives are appropriate for narrative case studies since they require micro-analysis to build the depth of each case study. The main aim of this analysis was to explore the lived experiences of drought and to draw out connections between drought and the wider context of women’s lives. This study involved analysing the micro-detail and connections between experiences of drought and daily life. To accomplish this, women were interviewed by the telephone about their lifestyle and reflections on the implications of drought that were felt.

### **3.12. Ethical and Participant Selection Process**

As described in Section 3.5, after receiving approval to access the ALSWH data an ethical process to conduct a sub-study to interview a sample of women was undertaken. All relevant ethics clearances were granted from the University of Newcastle for this analysis and interview procedure (H-2011-0257). The researcher was aware that

questions regarding the women's experiences about drought may cause distress, particularly if this was a stressful time for the woman and/or her family. The researcher was prepared for this potential risk and provided each woman with the phone number of Lifeline, so that if the participant felt she needed emotional support after the interview, she could access this service.

Participants were randomly selected from this current project's sample and invited to complete an interview. These participants resided in various areas of Australia. It was important that participants resided in various areas of Australia (urban, regional or remote) since the research aimed to explore women's views and diverse experiences of living with drought in Australia.

The Invitation and Information Statement are included in Appendices C and D and were sent from the ALSWH team at the University of Newcastle to women who met the selection criteria. That is, those who had written a comment in the ALSWH survey about an experience of drought in Australia. Potential participants were contacted approximately 2-4 weeks later in order to ask if the potential participant had received the invitation. Participants were asked if they were interested in participating in the study. It was reiterated that participation would be voluntary and that their refusal to participate would in no way affect their continued involvement in the ALSWH. The women were given a further opportunity to ask any questions before consenting to the study. If the participant agreed to take part in this project then an interview was scheduled at a convenient time and place for the participant. If a participant did not wish to participate, they were thanked for considering the invitation and for their continued participation in the ALSWH project.

Interviews were scheduled and conducted. They were semi-structured containing questions and prompts (Table 10). The initial invitation offered participants a choice of interview options, either face-face or a telephone interview. All participants selected a

telephone interview. Most women interviewed were very generous with their responses and needed little, if any prompting.

TABLE 10 INTERVIEW SCHEDULE

Interview question	Prompt if needed
<b>Context to living situation</b>	
<b>I'm interested in your life here at X, could you tell me a little bit about your life?</b>	What does a normal day consist of for you? What was yesterday like? Who lives with you? How long have you lived here? What do you like about living here?
<b>Can you tell me a little more about the main areas of your town?</b>	Is this area a busy place? Do you often bump into people you know down this street? Do you feel connected to your local community?
<b>Relationship between human health, wellbeing and environment</b>	
<b>Do you think living here as a relationship with your health?</b>	Does the farming lifestyle stress you? Do you feel safe and secure? Financially secure? Does this have a relationship with your wellbeing?
<b>What about your family's health?</b>	How do you think your family managed during the drought?
<b>I'm interested in places on your farm that are important to you; could you describe any areas that you feel are particularly important?</b>	Perhaps you have a vegetable garden? An area that you particularly look after? Water plants etc.? Walk?
<b>What does this space ( important place) mean to you?</b>	What do you like about this space? What do you do when you are there? I.e. water plants? Pick food etc.? Green grass? Peace and quiet?
<b>Ageing and relationship to environment</b>	
<b>So you have lived in drought for a while now...?</b>	What has the drought been like for you?
<b>You have lived in this area for X years what changes have you noticed in the past X years?</b>	Environmental changes Changes in yourself or family? Are these changes related to drought?

### 3.12.1. Data Analysis

This current project was guided by previous research and narrative principles in establishing interview questions, listening to the responses and composing the narrative. The narrative analysis conducted followed guidelines presented by Riessman (2005), in a paper that explores the various uses and types of narrative analysis. Riessman (2005) describes two types of narrative used in this current project, Structural and Performativity analyses. The narrative analyses of the transcripts were first subject to structural analysis then each of the three narratives were viewed through a performativity lens. Both of these analyses are described here. Firstly, there is an examination of the principles involved with a structural narrative analysis, followed by the methods of a performativity narrative.

A structural analysis draws on the themes explored in the interview transcripts but focuses on how the person telling the story makes their case persuasive. Language is treated seriously and sentences are objects for close investigation “over and beyond its referential content” (Riessman 2005, pg 3). Roland (1975) describes the structural narrative:

*“ a narrative is made up solely of functions: everything, in one way or another, is significant. It is not so much a matter of art (on the part of the narrator) as it is a matter of structure. Even though a detail might appear unequivocally trivial, impervious to any function, it would nonetheless end up pointing to its own absurdity or uselessness: everything has a meaning, or nothing has ”* (Roland and Duisit 1975, pg 245).

This idea of meaning and function was key to analysing the narrative stories. By enabling small detail and connections to be brought to the forefront of the narrative, the real essence of women's narratives emerged.

Structural analysis is also suitable for a linguistic interpretation of the story, this however, was not the purpose of employing this method for this current project. As explored below this analysis drew on the details of story (micro-analysis) and the detail that derives from an interaction when one is asked about their life experiences (Roland and Duisit 1975).

After each interview was completed, it was transcribed verbatim and analysed. Analysis was conducted on each of the eight transcripts, revealing themes and diversity of experiences. From each cohort, one transcript based on its level of depth and detail, diverse experience and generational differences was selected. This was a method similar to Lempert and Lora's (1994) work in which they drew on one transcript to form the basis of their narrative analysis. Consequently, the transcripts that differed most from each other and were relevant to the research question were selected for the in-depth narrative analysis. These stories highlighted differences and showed generational comparisons. This approach of selecting divergent examples was also employed by Shenk and colleagues (2002) when exploring older rural women's self-identities through narrative analyses.

After the initial thematic analysis of the transcripts, three interviews were selected and subjected to narrative analysis. In conducting the narrative analysis, it was important to recognise temporal components and connections between events (Riessman 2005) as described by the woman during her interview. Given the question-answer format of the interviews the responses often were not in chronological order. Therefore, it was important to collate items in the woman's story and place them into a temporal, consequential order, so as to re-present an in-depth narrative. The narrative format allowed the transcripts to be read as temporal performances. The woman's interview,



and the researchers' re-writing of the interview created a link from past to present in order to communicate and organise events and to tell the story of her life (Ochs and Capps 2001). Narrative as a qualitative method can be a vehicle for re-presenting the past (Hydén 2008).

The process of writing the narratives involved re-telling or shaping the women's stories. Time and connections, along with an understanding of some of their quantitative data, including rainfall data were incorporated in this process. The narratives can then be recorded as chronological stories connecting time, place, experiences and events in each of the women's accounts (Powles 2004). Lempert and Lora (1994) conducted a similar analysis in their investigation into intimate partner violence. Their study conducted interviews and proceeded to use one transcript as the basis for a structural narrative analysis. Similar to this current project's investigation, Lempert and Lora (1994) asked open-ended questions that allowed the participant to create their own interpretation of the question and respond accordingly, thereby constructing the narrative on their own terms. Lempert and Lora (1994) drew on one transcript from the larger pool and stated that this "[the participant's] story of abuse reflects common themes of many others" (Lempert and Lora 1994, pg 412). This finding was similar finding to the findings in this current study of women in drought. However, given the demographic information of the women it is not possible for one story to represent the full breadth of diversity of experiences, although many key themes were found in each narrative analysis. Also, as this analysis was the final analysis of three different methods, many themes that may have been missed through the use of an in-depth narrative, were identified in either the thematic analysis (Chapter Four) or the longitudinal qualitative analysis (Chapter Five). The purpose of this narrative analysis method was to bring out a depth of experience and personal interpretation to the overall project.

In a further study, researchers employed a similar methodological approach to analysis (Shenk, Davis et al. 2002). Two narratives were used to investigate older American rural women's illustrations of self-identity. This study drew on the women's life

histories to exemplify how cultural context can shape one's life. This paper states that using narratives to explore life histories, particularly when examining the context of one's life, can be a useful and beneficial tool (Shenk, Davis et al. 2002).

Each structural narrative in this current project begins with a profile of the woman that includes quantitative demographic information drawn from the ALSWH quantitative dataset. Following the profile, that particular woman's narrative analysis is presented. It was useful to incorporate both demographic information and health-related information, along with rainfall data into one narrative. The rainfall and health graphs provide context to the woman's story. It is important to note that causal relationships between the weather and women's health were not claimed. Rather the aim of the current study was to explore experiences and contexts surrounding women's time in drought.

Following the structural narratives there is an overall analysis of the three women's narratives. This employs the performative approach to the narratives. Performative analysis posits that the participants have made particular choices in the way that they choose to tell or retell their lived experiences (Riessman 2005). Performative analysis is particularly useful in studies relating to identity. It is seen as an analysis that goes beyond the spoken words of an interview and incorporates unconscious concerns such as cultural, societal, individual presuppositions and processes (Riessman 2005, Wengraf and Chamberlayne 2006). It was an important aspect of this current study to conduct this analysis since it allowed an outsider (researcher) to critique, or to be acutely aware of certain behaviours and decisions that participants may make when telling their story (Riessman 2005). This critique is not to judge the story or the participant, but to highlight that interviews and stories are relevant from the view point of the one who has lived the experience (McDowell and Sharp 1999). The performative view is a useful lens when examining communication and identity construction (Riessman 2005, Hydén 2008), both key components of this project.

Hyden (2008) conducted an analysis methodologically similar to this current study. Hyden (2008) drew on both performative techniques and micro-ethnographic analyses. The current project investigating drought was not ethnographic, however the conclusions Hyden makes about these two techniques are relevant here. “One especially interesting and methodologically relevant difference exists between the conception of narratives as textual objects and narratives as part of a storytelling event. In the former case the methodological focus is on the internal discursive structure of the narrative/object, while in the latter case it is the social organisation and performance of the narrative that forms the analytic focus.” (Hydén 2008, pg 50). The performative analysis conducted on the telephone interview transcripts followed this advice, seeking differences in experiences beyond the text of the narratives, examples being age differences, decision making influences, social expectations and so on.

In order to undertake this analysis, each of the three structural narratives was examined for specific details about the decision making and re-telling of the participants stories. A performative lens does not examine the themes and content of the narrative as much as it examines the ‘self’, the doing and the setting of the participant (Riessman 2005). What derived from this inquiry was a ‘compare and contrast’ analysis of participants’ motives and performances of self in their interview (see section 6.5).

Both the Performative and Structural narrative analyses were valuable and pertinent tools for examining the women’s transcripts and experiences. The women were forthcoming with their stories and the role of researcher was to handle the interview with care. Riessman suggests that “narratives approaches are not appropriate for studies with large number and faceless subjects” (Riessman 2005, pg 6). Following this, the woman, her story and ‘face’ have been placed at the centre of the analysis. The ‘truths’ of narrative accounts are not in their faithful representation of the past, but in the connections they form with the past, present and future (Riessman 2005).

### 3.13. Quality And Rigour In Three Qualitative Studies

TABLE 11 SUMMARY OF THREE METHODS AND AIMS

Analysis	Purpose/aim	Data
<b>Study 1: Thematic Analysis</b>	To examine the breadth and scope of diversity in experiences of drought for three age cohorts of Australian women	Free-text comments
<b>Study 2: Longitudinal Analysis</b>	To examine the longitudinal impacts and relationships between drought and wellbeing for three cohorts of Australian women over time in the context of their wider lives. To assess the implications of ageing during drought.	Free-text comments
<b>Study 3: Narrative Analysis</b>	To illustrate the lived experience of drought for three generations of Australian women. To create in-depth case studies that examine drought in the wider context of women's lives and activities. To examine fully the links between drought, health and emotional wellbeing.	Telephone interviews

This current project has drawn on three separate qualitative methods to investigate women's experiences with drought. Two different sources of data (free-text and interview) along with associated quantitative health and demographic information from three cohorts of women, were subject to these qualitative analyses. The result is a comprehensive examination of three generations of women's experiences of drought in Australia.

Each separate study had a specific aim and purpose, summarised in Table 11. The thematic analysis investigated the breadth of experiences, the longitudinal analysis examined drought experiences over time, and the narratives offered an in-depth personal account of drought.

Each qualitative analysis was guided by the theoretical foundations of this project, guidelines of Braun and Clarke (2006), as explained the section 3.7, as well as the protocols set out by Kitto, Chesters et al (2008). Kitto, Chester et al (2008) argues that for qualitative research to have validity and quality it must address the following, Clarification, Justification, Procedural Rigour, Representativeness, Interpretation, Reflexivity and Transferability.

**Clarification and Justification:** These criteria ask the researcher to ensure that the research question is clear and that it is supported by theoretical rigour. In this current project the theoretical underpinnings guided how the research questions were formed and the methods of analysis were also embedded in their theoretical traditions as explained in sections 3.9, 3.10, 3.11. The need for this research was justified by the literature as little research has fully explored the experiences of drought for Australian women. The identified gaps in current literature were explored in Chapter Two.

**Procedural Rigour:** Asks the researcher to be explicit in how the research was conducted, detailing how participants were recruited and who they are. In this current project the procedural details are in the current chapter. This chapter details how participants were recruited, what questions were asked and how data were collected, managed and analysed for each of the three studies of this current project.

**Representativeness:** Asks the researcher how the sampling was conducted. In this current project details regarding the sampling framework are in section 3.4 and 3.5. This criterion also requires constant comparisons of the experiences and responses of the participants against each other, as vital, subtle but significant differences can be uncovered, that can generate profound insights into the phenomena under study. In this current project this comparison is discussed as a final section in each results chapter (see sections 4.5, 5.23, and 6.5). Furthermore, the employment of three analysis methods also helps to meet this criterion. This sample itself is not representative, but nor is it designed to be (see section 3.7 and 7.7).

Interpretative Rigour and Triangulation: Asks the researcher to draw on several researchers and or several methods to enhance interpretative rigour. In this current project triangulation was achieved by employing three different methods to explore drought experiences. In-depth discussion of analyses took place regularly between the researcher and supervisors. This triangulation allowed for the development of a thorough understanding of women's experiences of drought. Also these criteria ask that clear descriptions of the types of analyses conducted and the reporting of the major outcomes is necessary to ensure quality. Analyses are described in detail in sections 3.9, 3.10, and 3.11 and major outcomes in Chapters Four, Five and Six.

Reflexivity and evaluative rigour: These criteria ask the researcher to acknowledge the dynamics between researcher and participant and to be aware of the wider social context in which the research takes place. Evaluative rigour refers to the ethical aspects of research. In this current project all relevant ethical clearances for data access and participant recruitment were sought and granted as explained in sections 3.4 and 3.11.1. With reference to reflexivity, the researcher maintained meticulous field notes and observations during both the data collection phase and during the interviews. These notes enabled the reflection of interactions with participants. Participants were free to decline their involvement in an interview and that this decision would not affect their involvement in the ALSWH study.

Transferability: Asks the researchers to indicate how the results of a study can be transferred to practice or policy. In this current project the results have been used to make policy recommendations for women in drought. These policy discussions are in section 7.6.

Kitto (2008) suggested that if the above criteria are addressed then the quality of qualitative research is enhanced. In this current project the principles from both Braun and Clarke (2006) and Kitto's (2008) work helps to ensure that rigour, validity and transparency are apparent in each of the three studies undertaken in this current project.

The approach taken in this current project has resulted in a rich and thorough investigation of women's experiences. There has been no previous examination of Australian women's experiences of drought over a long time frame (1996 – 2009). Nor has a study linked geo-coded precipitation data with health outcomes and qualitative data. The contributions made by this approach are significant and extend the boundaries of qualitative methodology. The current project was innovative in its application of these methods. What has resulted is an holistic and inclusive analysis of women's experiences of drought in Australia.





# Chapter 4

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## Study One Results

### 4.1. Thematic Analyses Introduction

This chapter presents the results of the thematic analyses of the free-text comments provided by the women in the ALSWH who wrote about drought. The thematic analysis aimed to reveal the breadth and diversity of drought experiences for Australian women. They aimed to acknowledge the importance of understanding the wider context in which drought could be experienced. The first section presents the younger women's analysis, followed by the mid-aged women and thirdly the older-aged women's thematic analysis. The analyses allow the experiences of drought to be placed in the wider setting of these women's lives. Each cohort's thematic analysis begins with a brief summary of the cohort sample and data.

Components of this chapter are published in:

**Rich, J. L.**, Wright, S. L., & Loxton, D. (2012). 'Patience, hormone replacement therapy and rain!' Women, ageing and drought in Australia: Narratives from the mid-age cohort of the Australian Longitudinal Study on Women's Health. *Australian Journal of Rural Health*, 20(6), 324-328.

Dobson A, Byles J, Dolja-Gore X, Fitzgerald D, Hockey R, Loxton D, McLaughlin D, Pachana N, Powers J, **Rich J**, Sibbritt D & Tooth L. *Rural, remote and regional differences in women's health: Findings from the Australian Longitudinal Study on Women's Health*. Report prepared for the Australian Government Department of Health & Ageing, June 2011.

## 4.2. A Thematic Analysis Of The Younger Women's Free-text Comments

The younger women's qualitative data consists of free-text comments from six women spanning 13 years (1996-2009). The most recent survey took place in 2009. Women in this cohort tended to write emotionally about their experiences of drought. Young women described family life, raising children, marriage and life on the land. The following themes highlight how women in this group managed the difficulties they faced during periods of drought. Six themes resulted from this analysis are described in Table 12 including work/activity, emotional wellbeing, family life, moved, financial stress and food/eating.. These six themes have been categorised and explored through three broader themes including *family life and drought*, *financial stress* and *reflections on emotional wellbeing*.

TABLE 12 YOUNG WOMEN'S THEMATIC TABLE

Theme	Definition	Example Quote
<b>Work/Activity</b>	time spent, paid, unpaid, lack of choice, 'realistic', hobby	<i>My Defacto doesn't work and hasn't worked for over twelve months due to drought and no work available. We constantly argue over my work and the amount of hours I do. The fact that he can't work is making him irritable and he stresses out over nothing</i>
<b>Emotional wellbeing</b>	emotional health, wellbeing, non-tangible impacts, reflections	<i>We are both normally very positive people but the wind, heat and dust can really get to you after a while... So I guess what I'm trying to say is that this drought can definitely have a negative impact on your health - no matter how optimistic you try to remain.</i>
<b>Family life</b>	pressure on family, wellbeing of family, maternal care for family	<i>My husband and I are farmers and we are currently being affected by the drought. It has been a very tough 18 months and we still don't see any rain on the horizon.</i>
<b>Moved</b>	moved house, sold property mainly due to drought situation	<i>We have just sold our farm and moved.</i>
<b>Financial stress</b>	money concerns, distress about debt, insecurity, government benefits	<i>We are farmers and have been affected by drought for the last 4 years; have earned no income. Relied on government funding for support.</i>
<b>Food/eating</b>	providing for family, choice, health	<i>With regards to q86 due to drought and floods, some of these foods have not been as readily available as in previous years and therefore been more expensive to buy or just not available at all. This has impacted on my eating habits</i>

## Theme One: Family Life

The young women were aged 18-23 years when the study began in 1996 (Table 12). Since then, many participants have started began raising families and wrote about the relationship between drought and parenting. One participant explained, *“there have been days on end when I have not even been able to take [baby] for a walk in the pram because of constant dust storms”*. Three years later this same participant wrote *“our 2<sup>nd</sup> boy has autism so I do not have much of a social life, we are farmers who have been in drought for 7 years and this is all taking its toll on our health and emotion”*. As can be seen in this woman’s story the drought and its impacts are complex for young family life. The inability to take the baby outside coupled with the experiences of raising a child with autism resulted in increased stress, feelings of inadequacy and insecurity. This participant wrote later *“I’m tired of feeling like a second rate citizen”*.

Similarly, another participant commented on the difficulty of raising children in drought *“we are farmers and have been affected by drought for the last four years, have earned no income and relied on government funding for support. I am a full time Mum with four children, 3 of which I home-school. I also work for the farm doing book work and farm duties, it isn’t paid work but I am a mother, teacher, book keeper and farmer!”* This story is powerful in that this participant has described the complexities of family and farm life in drought. There is a sense of chaos and stress, money is low and family life is demanding.

Another participant suggested that the drought made it difficult for her to buy foods she would normally buy for her family, *“some of the foods have not been as readily available as in previous years and therefore is more expensive to buy”*.

Each of the analysed comments explored how family life was affected and challenged during drought.

## Theme Two: Financial Stress

Strongly related to the theme of family life, is financial stress. The women in this group wrote of their concerns about financial security during and post, drought. One woman commented on her feelings towards her partner. She worked hard to provide a household income while he had not worked for more than 12 months because of the drought. *“I think that a lot of my stress comes from both home and work. The fact that I am sole provider of income makes it hard because I don’t get to spend money on myself as much as I used to. I have one step child who lives with me and we get on okay but like he says, “I’m not his mother”. My Defacto doesn’t work and hasn’t worked for over twelve months due to drought and no work available. We constantly argue over my work and the amount of hours I do. The fact that he can’t work is making him irritable and he stresses out over nothing.”* In this quote, the participant highlighted the implications of financial stress. She demonstrated how impacts can be emotional and play out in the couple’s relationship. There is tension between who should spend the money and for what purpose. There is also a feeling of inequity; the participant feels that as previously she should be able to treat herself or enjoy some reward for working hard. However, due to the decreased household income, she felt she could not care for herself in the way she would have liked. Perhaps there is even a feeling of resentment in her quote, providing for the family when she is *“not his mother”*. It is evident in this quote that financial issues are often complex and interwoven with many aspects of life and the dynamics within relationships.

Another participant commented on the difficulties on managing financially during the drought,” *question 108* [income management question in the ALSWH survey<sup>1</sup>] *is very*

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<sup>1</sup> Q108a and 108b in the ALSWH “What is the average gross (before tax) income that you receive each week, including pensions, allowances and financial support from parents?” “What is the average gross (before tax) income of your households (e.g. you and your partner, or you and your parents sharing a house)? Australian Longitudinal Study on Women's Health. (2013). "Data Dictionary Supplement." Retrieved 12/08, 2013, from <http://alswh.org.au/for-researchers/data/data-dictionary-supplement>.

*difficult to answer. Our income changes every year due to the season and prices. This year we will have a negative income due to the drought. We are currently getting financial assistance of roughly \$300 a week.*” This woman’s comment makes it clear that the fluctuations of income and reliance on the seasons can be difficult, particularly for income management and organisation. This quote explores her feelings of financial insecurity.

### **Theme Three: Reflections on Emotional Wellbeing**

Many of the women in this group commented openly on their emotional health during periods of drought. Some women reflected more positively with strength and determination while others shared their hard times and stresses. One woman questioned, *“what about the emotional strains when there is a drought on?”* And another with a similar statement *“being in the outback has a new set of women’s health challenges and sometimes I think that the women out here get forgotten, in that the pressures of schooling, motherhood and being a wife are just everyday things”*. It is clear that these young women were asking for some assistance or acknowledgement of their situation.

### **Conclusion**

This analysis has explored younger women’s experiences of drought. Women in this age group tended to take the drought quite ‘personally’; it was a difficult experience that was felt deeply by the women, impacting them emotionally. Issues of family life and financial management in drought were described and highlighted that drought could take an emotional toll on health. Women in this analysis however, were proactive about their situation, taking on extra work when needed and participating in farm management as well as having a caring role in the family life.

### 4.3. Thematic Analysis Of The Mid-aged Women's Free-text Comments

The mid-aged women's dataset consisted of free-text comments from 77 women collected over time (1996 – 2007). These women wrote about their experiences of drought in detail and at many survey waves. Many women shared the same experiences and wrote openly about their time in drought. For most, it appeared that the drought was a real burden, affecting daily activities, ageing and planning. The women wrote about their marriages, changes in health, new relationships, how their families had grown, their children's marriages, and grandchildren. Some women wrote that their families were no longer as dependent on them. Some women attended university later in life and several women wrote about finding more time for themselves and about their commitment to community volunteering. The process of ageing in drought was found to envelop all of these aspects of life.

This analysis resulted in eight themes, listed in Table 13, financial stress, emotional family pressures, ageing and retirement, support, optimism, service use, reflection, biological health and ageing. . These themes have been categorised so that the eight themes filter throughout the four major themes of this analysis, *Development of identity and self-worth*, *Biological ageing and drought*, *Support during drought* and *Retirement and plans for the future*.

TABLE 13 MID-AGED WOMEN'S THEMATIC TABLE

THEME	Definition	Example Quote
<b>Financial stress</b>	money stress, financial management and future prospect	<i>Some major decisions have to be made whether to keep going (and borrow more to fund next year's crop) or sell out a 4th generation property been in the family since 1909. Last year alone we lost over 400 thousand [dollars] and it's not bad management!</i>
<b>Emotional family pressures</b>	family dynamics impacted by drought, tensions and strains on family	<i>I think the prolonged drought and downturn in agriculture has created unbelievable stress among women in rural areas which is impacting on the social fabric of rural Australia. It is impacting on family life and personal relationships as well as community organisations.</i>
<b>Ageing and retirement</b>	planning for retirement or concerns of not being able to plan	<i>I could have answered "sometimes" to a few of these questions due to coping with draught [sic] on our farm and wondering what our future is on the land and will we lose our home and farm.</i>
<b>Support</b>	variety of supports that women drew on to assist them	<i>I'm not one to give in, but depression as a result of age and complete reliance on myself has taken its toll along with aches and pains. It was a relief to find I could get help and medication.</i>
<b>Optimism</b>	ability to remain optimistic	<i>We are experiencing worst drought and times are very very bad - but so far so good. Hoping for rain very soon, but my motto is when times are tough the tough keep going (I hope and pray)</i>
<b>Service use</b>	access to services and issues surrounding access	<i>Because of drought, exceptional circumstances and hence reduced income. I've been unable to pursue problems with eyes (new glasses.) because of cost involved purchasing such. Same applies to my husband. Dental visits are out for the same reason - visits to chiropractor reduced, all for the same reason.</i>



THEME	Definition	Example Quote
<b>Reflection</b>	personal insights or self-reflections of drought experiences	<i>Rural women frequently have a different set of problems, e.g. Geographical isolation, lack of opportunity in career, i.e. Impossible to accept promotion which would necessitate being away from family property, losing children early to city boarding schools, seeing medical specialists always involves travel and major organisation; coping with a male-dominated culture</i>
<b>Biological health and ageing</b>	health implications often linked to drought	<i>“. [Drought and financial stress] this plus menopause is my problem...patience, HRT [Hormone Replacement Therapy] and rain!”</i>

## Theme One: Development of Identity and Self-worth

Many women in this group referred to themselves as ‘rural women of the land’ or as a ‘farming family’. For some women it became apparent that having a ‘rural’ or ‘farm’ identity gave them the ability to fight or battle through – coping and managing through difficult times on the land was expressed as being simply what farming women must do. Self-worth and a strong sense of identity can be an important source of strength and resilience. In the case of drought, identity is innately linked to the changing and unpredictable natural environment.

Some women in this cohort also linked their identity to other people; being a wife, a mother, a business and farm partner. This relationality had an influence on emotional health. As one woman suggested, “*women are shouldering the burden*”, with their concern for others. This can have a positive influence on emotional health by giving a sense of being loved by family “*it’s the fact we get on so well that that life doesn’t seem so bad*” and “*generally I have excellent health and a loving family*”. However, relationships to other people can be an added burden of worry, as one participant said, “[I’m] *forever watching*” him. Another commented similarly, “*my husband has had a severe bout of clinical depression which has had an effect on my health*”. The identity of ‘wife’ and its impact on health is recognised in other woman’s comments as well: “*drought has impacted severely on his [husband’s] ability to cope. He had to shoot poor stock and could not do all the property work needed...he constantly tells me he needs more help but I’m not superwoman...we hope it rains soon*”. In this quote it is interesting to note how the identity of ‘wife’ has put pressure on the participant even further.

The comment clearly expresses the participants’ concern over her husband’s mental health and highlights her empathy for him. However the stress of the workload and feeling it was her responsibility to help her husband more, was affecting her mental and emotional health, saying “*I’m not superwoman*”. These particular women did not write

about needing help from any external sources such as government relief payments, better access to service or more people to help on the farm. Instead, they internalised the need for more assistance taking on this responsibility as part of their identity as a 'wife'.

Along with a strong sense of identity in maintaining wellbeing, was the need for available support networks. In the quotes above it is clear that some women internalise their struggle, feelings of isolation and lack of available support. However, the next quotes illustrate how some women externalise their need for assistance during the drought, not taking on the 'superwoman' identity. In 1996, one participant wrote about the fact that there is "*no such thing as child care out here*" but that she "*survives*" without this and that things are "*out of our control*", "*isolation demands more and more of our time with less help and services*". Her decline in wellbeing is clear over time. The cause of this decline cannot be linked solely to drought. Although there is a link between the changing natural environment and emotional health. The decline in mental and emotional wellbeing is occurring within the context of a difficult and dry environment.

Each woman in this study has used their identity as a 'rural' woman to explain their experiences of living with drought, suggesting that identity is a powerful tool. During drought some women's identity as a 'rural woman' provided the necessary framework for living and assisted them in battling through. It is clear that identity can be used to explore relationships and interconnections with emotional health and wellbeing. Drought and its relationship to identity is complex. The women in this study have more than one simple identity; women are not only 'farmer's wives' or 'rural women'. Identities change, develop and expand depending on life experiences. Yet, as these women's experiences highlight, coping adaptation strategies can be linked to identity. For some women, the drought shook the core of their identity, rendering feelings of helplessness and vulnerability, "*I am feeling anxious and out of control with the drought situation and our cattle property*". For other women the drought encouraged strength and resilience in their identities as rural women, "*the ongoing drought is*

*causing many problems. I try to think positively but I feel the males suffer a lot more, the female is more resilient, placing interest in my grandchild helps me overcome anxiety”.*

## **Theme Two: Biological Ageing and Drought**

The experience of living in drought can be of a prolonged nature. Many women wrote about how long they had spent in drought, *“we have been in drought for 6 years which has been very distressing”*. Against this backdrop, women wrote about the experience of ageing and how living in drought has a dramatic impact on their ability to grow older and retire in the way they had planned. Understanding the locations in which people age is vital to health and policy planning.

One aspect of ageing that emerged from the data came from stories about menopause occurring during drought. For many women, menopause was an experience during at least one survey time point. While *“battling”* through the drought some women wrote about *“battling through menopause”* at the same time. Most interesting was how some women combined the two experiences of drought / environment and menopause in the same narrative. The women who commented about drought often stressed the connection between the changing environment, isolation and their experience of menopause. As one participant wrote, *“[Drought and financial stress] plus menopause is my problem...patience, HRT [Hormone Replacement Therapy] and rain!”*

Another woman’s comments explored the relationship between drought, mental health and menopause. In 1996, a parallel was drawn between the increase in physical farm work and increased feelings of depression: *“I am not one to give in, but depression as a result of age and complete reliance on myself has taken its toll. I like my own company, work, animals and being my own boss.”* From 1998 onwards, the difficulties of farm life were linked closely to this woman’s difficulties with menopause: *“menopause is a challenge but I am a determined person”*. By 2007, this relationship is inextricably

clear: *“I am very independent but need Cipramil for the depression that comes with menopause. Farming in constant drought doesn’t help and hungry animals make me sad and stressed”*. The natural environment and the experience of menopause were connected to this participant’s health and wellbeing. There are vast differences in the tone and attitude between her 2004 and 2007 comments. In 2004, writing *“[I can take] the bull by the horns”* but by 2007, after yet three more years of drought and the onset of menopause this participant was feeling sad and using anti-depressant medication.

Living in a rural area faced with drought and financial hardship may hinder women seeking help during menopause. Experiencing menopause while living with drought may increase the vulnerability of some women. It appears that drought has an impact on some women’s ability to cope and manage the symptoms associated with menopause. Menopause may be a difficult time in any woman’s life. However, living with drought may add to depressive feelings, increase financial burden and remind women of their poor financial situation. For some women in drought, there was a lack of assistance to deal with menopause. As one woman noted, *“no menopause help, our GP does not know anything. Our doctors change all the time so feeling relaxed [to talk about menopause] is hard”*. This was a shared experience for many people living in rural areas. Where the turnover of medical staff was high, the ability to establish a relationship and trust with the doctor was threatened.

### **Theme Three: Support During Drought**

As discussed in the literature review human ageing often results in an increased need for appropriate support services. The current study found that access to adequate services was challenging for rural women and became even more challenging during drought. Women who commented about support during drought also raised issues of confidence in their service providers as well as a lack of services. Embarrassment about their poor financial situations became a barrier to service for some women.

One woman wrote, *“lack of women-specific services to assist in times of crisis e.g. drought or to meet the psychosocial needs of rural women on a regular basis”*. For some women, drought caused a need for more support, both financial and non-financial in nature. For some women, accessing services was not possible, *“because of the drought, exceptional circumstances, and hence reduced income. I’ve been unable to pursue problems... thank goodness there have been no major medical problems over the last few years as I don’t know how we would have coped financially”*. This comment highlights the need for support during drought. It is interesting that in a later survey the same participant wrote, *“...reasons for not asking for professional help are cost and time of transport and services, also the cost of medication...I keep away from services because of subsequent embarrassment of my poor financial situation”*. This experience illustrates that the impact of drought is tied to one’s ability to *“pursue problems”*, maintain health and the health of the family, sometimes for many years. The same woman had also noted that she was in receipt of government drought relief payments; however it was not enough to meet her needs. The issues surrounding support during drought stretch beyond a monetary solution to problems such as transport, time and empathy from service providers in order to ease the *“subsequent embarrassment”*.

Self-reliance as a support mechanism clearly emerged from the data; *“life on the farm has become more stressful due to the drought...we just have to put on a brave front as we really don’t like people to know how serious our financial situation is. He [partner] has his pride, I have wonderful friends to talk to and that does help when I get down. We just look forward to better days”*. There are many emotions embedded in this quote. For this woman and others in this analysis, self-reliance was their way of coping.

The theme of support during drought has highlighted that support has a variety of meanings. Some look for financial and or medical support and personal support from friends, while others rely on themselves to meet the challenge of living in drought.

## Theme Four: Retirement and Plans for the Future

Many women wrote that retirement plans were threatened by the effects of drought. The idea of ageing in drought is not well studied in academic literature, yet the women write about how living in drought had a dramatic impact on their ability to age and retire the way they once had planned. For some women, drought had meant selling the farm or having to work off-farm. Others wrote about how retirement had become ‘unimaginable’.

The women in this cohort often wrote about their concern for the future. They shared apprehension about plans and possibilities. The drought had created great unknowns. This was challenging when attempting to plan for the future or explore options for later life. Many women wrote about retirement and work. It was interesting that women experienced work and retirement in different ways. For some women, the drought meant more work such as harder physical work on-farm or beginning to work off-farm. For others it meant less work as the farm became less productive. The drought had an impact on the women and their ability to retire or reduce the amount of work undertaken as they aged.

The notion of work was interesting in this study. For some women, work meant off-farm employment to supplement the household income. Others wrote about increased for example, *“book work for the property or housework, mustering, feeding drought stock.”* The relationship between retirement and work was interesting in these women’s comments. There seemed to be a fine line between retirement and work *“completely retired from paid work, but now works alongside partner on family farm”*. There is an interesting dichotomy between work and retirement; retirement is not simply about *not* working.

The drought effected women’s ability to choose between working and not working. For women in this age group, plans for retirement were pressing. This cohort of women,

aged between 66-70, was looking to plan their retirement, to be retired, or to create a sense of direction for the later stages of life. Yet, because of the drought, this process was no longer within their control, *“I feel trapped in this situation and know I must keep working and I must stay well to cope”*. It is clear that the choice to work, or not, is taken away from many women in drought. Similarly, *“people in rural areas are now working to make ends meet. There is pressure on me to do men’s work”*. This comment reflects a lack of choice in regards to work. This participant feels as though she is doing work that is not appropriate for her and is in fact *“men’s work”* yet, she is *“not one to give in”*; she stands up to the challenge of farming during drought.

Other women in this analysis were not able to meet that challenge. For many women, moving off the farm was the only option, *“due to the drought we have made the choice to move into [town] off the farm”*. The drought had a tangible hold on the freedom to make financial decisions for the future *“...severe drought for the last five years ... affects our lifestyle/income/stress levels”*. The drought had an overpowering influence on the choices made during this time.

The idea that rural people are working *“to make ends meet”* points to financial hardship. The presence of drought and pressures of finance hindered the aspirations of many women in this age group. *“[It is] depressing to be sinking into debt at this age and see my husband work to no avail”*. The concept of age and ageing is the dominant constant in these women’s stories, especially in relation to concerns for the future. Many women wrote about their age and the physical difficulties facing them. As one woman wrote *“I still do it [the farm work] but keep some for tomorrow, so I’m not utterly exhausted”* while another woman contradicts this with the fact that she is *“starting to think about our future on the land”*.

All of the women’s comments highlighted the relationship between the experience of drought and the ability to make decisions and plan for the future. The women’s stories



showed great resilience and determination and a myriad experiences of ageing in drought.

## **Conclusion**

Issues of ageing were high on the agenda for these mid-aged women who write often and in detail about their plans for the future, their financial situation and how they felt about being a rural woman. Experiences of drought raised concerns about the future and women also wrote about the challenges of biological ageing and how necessary support was not always available. The women in this cohort showed resilience and were proactive even at the most trying times. Many women attempted to find ways of dealing with the stress, for example, by working off-farm, while others thought about diversifying the farming operations. Some considered moving off-farm and some women turned their attention to other areas of life where they found enjoyment, such as greater contact with their grandchildren.

## 4.4. Thematic Analysis Of The Older-aged Women's Free-text Comments

The older-aged women's qualitative data consists of free-text comments spanning 15 years (1996 – 2008) from 15 women. Each woman's story was different and reflected a diverse range of experiences. For some women the experience of drought was described as a "*difficulty*" or an experience that "*took its toll*". Some women used the drought as a significant point of reference in their lives, describing events that happened "*before the drought*" or "*until the drought*". Having the drought as a point of reference highlighted the significance of their experience; the drought had not been forgotten. Other women referred to their experience of drought with a sense of pride or accomplishment, for example, "*we are still here after 5 years of drought*". Overall however, the women in this cohort tended to reflect on the experience of drought as a normal life event, integrating the experience of drought into their daily activities and life stories. As the following themes highlight, the drought experience was incorporated into these women's lives, their work, physical activities, relationship with their home environments and to their ability to access services.

The women in this cohort write about numerous issues which impact their health and experiences of ageing. The 11 themes from this analysis are listed in Table 14, exercise, the garden/connection, drought/finances, indirect impacts, family and drought, work, connection to place, physical resilience, emotional health, ageing and support and service access. These themes were categorised and filter through the three main themes of this analysis including, *Work and Standard of living*, *Physical activity and resilience in adversity*, *Connection to place* and *Service access*.

TABLE 14 OLDER-AGED WOMEN'S THEMATIC TABLE

THEME	Definition	Example Quote
<b>Exercise</b>	physical activity, movements	<i>I keep very active looking after my large garden. My house is built on a 68 feet by 225 feet property and I find I get my exercise at home and then feel happy at the results</i>
<b>The Garden/connection</b>	time gardening, watering, pleasure, sadness	<i>Until the drought [the lawns] always looked a colourful picture now sadly lawns are nearly off. I spend a lot of time tending my pot plants in a shade house. Water restrictions are very severe</i>
<b>Drought/ finances</b>	financial pressures of drought	<i>The last 3 years have been the most trying times I can remember in 51 years, e.g. drought and poor prices, while can't remain on the same and too old to have paid employment</i>
<b>Indirect impacts</b>	women's reflections on drought not directly their own drought experience	<i>Lost only son at the age of 40 years. Cause of death unknown. Was living alone and was deceased two or three days before being found. Probable cause - stress and droughts and business lost from farming</i>
<b>Family and drought</b>	family involvement, decision making	<i>Over the three years of drought... At present they are, with our absolute approval enacting the sale of the property, which has been in the family since 1872. My slight depression seems normal under the circumstances</i>
<b>Work</b>	paid work, forced to work, concern	<i>We have no income except my very low superannuation and my relief casual jobs at primary schools. So it is important for me to get as much work as I can to provide for us both</i>
<b>Connection to place</b>	relationship to home, pleasure	<i>I love where my husband and I live and wouldn't leave here for anything. I built this place up and now have lived here nearly 50 years myself. am getting too old to leave it now, so here's hoping</i>
<b>Physical resilience</b>	physical strength, determination in adversity	<i>I had a rather bad horse accident ...went to hospital for 5 days, but because I own and work my own property I got out a bit sooner because I was anxious to go home and get things in order again so I went home as soon as possible with the help of a walking frame and my husband and two casual men to help with the cattle work to keep things going with my husband</i>
<b>Emotional health</b>	mental health, reflections	<i>I had rather much to worry about to keep everything going and 15 years of drought to carry on from</i>

THEME	Definition	Example Quote
	of heart ache	
Ageing	age, elderly	<i>I am going along quietly until I celebrate my 80th birthday then I will have to do some serious thinking to allow me to live on in my own home, that is for a little longer when the drought breaks and I will then retire</i>
Support and service access	concern for others, lack of support	<i>Lack of care by the government to assist young people on the land. More care should be taken of those out in the country</i>

## Theme One: Work and Standard of Living

The concept of work was one of the most powerful themes derived from this dataset of the older-aged women's comments. Ideas, experiences and definitions of work were shared by many participants and overlapped with many themes. The women wrote about work in various ways, including *“causal jobs, working on property, cleaning, volunteer work, cattle work, music teacher, manual work, oversee property management”*. The drought often created more work, put pressure on women to continue manual work, to return to off-farm work or to continue the management of their property. These are serious findings; given the minimum age of these women is 70 years.

The women in this cohort wrote about how they managed diverse life events with their work. Life events included partner death, re-marriage, health ailments, operations, family issues, property accidents and most certainly the drought. One participant highlights the intricate balance that she managed between work, medication costs, ageing and rural living *“my husband's medications are very expensive/as are mine but because I work he is unable to get a health card. If I didn't work our life standard would be reduced to staying put as we rely on fuel/car to go anywhere”*. This participant and her husband were living on the family farm. She wrote about their decision to sell the farm to their son who was then forced to work off-farm. Consequently, managing on their income was really difficult. At Survey Three, this woman wrote about her intentions to return to some paid work, at the age of 76, to teach music at the local school.

This woman's story was not an isolated case. Her search for employment due to the drought was echoed by another who wrote *“the last 3 years have been the most trying times I can remember in 51 years, e.g. drought and poor prices, while [I] can't remain on the same [?] and too old to have paid employment”*. This woman noted how her age made it difficult to gain employment. Many women in this project shared the experience

of looking for paid work or returning to paid work. For example, another woman who was a registered nurse, returned to the nursing field at the age of 78.

Another woman recalled her experience of managing the farm after her first husband's death, *"I know I have to work too hard for my age and because I have to manage the property ever since I lost my first husband in 1971. I have no family of my own and although my second husband tries hard he is still learning the ropes on the property"*. There appears to be a sense of pressure and burden of responsibility in some of these women's accounts of work. Another woman writes, *"I have to work too hard for my age"* and another, *"I still have to shoulder a lot of responsibility to keep giving us a living after struggling through eight years of drought. I also have the added chore of sorting out a bachelor brother, who returns to me periodically, when he needs a home for a while"*. Women often linked work and financial pressure in their comments *"with income much decreased by drought and low returns for wool and cattle we are still needed to help out with some of the work"*. Sharing the burden of work with her husband, one woman wrote *"we have to be well and independent to do all we do to run the farm"*. These women's comments present dynamic experiences associated with work, ageing and the drought. These accounts also draw attention to women's resilience and tenacity.

For some women there was no time to be sick. The pressures of farm life are particularly persistent in the context of drought. One woman wrote about her recovery from a horse accident in which she insisted the hospital staff allow her to return home as soon as possible as *"I had much to worry about, keep everything going and 15 years of drought to carry on from"*. As a result, she was allowed home with her walking frame and in the care of her husband and two casual male employees to help with the cattle work all the while recovering from a broken pelvis. Later she wrote *"so now I am going along quietly until my 80<sup>th</sup> birthday then I will have to do some serious thinking about living in my own home for a little longer, when the drought breaks I will then retire"*.

Other women in this cohort wrote about their volunteering, a different type of work, and how this kept them feeling useful and rewarded, enhancing their mental health. One participant at Survey One wrote how her husband had recently moved into nursing home care and that she visited him most days of the week (when the weather was suitable), she notes how important this time together was after 51 years of marriage. *“I do his laundry, I feel one of the remaining things I can do for him...I was sad when last year I was beginning to crack from the strain of the demands of such an illness [dementia]”* Three years later she wrote that her husband had passed away and that when she had finished *“cleaning up”* after his death, she planned to return to volunteer work. Three years later at survey 3, aged 80, this participant was volunteering two days a week in the nursing home where her husband spent his last days. The ability to volunteer is a vital area of her life, *“I count my blessings when I see these dear people”* and in Survey Five, *“I do the midday meal feeding; this makes me feel how lucky I am”*.

It is known that volunteer work has an important connection to strong mental health, connection to community, sense of purpose and social interaction (Lum and Lightfoot 2005, Thoits 2012). However for one participant, her age prevented her from continuing with her volunteer cleaning work with her daughter – *“then they realised I had turned 80 and I was no longer allowed to help her. I wasn't being paid, was just helping my daughter and keeping me occupied”*. Issues associated with age and ageism were present in this dataset. However, the strength, agility and commitment of the women was an overwhelming reality in the theme of work. These data highlighted that women benefited from being involved in work. Social connectedness, having a purpose and experiencing enjoyment were explored in this theme

## **Theme Two: Physical Activity and Resilience in Adversity**

These data highlighted the link between mental health and physical activity. Physical activity can act as a buffer to suffering poor emotional health and physical health decline (Brown, Mishra, Lee and Bauman 2000, Lee and Russell 2003, Saxena, Van

Ommeren, Tang and Armstrong 2005). Women in this analysis wrote openly and frequently about their physical activity and exercises in the free-text comments often describing exercise as *"gardening, potting plants, walking, horse riding, lawn cutting, watering, property activities, stick picking, fencing"*. The link between physical health and emotional wellbeing is strong and important, particularly in this age group of Australian women (Lee, Russell, Lee and Russell 2003, Byles 2007). This theme has significant flow-on effects for good mental health and will be further explored through the women's comments.

Many women in this cohort spoke positively of their levels of physical activity and were often quite proud of their abilities to remain so active. As commented *"my husband and I still work on a cattle property so I find the life style and exercise I get walking over our property keeps me fit"*. Being able to 'still' work on the land and walk around the property, gave this woman a sense of achievement that complemented her sense of wellbeing and independence, supporting her mental health. Other comments about physical activity included: *"after eight years out of the saddle, I am back on my pony riding almost everyday...it's also good for my arthritis...I'm a lucky 74 year old"*. Later, this participant reflected on how she stopped her favourite exercise *"I gave up riding horses when I was 75 years and it's the worst thing I ever did - I was always so fit, it exercises every muscle in one's body"*. Each of these examples reminds the reader that the context of ageing is ever present in these women's lives.

Exercise for this age group may have a different meaning to exercise in the younger and mid-aged cohorts. The women in this cohort were very keen to report on their physical activities and the exercise relevant to them. As one woman clarifies *"I am in my 83rd year, so naturally I control my life very different to in my 70's"*. Not surprisingly, each woman's narrative about their physical activities was different and hard to quantify: *"I can't put a time on my activities. My husband is in ill health and my time is taken up helping him. I have a big house and a garden to cope with and [I do] the usual shopping. I go to indoor bowls twice a week, that's for me. I've been doing that for 33*



*years. We have been in drought for several months (again) and no sign of rain, so that means continual garden watering...yes, I am active*". Drought may increase some women's physical activities such as increased "garden watering". Another older woman shared this experience as she wrote about the drought being very time consuming: trying to get the garden watered is very "time filling".

### **Theme Three: Connection to Place**

Many of the women in this group wrote about connections to their home environments. Women often commented on how long they had lived in their home. Some wrote about sadness as they moved from the family farm and home. Others offered emotional reflections on the effects of drought. "*I love where my husband and I live and wouldn't leave here for anything. I built this place up and now have lived here nearly 50 years myself*". Evidently, this quote highlights this participant's love of the land; clearly she has a strong connection to her home environment. This type of relationship has implications for mental health and wellbeing, feeling connected and contentedness with one's self-identity. It is also important to note, that along with a strong sense of self, women in this age group often wrote about significant changes that were taking place; the death of close friends and spouses, changes in their health or that of a partner along with a plethora of other reasons that living situations may change – the drought compounded these issues for many women.

Women wrote about the worry arising when thinking about what drought might mean for their families. One particular participant commented on how she and her husband had sold the family farm to their daughter and son in-law. They were ageing and needed the sale of their home for retirement purposes. This was to be a prosperous investment for their daughter and husband. Their daughter was also setting up her own legal practice on the farm. However, "*with the three years of drought and the fact that any new business takes some years to build up a paying clientele has meant that, in spite of working very hard they were unfortunately not getting ahead. At present they are, with*

*our absolute approval enacting the sale of the property, which has been in the family since 1872. My slight depression seems normal under the circumstances, but I seek no professional help as we are in a large, close knit family and know we will all come out on the right side”.*

There are five aspects raised in this woman’s comment; the severity of the drought and its impact on the household income and ability to manage on this income; the need to sell the property; the length of time the property has been in the family; her feeling of depression and the fact that professional help would not be sought. The stoicism is profound in this story. This participant has accepted with grace, the selling of the property even though one could assume this would have been a difficult decision to make. She made it very clear that the decision to sell was made with her involvement and approval. There is a direct relationship between her connection to her home environment and her feelings of depression. The stoicism in this situation prevented her from accessing services and instead, her self-reliance and independence meant that she would deal with this dramatic family change privately, internally. This woman appeared optimistic about the decision made to sell the property saying that “*we will all come out on the right side*”. Other women in this group also wrote about their connections to home, the drought and what changes would be necessary in the future. There is also a connection to ageing here. “*I am living alone but I am buying a home in town for a time when I can’t live away from people...I [currently] live four miles from another person*”. It is clear that for the women in this cohort being happy and content at home is vital to their strong mental health.

Other women in this cohort found it important to mention that life in the country was different from living in urban centres, “*my answers [may] seem different from many people my age I would point out living in the country conditions are different*” and again, a different woman writes “*I live on a property as I have for the past 56 years, only difference, for the first time I live alone but I am not used to seeing people each day as I live 28ks from nearest shopping centre and only travel there once for shopping*

*and once for church, so my answers to some questions would be different to others who have close neighbours” and another says “because I live in an isolated area, 80ks from the nearest town – it’s impossible to go to the movies”.* This insight highlights that these elderly women’s priorities for healthy ageing span a spectrum encompassing social activities, religious practices and access to services all of which may be jeopardised by the impacts of rural living and drought.

## **Theme Four: Service Access**

With ageing often comes an increased need for medical and other services. The women in this cohort wrote about their experiences of needing services during the drought. Some women felt as if the government had forgotten about women in the country *“living in the country we miss out on a lot of facilities that are available in towns”.* There were also comments about concern for the young people in rural drought-affected areas *“lack of care by the government to assist young people on the land. More care should be taken of those out in the country”.* Women wrote about their own needs and requirements and how these needs were inhibited by stressful financial issues, technology, drought or distance *“we could do with easier access to specialists out here”.*

Managing on the farm during drought proved a real challenge for some women in this group as this comment highlights *“we live on a farm which now belongs to my son. My husband is semi -invalid. We have no income except my very low superannuation and my relief casual jobs at primary schools. So it is important for me to get as much work as I can to provide for us both...”* This story highlights the complexities and compromises some women faced in relation to their health and finances during their time in drought. In order to receive medical care, this older-aged woman had to maintain her casual teaching roles in order to access medical services.

Advances in technology resulted in some women feeling that they had been left behind in their ability to comprehend and retrieve information. *"We don't have or want a computer or mobile phone so we have been cut adrift. Count for nothing. Left for dead. It seems that the only way to find out any information is to go to woof woof woof.com.au. No postal address for us literate ones to write to"* and *"it is so stressful and depressing for modern day living to give us the message we have reached our sleep life and no longer matter"*. On a similar note, the costs of phone calls was raised: *"cheaper phone rent for old aged pensioners as the phone is the only form of communication with the outside world especially when you live hundreds of miles from a town or city"*.

Isolation arose in this analysis, some women commented on their town's geographical isolation and how this impacted their access to services. For example, *"isolation is perhaps our worst problem, as services are being cut and our small towns are losing population"* and secondly, *"living in the country we miss out on a lot of facilities that are available in towns"* and thirdly, *"living on a property 40kms from a country town we have to be well and independent to do all we do to run the farm"*.

There are also references to stoicism in the comments made by women in this cohort. The comments suggest that pride is strong and reliance on one's self or family occurs rather than accessing outside help: *"I seek no professional help as we are in a large, close knit family and know we will all come out on the right side"* and *"I haven't needed health services but will need to move if my driving licence is taken from me"*. Often the women in this group spoke about their mental health and how they would self-manage rather than seek professional assistance to help them cope with life changes *"I was sad when last year I was beginning to "crack" from the strain of the demands of such an illness [her husband's dementia]"*. Stoicism is a strong characteristic for many women in this group but it can play an adverse role in women's ability to access and accept services.

## **Conclusion**

The themes of work, physical activity, connections to place and accessing services all describe how the women in this analysis managed their experiences with drought. These themes often acted as buffers to potential harmful impacts of living in drought and to issues of rurality for older women. The stoicism, strength and self-reliance of the women in this analysis is evident. These women and their life stories illustrate how their experiences of drought have indeed been integrated into their lives. As difficult as the drought may have been, they did not write about the drought as an extreme uncontrollable event. Instead the drought was dealt with; life adapted to the requirements of drought.

## **4.5. Generational Comparison Of Three Thematic Analyses**

The previous three analyses explored how the women in the ALSWH wrote about their experiences of drought in Australia. Qualitative data were analysed, drawing out main themes for each cohort. This section explores differences and similarities between the generations and their illustrations of experiences of drought. This section describes the differences between how the women wrote about their experiences, how they coped through drought and how a similar theme may have resulted in varied meanings or insights.

To exemplify some generational differences, the theme of family was examined in each cohort. With the understanding that the same theme may be important for each cohort but their interpretation that experience may vary according to age. This also highlights the “family” relationship with drought; gaining knowledge of how the different generations and their families experience and manage during drought is a vital component of this current project. The theme examined after Family is Finances and

how the theme may be similar or different for each cohort. Firstly, experiences of drought are explored from a generational perspective.

The most obvious difference between cohorts was that the mid-aged women wrote about the drought more often than the other groups and they also wrote in a narrative format. Quite often the comments linked back to comments made at earlier surveys. The development of the participant's story could be seen in the free-text comments over time (Chapter Five will focus specifically on changes over time). It is clear that this age group of women were dealing 'hands-on' with an Australian drought; it was a pressing issue in their lives. The mid-aged women were working both physically and emotionally with the drought *"I drive a tractor, bucket oats, start pumps, ride a motorbike, work cattle stock...much of this is heavy work usually 3-4 days. Other days are household chores, washing, ironing, cleaning and trying to maintain the garden in dry conditions...I am also more susceptible to emotional upset and stress. I can't see my future"*. This group of women tended to write as if they were in the eye of the storm, were, busy and generally stressed.

There is quite a contrast between the mid-aged women and the older-aged women's comments. The older-aged group tended to write about their experience of drought reflectively rather than with the distress that was recognised in the mid-aged cohort. The older-aged women wrote of the difficulties but wrote about them with a level of calmness and some acceptance. *"I have a big house and garden to cope with and the usual shopping. We have been in drought for several months (again) and no sign of rain, so that means continual garden watering"*. It is evident in this quote that this participant acknowledges the work involved with the garden and lack of rain yet she deals with it *"so that means..."* there is a sense of acceptance. And another, *"apart from severe drought and managing on the property, very little has changed in the past three years"* again this quote illustrates the recognition of drought yet with a sense of acceptance or resignation. It appears that the older generation integrate their experience of drought with their life experience; drought is a part of life and life's hurdles. A third

comment sums up the approach that many of the older women tended to describe; the wisdom, recognition and integration of all life's events that humans experience:

*"having lived through the Great Depression of 1929-35, the Second World War and the financial ups and downs- droughts - bushfires, and floods of years gone by. I still think I have lived through the best of times and my heart goes out to all you young people".*

The young women's experiences of drought were different from the mid-aged and older-aged women's experiences. This group of women tended to take everything to heart, the drought was a very personal and emotionally responsive time for many in this group, *"women out here get forgotten...what about the emotional strains when there is a drought? No one seems to ever talk about how taxing it is on the wife/mother"*. The younger women were busy raising families and their concern for the financial consequences of drought was burdensome for many in this group. Unlike the older-aged women, there was little sense of acceptance or integration of drought to their broader understanding of life's events.

The theme of family was a significant theme in each cohort. Some women in the older-aged group had passed on their farm to family members and now carried a sense of guilt or burden as the farm was unproductive and in debt. It is evident from quotes that there was a sense of responsibility to the farm and family life. It is important to keep in mind the ages of this group who were born between 1921-26 and are entering the last stages of life under these difficult circumstances. Another participant wrote about her son *"lost my only son at the age of 40 years, cause of death unknown. He was living alone and was deceased two or three days before being found. Probable cause – stress and drought as business was lost. [There is a] Lack of care by the government to assist young people on the land. More care should be taken of those in the country... His mother [ALSWH participant] pleads for others on the land to be given help"*. When the older women wrote about distress or concern it was related to family and family life, although generally, the older-aged women wrote more positively.

Interestingly, the mid-aged women wrote far less about their children's lives and instead had more concern relating to ageing, planning for retirement and what the future might hold for them as a result of the financial pressures of drought. The family that this age group referred to was much more immediate, *"husband and I"*. Naturally, there was mention of daughters, sons and grandchildren, however the main focus for these women tended to be on their relationship and planning for the future. *"Coping with drought on the farm and wondering what our future is on the land and will we lose our home and farm"* and another *"Recent drought stress has caused great emotional stress on my husband and I. I developed shingles..."*

By contrast the young women wrote about their concern for their family in drought with references to trying financial difficulties, availability of fresh foods and environmental and social justice issues. In prime child bearing years, the younger women wrote about the pressures of motherhood during drought, the isolation experienced by young mothers and being unable to purchase items that were affordable: *"we have a great family but money is our main problem....money is the root of all evil"*.

It appears that when viewing the theme of family through a generational lens the reality of drought is diverse and personalised. Each woman, each age group and each family had a different interpretation of how the drought-affected their family. Each family dealt with and adapted to their situation in ways that were most appropriate for them. The concern of women for their families during drought is undeniable however it is important to remember how drought impacts families. If for example, the drought has the potential to inhibit the way a mother cares for her baby (unable to push the pram outdoors) these are insights that are vital for providing different aged women with the necessary tools for dealing with drought. Similarly, if a woman in her 70's carries around the guilt associated with passing on debt, this too needs to be considered when planning drought policies and provisions.



Many of the themes explored in sections had strong links to financial planning. Finance was a common theme for each cohort. The struggles, trials and negotiations made in drought, highlight that women aim for financial security in life. Often women wrote about the trade-offs they had to make in order to survive financially. Some women wrote that they could no longer afford medical services, while others wrote about the feelings of insecurity during drought. A comment from a mid-aged participant explores this issue *“thank goodness there have been no major medical problems over the last few years as I don’t know how we would have coped financially”*. This idea of needing to negotiate finances due to the drought also arose in the older women’s comments *“My husband’s medications are very expensive (as are mine) but because I work he is unable to get a health care card but if I didn’t work our standard of living would be reduced to staying put as we rely on fuel/car to go anywhere”*. It is clear in these women’s comments that the connection between health, money and drought is severely tested during a drought.

The younger women wrote less about the need for health services but rather were worried about their ability to provide for themselves and family *“the fact I am a sole provider [off-farm] of income makes it hard”*.

Again, through a generational lens the theme of ‘finances’ is also a personalised issue in drought. What is important to learn from this comparative analysis, is that a lack of financial security can be a risk factor in a woman’s abilities to maintain good health and wellbeing. Financial security provides women with a sense of self-determination to care for family or for personal needs. If a drought results in the need to compromise on fresh food or access to medical care, then the wellbeing of the woman and her family’s health and wellbeing is vulnerable and at an increased risk of deterioration.

The aim of this section was to gain an understanding of how the drought may be different for different generations, what was similar and what contrasted in their experiences. The main conclusion is that the drought is different for every woman, no

one conclusion can be made for each cohort. It was found that at different stages of life women have different concerns – this is only natural. For instance, the theme of finance had different consequences for different age groups. Retirement was a theme from the mid-aged cohort that related to money but for the younger group money was tied to family provisions. Perhaps over time and with their maturity, the older-aged women found it easier to accept the trial and tribulations of life in a drought situation. Finally, it is important to remember that experience of drought has the potential to challenge the way some women may choose to live or to enter old age as once intended.

## **4.6. Conclusion: Thematic Analyses**

This chapter has demonstrated the diversity and breadth of experiences in drought across three generations of Australian women. The diversity can be seen through the main themes presented including; family life, retirement, biological ageing, physical resilience as well as mental and emotional wellbeing. There are generation-specific challenges, as well as shared realities for women in drought across the cohorts.

The women, through their free-text comments, demonstrated levels of adaptive capacity. Importantly, women highlighted that financial stress as well as planning for the future can be challenges. Women's abilities to adapt to the difficulties of drought were wide ranging. The data analysed revealed that some women began off-farm work, some women worked longer hours on-farm while others managed their concerns around finances in other ways. Adaptive capacity was not always easy and in some cases, was impossible. This can be related to women's perspectives of their wellbeing too. Some women wrote about feeling as if they were managing well emotionally, while others wrote about the emotional struggles they experienced during drought.

The free-text comments illustrated women's connections to home and place. It was evident that many women felt strongly connected and related to their homes and properties. The garden for some women was a place that they cared for and felt nurtured by. For other women, the garden was a sad reminder of the devastating effects of

drought. However, both these experiences highlight the intimate relationship between place and wellbeing, even the negative reminder of drought illustrates the care and connection some women had with their gardens. This connection to place is an aspect of the theory of Solastalgia.

As explored in the Chapter One, Solastalgia is a cycle of sadness initiated by adverse changes to one's home environment (Albrecht 2005). The framework of Solastalgia is a useful tool in assessing women's relationships with the natural environment. It is also a useful tool for recognising the interactions between women's health and wellbeing and their home environment. Through this thematic analysis it is clear that women had an emotional relationship to their place. Some women experienced sadness and hopelessness due to the drought but it is unclear if this relationship is cyclical or a rarity. Some women found increased resilience during this time. It is necessary to observe changes over time in order to fully examine the likelihood of Solastalgia for women in drought.



# Chapter 5

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## Study Two Results

### 5.1. Longitudinal Analyses Introduction

The analysis in this chapter builds on the previous study, the thematic analysis, presented in Chapter Four, by looking across all survey waves in order to recognise qualitative changes or experiences that might have been missed when data were examined without considering time. This study aimed to examine the longitudinal impacts and relationships between drought and wellbeing for three cohorts of Australian women over time in the context of their wider lives and to assess the implications of ageing during drought.

A text analytics software program, Leximancer (Leximancer 2013) was utilised for data analysis and presentation of results. Free-text comments written by women in the ALSWH were used to examine their experiences of drought. All survey waves from the ALSWH free-text comments were used to create a longitudinal qualitative dataset for each cohort.

This study applies a prospective lens to these women's life experiences. This is possible since the free-text comments were written in the present tense by the women at a particular point in time, creating a longitudinal qualitative dataset.

Leximancer software uses word-association to elicit emergent concepts from the text (Smith and Humphreys 2006). Word frequency and location are used to generate taxonomies which are presented as maps showing the relationships between concepts. Leximancer (Leximancer 2013) software was used to conduct an automatic analysis of

the qualitative datasets, one for each cohort. There are detailed instructions on how to interpret a Leximancer map in Appendix E, however here is a brief description.

The coloured circles on the maps are thematic groups of concepts. The circles capture clusters of concepts that are positioned near each other because of their common mentions. The themes are heat mapped in that the hottest or most connected theme appears in red, then orange, then yellow, dark green, light green, lighter green, dark blue, light blue and the ‘coolest’ (less connected) colour purple (see Appendix E for further detail). The warm colours indicate a strong relationship between concepts while the cooler colours suggest that concepts are important but are not as connected to as many other concepts. On each cohort’s map the heat key is presented. There are more details in Appendix E.

The likelihood score (included in the tables of each cohorts longitudinal analysis) is a conditional probability. Given that a comment mentions the concept, the likelihood score gives the probability that the comment comes from that particular survey. The likelihood probabilities are used to determine the map layout. If the concepts were communicated equally across the survey waves and if there was no particular agenda expressed in that survey, all concepts would have a likelihood of 20% (over the five survey time points). For example, 67% of the time that the *environmental* concept is coded in the entire dataset, it comes from Survey One.

Leximancer assumes that words mentioned together in the text (word-association) have some connection. It combines these words into ranked lists and calls each concept after the most frequent word in that list. Consequently each word has its own thesauri of words that create the concept. For example (from Appendix E), the word *drought* as a concept is made up of a thesaurus that included such words as *drought*, *remember*, *commodity*, *current*, *exceptional*, *information*, *negative*, *downturn*, *prolonged*, *unreliable*, *watering*, and *worrying*. These words were mentioned often when participants used the word drought and were rarely mentioned without the word

*drought*. This allows the software to reveal the content of the data in an emergent way. For each survey wave the concept, likelihood score and example of the thesaurus that makes up the concept is provided in a table.

There are detailed instructions and an example on how to interpret a Leximancer map in Appendix E. The example used in Appendix E is a map that includes all three cohorts' data - young, mid-aged and older-aged free-text comments.

In this chapter each cohort's data are analysed per survey wave to assess changes over time. A longitudinal discussion follows the survey wave analysis.

The young women's data map is the first to be presented. It is worth pointing out that these data are brief. The younger women write far less, and there were fewer women who commented about their experience of drought. However, the longitudinal discussion from this cohort is rich with insights relevant to younger women and drought. The mid-aged women and older women's maps follow the same structure.

## **5.2. A Longitudinal Analysis of Young Women's Free-text Comments**

In this section the analysis will focus on the experience of drought for the younger cohort of the ALSWH over a 13 year time period (first survey 1996 to the most recent in 2009). Labels (in black) were included on this map to indicate the survey wave. The map layout allows the story to unfold over time. Concepts nearer each survey point reflect the issues most particular to that point in time. To understand the key content in each wave the five concepts most likely to be mentioned in that survey year are reported. Across time, Figure 2 suggests that women wrote most often about drought and its impacts on their lives (the red coloured circle and the most connected). Women also wrote about their work and home life.

Following is an analysis of five concepts from each survey. The most likely concepts to occur at each time point are explored followed by an explanation of their meaning derived from reading the women's actual comments. A longitudinal discussion of the experiences of drought for the young women over time concludes this section (see section 5.8).



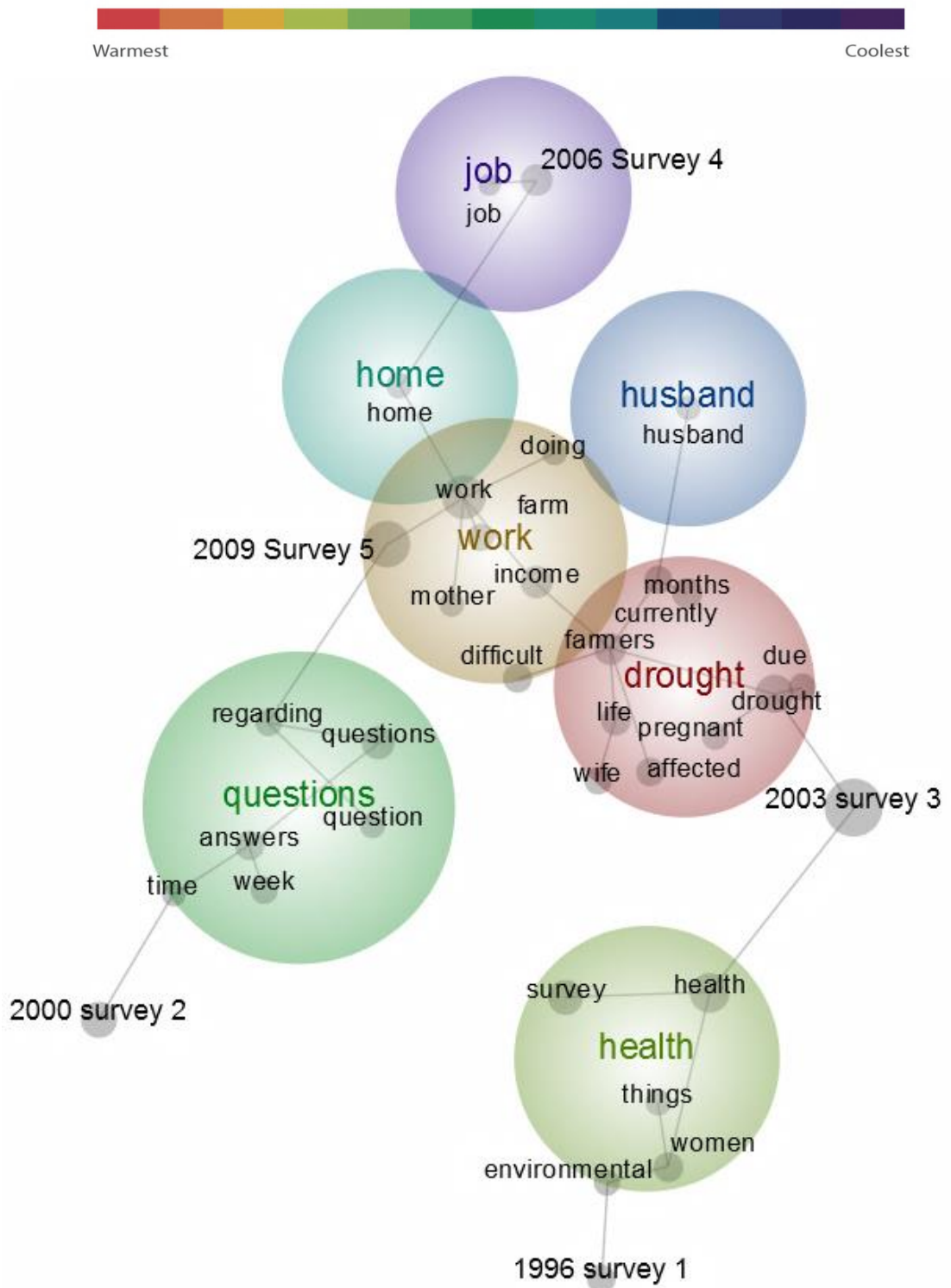


FIGURE 2 YOUNG WOMEN'S LEXIMANCER MAP

*Coloured circles are themes. Words are concepts*

## 5.3. Young Survey One: 1996

In 1996 the women in this cohort were aged 18-21. The women wrote about big issues affecting their lives, important aspects that they felt the ALSWH researchers should know. It is interesting to note, that in 1996 at the time of survey collection 66.7% of this group were not experiencing drought; 33.3% were living in areas experiencing dryness of weather, that is one to four months of below average rainfall.

TABLE 15 YOUNG WOMEN'S SURVEY 1 LIKELIHOOD SCORES

Top 5 Concepts From Survey 1	Exemplar Of Thesauri	Likelihood
environmental	pollution, affect, challenges, allergy, choice	67%
women	environmental, pollution, affect, challenges, allergy	50%
affected	caesarean, considerable, course, earned, filled	25%
health	feel, important, toll, body, guess	25%
things	allergy, captured, certain, challenges, chronic	25%

### Concept One: Environmental

Women wrote of their concern with the natural environment and its *affect* [sic] on their physical and emotional health. Women had concerns about the environment and wrote particularly about *pollution*.

### Concept Two: Women

This concept focused on women's issues including empowerment, oppression and a sense of global welfare. These issues were also linked to *environmental* issues.

### **Concept Three: Affected**

The women wrote about the links between cause and effect on women's health. Some women wrote about issues that were affecting them at that time, for example child birth and *caesarean*.

### **Concept Four: Health**

The concept of *health* included many references to women's health, spirituality, altruism and wellbeing. The women wrote about their *body* and what took its *toll* on their bodies.

### **Concept Five: Things**

The concept of *things* was interested in causal factors and prevention of chronic diseases. Women wrote about some *challenges* to health, an example being *allergies*.

## 5.4. Young Survey Two: 2000

At the second survey, the women were 22-27 years of age and were balancing work and social life at this stage. Just 16.7% of this group were living in an area experiencing dryness of weather, that is one to four months of below average rainfall.

TABLE 16 YOUNG WOMEN'S SURVEY 2 LIKELIHOOD SCORES

Top 5 Concepts From Survey 2	Exemplar Of Thesauri	Likelihood
<b>time</b>	children, different, doubt, hectic, home-school	50%
<b>week</b>	running, assistance, boys, coughing, fairly	50%
<b>answers</b>	assistant, believe, boys, caesarean, difference, reflection	43%
<b>questions</b>	circumstance, considered, dried, employment, normal	33%
<b>environmental</b>	pollution, affect, challenges, allergy, choice	33%

### Concept One: Time

The concept of *time* explored how a lack of time was a problem and concern for many women. Women wrote about being *hectic* - too busy and involved in many activities with their children. Women also wrote about the time taken to *home-school* their *children*.

### Concept Two: Week

*Work* as a concept described many women's time constraints and weekly activities. Women wrote about *running* their children to these different engagements.

### Concept Three: Answers

This concept was comprised women who provided feedback and clarification of survey responses.

## Concept Four: Questions

Women wrote extra information about the general ALSWH survey and often referred to specific questions with which they were or were not happy.

## Concept Five: Environmental

Concerns regarding impact of environmental and climatic events on health.

## 5.5. Young Survey Three: 2003

In 2003 women in this cohort were aged between 25 - 30. The women in this survey wave often wrote about motherhood and their experiences of pregnancy. In 2003, the intensity of the drought was beginning to have an impact on these women's lives with 66.7% of the group experiencing drought and 33.7% experiencing dryness of weather in their area.

TABLE 17 YOUNG WOMEN'S SURVEY 3 LIKELIHOOD SCORES

Top 5 Concepts From Survey 3	Exemplar Of Thesauri	Likelihood
<b>due</b>	available, changes, expensive, floods, previous	75%
<b>pregnant</b>	felt, filling, lupus, mild, relating	75%
<b>drought</b>	available, negative, autism, changes, emotional	70%
<b>wife</b>	challenges, circumstances, employment, every-day, forgotten	67%
<b>months</b>	challenge, coeliac, cold, different, horizon	57%

## Concept One: Due

Women wrote about the effects of drought on their financial situation and employment. This concept of *due* included women's concerns about financial due dates and how

utility costs were *expensive*. Women wrote of their financial commitments and what funds were *available* to honour these commitments. Some women also referred to *previous* years in which they experienced *floods*.

## **Concept Two: Pregnant**

The concept of *pregnancy* described significant life changes such as being pregnant or suffering a serious medical condition such as *lupus*. Several women wrote about their experiences of being pregnant or having recently given birth.

## **Concept Three: Drought**

This concept included women's reflection on a range of *negative* impacts of *drought*. Women wrote about how droughts impacted finances, family life and wellbeing all resulting in *emotional* strains.

## **Concept Four: Wife**

The concept of *wife* included strong statements about the need for more understanding and acknowledgement of women's roles in country areas and the demands created. Women wrote that they felt *forgotten* and were pleased that the ALSWH survey presented an opportunity for them to contribute their thoughts about rural life. The comments in *wife* explored the *challenges* that rural women faced and the different *circumstances* that surround them.

## **Concept Five: Months**

The concept of *months* explored periods of change in the women's lives, for instance pregnancy, drought and unemployment. The comments included in the concept of

*months* mentioned the *challenge* of drought but also pointed towards hope, seeing change on the *horizon*.

## 5.6. Young Survey Four: 2006

In 2006 the women were aged 28-33 years. At this time 33.3% of this group were experiencing dryness of weather, that is one to four months of below average rainfall.

TABLE 18 YOUNG WOMEN'S SURVEY 4 LIKELIHOOD SCORES

Top 5 Concepts From Survey 4	Exemplar Of Thesauri	Likelihood
<b>job</b>	market, basic, clerical, customer, de-skilling	100%
<b>husband</b>	decorator, painter, renovating, attribute, wonderful	50%
<b>home</b>	afternoon, books, born, company, freedom	40%
<b>months</b>	challenge, house, rain, different, horizon	29%
<b>affected</b>	caesarean, considerable, course, earned, problems	25%

### Concept One: Job

Women wrote about the types of jobs such as *clerical*, in which they were involved in,. The concept of *job* included women's reflections on the difficulties associated with joining the workforce and changes to the requirements of the job *market*. The impact of this created a challenge for women in the workforce.

### Concept Two: Husband

Some women wrote about their husband's employment and made particular references to his achievements and positive attributes, *wonderful*. Comments in the concept of *husband* described different types of labor such as *decorator* and *painter*.

### **Concept Three: Home**

This concept explored how women wrote about their *home*. Many women operated the farm or family business from home and commented on the flexibility of a business operation from home, often describing the *freedom* that this brought. Women wrote about their various roles within the family *company*, one of these being the managing of the *books*.

### **Concept Four: Months**

The concept of *months* explored some of the women's recent activities and challenges. For some women, the pertinent challenge was lack of rainfall and the hopes for *rain* in the near future.

### **Concept Five: Affected**

The concept of *affected* [sic] was a discussion of life changes that affected the women's survey answers an example being a recent *caesarean*.



## 5.7. Young Survey Five: 2009

In 2009 the women in this cohort were aged between 31 - 36. More than at other time points the women wrote about their experiences of drought and farm life. Rainfall data for this time point was unavailable. When the rain fall data were collected and linked to the ALSWH data, the young cohort of women were yet to complete the fifth survey, hence missing Survey Five data.

TABLE 19 YOUNG WOMEN'S SURVEY 5 LIKELIHOOD SCORES

Top 5 Concepts From Survey 5	Exemplar Of Thesauri	Likelihood
<b>farmers</b>	autism, boy, circumstances, earned, emotions	75%
<b>farm</b>	books, bookwork, circumstance, employment, interest	75%
<b>regarding</b>	considered, dried, fruit, mixture, morning	75%
<b>income</b>	alone, annual, born, busy, changes	50%
<b>doing</b>	bookwork, challenge, enjoyed, mainly, coeliac	50%

### Concept One: Farmers

The concept of *farmers* explored how some women defined themselves and family as *farmers*. Several women wrote about how drought affects the livelihoods of families and farming production at this time. The women wrote how droughts impacted the amount of money the household *earned* and the *emotional* strain of this.

### Concept Two: Farm

*Farm* explored the women's reflections on work and commitments with farming. Several participants reported being a mother and doing *bookwork* for the farm. Some

comments in this concept explored how *interest* rates affected the business of operating a farm.

### **Concept Three: Regarding**

*Regarding* included some women's clarification and explanations of their responses to the ALSWH survey questions. Some women further informed the researchers of their personal situations *regarding* a particular answer in the survey, for example clarifying their response to a question about the types of foods they ate in a given period, *morning*.

### **Concept Four: Income**

Some women wrote of their concerns about finances, lack of income security and strong feelings of uncertainty with the drought situation. The *income* concept included women's reflections on completing *annual* reports for their farming business and the changes that took part in that period of time. Women also wrote about the need to manage on one income *alone* when experiencing drought.

### **Concept Five: Doing**

The concept of *doing* explored women's activities such as *bookwork* and different activities of *enjoyment*.

## **5.8. A Longitudinal Discussion Of Young Women's Free-text Comments**

Over the course of the study period and through analysing the women's free-text comments it is possible to see a maturing of these young women. Overtime there is a progression towards more grounded responses relating to practical concerns. For instance in Surveys One and Two it is clear that there is a sense of altruism and big-picture thinking towards life and concerns about global issues. The comments at these

earlier time points tended to be more philosophical than in later surveys. From Survey Two onwards, there is an increase in everyday family pressures. By Survey Four and Five it becomes evident that these pressures are tightly related to drought. The women write about their experiences of drought and how the drought is impacting their life. The rainfall data also indicates the severity of the drought, especially by Survey Three, at which time the impact and consequence of drought was being felt and described in the women's comments. This result also highlights that drought is a chronic rather than acute event; lingering impacts are felt long after the actual event (drought) may have ended. Work-life is interrupted by drought and a sense of financial security is lost for many women. While women do report mechanisms for coping with family and work-life such as multitasking and working from home, drought remains a time of uncertainty and fragility.

There are some insights gained from the women's comments that can provide further direction for future policies. It may be helpful for future policy to incorporate the role of rural women in terms of their family and community commitments. This may result in the opportunity for work places to be supported in providing flexible working arrangements (as many women commented on the necessity for them to supplement farm income by off-farm work). Some of these younger women wrote about the affordability of fresh food and groceries for their family during drought, a reminder that government drought relief payments and other forms of practical support are important for families enduring drought.

## **5.9. A Longitudinal Analysis Of Mid-aged Women's Free-text Comments**

In this section the Leximancer analysis focused on drought experiences of the mid-aged women in this project. Similar to that of the younger cohort's map (Figure 2) the mid-aged women's map includes labels to indicate the survey time point. In reading the map, the location of each concept reflects the relevance of those concepts in relation to time. To understand the key content in each survey wave, the five concepts most likely to be mentioned in that survey year are reported and explored.

The themes are the larger coloured circles and the concepts are within themes. This analysis of concepts relevant to each survey year is derived from the likelihood scores. The likelihood score reflects the chance that a particular concept occurs at that time point from the entire mid-aged dataset, that is, across all five survey time points.

By exploring each time point and then examining the whole, a longitudinal perspective of drought experiences is revealed for this age group of women. Across time, Figure 3 suggests that women in this age group wrote most often about their experiences with work and how this was related to other aspects of their life such as their children, husbands, and stress. The map also shows that across time the concept of 'work' was interlinked with other concepts such as 'drought' and 'week'.

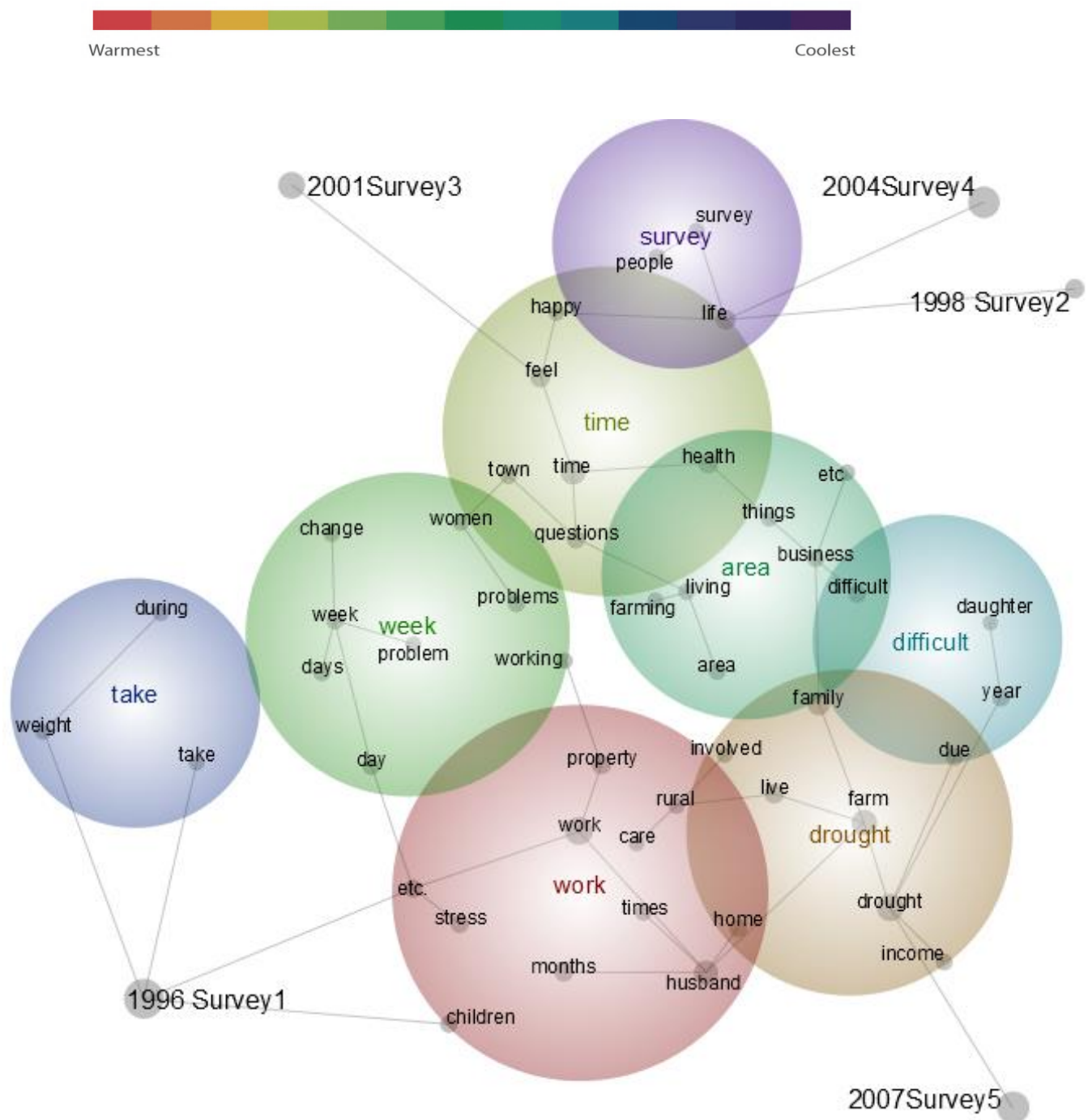


FIGURE 3 MID-AGED WOMEN'S LEXIMANCER MAP

*Coloured circles are themes. Words are concepts*

## 5.10. Mid-aged Survey One: 1996

In 1996 the women in this cohort were aged between 45-50 years. In this survey wave the concepts that belonged most with this time point are listed in Table 20. Based on the likelihood scores it is evident that these concepts are more likely to have arisen from the 1996 data than any other survey data.

In 1996, 10.4% of this group of women were experiencing dryness of weather and 6.5% of women were in areas experiencing drought.

TABLE 20 MID-AGED WOMEN'S SURVEY 1 LIKELIHOOD SCORES

Top 5 Concepts From Survey 1	Exemplar Of Thesauri	Likelihood
children	adopted, accept, ageing, anxious	59%
weight	lose, achievement, concerned, ablation	58%
women	men, among, anorexia, appreciation	53%
take	guided, batteries, bear, brand	53%
days	afternoon, afterwards, age-hence, ahead	50%

### Concept One: Children

This concept referred mostly to the number of children the women had in their families. As well as biological children, children were also *adopted* or fostered. The women wrote about their feelings towards their children, feelings of satisfaction, pride and gratitude. When the women wrote about their children, they often described experiences of hardship or anxiety. The 20% who were experiencing drought at this time mentioned the difficulty of family life during drought. Some participants indicated that it was stressful and difficult to spend money the way they wished or to spend time on extra activities, because the drought was very demanding. The women who wrote about their children often wrote about financial issues. Some women were pleased that their children were entitled to government funding to attend university while other women did not feel financially secure and instead wrote about feeling *anxious*. The financially

insecure women wrote about hardships such as providing boarding fees, living allowances, and other higher education costs. Women also commented on the feelings of insecurity in planning for the future. *Ageing* was a key concept in the mid-aged free-text comments.

### **Concept Two: Weight**

Generally this concept was formed by the women who wrote to tell the ALSWH researchers that they had put on weight, needed to *lose* weight, were trying to lose weight, or had succeeded in losing weight. Often, weight was closely associated with emotional health. Some women felt depressed that they had not lost weight and other felt a sense of *achievement* in the fact they had achieved their body weight goal. The women who wrote about weight often also recognised that health was emotional as well as physical, their approach to health was holistic rather than solely physical.

### **Concept Three: Women**

This concept focused mainly on women's sense of responsibility. These comments highlighted how the participants felt that they, as women, carried a lot of responsibility and shouldered burdens of country life. It was noted to be different from *men*. Some women commented that they did not feel *appreciated*. Often this was closely linked to experiences of drought and the mental health of women during this time. Some women wrote about the need for psychosocial care tailored to women at this time. Women wrote about the connection between emotional health, physical health and drought. A few women talked about stress and *anorexia*.

### **Concept Four: Take**

This concept often referred to management or dealing with the situation at hand. Many women wrote about the drought in this concept and how it is difficult to *take* or accept.

Women talked about making sure they did not let the drought situation take over their lives and that balance was important. Concern for others was shared here also; watching their son's and husband's experience the drought, their mental health decline or their isolation was hard to *take*.

The concept *take* was used to explore time and flexibility or inflexibility. Some women wrote about not being able to take a break from farming, not being able to take a holiday or recharge their *batteries*. This relationship between *time* and *take* was also mentioned in the women's comments. Some often explained how much time other people *take*, people such as children and other family members. A few women also wrote about their medication use and how much they *take*.

### **Concept Five: Days**

Women wrote about their daily schedules, including activities and how they spent their days. Some women wrote about their days being *busy*, *varied*, *peaceful*, *dull* and *normal*. Women wrote about their work often, doing bookwork, farm work, and house work during the day. *Days* was also linked with emotional health, feelings of exhaustion, working too much, watching their husband work too hard on the drought-stricken farm, watching him collapse into bed each night and how this may have a flow-on effect to other areas of their lives. Feelings of helplessness arose in this concept.



## 5.11. Mid-aged Survey Two: 2000

In 2000 the women in this cohort were aged between 47-52 years. They wrote widely about diverse areas of their lives, informing the researchers of their activities, family life, responsibilities and life events. At this time 19.5% of this group were experiencing drought and 19.5% of this group were experiencing dryness of weather. Issues of drought and farm life are reflected in the women's comments.

TABLE 21 MID-AGED WOMEN'S SURVEY 2 LIKELIHOOD SCORES

Top 5 Concepts From Survey 2	Exemplar Of Thesauri	Likelihood
<b>involved</b>	administer, allowing, coast, criminal, allowing	27%
<b>problem</b>	affecting, reduce, batteries, circulation, common-sense	20%
<b>change</b>	amazing, challenges, consistent, cortisone, demanding	18%
<b>farming</b>	allowing, captioned, coast, coffee, duties	17%
<b>things</b>	have, anorexia, chat, disappear, easy	16%

### Concept One: Involved

Women shared the types of activities they were involved in as well as activities they did not wish to be involved in, an example being confrontation with others. This concept provided feedback to the ALSWH researchers suggesting that some questionnaire items were too involved.

### Concept Two: Problem

Women wrote about what was *affecting* them as this time. Generally this included health issues. The health problems explored in this concept included spurs, poor

*circulation* and other foot problems as well as the mental health issues of anxiety and stress.

### **Concept Three: Change**

This concept included examples of where changes had occurred for some women. Changes often resulted in increased levels of uncertainty and inability to forward plan, thus placing *challenges* on women. Government policies/procedures in the farming industry were raised within this concept as not being *consistent*. Women shared their disapproval of decisions being made based on power or political persuasions rather than from within the farming community. Women wrote about how things in their community, including drought, were *demanding*.

### **Concept Four: Farming**

Location and proximity to other towns was explored in this concept. This was explained by how far or near the *coast* was from their property. Issues regarding employment, *duties* and education training were written about in association with the farming lifestyle of many of these women.

### **Concept Five: Things**

Women and responsibility was raised in this concept, similar to the concept *Women* at Survey One. This concept of *things* suggested that mental health during drought and in rural life is not well understood and that there is an expectation that people should “just get on with *things*”. This concept had undertones of stoicism and raises gender differences between male and female coping strategies. Women wrote about the importance of having friends and being able to *chat* about life’s difficulties.

## 5.12. Mid-aged Survey Three: 2003

In 2003 women in this cohort were aged 50-55. At this time 7.8% of the group were in drought while 16.9% were in areas experiencing dryness of weather.

TABLE 22 MID-AGED WOMEN'S SURVEY THREE LIKELIHOOD SCORES

Top 5 Concepts From Survey 3	Exemplar Of Thesauri	Likelihood
happy	brand, clothing, coffee, confidante, details	39%
working	apple, appreciation, distances, ends, finished	33%
town	data, mail, boss, closer, cooking	29%
during	pregnancy, accompanied, accordingly, advising, burnout	28%
survey	apologise, interesting, biscuits, coffee, collating	26%

### Concept One: Happy

This concept included a diverse range of life experiences that reflected women's emotional wellbeing. The women wrote about different aspects of life varying from having left an unhappy marriage through to being a happy healthy grazier. Some women wrote about the lack of education for country women and that they felt uninformed about the drought. Women wrote about having a *confidante* and being able to share a *coffee* in relation to their experiences of being happy.

### Concept Two: Working

This concept described the emotional relationship these women had with their work. Some women wrote about the guilt they experienced when they were not helping or working on the property. There was a sense of pressure, needing to work in order to keep finances and farming procedures afloat during the drought, "working so *ends* meet". Women wrote about the *distances* that they travelled to get to work. Some women wrote about working as a form of entrapment, unable to escape. The drought

and hardship of the rural situation took away any choice about work-life, and many felt they were not *appreciated*. Few women wrote about their work in a positive light.

### **Concept Three: Town**

This concept described the women's local area. Usually represented by distance (number of kilometres) to the nearest larger town. These comments expressed the women's thoughts about their local town. Some women described what they did in town, such as collecting the *mail*. Women described the purchases that were made in town or services that were available in town. Some women described how their neighbourhood was not like a 'town' but more rural and isolated from the 'towns' activities. The women whose comments were included in the town concept were generally positive and reflected the women's satisfaction with their home environments.

### **Concept Four: During**

Mostly this concept described these women's experiences of a variety of life events. Some women wrote about their experience of *pregnancy*, menopause and menstruation patterns. Others wrote of their experiences of depression, caring for someone during cancer treatment and weight loss attempts. Women also wrote about experiences of *burnout*.

### **Concept Five: Survey**

Women provided feedback to the ALSWH researchers about the women's health questionnaire.

## 5.13. Mid-aged Survey Four: 2006

In the fourth survey the women in this cohort were aged 53-58. In 2006 there was an increase in the number of women living in areas experiencing dryness of weather (6-10 months of below average rainfall) 40.3% of this group. While at this same time 2.6% of the group were in drought, 11 or more months of below average rainfall.

TABLE 23 MID-AGED WOMEN'S SURVEY 4 LIKELIHOOD SCORES

Top 5 Concepts From Survey 4	Exemplar Of Thesauri	Likelihood
<b>survey</b>	apologise, interesting, biscuits, coffee, collating	42%
<b>days</b>	afternoon, afterwards, age-hence, ahead	38%
<b>living</b>	arises, bitterness, harmony, coffee, colour,	38%
<b>problems</b>	access, aching, break, coma, completely	36%
<b>week</b>	mail, answering, catch, clots, common-sense	33%

### Concept One: Survey

Women provided feedback to ALSWH researchers about the survey but mostly focused on their reflections of their life, health and wellbeing. Some women acknowledged how the survey enabled them to reflect on their health over the three year survey period. Some women explained how things had been really tough more recently due to the drought and farming difficulties. Some women explained how the survey was difficult to answer as their circumstances were quite unusual with the downturn in agriculture and other rural social issues. Few women *apologised* to the ALSWH staff for the late return of their survey.

Some women wrote about how well and settled they felt since the last survey.

## Concept Two: Days

This concept included a diverse range of activities, jobs and interpretations of the meaning of the concepts *days*. Mostly women wrote about how they spent their days, at work, doing exercise, playing golf, an *afternoon* in the garden or doing property work. Some women wrote about how their days were difficult, work was hard and the pressure was high. Few people wrote about how they were looking forward to better days *ahead*.

## Concept Three: Living

This concept explored different living arrangements and life expectations. Some women wrote about how their living environment and lifestyle was unique as they did not live in a suburban area but live in a very remote town and or were experiencing drought. These comments noted that rural areas did not provide enough services for women; one woman believed her health was in decline as a result of this isolation. *Living* also incorporated different living arrangements; women who were recently divorced or separated explained their new situation. Women wrote about their efforts to maintain *harmony* in their relationships.

## Concept Four: Problems

This concept encapsulated a variety of issues in these women's lives. Some were directly related to physical health, mental health, family dilemmas, family deaths and problems related to the drought. These comments tended to explain and reveal in some depth the women's personal problems. Words such as *suffering*, *difficult*, *losing*, *pain* were common among these comments. Mental health decline and experiences of stress were referred to alongside any experience of drought. Some women wrote about the problems drought has caused, the stress and heart *aching* nature of their experience. Few commented in a retrospective manner, highlighting difficulties associated with drought but affirming that they believed they managed well under the circumstances.

## Concept Five: Week

This concept explored the topic of work and the number of days a week these women worked. Some women wrote about working extra hard on the farm as the drought was demanding.

### 5.14. Mid-aged Survey Five: 2009

In 2009 the women in this cohort were aged 56-61 years. At this time, the majority of women were experiencing hardship associated with the drought. Many women wrote powerfully about their experiences of drought, the relationships that were impacted, the interconnected nature of drought and many life aspects and the consequential influence that the drought had on their situation. At this time 59.7% of these women were living in areas that were experiencing drought and 10.4% in areas experiencing dryness of weather.

TABLE 24 MID-AGED WOMEN'S SURVEY 5 LIKELIHOOD SCORES

Top 5 concepts From Survey 5	Exemplar Of Thesauri	Likelihood
<b>drought</b>	commodity, current, downturn, prolonged, unreliable	48%
<b>care</b>	hostel, blue, debilitating, definite, established	42%
<b>home</b>	purchase, better, answering, arises, balance	41%
<b>times</b>	alongside, assist, balance, besides, calving	39%
<b>income</b>	balancing, earner, fluctuating, off-farm, supplement	36%

## Concept One: Drought

This large concept described women's different experiences of drought, rural living and farm life, with many women sharing their unique situations. Some women owned more than one property all of which were in drought; many wrote of the increased work load; women wrote of the time that drought demands; many wrote of the dominating impact of drought throughout many aspects of their life. Women wrote about the severity of the

droughts they were experiencing. Comments indicated that drought was a very serious concern for these women's lives. Words such as *constant, crippled, not easy, anxious, impacted, unreliable, worst, ruined, trying* and *financial* were common among these comments.

The comments often linked the experience of drought with mental health. The women wrote about how their experiences of drought effected them. Many wrote about the emotional impact of the difficulties associated with drought. Constant stress, anxiety and severe depression were common topics described in these women's comments. Some women acknowledged that they disregarded other health issues as they did not have the time, money or energy to pursue health services.

Women wrote about the apprehension and uncertainty they faced in their lives because of the *prolonged* and *unreliable* drought. The impact of the drought spread to many areas of these women's lives. They wrote about their relationships and how they were being harmed or sacrificed due to the stress of the drought. Watching husbands work hard in such conditions began to wear away the resilience of some women and some women wrote about their ability to just get by, just stay afloat.

Many comments within this concept explored how life carried on within the context of drought. Some women experienced divorce during this time, the sale of properties, births of grandchildren and taking up off-farm work. What was clear through this analysis was that none of the women who wrote about drought felt that they could retire. Retirement was often written about as an impossible decision given the drought situation and economic *downturn*. Many women wrote about returning to the work force and beginning off-farm work.



## Concept Two: Care

This concept explored a variety of caring roles that these women take. Women wrote about caring for others who were ill and about caring for pets. *Care* was also related to the working life of some women. Some women had retired from their nursing roles to help on the farm; other women took up caring work to supplement household income during the drought. Few women wrote about their partners or family members residing in *hostel care*.

## Concept Three: Home

This concept explored the women's home life and the relationship their home had with the drought. Women wrote about coming *home* to the drought after being away and how this was a worry for them. The concept of *home* revealed the women's concerns for the future, uncertainly about their homes in drought, the fear of losing their homes and not being able to *purchase* another house. Women described what this might mean for them in the future. The sale of property was also an issue that arose within this concept.

## Concept Four: Times

This concept explored how time was a point of reference. Times was described as *tough, not easy, difficult, very bad, not good* in relation to these women's experiences of drought. Women wrote about the amount of time they spent working *alongside* or *assisting* their partners or others with farm work.

## Concept Five: Income

This concept explained the differing forms of income the women received. Generally, *income* was a struggle for these women and *balancing* financial needs was difficult. The drought meant that income was unstable which made many women feel insecure about

their financial situation. It also explored the ways that some women supplemented the farm income with off-farm work. This concept also linked income with debt. Many women wrote about the lack of rain resulting in no income which led to increased debt to cover farm costs.

## **5.15. A Longitudinal Discussion Of Mid-aged Women's Free-text Comments**

Throughout this analysis it has been highlighted that women's written comments on the back page of the ALSWH survey are important and can assist in deepening the understanding of experiences of drought, particularly given the longitudinal nature of this data. The experience of drought is evident in each survey wave for this cohort. The spontaneity of some concepts are unexpected but also enable the research of drought to fit into the much wider context of these women's lives.

Throughout this analysis it is evident that over time there is a clear link to the increasing pressure of drought on these women. Over time it can be seen that this cohort of women generally described farming and rural life as something that was positive in their lives. *days* was an experience which was often peaceful. However by Survey Four the same concept, *days*, had a very different meaning. The drought was taking a stronger hold on many women's lives and they were spending their days dealing with and managing farm life in drought.

Over time, the link between drought and mental health became stronger and clearer. The drought was stressful in Surveys One and Two, however after Survey Two there was a dominant theme among the majority of concepts – the pressure and stress of the drought was dispersed among many areas of life for these women. With the spreading effect of drought by Survey Four, it was clear that many women were seeing their situation as different from the majority of women in Australia. They did this by ensuring that the ALSWH study team knew that they were in drought and that their circumstances were

not 'normal' for them. They qualified their survey answers by writing about their drought experiences at the back of the survey.

By Survey Five the women's comments clearly reflected a struggle and an increased burden. This was complemented by the rainfall data that indicated that at Survey Three, Four and Five, many of the women in this group were experiencing dry weather and many were experiencing the severity of drought with over 11 months of below average rainfall. The five concepts explored in Survey Five are each intrinsically linked with the harsh reality of living with drought. *Drought, Care, Home, Income and Times* all explore how drought is a dominating experience and at the forefront of these women's lives. Each of these concepts are elements of most women's lives - daily, mundane, everyday experiences such as managing money and home life. However, for this group of women, these daily concerns are heavily embedded with the difficulty of managing drought. This has serious implications for the way these women are able to manage their daily needs. Tasks are negotiated; priorities shift and these women have to make decisions which are controlled by the drought situation, discussions such as how to spend money, avoiding medical treatment and pushing back retirement.

Mental Health as well as physical health may suffer during drought; the women wrote about their stress and emotional hardship during drought. Relationships are impacted by drought and the women write about how their role on the farm has changed due to the drought. Increased workloads, uptake of off-farm work and a fading reality of retirement are combined in many of the comments. It is only possible to see these changes clearly by analysing changes over time. For instance, if this analysis had been cross-sectional, examining just one time point, it may be concluded that women who experienced drought were resilient and strong and that they coped well with the experience of drought. However, this longitudinal analysis highlights that in fact, women do cope with drought and do show resilience but that this resilience has the potential to be worn down over time. There is a cumulative effect of an experience of drought. Many women by Survey Five had spent several consecutive years in drought;

the increasing burden and stress of this is most apparent. This information has implications for the way policy is formed and the types of services offered. It is likely, early in the drought period, based on these findings, different services or needs are required compared with the types of services that may be helpful years later. For instance drought support payments may be a support during the drought, but impacts are felt many years later, even after the drought has passed. An emphasis could be made in providing tailored mental health services and increasing their availability for women in this age group.

## **5.16. A Longitudinal Analysis Of Older-aged Women's Free-text Comments**

This section is an analysis the free-text comments provided by the older-aged women in this project. Similar to previous sections, the older-aged women's map of free-text comments includes labels to indicate the survey time point. In reading the map, the location of each concept reflects the relevance of those concepts in relation to time. To understand the key content in each survey wave, the five concepts most likely to be mentioned in that survey year are reported and explored for this analysis of older-aged women's comments.

The themes are the larger coloured circles and the concepts are within themes. This analysis of concepts relevant to each survey year is derived from the likelihood scores. In summary, the likelihood score reflects the chance that a particular concept occurs at that time point from the entire older-aged women's dataset, that is, across all five survey time points. By exploring each time point and then examining the whole, a longitudinal perspective of drought experiences is revealed for this age group of women.

Figure 4 indicates that across time women in the older-aged group wrote most often about their husbands. The concept of 'husband' mostly included women's reflections on other aspects of their lives such as their property, caring roles and work. Across time, 'husband' was most connected to the concepts of 'drought' and 'home'.

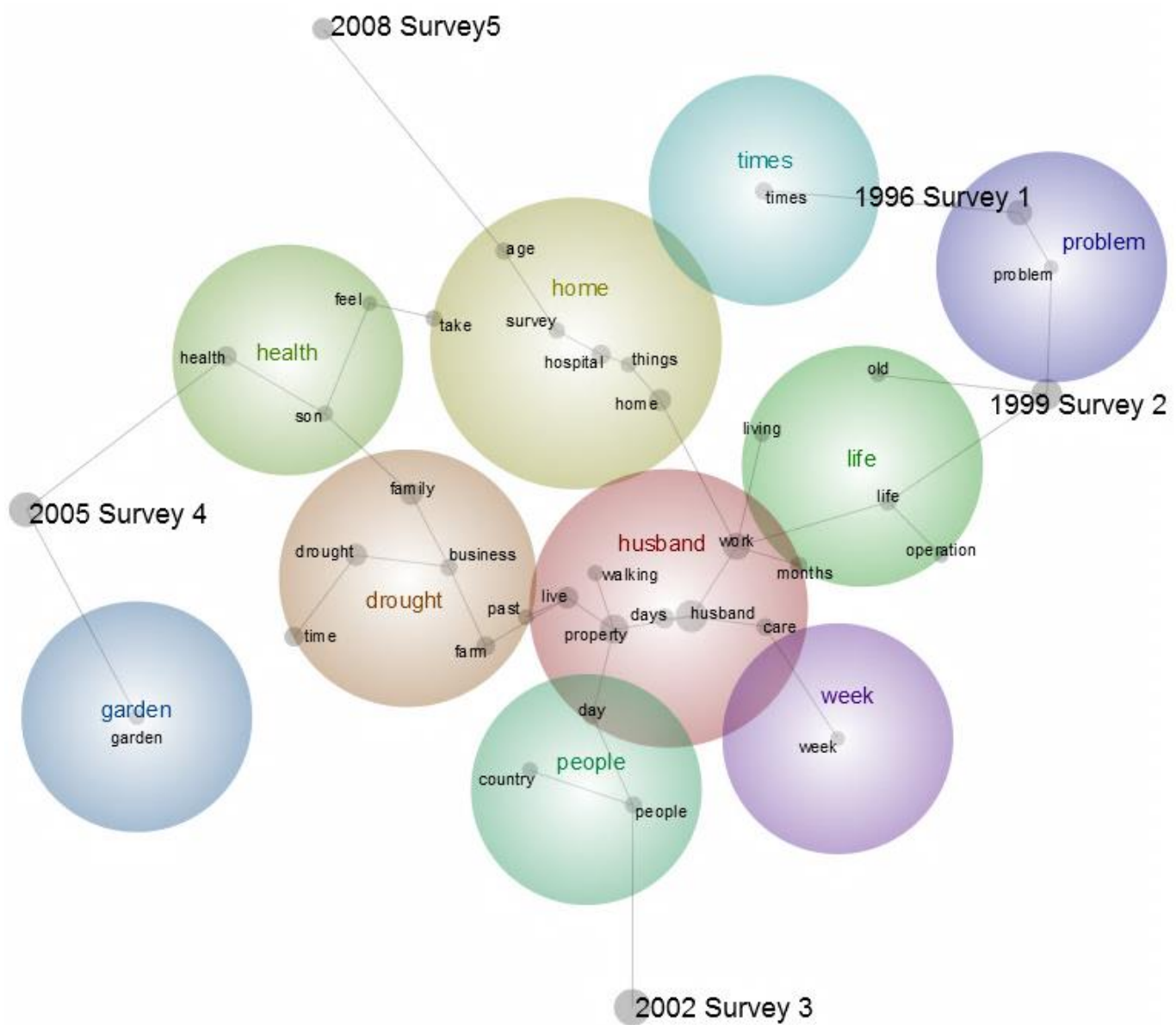


FIGURE 4 OLDER-AGED WOMEN'S LEXIMANCER MAP

*Coloured circles are themes. Words are concepts*

## 5.17. Older-aged Survey One: 1996

In the first survey wave of the ALSWH in 1996, this group of women were aged between 70-75 years. At this time in 1996, 6.7% of this group were experiencing drought and 6.7% were in areas experiences dryness of weather. In this analysis of the qualitative data the concepts that were most likely to occur in 1996 rather than any other time point are explored.

TABLE 25 OLDER-AGED WOMEN’S SURVEY 1 LIKELIHOOD SCORES

Top 5 Concepts From Survey 1	Exemplar of Thesauri	Likelihood
<b>problem</b>	problem, brother, alcohol, added, apparently	57%
<b>care</b>	care, cerebral, deal, father, government	43%
<b>things</b>	things, anxious, bruising, careful, easy	33%
<b>old</b>	old, acre, aged, clocks, city	33%
<b>months</b>	months, angiogram, attend, choppers, completed	33%

### Concept One: Problem

*Problem* included descriptions by the women about a variety of different problems or experiences in their lives. Often the women wrote about family issues, *problems* or conflicts, with an explanation of the role that these women played in that particular situation. Responsibility and a sense of obligation were apparent in many of these comments. Some women felt obliged to assist in any way they could. Several women wrote that they had opened their homes to sons, *brothers*, daughters and other relatives during their difficult times. Themes of illness, driving, alcoholism and widowhood were also raised within this concept.

## Concept Two: Care

This concept referred to the diverse caring activities in which some women in this group were involved. Often this was caring for a family member with ill health but other women wrote about caring for the estates of deceased family members or husbands. Some women also took the opportunity to write to the ALSWH researchers about the types of care or medical services that they required at this point in their lives.

## Concept Three: Things

This concept was linked to the caring activities that some women in this cohort do for others. There was a sense of pride and purpose as the women wrote about the *thing* they can do for others. This was evident as the women wrote about feeling helpless in their ability to cure their loved one of illness or suffering but the act of doing laundry or other tasks gave the women a sense of purpose and hope.

## Concept Four: Old

This concept derived from the women who wrote that how they felt their age was a barrier to receiving quality service delivery. This was linked with finances and women's ability to afford the service they desired. For instance, one woman wrote about the cost of telephone communication services, especially when solely dependent on the *aged* pension and living far from the *city*. Women wrote about the use of the phone for their connection to the wider social world.

Few women also wrote about how they felt the drought was the worst they had experienced and that they were too *old* to gain paid employment.



## Concept Five: Months

This concept referred to medical issues that women themselves or their husbands were experiencing. The women wrote about the time since the medical issue arose, the length of time they had used medication or the types of treatments they had received over a period of months. This concept also encompassed some issues associated with nursing home care. Several of the women's husbands were in nursing home care. Some women quantified the time their husbands had spent in the nursing homes.

### 5.18. Older-aged Survey Two: 1999

In 1999, the second wave of the ALSWH survey began. At this time the women in this analysis were aged 73-78 years. In 2000, 26.7% of this group of women were residing in areas that were experiencing dryness of weather, at this time no women were experiencing drought conditions. The concepts more likely to occur in 1999 rather than any other ALSWH time point, are explored below.

TABLE 26 OLDER-AGED WOMEN'S SURVEY 2 LIKELIHOOD SCORES

Top 5 Concepts from Survey 2	Exemplar of Thesauri	Likelihood
operation	operation, afraid, father, flu, hand	50%
hospital	hospital, sooner, afraid, allow, amazed	38%
survey	survey, 40a [survey item], activity, apologise, body	38%
days	days, afraid, allowed, anxious, asthmatic	33%
old	old, acre, aged, clocks, city	33%

## Concept One: Operation

This concept included descriptions of the types of surgery some women underwent. Some women also described their accident or injury.

## Concept Two: Hospital

*Hospital* included accounts of women's hospital stays, husbands' hospital stays or those of other family members. Some women used this opportunity to further explain some medical issues related to the ALSWH survey while some women apologised for the late return of their survey as they were in hospital and had hope to complete the survey *sooner*.

## Concept Three: Survey

Often the women wrote about events or their activities since the last ALSWH *survey* (about 3 years prior to this time point). Some women reflected upon their health and described their feelings and progress or decline in health and *body* since the last *survey*. Many women in this dataset took the opportunity to communicate with the ALSWH researchers, clarifying their survey responses or providing feedback on survey items.

## Concept Four: Days

The concept of *days* explored how some women spent their time, including the time spent in nursing homes with their husbands. Other women wrote that their health had deteriorated "*these days*" while others wrote about the length of time they may had spent recovering from illness or injury. Few women wrote about being *afraid* they would not recover well.

## Concept Five: Old

The concept of *old* included varying descriptions of some women's lives and how they saw the ageing process. For instance, analogies were used, "*old fools live longer*". Other women wrote about being too old to handle significant life changes such as moving homes or leaving their properties. This concept was written about with a sense

of ease and relief; their older age relieved them of pressures and obligations. They felt too old to worry or stress about life.

## 5.19. Older-aged Survey Three: 2003

In 2002, the third survey wave of the ALSWH was conducted. At this time the women in this group were aged 76-81 years. In 2003 there was an increase in the percentage of women in this group experiencing dryness of weather, 33.3% of the group. While 6.7% of the group were experiencing drought conditions. The concepts more likely to occur in 2002 than any other ALSWH time point, are explored below.

TABLE 27 OLDER-AGED WOMEN’S SURVEY 3 LIKELIHOOD SCORES

Top 5 Concepts From Survey 3	Exemplar of Thesauri	Likelihood
<b>week</b>	week, twice, least, mid, normally	60%
<b>day</b>	day, laser, nearest, accessed, body	56%
<b>farm</b>	farm, area, finances, flexible, activity	56%
<b>past</b>	past, cared, changed, frail, mark	50%
<b>country</b>	country, conditions, living, ability, experiencing	50%

### Concept One: Week

This concept described the activities that many older women took part in within their *week*. The concept explored physical exercise, social outings and volunteering and how often activities took place for example, *twice* in a week, or at *mid-week*. Some women also wrote about the types of farm work undertaken during a given week.

### Concept Two: Day

*Day* explored daily activities and tasks. Some women wrote about how their activities had slowed down in recent days but that they still made the most of their time. Some

women wrote about recent surgical operations such as *laser* procedures and the time taken to recover. Others wrote about general aches and pains that they experienced in their *body*. A couple of women noted that they lived out of town and only visited the *nearest* town centre on particular days of the week, for church, shopping and other activities. These women wrote about the contentment they felt living in rural areas.

### **Concept Three: Farm**

This concept explored some women's living arrangements, varying from descriptions about life on the *farm*, to describing with whom they live, who owns the farm, who visits the farm, farm work and *activities*. The women who wrote about the concept *farm* also wrote about their physical activity, what they did on the farm. Overall women wrote that this physical activity was quite intense and demanding on their ageing bodies.

This concept also explored how the drought was affecting their farms. Some women wrote that their sons or husbands had to begin off-farm work in order to support the *finances* and operations of the farm during the drought. These women also wrote about their need to remain strong, well and independent in order to manage.

### **Concept Four: Past**

*Past* was generally a reflective concept. The comments in this concept were about the past, how things had *changed* and what challenges they were experiencing now. For some women, this change and reflection was about the new situation of living alone as recent widows.

## Concept Five: Country

This concept explored drought and how it affected many women's farms, living conditions in *country* areas and people's ability to manage the drought situation. This concept was also a call for help, for research, governments, and the wider social world to recognise the situation in the country. Some women felt as though no one knew about conditions or cared for country people at that time. Some women wrote about the state of the farm and the lack of water for stock animals and the pressure that put on them to provide and care for the farm, animals and home life.

### 5.20. Older-aged Survey Four: 2005

In 2005, the fourth survey wave of the ALSWH was conducted. At this time the women in this group were aged 79-84 years. Since 2003, there is a further increase in the percentage of women experiencing dryness of weather, 46.7% of the group. While 6.7% were in areas of drought. The concepts more likely to occur in 2005 rather than any other ALSWH time point are explored below.

TABLE 28 OLDER-AGED WOMEN'S SURVEY 4 LIKELIHOOD SCORES

Top 5 Concepts From Survey 4	Exemplar of Thesauri	Likelihood
<b>drought</b>	drought, trying, ability, ahead, allow	57%
<b>garden</b>	garden, bird, bothers, breathlessness, continual	50%
<b>family</b>	family, absolute, activity, approval, attend.	45%
<b>take</b>	take, accessed, ahead, apparently, break	43%
<b>walking</b>	walking, bad, anxious, bruising, cane	40%

## Concept One: Drought

This concept derived from women's in-depth comments about their experience with drought. They wrote about hardship, *trying* times and the worry they were experiencing

or thought they would experience *ahead*. Women wrote about the length of *drought*, how long and concerning this was. The extended nature of drought created pressures on finances, health and community life.

Women wrote about their decreased incomes and the toll the drought was having on their finances. Some comments were related to physical health and some women wrote about mental health. For instance, women noticed that their asthma was triggered by the dust and dry heat. Women also wrote about mental health and how the pressures of finances, working harder (and longer), and the lack of confidence in their current situation was creating worry and concern for themselves, families and communities. Older women felt that the drought did not *allow* them to take part in their regular activities. They felt they were needed to assist on the property.

## **Concept Two: Garden**

The stories included in the *garden* concept described women's relationships with their gardens, lawns and properties. Often these women wrote with pride, detailing the appearance of their garden and how they maintained it. The garden was a place to unwind for many of the women, an escape from the harsh reality of the drought on their properties. There were no *bothers* when one was in the garden. The garden around the house was watered and cared for, even though many women acknowledged it was hard to so during drought. The *garden* had a priority and purpose for many women in this group.

Women wrote about how their age was linked to the gardening. One woman ceased mowing the lawns as it was beginning to take too long. She said she would rather spend this time gardening. Other women wrote about how their sons or husbands had taken over heavier work such as pruning or mowing for them.

Women also wrote about the *bird* life in their areas and how this was a joy for them.

### **Concept Three: Family**

*Family* as a concept generally explored older women's home life. Women described their living situations. Some women lived with sons, daughters, and grandchildren while others lived with their husbands. Some women lived alone. Some of the comments expressed gratitude for their *family*; having family members close by was a support for some women during the drought. Women in this group wrote that they felt they did not need professional help during the drought as their close knit families were an important source of support, even though some women still reported feeling depressed at this time. Women wrote about their concern for their families in drought and how this was having an impact on family life and the family owned farm. Few women wrote about selling property but when it was necessary it was done with their *approval*.

### **Concept Four: Take**

This concept referred to the differing medications women in this group *take*.

### **Concept Five: Walking**

Some comments mentioned physical activity. Other comments included information about falls or injuries and *bruising* that prevented women from walking or conducting their normal exercise. Some women wrote about the need to now walk with a *cane*. One woman wrote of her *anxiety* to recover quickly from injury in order to help with cattle work or other farm jobs.

## 5.21. Older-aged Survey Five: 2008

In 2008, the fifth survey wave of the ALSWH was conducted. At this time the women in this group were aged 82-87 years. In 2008 there was a shift away from women experiencing drought or dryness of weather. Just 6.7% of this group were experiencing drought, at this time no woman was in an area experiencing dryness.

TABLE 29 OLDER-AGED WOMEN'S SURVEY 5 LIKELIHOOD SCORES

Top 5 Concepts From Survey 5	Exemplar of Thesauri	Likelihood
age	age, consider, activity, collects, cover	44%
hospital	hospital, sooner, afraid, allowed, amazed	38%
feel	feel, accessed, activity, break, collects	33%
son	son, accessed, attack, belongs, break	33%
take	take, accessed, ahead, apparently, break	29%

### Concept One: Age

Age explored the numerical age of the women, their health and wellbeing. Women wrote about their ages and their husbands' age. Women wrote about their health, reflecting on their deteriorating physical health for instance eye sight, now that they were in the elderly stages of life. Women also wrote about driving and how they needed to be particular and *consider* the time of day or night that they choose to drive. Other women wrote about how their family help them with transport. Women who reflected upon their ages, tended to believe that their health was good for their age, but that changes were expected – there was a sense of contentment and acceptance surrounding the natural ageing process.



## **Concept Two: Hospital**

This concept described differing experiences and reasons that some women spent time in *hospital*. Women wrote of their positive experience of the hospital system and some women were grateful that they lived close to a hospital. Generally this concept had positive tones and the women who described their hospital stays, did so with gratitude and appreciation.

## **Concept Three: Feel**

This concept included women's feelings about the ALSWH survey, *access* to public transport systems and respite care facilities.

## **Concept Four: Son**

*Son* described relationships to children and caring responsibilities. Women cared for their adult *sons* who suffered a range of illnesses including adult sons who had cerebral palsy, heart *attack* or simply "*failing health*". Some women who cared for their adult children wrote about having *accessed* respite care for a few days.

## **Concept Five: Take**

This concept explored women's visits to the doctors and accessing respite care. Women whose comments were in this concept, were grateful for the opportunity to receive respite care for their loved ones, sometimes children, sometimes disabled and frail husbands. This was important since some of the elderly women commented that they felt they could not *take* care of their adult child or husband all the time.

## 5.22. A Longitudinal Discussion Of Older-aged Women's Free-text Comments

In analysing the older-aged women's comments and concepts over time, it is possible to recognise changes. Several strikingly clear themes derived from this longitudinal analysis: ageing, caring and health, and the prominent theme of drought and rural life. Each of these themes is connected, and interdependent – they also change, develop and intensify over the 1996 – 2008 time frames.

Ageing is the dominant theme at each time point of analysis. In 1996, the concepts of *problem*, *care*, *things*, *old* and *months* each examine experiences of ageing. Many women commented about their age and some women acknowledged hardship associated with their age, hardships such as expensive living costs and managing on government benefits. There is also a link between ageing and drought as women began to connect their experiences of the drought with their age. Some women wrote about the need to look for off-farm work in order to supplement farm income but were finding it difficult due to their age.

In 1996 the women's comments connected experiences of ageing to health care and caring for others. The women often wrote about their caring experiences and the activities that were involved. Women also wrote about how these caring roles began to change. Some women became widowed and began to live life without their husbands.

Three years later at the next survey wave, the time point analysis again highlights a connection between ageing and health with more women beginning to describe their own hospital experiences, illnesses and surgical operations as well as detailing the caring activities for their husbands. The women tended to write about their experiences of ageing and health care with an overtone of acceptance and pragmatism. This tone was also recognised when some women in this analysis of the 1999 data described the drought. Some women wrote about their feelings of being “*too old to worry*” and that

their age freed them from obligation or concern about the drought since it was out of their control.

However, the freedom some women may have felt in 1999 shifted to much more serious concern by 2002. The drought was still in force and many women wrote in detail about this worrying situation. Each of the five concepts from Survey Three, 2002, explored the varying experiences of drought for this group of women. The data from 2002 encapsulated emotional responses and heartfelt descriptions about women's experiences of drought. The qualitative data from 2002 for this older group was abundant with short vignettes, comments and lengthy accounts of women's lives, troubles and experiences in the context of an Australian drought. Among this detail and descriptions of hardship there still remained an overtone of contentment and rationality.

Each of the concepts of the 2002 time point analysis highlighted these older women's attitudes of pragmatism, resilience and practicality. *Week, day, farm, past* and *country* each explored how these women managed their experience of drought. As explored in the 2002 time point analysis, many women were active about the drought situation. They took on more physical work, detailing to the ALSWH researchers the type of work they did, examples of farm work, routine and the need to remain strong and well to deal with the drought situation. At this time when these women were aged 76-81 years, this experience of drought is tightly linked to ageing and increased challenges to the ageing human body. At the forefront of the drought context is the biological ageing of these older women. The women in their comments acknowledged how their days were slowing and their activities changing, yet the women demonstrated undeniable strength (physical and mental) in managing their drought experiences.

Again, the major themes of ageing, caring and drought are interconnected in the 2002 data. During drought in 2002, many women wrote about the difficulties they faced as they entered their 80's. Many women wrote about general aches and pain as well as

more serious surgeries and the realities of nearing the end of life. Many women wrote about the death of their husbands, close friends and their experiences of being widowed.

All of the aspects from 1999 through to 2002 have implications for mental health. This was clear in 2002 when many women began to write emotionally about their drought situations. This was particularly clear in the concept of *country* where women wrote about the needs of people in drought. Many women expressed concern that government bodies did not really realise the effects of drought. Some women wrote that they believed no one cared for “*country people*” and how this lack of care added heavily to the pressures of country living.

In 2005 the relationship between drought and mental health continued to be evident in these women’s accounts. Another three years later, still in drought, many women wrote to the ALSWH about their serious concerns for people in the bush experiencing drought. At this time these women were aged 79-84 years and in 2005 more than any other time, the women wrote with heavy emotion. In place of detailed descriptions of drought, stock and country needs, the women wrote about serious hardship, worry for their towns and concern for the length of time their communities had spent in drought. The women still wrote about physical activity and helping on the farm but they also wrote about how this extra work was not easing any pressure as the drought persisted. These older women wrote about finances and how the drought had impacted family finances. Many women wrote about how they had passed their farm on, their sons now running the farm but that they remained on the farm and helped out as much as they could. About this situation, some women described their feelings of depression; the farm was no longer a fruitful inheritance but a burden to their families.

These feelings of depression and passing on of financial burdens resulted in the sale of some women’s properties. Some women wrote about the length of time the farm had been in the family, sometimes for generations, some since the 1800’s. The sale of property was a significant life event for many women in the 2005 data analysis. Often

the women justified their emotional pain by suggesting that it was ‘normal’ to feel depressed under the circumstances or that it was “*unfortunate*” that they had these feelings.

Even though many women acknowledged their declining mental health, no women wrote about seeking professional help. Instead, these women wrote about being grateful for family that lived close by as they received emotional support from them. Older women also wrote about how they lived in a close knit community which promoted social support. The older-aged women wrote about their gardens and properties with love and appreciation. Many women in this group wrote about how the garden was a space for peace, nourishment and revitalisation for them during the drought. This group of women remained stoic and resilient through the severe drought and the impact this had on their emotional health and wellbeing.

In 2008 there was a return to the theme of caring and ageing - this was not lost in 2005 but the contents of these women’s stories were dominated by the drought and emotional stress. In 2008 most women wrote about their declining physical health. There was a prevailing theme of illness, hospital and reasons for change. The physical natural decline of the human body was more evident at this time than at any other time point. In 2008, this group of women were aged 82-87 years and wrote with grace and acceptance of the ageing process, once again illustrating their pragmatism and realistic approach to life.

As these women aged, they maintained caring responsibilities and caring activities. These older women demonstrated an ability to balance their caring roles, their own ageing processes and harsh experiences of drought in a gracious and realistic manner. It is important to be cautious when making this conclusion, since this is not a complete story for all women in this age bracket living in drought. This conclusion can suggest that policy needs to incorporate the complex needs and circumstances of older women. The role that older women play in their rural communities, particularly the older

women's caring responsibilities, should be taken into account. Further policy implications of this research is discussed in Chapter Seven.

### **5.23. A Longitudinal Generational Comparison Of Three Cohorts' Free-text Comments**

The longitudinal analyses have shown that living in drought over an extensive period has implications for ageing and wellbeing and that these implications differ by age group. Each of the cohorts' comments describe an increase in intensity of drought over the study period. This section explores differences and similarities in experiences of drought follow and, finally a drawing together of implications for ageing and wellbeing.

It was important when reading these comments to be understand a few relevant points. These key points related to the data and the type of data that had been analysed with the Leximancer software. The free-text comments are un-elicited in the context of drought; if the participant wished to add to her survey responses she was free to do so on the back page of the ALSWH survey. This meant that sometimes women wrote comments and sometimes they did not. However, over time the relationship between the ALSWH and its participants has strengthened and consequently more women do write free-text comments. This results in a diverse dataset. That is, the data do not focus solely on drought but included other aspects of women's lives thus placing drought in context. Through this lens, it was possible to see how drought affects women's lives and how women manage their experience.

At Survey One, the young women who wrote about drought, tended in earlier surveys, to about big idealistic concerns such as women and oppression, achieving a better world, environmental issues, women's roles and position in society. In earlier surveys women wrote very little or nothing about drought. However, as the surveys continued throughout the years the topic of drought began to appear in their writings. This development of themes is visible over time as there was a shifting of concerns away from big ideas to more grounded concerns. It is in the later surveys that women wrote

about their families and life pressures such as finances and time management. It is interesting that it was at this point that the mid-aged group began at the first survey. Mid-aged women wrote about concerns, difficulties and complications in managing their family life; this is particularly clear in the second survey of the mid-aged group. The mid-aged cohort of women wrote overtly about how the pressures of daily life were intertwined with drought.

The younger and the mid-aged women's writing style differed from that of the older-aged women. The older-aged women tended to write about life and the difficulties of drought with a sense of acceptance and pragmatism. This level of understanding or pragmatism was not so apparent in the younger women's comments and even less apparent in the mid-aged women's stories. The mid-aged group of women tended to write as if they were gripped by the harshness and pain of managing in drought (particularly by Survey Five). The approaches to life and drought that are evident in each of the analyses, provide insight into how the women managed or negotiated their experience with drought and how in fact the drought experiences became embedded, or not, into their wider life story. For example, it was clear that the older women fully incorporated their experiences of drought into their lives. Sentences such as *"having lived through the Great Depression of 1929 -- 35 and the Second World War and the financial ups and downs -- droughts -- bushfires and floods of years gone by -- I still think I have lived through the best of times"* (Older-aged participant) and *"[drought] it's out of your control, so have a good laugh!"* (Older-aged participant), are somewhat typical of the attitude with which these older women approached the drought situation. The two younger cohorts tended to write about the drought with an air of embattlement or warfare, something that the women felt they had to fight against in order to survive. For example *"I find most women and men in the area 'put up' with pain 'battle on' emotionally through the severe drought we are experiencing"* (mid-aged participant) and *"our paddocks are barren. We are both normally very positive people but the wind, heat and dust can really get to you after a while"* (mid-aged participant). These comments are typical quotes from women in the younger and mid-aged groups – a clear

sense of hardship and an emotional battle is evident. One interpretation behind the reason for these different coping capacities is perhaps that resilience is built up over time. Pragmatism may be a learnt skill based on multiple experiences and an understanding that things do get better (older-aged cohort), whereas those of the younger cohorts who have less experience of drought tended to experience and write about the drought in more dire ways.

Apart from variances in attitudes and approaches, there are other important differences to explore. One of the most important is that of ageing. It was somewhat unexpected to see just how diverse experiences of drought may be depending on the age of the woman experiencing it. The discussions from the longitudinal analyses highlight the different life stages and important life events that take place in women's lives, often against a backdrop of drought. For the younger women, raising their families in drought was a challenge; the availability of fresh food and finances for this was hindered during drought as was the opportunity to gain income from their farm lands. The mid-aged women wrote about their concerns for the future and plans for retirement and how drought impacted this. The mid-aged women also commented on how their mental health and experiences of menopause were related to drought. The older women wrote about the physical work that drought demanded of their ageing bodies and how some women managed farm life alone because they had recently entered widowhood. Each of these cohorts had significant life events occurring. However, for these women their life events were placed against the harsh backdrop of drought. It was possible to recognise these life events only via a longitudinal lens, witnessing the introduction of a particular life event and following it through the drought until the last survey time point. This insight was strengthened by the linked rainfall data providing information that indicated the severity of drought at each time point.

As each cohort generally had different attitudes towards drought and experienced different important life events, similarities were recognised in the longitudinal Leximancer analyses. One of the most obvious was that of drought and mental health.



Each cohort at some point, had comments about the relationship between drought, rural life, mental health and wellbeing. There was no denying that women perceived a direct connection between mental health and drought. Some women wrote about their resilience, some women wrote about managing and coping. Other women about their depression and decline in wellbeing, saying it was due to drought. An important point to make here is that the impacts of the drought seem cumulative and are made visible by this longitudinal analysis. In earlier surveys women wrote about the peaceful nature of rural life, caring for their gardens, enjoying new motherhood, connection to their rural towns. However, as time went on there was a visible correlation between time, drought and the emotional impact on women. Many women in each of the cohorts and particularly at Survey Three, wrote with much more concern about living in drought. By then drought really began to pervade their communities. Women wrote about how the drought had worn away the strength of their communities. This quote illustrates the concern *“the prolonged drought and downturn in agriculture has created unbelievable stress amongst women in rural areas which is impacting on the social fabric of rural Australia”* (mid-aged participant).

Many women across the three cohorts wrote about their concern for their farming husbands and increasing fragility due to the drought. Comments from recent surveys exemplify these cumulative impacts of drought for many women in this analysis; *“my husband and I own a cattle property and have an ongoing drought which has impacted severely on his ability to cope. He had to shoot poor stock. We hope it rains properly soon!”* and *“my health and mental wellbeing is being dominated by the continuous drought we are experiencing. We are into our eighth year of which only one has been reasonable. We have not had rains yet this season...”* (mid-aged participant).

Women across the cohorts also wrote directly about their experiences of depression, drought and wellbeing, *“losing cows, calves and the drought have put pressure on me. I’m not one to give in, but depression as a result of age and complete reliance on myself has taken its toll along”* (mid-aged participant), *“What about the emotional strains*

*when there is a drought on? No one seems to ever talk about how taxing it is on a wife/mother*” (young participant) and *“the most trying times I can remember in 51 years with the drought and poor prices”* (older-aged participant). The women’s comments, throughout the longitudinal analyses highlight how the longevity of drought had a cumulative effect on women; by the fifth survey many women across the cohorts shared similar stories of the challenges that drought placed on mental health and emotional wellbeing.

This longitudinal analysis of the women’s comments not only provides insights into experiences of drought but highlights how time is a significant factor for the wellbeing of women living with drought. This analysis is a reminder that there is a biological aspect to experience; ageing was an important variable to consider when examining differences in cohorts. In each longitudinal analysis, ageing was a standout theme, from the younger women raising families, the mid-aged women planning retirement and the older women sharing concerns for passing on a burden to their families. Ageing is inevitable and has an intricate relationship with women’s experiences of living with drought. As such, ageing was a shared theme among the analyses. This analysis also disentangled the different coping abilities of women experiencing drought, (perhaps closely linked with ageing). The older women wrote about their experiences with pragmatism while the younger groups tended to write with more heartache, perhaps suggesting that for some women, resilience is a learnt skill built up over time with continuing life experiences.

## **5.24. Longitudinal Analyses Conclusion**

The longitudinal lens enables an observation of changes over time and given the data used in this current project, also allows the examination of diversity of experiences across the cohorts. What remains unclear is how drought is personally embedded in daily nature of women's lives. It is unclear how women interpret this experience and how drought is connected to the everyday realities of women and their families at such a time. Consequently, it is useful to investigate the narrative and lived experience of drought with more depth.

# Chapter 6

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## Study Three Results

### 6.1. Narrative Analyses Introduction

Findings in Chapter Four indicated that common concerns over menopause, ageing and families were prominent for the mid-aged women living with drought. The longitudinal analysis in Chapter Five confirmed these findings and also highlighted the evolving nature of drought over time, where the chronicity of drought was seen to erode coping resources and resilience and sometimes had a negative impact on mental health. The current chapter will add depth to these understanding for each cohort by focusing on the events, thoughts and feelings that link the identified themes and concepts previously discussed. As Munslow (2007) and Elliot (2005) recommend, the identification of meaning and connection is imperative in the process of narrative thinking, making and understanding (see section 3.11). This analysis aimed to illustrate the lived experience of drought for three generations of Australian women. To create in-depth case studies that examine drought in the wider context of women's lives and activities and to examine fully the links between drought, health and emotional wellbeing.

This chapter provides a glimpse into a life story of drought; it presents a portrait of one woman from each cohort who participated in a telephone interview. This in-depth analysis provided information on women's experiences of drought, how the experience was incorporated into women's lives, the complexities surrounding this situation and the everyday life tasks involved with living through a drought. This section provides greater understanding and context through the use of the linked rainfall data and quantitative health data from the ALSWH. The chapter builds on the two previous chapters and illustrates an individual woman's lived experience. These portraits are structured so that the reader can develop a sense of the interview as the participants'

own words are used throughout the narratives. Each woman's story is different and raises various issues related to their experience as a rural woman in drought. The informant's narratives are presented in chronological order (see section 3.11) and italics are used to identify the participants' own words. All participants' information has been de-identified and pseudonyms replace all names, including names of their children, husband, town and any other identifiable information.

# 6.2. A Young Woman’s Narrative

## Portrait of Tracey

Tracey was born on a farm about thirty minutes from where she now resides with her husband and three young boys. Tracey said she loved living in this inner regional part of Australia and that her town had a sufficient number of services so that “*you don’t need to go into the bigger town so often*”. Tracey is involved in her local Christian parish and wider community. Tracey and her husband manage their farm and budget their expenses so that it is possible for Tracey to stay at home while the boys are young. This was a major priority for them. Tracey’s local area experienced a severe drought from about 2000 until the end of 2010. During this time Tracey also dealt with depression and the diagnosis of her youngest son’s autism. Tracey was 21 when the ALSWH survey began and was aged 37 at the time of the interview.

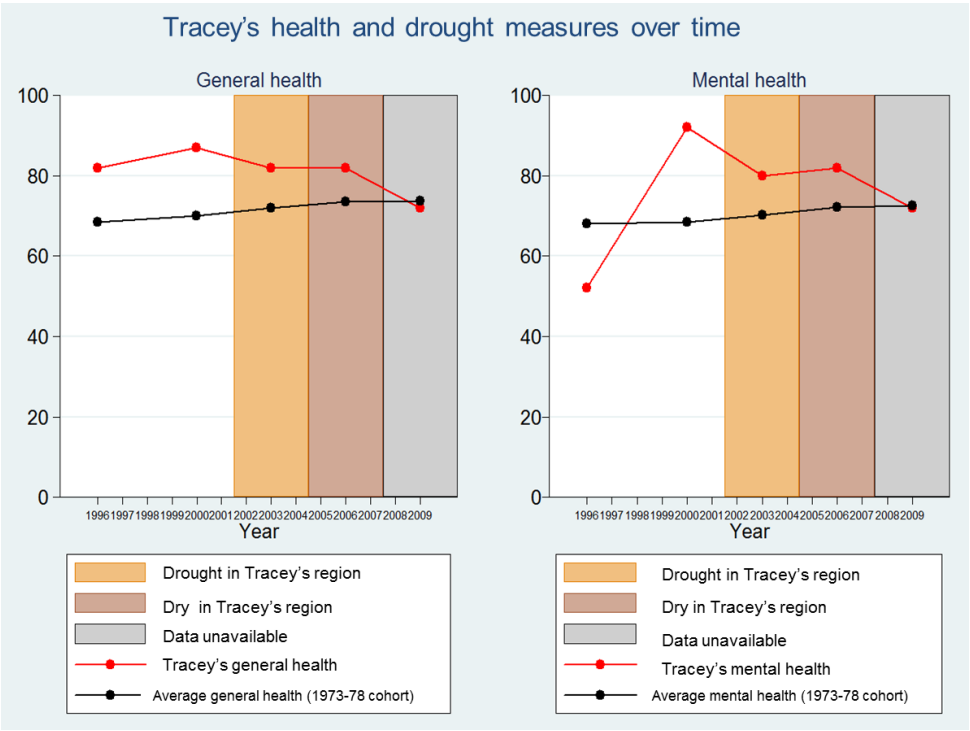


FIGURE 5 TRACEY'S HEALTH AND DROUGHT MEASURES OVER TIME

The graph (Figure 5) shows Tracey's General Health and Mental Health, as well as the rainfall indices in her residential region. The graph also shows the average General Health and Mental Health of the broader ALSWH young cohort.

There are some interesting features in this graph; firstly, with respect to General Health, it is clear that overall, Tracey has maintained a score that reflects good health over the 13 year time span. What is important to note is that a decline in her General Health score began from about 2000 when the drought commenced. The linked rainfall data was not available for the most recent time point in 2009, however, Tracey reported that the drought was persisting in 2009 and that up until that point, she and her family had experienced eight years of drought. Tracey's General Health continued to decline but is unlikely to be significantly different from the cohort average at this time point.

In terms of Tracey's mental health over time there is both an increase and later a steady decline in this measure. In 1996 Tracey reported having had a serious accident and how this was affecting her life. Since that point her mental health improved sharply. From about 2000, Tracey's mental health declined, falling to a degree however that is unlikely to be significantly different to the average of the overall cohort. This graph is intended for descriptive purposes only. It provides context into years of drought as experienced in Tracey's life. It is known that many other life events and demographics impact both general health and mental health, many of which are explored below in Tracey's narrative. However, it remains noteworthy to point out the years of drought and Tracey's associated health scores, as part of her narrative.

## **Tracey's Narrative**

*It's a really nice little town*

Tracey spoke fondly of her life in a small regional town in New South Wales. Tracey described the town as having, *"a population of about 1000, it's really nice. There are*

*enough services so you don't have to go to town [approx. 1hr drive] all the time, I might only go – oh probably once a month". Tracey talked about her commitment to the local community and that she felt her town shared similar values to her own, "I grew up on a farm and it was more remote than here, even though I had a church family where I grew up and everything, down this way it's a much more stronger Christian area, I guess you could say. They're - we have a lot more friends that are Christians and there's even a Christian school which our children go to, and yes, it's just - and I think just in the way people relate to each other it's just a lot - it's nicer. I mean, I still love where I came from, but yes, it's you know, back where I came from it was sort of like all footy and drinking and even though that stuff happens in [town] it's not to the same extent. Yes, so, it's just a really nice area to live in, yes, so I'm quite fortunate".*

Tracey talked about how she felt connected to her community and that she felt fortunate that both she and her husband are like-minded *"I've always grown up with getting involved in your local community and my husband is someone who is very much community minded as well, I guess it doesn't matter where you live, you can either get involved or not. But because we choose to get involved we know a lot of people so it's what you make of it, really."*

### *I've got three boys*

Tracey met her husband after spending a year at a business college. Tracey talked about how her father encouraged her to move off the farm after school and move into a city for work experience *"do something totally non-agriculture related and just go to a car dealership or something and so I did that".* After this time, none of the car dealerships offered Tracey work, *"So I thought, right, that's my ticket back to the country - doesn't matter what I'm doing".* Tracey had always loved living in rural Australia and was delighted when she was offered a job in her home town, *"that was really great. I was back home for three years and yes, it was just really nice to be back with all the local farmers and doing rural work and even getting out and helping. I was doing soil tests*



*and stuff; I wasn't just doing the admin and yes it was good, and it was while I was back in [home town] that I met my husband". Three years later Tracey and Greg were married.*

*Tracey explained how Greg's parents had started their family later in life, "they've have just turned 80 and 90, so Greg took over the farm by himself, I think it was about three years before we were married". Tracey said she was really happy about this situation, Greg has a brother, who does not work on the farm, so she and Greg run the farm together. "And it's how I grew up too, because my Dad was an only child and so I was used to the one family operation. It would have been quite different if I had married into a family where there a whole stack of brothers doing the same thing, because that's - because then you've got - there's sisters or in-laws and oh, gosh, we know of so many circumstances where it just doesn't work and then end up all splitting up and the farm has to get divided and so, it was just really nice to know that I was just marrying into a situation the same as where I came from and it just takes a lot of stress out of it".*

*Tracey and her husband now have three young boys. "I've got three boys and the two older boys are at school so, we're very fortunate that the bus actually comes right up to the house to pick them up, because, yes when I grew up on a farm we had to travel nearly two miles to get to the bus. So, we're very fortunate."*

*A normal day for Tracey is generally a busy day, "I'm quite involved in our local church and it runs the local playgroup. As soon as the boys are on the bus, I'm straight into town to get that all set up and organised. Then usually after playgroup it's my main shop for the week, so it's home quite late. So, a very late lunch, and then basically just normal housework kind of stuff. Yes, generally, just depending on if there's things happening with school, but generally most other days I'm at home apart from Friday when I do church administration stuff in town."*

*Tracey is involved and contributes to her community and family in the best way she can, although she admitted that she still felt pressure from people particularly when*

asked ‘what do you do?’ This has bothered Tracey in recent times *“it never used to bother me and I suppose it depends of their reaction [once you acknowledge you are a stay at home mum]. If they’re reaction is oh, as if to say you’re not really helping out society much, then I guess I may feel like a second rate citizen or something. But I’ve always strongly believed that - and my husband - that I would stay at home and if money was tight then we would just budget better and we just felt that that was a very important thing to do, you know, the kids are only home for such a short time that if I couldn’t be there for my children then I just felt that we wouldn’t be doing what we wanted to be doing. So there are a lot of things we’ve done without, and even my brother, his wife works, says to me ‘you don’t have nice things’ and I’m like, yes but that doesn’t bother me”*. Tracey found encouragement in her choice of lifestyle when she acknowledged that she and Greg are very like-minded, *“so we just agree on all this big stuff, it certainly helps [in dealing with societal pressure]”*.

*I’ve always been someone that has been careful with money*

Tracey shared her experiences of financial stress and explained how her upbringing has really helped her deal with this. *“I’ve always been someone that has been very careful with money and I don’t like to spend money that I don’t have. You know, my Dad was very careful on the farm. He never had huge loans and always kept within his means, and I’ve married someone exactly the same, so that’s really nice. I don’t have to stress about, oh yes, Greg’s buying all this machinery or you know - we always talk about everything and Greg always does a budget...we’ve seen so many farmers that have had to sell their farms just because of mismanagement and we don’t want to be a statistic”*.

In dealing with the long drought that Tracey and her family experienced, money management was vital. Tracey expressed her concern for her parents during the drought years and felt that it was more stressful to watch them during this time than it was to manage their own drought-stricken farm. *“My parents, they’re two hours north of here and they were affected a lot worse, and I think - I never seemed to really stress about*

*our situation, even though it wasn't good. Yes, that never really bothered me, but yes, it was the heartache that I knew that my parents were going through, that was really hard". Tracey explains how during this time it was really hard for her parents to talk to their son who was farming their property as he was doing the best he could, but her parents would talk to her about problems that arose. "So I suppose they thought, oh, we won't burden Ben with it, but I suppose I was probably their sounding board and I never said I don't want to hear about it anymore. So, yes, that was just really tough because I guess I have a really good relationship with my Mum and Dad, probably more so than what they have with their other two children".*

For Tracey and Greg, the drought was stressful, although as Tracey explained *"in 2002, I think, we must have had a bit of earlier rain and we knew the crops weren't going to make it to harvest".* Tracey and Greg then decided to grow oats on a barren paddock, something they had never done before *"we had all this hay and we didn't have much stock because we had to get rid of stock because we didn't have enough water and food for them".* After putting an advertisement in a paper Tracey and Greg had dairy farmers coming from far and wide to purchase their hay. *"Then we just ended up supplying them through that year, and we still had more or less over the next year and we ended up making more money off that dreadful paddock than we've ever made off any other paddock on the whole farm ever. Just because the prices of hay were so high, because there was such a shortage of it".*

Tracey spoke of this time with gratitude and believes that this paddock really saved them during this difficult time. *"We still had relief payments from the government like most farmers did, but basically that was only enough to buy your groceries and electricity and stuff like that, which of course was a help, but to still have to put your crops in you need a lot more money than that. So, yes definitely just having that cash flow helped us keep our head above water. I guess through diversifying, unknowingly, it just helped out during that really tough time, whereas there were other farmers in the*

*district that were just tearing their hair out*". During this time, Tracey's survey responses also indicated that it was difficult to manage on their available income.

The local community suffered during this time. Tracey talked about how people complained about their small harvest while other people, some just half an hour's drive away, had no harvest at all, and *"everyone felt it in their own way"*. Tracey said that during the drought, both she and her husband seriously questioned their life on the farm *"We actually thought, is God telling us that maybe we should be doing something else? Maybe farming is not our calling?"*

Tracey explained that she noticed a lot of environmental changes during this time; soil did not thrive even when it did rain, and a lot of trees died *"which was really sad. I can just look out the window now and I can see [in my memory] big old eucalypt trees that died, it was just too long without rain, the drought was just too much for them"*.

### *I did end up with a little bit of depression*

Running parallel to the drought, Tracey and Greg were busy with their young family. During the drought period, Tracey began to feel very angry and depressed, which indicated to her that she was not coping well with family life and life on the farm. *"But I don't think that [depression] was entirely due to just to the drought, because our second boy has autism and yes, I think when I probably wasn't feeling so great was when Peter was going through a bit of a tough time just before he started school and I think it just - you know, everything on top of one another probably yes, I guess it was just all bad timing that it all happened at the same time"*. Tracey says that she talked to her husband at this time *"we thrashed out the issues, but I don't think I said how I was feeling I don't think I was brought up to keep my emotions bottled or anything like that, but I think just - and just because of the drought, just as a wife, I suppose I felt that I was there to support my husband"*. Tracey felt that she could not really share her true feelings with Greg because she was worried for his wellbeing and that as his wife, she needed to be there to care for him during the drought. This is reflected in Tracey's

quantitative survey data when she rates her emotional role in the SF-36 below the population norm of 84.5 with a score 67, (Australia Bureau of Statistics 1995). This underscores Tracey's narrative where she did not feel that she was able to fulfil her role to her potential during this difficult time. In the two survey waves previous to this time, Tracey's score was at the maximum with a score of 100, most healthy.

Over a period of a few years however, Tracey started to feel more and more internal anger and despair, as she explains *"I was getting angry, and that's not in my nature, so you know, I was probably snapping at the kids. Then maybe - yes, I remember thinking oh, I just hate feeling angry, like, I'm just feeling angry all the time and sometimes you just can't always hold that under and that [anger] would just show through. Then I think - I can't exactly remember when it came out but I think Greg was saying, what's wrong, you know, and I just burst into tears"*.

This event was a big breakthrough for Tracey and her husband. *"Greg got a real shock; he just couldn't believe that I wasn't coping as well as what he thought I was"*. The relief Tracey spoke of when she was able to genuinely express her emotions was potentially lifesaving. *"There were days you just get the clothes washed and do the meals and I just forced myself to do the basics, a lot of other stuff just didn't get done...but being able to talk about my emotions now definitely helps! Every time it [depression] got mentioned I would well up, I think I preferred being angry to teary [laughing]"*. During this time, Tracey's quantitative data identified that her Vitality score and Social Functioning score were both below the population norm, with each a score of 50. In comparison to the general population, her scores of 50 is below that of the average score of 63.5 for Vitality and 86.3 for Social Functioning for women in her age group (Australia Bureau of Statistics 1995).

Tracey carried some shame around her experience of depression, asking Greg not to tell his parents about it as *"they are from the old school, I love them dearly, but I'd hate them to think I wasn't coping"*. After some time Greg encouraged Tracey to talk to her

own parents, who were helpful, as was talking to the local minister. *“Then I found out that our minister’s wife had severe depression and had done so for about 10 years, just talking to her was just a real eye opener, I just felt so much better. Yes, particularly in the last six months, just actually being able to talk to someone. But I still have a lot of - like one of my closest friends, I still haven’t told her. You know, like, it’s funny even though she is like my best friend, I haven’t told her. I don’t know what it is. I think there’s still this thing that you know, you just want to appear that you’re fine and - there’s probably only about four or five people that know, and now you know”.*

### *We called them our little drought babies*

Tracey and Greg’s children were born during the drought years. *“Blake was born in ’02, and that was a really bad year, and Peter was 2 years later, which was another bad year, and Sam, yes that was another in ’07. So we have these three little boys that are all terrified of thunderstorms, I guess because they were born into it, they didn’t know any different. They were all terrified of rainstorms because they just didn’t know what rain was”.* Later Tracey talked about Peter’s diagnosis of autism *“I think that was more difficult for our family than the drought”.*

Tracey and Greg have been through great difficulties in learning to manage their son, Peter who has autism, and family life. Tracey strongly believes that Peter’s autism has had a significant impact on their family. Tracey’s older son is very protective of Peter and over sensitive, *“maybe he would have always had this personality or whether or not it’s because of having this screaming child [Peter] in our house...it’s certainly, oh gosh, it’s been hard”.* Tracey says that both she and her husband believe that having Peter with autism *“has been ten times more difficult than the drought”.*

Later Tracey, says perhaps because of their focus on Peter during the drought, the drought did not impact them so much *“because we had other things to take up our time and just keep to learn about it [autism] and taking him to therapy”.* Tracey also adds that finances during this time were difficult *“it’s all the travelling money, you don’t get*

*subsidised for that so, that was an expense that I had to think, oh gosh, it's a drought and we've got to do this for Peter...so once again you tighten the belt in other areas".*

In spite of the difficult situations in Tracey's life, she tried to find some peace for herself. Tracey says that this is mostly achieved when her children are at pre-school and school, usually a Wednesday and she tries to keep this day as free as she can, *"I can just have a day on the farm that is my quiet place"*. Also, Tracey finds reward in her busy volunteer work *"whenever I'm at church I'm very busy and I don't mind that at all, you know it's God's work and it's a pleasure to do it, so I love the work that I do there"*.

Tracey says that she and Greg have thought about life off the farm and they know later in life, if their children decide not to be farmers, then they would sell the farm *"even though it has been in his [Greg's] family since 1918, there's no point just staying out here till we're too old to run it..."*

# 6.3. A Mid-aged Woman’s Narrative

## Portrait of Wendy

Wendy was 62 at the time of the interview and lives in a rural village of NSW. She has lived on this property (originally owned by her husband’s family) for 40 years. Wendy’s husband has lived there for 60 years. Wendy and her husband lived with his parents for 16 years, this was a very difficult time for Wendy. Wendy has two grown up children and she talks about mothering and the decision making processes during the drought. Wendy talked about three significant droughts in her life, drought in the 1970s, drought in 1983-84 and the more recent, millennium drought in Australia. This is Wendy’s narrative:

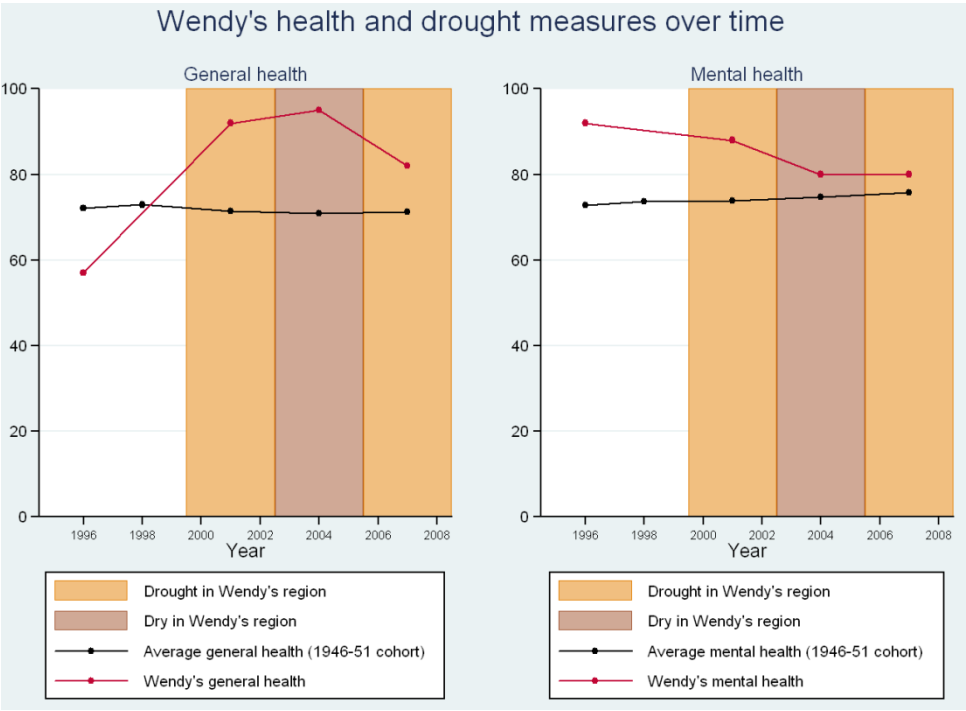


FIGURE 6 WENDY'S HEALTH AND DROUGHT MEASURES OVER TIME



The graph (Figure 6<sup>2</sup>) illustrates Wendy's General Health and Mental Health during the 12 year study period (the mid-aged data has been collected from 1996 to the most recent survey in 2008) and Wendy's years in drought. It appears that overall Wendy has maintained an above average score for General Health since 1996. Wendy's General Health score remained quite high over the five time points. A decline in mental health can be seen from the second survey onwards. Wendy reported in 2001 that she was feeling the financial stress of the drought and how the drought was placing pressure on her family business. Wendy also reflects in her free-text comments about her concern for the future and that she experiences stress when she thinks about retirement. Wendy's Mental Health score continues to decline before remaining stable towards the fifth survey in 2008. Wendy's survey comments in the fourth survey indicate she is feeling lonely and isolated, has experienced the deaths of her parents and Wendy concludes that she feels she is in "*a strange stage of life*". Wendy's narrative below examines details and elements that contribute to Wendy's general and mental health during her years in drought.

## Wendy's Narrative

### *We're in a true rural area*

Wendy and her family have spent many years in a small village in rural New South Wales. It is a small village, with a small population but they are close to other larger towns. Wendy talked about the influence of these larger hubs on their entertainment opportunities and social activities "*we're in a true rural area but influenced by those towns and what they have to offer*". She says most people live on farms usually with their young families. Wendy believes that her life is quite typical of people in her age group, in her community.

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<sup>2</sup> Missing data for Survey Two

Many people in the town send their children to boarding school “*probably half and half*”. Wendy and her husband attended boarding school. “*I went to boarding school for the latter part of the senior school, in the 60s, being a town’s girl. My husband, being on a farm, went when he was in 5<sup>th</sup> class in primary, so he had a long stretch [at boarding school] ...but in town you either didn’t go or it wasn’t uncommon to go for the last few years*”. Wendy sent her children to boarding school too, but she says that, with the impact of the drought the cost of this education made the possibility of sending her children to boarding school for their entire education, very difficult. Across all but the last survey waves, Wendy has repeatedly reported that it has been difficult to manage on their household income. At the most recent survey, Wendy reported that it was not too bad managing on the household income. “*We’ve had some tough times...so the truly well-to-do can manage the whole lot [entire education at a boarding school] but most people can’t. So that’s normal and our children went to what we call a “little bush school”, there are only about 20 kids and it’s still operating down the road. They did that for primary school then we sent them to boarding school*”.

Once the children went into primary school Wendy decided to take up off-farm work “*when the children were able to cope and things were in place, I went back to work.*” Wendy talked about the energy and enthusiasm that allowed her to manage work, farm life and small children. Upon reflection she says “*I was young and enthusiastic. I can’t imagine how I did it now, I didn’t want to but it was a time of drought and reality set in. I decided that I could go back and started part time then I took on study, and of course it drifted into full time work. As farmers we became very dependent on the income. In the beginning it was fun, and let’s have a career and use the brain and all that, and then, it set into the reality...you can’t do without the money*”.

### *I went back to work*

The context to Wendy’s decision to return to work is multifaceted. She talked about the necessity of income, her previous experience of droving the stock with a small baby and

the sanctuary that work provided when her relationship with her parents-in-law became very difficult. *“We went through a very bad drought in the 70s. I had one child [8 months old] and was pregnant with another...it’s sort of an epic story. We were on the road for 9 months. Basically, my husband said “we’ve had no rain; we’ve got to take the sheep on the road”. So we took 2000 head of sheep and 400 head of cattle, which was crazy. The first thing I should have been told by someone was that you don’t take sheep and cattle – they walk at different paces...but we were young and I wanted to get away from my mother-in-law. Even in a caravan...I was just that desperate. So off we went and headed north for over 9 months. I had this young baby so we’d take the caravan to the front. I would stop there and feed her, clean the van; you know the house keeping as it were. And make sure no stock came past me. My husband would be at the back pushing them along. We had a system; he would come for lunch in the van. I’d go on horse to the back, we’d swap and share the roll, depending on the baby’s routine...and that went on for days and days and days...”*

Wendy talked about the end of that journey, when indeed it rained back at their home. So once again, they packed up and began the journey home *“it rained so we were able to come straight back but it took from September to November, and so for 2 months you just walked the stock...we were able to come home to green grass”*. Wendy spoke about the inevitability in their decision to do this journey. Wendy said if they had not walked the stock *“you sell all your stock off. You rest your country, when it rains, it turns around, and you have to buy in, you know build your stock up again”*. A loss of income results and, in order to rebuild the stock, debt is increased.

After Wendy’s experience in the 1970s, she decided to go back to work when the next drought came in 1983-84. *“I just knew I couldn’t...you know, well obviously I couldn’t go on the road again and husbands didn’t really do off-farm work in those days, they do a little more now, but it was really easier for the woman to go work off-farm.”*

The relationship Wendy had with her parent's in-law dominated her decision making. She talked about how it was different at home for the children with her at work, but that this was ok because *"it was just one of four people, so Mother In-law and Father In-law, two men working the farm and me going off"*. Wendy really emphasised how working off-farm helped her retain some sanity, *"it is also important to note that sharing [living arrangements] was very very difficult – it wasn't a happy relationship. It was a very unhappy time for me, it was sharing for 16 years and it was only supposed to be 2...and it went on and on and on. All through those years I would have been insane if I hadn't been off-farm [working]"*. It is clear from Wendy's story that her decision to work off-farm was surrounded by complex interconnections including finances, family relationships and career opportunity desires, *"it wasn't just economic, you know"*. Wendy believes that because she *"got away [off-farm],"* sharing living spaces with her in-laws was bearable and that working off-farm *"probably saved the marriage"*.

The difficulties that Wendy experienced living with her parents-in-law has meant that she and her husband have decided to move off the property *"we're going to leave the house"*. They plan on allowing their son and his girlfriend to live on the property. They have been living with Wendy temporarily but now she says it is the time to *"give them a go, give the young one's a go, we didn't have the opportunity where people moved off, you're [her children] getting it so make the most of it and we're here if you need us"*. Wendy talked about the need to *"shed responsibilities now"*. This was a huge decision for Wendy and her husband to make, *"my husband has never lived anywhere else and I've been here nearly 40 years"*. When asked what brought on this decision Wendy explained that her son did not want to move off the property because he loved it there and so she thought *"well how about us going!"*.

*We didn't realise till we looked back with wisdom*

Sharing the homestead with her parent's in-law traumatised Wendy, tarnishing her memories of early marriage and family life. The difficulties associated with farming in

drought added to the significant issues she was experiencing at home. After Wendy and her family returned home from driving the stock during the 1970s drought, they returned with *“fat stock, which was a great thing, but the hard thing was, that my father in-law really owned most of it. He was a tyrant and for all that [we did] we didn’t get any profit. He used to think, you can live here, work your arse off and he would keep the money and that’s how we started to be in debt.”* Later in the interview Wendy reflected on her father in-law’s behaviour *“we didn’t realise till we looked back with wisdom, we wouldn’t have nearly as much debt if he had given us a fair share of the property. He was actually, secretly buying off commercial property – and when he died he left it to other children. You see, there are all these sorts of issues. But it was the drought, the drought was very hard”*. In her mind, Wendy has been able to find reason for her father in-law’s behaviour, realising that his way of coping was by being in control of money during the drought. All the reasoning, experience and hard lessons learnt supported the decision to move off-farm and let her son have an opportunity to farm without her and her husband’s presence and control.

There was a sense of loss in the decision to move off-farm for both Wendy and her husband. Wendy explained how *“most farmers won’t leave, that’s the norm, they can’t pull themselves away. My husband is very fit, but basically he’s over it. He is feeling the pain of knees and back and amazingly he said ‘well let’s go, we’ll only be ten minutes down the road’ and I thought, what a wrench”*. This feeling of loss or detachment resonated for Wendy in the way she spoke of her garden and love of her home, *“I’ve done the gardens for 40 years, it’s a magnificent homestead, it’s going to be very difficult”*. The motivation behind Wendy’s acceptance of the move came from her concern for her relationship with her husband and son *“it’s all about the relationship and staying friends with our young ones. This is our priority. Because of my experience with sharing before, I just thought, no let’s get out. It’s been difficult; it’s not easy to farm with two families”*. Clearly, the decision to agree to move off the land was immensely personal and complex.

The decision to move off-farm requires practical and logistical planning. Wendy talked about debt often throughout the interview. This debt is something to deal with before they move off-farm *“always the case of shuffling”*. There is genuine concern expressed by Wendy that this financial transaction and upcoming conversation with her son will cause *“World War 3, 4 and 5”*. Wendy talked about how her house was a *“trapping of wealth from a previous owner, not our generation”* but now *“the last one, the 10 year drought, well this has just really been the thing that’s made us have to accept that we’re going to sell half the farm to get rid of the debt that’s now built up. We simply can’t cope with it anymore. So, let’s be realistic and deal with it. For our son, this part is very difficult, because he doesn’t want to get rid of the land, so this is World War III but we’ll get there”*.

When asked about what the future might look beyond the farm for Wendy and her husband Wendy excitedly explained that *“it’s not hard; I think to work out what you might want to do in so-called retirement. I mean retirement to us.. we don’t even use the word. It’s just a shifting of balance; it’s getting a new balance so you can have more quality time [together]”*. Throughout the interview Wendy’s commitment and strength to maintain relationships and family ties was always the driving factor in her life. *“We’ve got heaps of things to do, lots of dreams but the main problem we have to address is working out how we will do it [the move] with the priority – maintaining the friendship with our son. I mean we are close, but it can shift”*. Wendy and her husband had just returned from a week end trip in the city *“You know, entertaining ourselves – ballet, art and all the things happening there and we got back today and I thought, wow we can do this much more often”*. Later she said *“I got him [husband] to the ballet, which was a scream, you know we were laughing after it and he said ‘I don’t see many farmers here’ and I said you won’t”*. For Wendy this was really important to share during the interview, she wanted it made clear that *“he’s open to that, whereas a lot of other men here would say, oh don’t be ridiculous woman!”*.

In reflecting upon the quality time she has with her husband Wendy says *“if I did the math, I’ve had very little time with just the two of us and it was when the children were at boarding school, we did have some lovely times, but you know, next thing their home and our son didn’t really leave. There may be only eight years in there that we have spent together”*. Quality time, connection and communication were important themes that arose in Wendy’s interview. Even though, times were tough at home, she was able to come away, enjoy time with her husband and feel refreshed to go back home and deal with the debt, moving and family issues. While away, Wendy and her husband visited family they told them about their decision to move off-farm *“we told all of them and they all support us wholly and that has made us come home and feel stronger”*.

### *Traditional town girl attitude*

Throughout the interview and throughout many of the experiences that Wendy shared, she often referred to herself as a *“town girl”*. This attitude described Wendy’s approach to difficult situations; she felt she was somewhat immune to the country or outback stoicism as she maintained her *“town girl attitude”*. Often Wendy named someone with this stoic or traditional attitude as someone who *“staid in the wall”* [rigid and conventional]. This was an attitude that Wendy has had to deal with throughout her life on the farm and even now with the prospect of moving off-farm. When exploring the options of moving off-farm Wendy says *“we can’t go any further, we don’t want any more debt so we’re going to leave and shock horror – this is not really the image that the retired grazier is meant to have but too bad! [she laughs]”*.

As a rural woman in Australia, Wendy was very aware of her role as a wife and provider, traditionally and in a more modern style. Wendy talked about facing the President of the Country Women’s Association (CWA) in the early 1980s when she decided to return to work due to the financial pressures of the drought. *“the CWA lady came over and said ‘well you’d want to be earning well to allow time to go off-farm’ and I said no, I’m on a basic wage but I need to do it’ and she strode off on her heels!”*.

Wendy says that she thought to herself at the time that *“you’re jealous because you’ve got no off-farm experiences”*. Wendy believes her experience of challenging the stoicism of rural Australia enabled her to recognise both the positives and negatives of off-farm work. Wendy believes there are indeed positive elements of “tradition” such as *“they [on-farm women] are good at what they do, they are positive about their farm and are often the brains behind the businesses, being a stay at home Mum – they are all positives. But the negatives are that they are trapped”*.

### *They are trapped*

A sense of entrapment was referred to many times throughout the interview, particularly, its effects on mental health. The isolation of rural women, and men, was a serious issue for Wendy and her community. Wendy talked quite openly about how the pressures of rural life, drought, finances, bankruptcy, and clique communities, can often result in what she called *“terrible rural ills, you know that sort of thing where you do really contemplate suicide”*. Wendy spoke about how suicide was something that was prevalent in her community. *“So how tragic, it’s more your own limitations I believe. I’ve always coped with depression because I’ve made myself cope and it does get difficult but I am very strong, now some people just can’t do that.”* Wendy then continued to tell the story of a close colleague who suicided just the week before. This man, she believed, could not *“admit defeat”* and ask for help. She believed it was linked to the ideals of stoicism and that it would have been a *“huge loss of face”* if he had to approach others for assistance.

The death of this colleague was a *“horrible shock”* for both Wendy and her husband. However, the shock paved the way for Wendy and her husband to have conversations about their feelings. *“My husband admitted that he had also contemplated suicide to get out of the worst of it. I wasn’t surprised because I knew he went through a period where he didn’t say that but I knew, you know, that sort of BeyondBlue sort of situation. Not that he asked for help, but he was wearing a BeyondBlue band around his wrist and he*



*didn't take it off for ages, that was his support and I took that on board, and watched him closely. That would have been the period he was referring to when he was really low, but we are past that now".* It is interesting, that Wendy who was dedicated to challenging the traditional role of women on the land, responded to this situation by not questioning the wrist band, watching her husband closely and being aware of his periods of quietness. *"Knowing him so well. when he's down, we'll jump in the car and go to the movies or out to dinner. You know, he's different from the staid in the wall country men, in that he will go out and have fun".* The role that Wendy plays in moderating and assessing her husband's wellbeing is significant. This is a huge responsibility for her and she was aware of this *"as country women, we have a huge role. People don't understand, because if you're married to a guy like that [staid in the wall] they are in danger. My guise is always, I've helped him or he's helped himself".* Clearly, Wendy's approach to mental health was very self-driven, motivated and self-responsible.

However, Wendy did indeed talk about services and approaches that have worked for her in the past and upon reflection acknowledged that professional assistance may have been invaluable.

### *Absolutely traumatic*

In 1990 upon returning from a family holiday, a day earlier than planned, Wendy and her family were faced with a major bush fire on their property. Wendy believes if they had not come home that day earlier, which was a coincidence, they would have lost everything. Instead *"we lost all our hay, sheds, and fences. It was an assessed loss of \$283 000, and we only had insurance for \$34 000".* Naturally, Wendy said that this was an *"absolutely traumatic time, the thing is we were offered counselling but declined, we thought we're fine, people died for heaven's sake, we're fine!"* Again, Wendy's self-driven resilience was spurred into over drive and instead of accepting the offer of psychological care: *"we cleaned up, got rid of the soot, we were young, we could deal*

*with it, but we were terribly traumatised. I did what I always do, I counselled myself and just said don't be a wimp!"*

In dealing with these issues Wendy retreated to 'The Fort', saying *"it was definitely a fort moment"*. The fort is Wendy's place of serenity on her property. *"There's one hill in particular. A little ring of stones basically, on top of the biggest hill [on their property] which has a fabulous view. And the fort is where we go when we can't cope. Even our grandchildren now, we all go up there and they all know it's a special place. I'm not religious but when I really want to communicate or think of my parents or anything deep and meaningful – the fort is it. Even our city family know about it, you just sit on the stone and add a stone every time you visit"*. Wendy's tenacity, her self-determination and commitment to self-reliance is undeniable. However, in 2001 when another bush fire burnt a few acres of their property Wendy *"went to pieces"* realising how affected she was by the earlier experience. However, she still did not access any professional support. Towards the end of this conversation Wendy emphasised how *"we've had no tragedies, no dramas, so we're very lucky"*. Underlying all of Wendy's intense experiences with bushfire's, droughts, and a difficult home life, Wendy's resilience shined through, her persistence and strength is undeniable.

### *Everything's sort of in date order*

Wendy explained that for her, another way of coping with the stress of rural life was diarising her emotions and thoughts. *"So, I've written a diary for 48 years, every day since I was 14. So it's not hard for me to think mentally, you know, documenting things because I've been doing that all my life. Everything's in a sort of date order and so it's not hard for me, touch wood, while I'm sane, to recall things in date-blocks"*. This logic and organisation of memory and emotions have been able to support Wendy in making choices for the future. She explained that it was easy to recall when certain situations, such as when living with in-laws, was not working well.

Wendy's narrative highlighted her self-motivation, her ways of coping and managing rural life and her ways of negotiating difficult situations. This narrative also described many complex life events that occurred, including drought, that impact the way in which she learnt to manage and deal with her situation. One thing is clear; Wendy spoke with admiration for her lifestyle and home town. Even in drought, Wendy found the beauty around her *"drought – it's meant to be eight to ten good years and eight to ten bad years [drought]. I have to say it would probably be a bigger balance of drought than not. But then, when it's good, it's fantastic, its magnificent country. Then when there's drought, you can't do a thing about it, but, it recovers, it does recover. And as soon as it rains, it starts to green up and it looks fabulous" ...*

# 6.4. An Older-aged Woman’s Narrative

## Portrait of Alice

Alice and her family have always lived on the land. Her family have sold and bought different properties throughout Australia until 1994 when they moved onto the property that they currently farm. Alice and her husband love their life on the farm, although it has changed as they have grown older. Alice has two children, one is a nurse and the other is a tradesman. Both her children left home in their late teens to pursue their studies. Her adult children live far from her but Alice visits each of them several times during the year. Alice currently lives in an inner regional area of Australia was aged 89 years at the time of the interview..

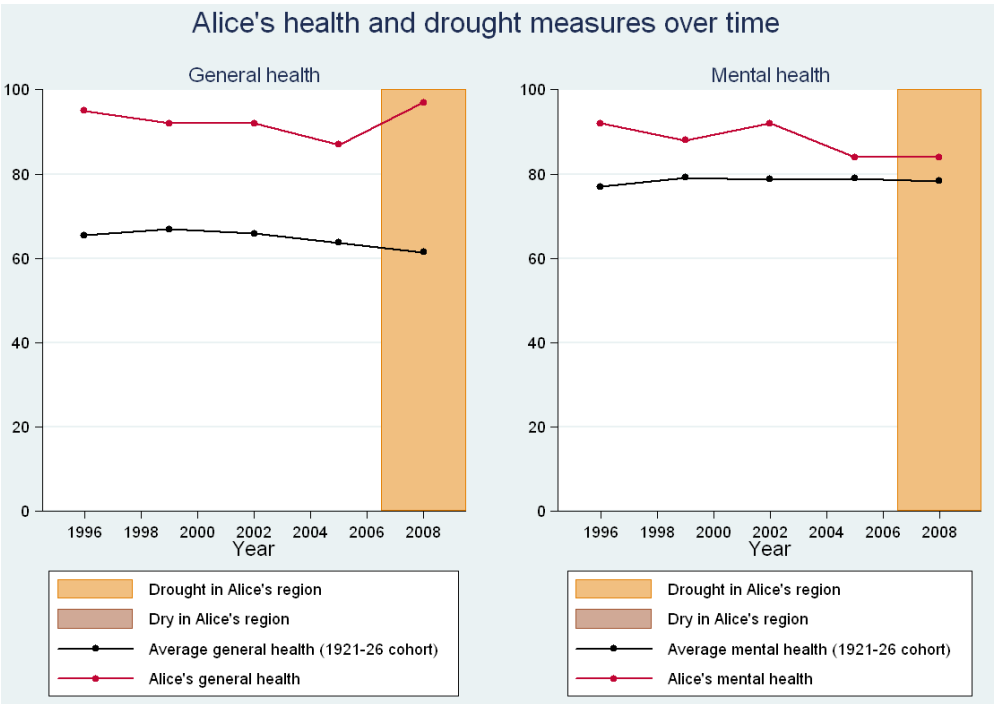


FIGURE 7 ALICE’S HEALTH AND DROUGHT MEASURES OVER TIME

Alice's graph (Figure 7) describes her General and Mental health. Alice's scores are above average when compared with the older ALSWH cohort. In 2002, there is a slight decrease in Alice's General Health and Mental Health. In 2002, Alice wrote in the free-text comments that she was living on a large rural property and felt a lot of pressure to keep active and well in order to maintain the farm. Three years later in the next survey, Alice wrote about the drought and how, apart from the severity of the drought and the stress this causes, she feels quite well and healthy. In her narrative, Alice described her experience of drought and reflected upon previous droughts in Australia's history.

### **Alice's Narrative**

#### *Then of course we had the drought*

Alice began sharing her story about life on the land as a rural woman with direct reference to time before the drought and *"then of course, we had the drought"*. This period of time was a period of transition for Alice as she returned to work after 25 years out of the nursing profession.

During the 1970s, life on their rural property became exceptionally difficult for Alice and her family. The drought was causing pressure, but also the banks had increased interest rates *"from 6% up to 14% and we'd just bought a property. The cattle market collapsed so we were caught in the middle and my husband said, one of us will have to go to work"*. Alice explained how she applied for other jobs but that the hospital was very short on staff *"when I told her [the matron] I hadn't nursed for 25 years, the matron said, oh you will be rusty. I didn't do a renewal course because they didn't come in until about a fortnight after I started, so I just learnt as I went"*. Alice was 53 at this point and described returning to work as *"sheer hell, I only had one [nursing] sister who really helped me, it was pretty dreadful for the first couple of years"*. Alice persevered with nursing and over time, her passion and commitment to the profession returned,

resulting in her becoming the Nursing Unit Manager for the next 14 years. During this time, her husband continued farming and “yes, we saved the farm [from bankruptcy]”.

### *Buckingham Palace*

Alice spoke of financial hardship at a time earlier in her marriage, rather than more recently. Alice was rather pragmatic about the fact she returned to work, so money issues were resolved for that time. However, in their earlier family life Alice and her husband did experience financial stress. Alice talked about how money “*just wasn’t there. We went on to a big property, 2200 acres and we just didn’t have the money. The farm originally belonged to my family and we were given the chance to start which was wonderful*”. While this was a period of stress for Alice, she reflected upon this time as a really uplifting and strengthening experience “*we stayed there for 16 years and actually it was the best time of our life, because we had to do everything [ourselves]*”. Alice’s determination to manage this difficult experience herself using her own direction and resilience, indicates that her way of dealing with difficulties was, again, a pragmatic and practical response. “*We had to cut our own timber, drag it, load it. Look after animals, we went into pigs half way through and that was a wonderful investment. We built our own bricks. Built them down near the river – when we went into the house it was just a two-roomed house with a front veranda. The walls were lined with newspapers from the former century. So we started from that and we added on a front with our own bricks and made it into a very nice house. Oh and we built a piggery with the bricks, and the neighbours used to call it Buckingham Palace*”.

During the interview Alice talked about the drought with some emotion; however, she was quick to remind herself of the positives in her situation. “[the drought] was difficult, as far as the property was concerned from 2000 until the last couple of years, we wouldn’t have been able to put cattle on the property...we miss the cattle... but they do take a lot of work so now my husband is mainly busy working on old equipment...”. Alice’s husband was now 90 years of age. As much as Alice may have liked to run

cattle on their land they could not afford it during the drought. They currently live on a pension so it is still not possible to run cattle, however Alice reminds herself how much work this would have taken and that in fact, there is enough work for her and her husband without introducing cattle.

*We've cut down a lot since we were 85*

Alice and her husband are both still very involved with running the property. They have no outside help. Alice helps out as much as she can *"I help my husband when necessary or with any heavy lifting, although he has a small Chinese tractor that does the job instead of me now. There's a fair lot of mowing which I did with a commercial hand mower until this year [2012]. I've got a ride-on now. That used to take a lot of time. I've got a huge house. It was built in the 1880s. So it's not easy to look after, uphill and down dale"*. At the age of 89 Alice was still very hands-on with the work load. Alice laughed and said that they have no time to watch TV, but they sometimes watched in the evenings or if something special was on at the weekend.

Alice believed that since the age of 85 she and her husband have *"cut down a lot"* of the work they once did. However, she explained there is still a lot of work to be done on the homestead. *"We get up a bit later and my husband comes in a bit earlier, he used to work a good eight or nine hours but he does about six now. I've cut down too. I do a lot of reading, I'm a great reader. I'll go through about six books a fortnight. We're very keen on reading. We've got a big library here and we belong to the town library which is excellent"*.

Alice explained how the nearest town about is 40 kilometres from her property, *"I travel 40 kilometres into town to do my shopping and I'm always glad to get back again"*. For Alice, she did not really like the busy nature of towns and perhaps this is why she does not visit there often. *"I haven't had the chance of making very many friends and I don't go in [to town] that often to maintain friendships. I've got a lot of very old friends. They are just passing by the wayside, I might add. I'm going for a 90<sup>th</sup>*

*next week...so very old friends.*” Alice said that she does not really have a lot to do with the main town. Occasionally she might visit an art or photography exhibition there.

When asked about loneliness or feelings of isolation Alice laughed and quickly responded: *“No! Not in the slightest, I’ve got plenty of wild animals to keep me company. Kangaroos, wild goats, emus - You mention it, we’ve got it”.*

### *I wouldn’t leave it for all the tea in China*

Alice talked often about the peace and tranquillity she has at home, on her property. She talked fondly of her home, the environment and where she finds serenity; *“I have a very wide veranda which faces north and there’s nothing more wonderful than to sit out there in the sun on a Winter’s day and have the sun shining full on you, not a sound except birds and trees...absolute heaven.”* Alice explained how this special place has an impact on her health *“Peace and quiet make the world of difference [to good health]. You’ve got to do things. You can’t just sit back and hope somebody else will do things for you. I do everything I can. There’s not much I can’t do. I was helping with the cross saw and the cutting of wood but my husband was always worried that I’d get too close to the saws and now he insists on doing it on his own.”* At the age of 89 Alice remained committed to her independence and self-reliance.

The only time Alice or her husband saw a doctor was once a year for their driving test assessment. *“We’re both perfectly healthy; neither of us believes in the medical profession ourselves. We don’t go near them. We don’t take medication whatsoever. I take cod liver oil, go through a course of molasses and then I’ll do a course of barley greens and that’s it. I’ve had a few aches and pains and I dare say he [husband] gets a few aches and pains, but that’s it.”*

In regards to her health, Alice’s survey responses highlighted her wellbeing and good health. Since 1996, Alice had continuously reported that her health is either Excellent or Very Good. Her Vitality index has also remained high since 1996 until the more recent



survey in 2008 when her Vitality score was at 60 compared with a previous score of 85, suggesting she was not as energetic and was more tired than at earlier survey waves. It was also interesting that Alice had reported increasing Bodily Pain since the second survey in 1999, however she complained only of “*a few aches and pains*”. Fitting with these scores are Alice’s high mental health scores which indicate her resilience and wellbeing. Alice’s story and health scores indicated that she is a hardy, practical and often stoic older Australian woman.

When asked if she and her husband imagine a time of retirement or life off the land, Alice replied with “*I didn't want to retire. I still haven't retired*”. Officially Alice stopped full time nursing at 68, worked part time she until she was 75 and then did legacy nursing until she was 80 years of age.

In terms of life away from the land, Alice said that it was funny that this question was asked during the interview since it was only a couple of days earlier that her husband asked her the same question. “*As a matter of fact the other day, my husband said to me, ‘do you like living out here?’ It’s the first time he has ever asked me this. ‘Are you happy to stay out here?’ and I said, I wouldn’t leave it for all the tea in China!*”.

It appears that Alice was able to incorporate her experiences of drought, trying times on the land and ageing into one understanding of the cycles of life. Alice did not appear to battle too much with any of her difficulties; times were tough but there was certainly a level of acceptance and recognition that all of her experiences were simply part of life on the land in rural Australia. In regards to the drought Alice concluded the interview explaining how “*in some ways drought does a lot of good. It’s a cleanser, put it that way. It gets rid of a lot of weeds that perhaps you don’t want anyway...it got rid of all the wild radish and a lot of bad weeds, we’re getting all the good weeds back now. Consequently [now] there is plenty of feeds...oh yes, it’s a cleanser. Drought, it has its place.*”

## **6.5. A Performative Analysis Of Young, Mid-aged And Older-aged Narratives**

The following draws on a performative analysis to explore the insights and lessons learnt from the women's narratives (described in sections 6.2, 6.3, 6.4). This section uncovers how the women interviewed told their story, in what ways they manage their emotional health during the drought and how this may have impacted the ageing process. Support systems and barriers to good mental health are discussed.

Each of the women interviewed told their story about living in drought in different ways, although similarities can be seen across the three narratives. One of the most important understandings from this analysis is that there are decision making 'flows', choosing when, and what to tell as part of their narratives. Decision making is a unified component of any interview, discussion or interaction with others (Riessman 2005). The women in this analysis also made choices and it is important to appreciate these choices with an understanding of their context and motivation.

Tracey (younger woman) emphasised that Christianity for her was a driving force in her life. For Wendy (mid-aged woman), maintaining self-direction and keeping peace among her family was a driving force and for Alice her love of her life on the land was her primary motivation and foundation for dealing with drought. Of course, none of these motivations occur in isolation, although, each of the women emphasised these elements as their primary driving forces. These forces consequently guide their decision making in telling their experience of drought in Australia. These driving forces enabled the women to share their experiences in a way that supported their motivation and enabled them to make sense of their experiences, thus make meaning of their story.

It was clear in Tracey's interview that she could make meaning from her experience of drought, through her Christian faith. Tracey's experience of drought was one of hardship, new learnings, life events and family change. Throughout this time, Tracey placed faith in her Christian beliefs. This faith guided her life choices and behaviour.

Tracey believes she was a ‘good Christian’ and found it hard to admit during the interview that she had experienced an emotional breaking point during the drought:

*“I did end up with a little bit of depression [whispering]”.*

It was difficult for her to acknowledge this as she did not want to admit to her husband that she was not coping and she certainly did not want his parents to know that their son’s wife was not managing *“I love them [parent’s in-law] dearly but I’d just hate them to think that I wasn’t coping”*. Tracey believed that to be a ‘good wife’ meant that she needed to manage and support her husband:

*“because of the drought, as a wife, I suppose I felt that I was there to support my husband”*

Throughout Tracey’s life she always believed that she was doing *“God’s work”*. Tracey believed that God had put her on the farm in this small community to do God’s work. Her faith in Christianity enabled her to feel supported and encouraged her to remain on the farm:

*“You know, it’s God’s work and it’s a pleasure to do it and you just hope that more people will come to know Him, but - so, I love the work that I do”*

However, during the drought, after their son’s diagnosis of autism and her own mental health decline, Tracey experienced a crisis of faith. Tracey felt that perhaps God was steering them off the land, that perhaps the drought was an indicator to move from the farm:

*“During the drought we actually thought that is God telling us that maybe we should be doing something else? That maybe farming is not our calling?”*

These questions unsettled the core of Tracey’s existence. Suddenly, insecurity of her faith and questions surrounding her role as a wife, were confronting her. It is not surprising that at this time Tracey experienced depression and anger. In trying to deal

with her situation Tracey turned to her faith and her church, but this time it included sharing her experiences through communication with other people. Tracey found great comfort in the church at this time. She spoke openly to her minister's wife who offered support. Tracey draws on this social support to recover and heal herself from depression and anger.

At this time and throughout this scenario it is possible to recognise in Tracey's story, how she managed her health during the drought. It appeared that her stress and concern were not shared with any one until a crescendo breaking point in which Tracey sought help and assistance. This highlighted Tracey's capacity to change, her ability to seek help from not only a higher being but also from other social support networks such as members of her church. Tracey's Christian faith remained her primary motivation throughout her experience of drought. It is possible that this resulted in Tracey's choosing to gloss over some areas of her experience, areas that she may feel would portray her as a 'bad' Christian. However, her story illustrates that Tracey herself grappled with what it meant to be a 'good Christian' and that this experience and learning to manage her emotional health during the drought was a "*real eye opener*" for Tracey.

Similarly, Wendy presented her lived experience of drought with resilience and tenacity. Wendy has a very strong sense of identity and this is shown foremost in the way she managed many difficult life situations. One other obvious coping strategy Wendy employed was her use of diarising. Wendy had maintained a diary for 48 years, so her ability to reflect, acknowledge when things were not working well and recognise solutions were mechanisms innate in Wendy's approach to life. This was an internal approach to management as opposed to Tracey who looked externally to God and family support.

Wendy was not born on a farm, she was raised in the town and she often referred to herself as a "*town's girl*" which distinguished her from other women who, she believed,

lived according to traditional notions of what it meant to be a 'rural woman' and 'wife'. This "*town's girl*" identity gave Wendy permission to make decisions and changes, such as returning to work and more recently, deciding to move off the land, even though this was not what traditionally would have been expected from "*a grazier's wife*". This sense of identity was interesting, considering Wendy had now spent the majority of her life, over 40 years, living on a farm in rural Australia. Yet she has maintained a connection to her youth and identity as a "*town's girl*". Wendy believed that this identity enabled her to shed some of the guilt associated with making less 'traditional' decisions and allows her to be more pragmatic about her life's direction rather than follow a more traditional, stoic, or expected path into retirement. Clearly, for Wendy there was a strong link between her sense of identity and her ability to cope with adverse circumstances. For Wendy, a strong sense of identity appeared to underlie her good mental health throughout her experience of drought. Consequently Wendy was able to break through barriers of emotional hardship by drawing on the freedom associated with her "*town's girl*" identity. This freedom enables Wendy not to feel trapped in her situation, as she says is the situation of other rural women. This identity appeared to provide Wendy with a sense of strength and had shared with feminist ideals such as independence and equality both in the home and outside the home.

There is however a flipside to this sense of identity. As much as Wendy draws on strength and resilience, she has been resistant to any outside assistance. Wendy's sense of identity, one of strength and power, prevented her from requesting or accepting help. Even when, upon reflection she recognised that it may have been helpful, especially when dealing with the trauma of the bushfires, she still resisted outside help. This resistance creates a potentially fragile platform on which Wendy manages her mental health. In one sense Wendy is still performing stoicism - creating a barrier to accessing support that promotes good mental health and wellbeing. In Wendy's and Tracey's approaches to their experience of drought, it is clear that even though Tracey sought external support through her faith and Wendy internally, through her diarising, neither

of them were open to accessing mental health services – both were reluctant to seek help.

Uniquely, Wendy had kept a diary since she was 14. The diary and process of recording has implications for the way Wendy managed her experience of drought. The diary acted as a solid and reliant support system for Wendy during not only the drought, but her life to date. The use of a diary fits well with Wendy's self-responsible, self-directed approach to life; again, she did not go to others for psychological support but instead wrote everything down. She said of the diary *"that it's just a habit"* but in fact the role of this diary appears much greater than a simple habit. This diary holds the answers to how Wendy manages. The diary knows when she is not managing and how she overcomes these difficulties. In this performative analysis it is clear that the role of the diary is beyond that of the consciousness for Wendy and the power and importance of this *"habit"* may have supported Wendy's emotional health and wellbeing. The diary also supports Wendy's primary motivation:

*"staying friends with our young ones...this is our priority"*

The diary had a significant role in shaping Wendy's meaning of the relationship with her son and also enabled her to recall how difficult it was living with her in-laws. The diary provided Wendy with an escape route, selling the property to their son, as the diary knows that sharing the farm with family is often rife with complications and disagreements. The diary enabled Wendy to make decisions based on the knowledge of previous times. For Wendy, the diary can make decision making easier as she can recall in date-blocks when things were or were not working well. The ability to maintain a journal for 48 years reflects the self-discipline and inner-reliance that Wendy had. Certainly this was a strong characteristic which has assisted Wendy in coping with the drought and other difficult life events.

In Alice's narrative different coping mechanisms are visible. Alice was the oldest participant. It was clear in her story that acceptance and ageing characterised her lived

experiences of drought. Similar to Wendy, Alice's pragmatism strongly influenced how she perceived and managed her lived experience of drought. Alice, as did the other women, felt a deep connection with her life on the land.

Alice's interview was structurally quite different to the other women's interviews. Alice's interview was abundant with little vignettes describing a variety of aspects in life. Some of these aspects included, returning to work, types of farming her and her husband did over the course of their life together, stories about her children and where they work, what they do now; stories about the environment that Alice lives in, the birds the trees the kangaroos, information on her hobbies, her love of reading, her favourite place the veranda on the front of house, the peace and serenity she feels from her living on this property. Alice was keen to share so much about her experience of life on the land. It appeared that with ageing Alice developed a deep sense of acceptance of life and its difficulties. The drought was a difficulty. However, in retrospect, Alice accepted the drought as just part of the cycle of life.

Within each of the micro narratives of Alice's interview her mental processing can be seen. Firstly, Alice acknowledged the problem, then followed a quick response to the issue. As can be seen in this short example:

*"Then of course, we had the drought. Since then we have not restocked. When we turned 85 and the conditions of pensioner requests were altered, we were able to go onto a part time one, it was about \$40 a week. Since then it's gone up a little bit but we can't stock the place or sell. We can't make any income from it. All we're doing is improving it."*

In this quote from Alice's interview, it can be seen that the drought caused problems, such as not being able to stock cattle, not being able to sell the farm and not being able to make money. Throughout these situations Alice maintains the pragmatic and optimistic approach of *"we're improving it [referring to the farm and soil quality]"*. Alice could have responded in a negative manner but she did not. Alice had a strong sense of optimism and acceptance.

Alice's interview indicated that she was a strong, stoic woman with a deep sense of identity and love for the land. Alice took ownership of her life and situation, referring constantly to situations and objects that belong to her:

*"There's a fair lot of mowing which I did with a commercial hand mower until this year. I've got a ride-on now. That used to take a lot of time. I've got a huge house. It was built in the 1880s..."*

This exemplar illustrates in Alice a strong sense of self, assertiveness and authority. Alice is a stoic and resilient woman. However, unlike the other women interviewed Alice did not fight against her stoic roots.

Alice did not appear to battle stereotypes of what it meant to be a woman on the land. Alice's acceptance and ease with life overthrew any cause for catastrophe, her pragmatic approach steered her behaviours. Unlike the other women interviewed, Alice did not outwardly acknowledge any feminist struggles. Alice was happy for her husband to take a guiding role in their life together. As Alice mentioned:

*"As a matter of fact the other day, my husband said to me, do you like living out here? It's the first time he'd asked me this. Are you happy to stay out here? I said, I wouldn't leave it for all the tea in China."*

Never before had her husband asked her if she was happy living on the land, it was simply what they did. However when asked by her husband about this, clearly Alice would not have it any other way. Alice's husband, of whom she spoke of fondly, certainly guided decisions that Alice made during the drought, her returning back to work was his suggestion. Decisions for Alice were strongly influenced by her husband. It is not suggested that Alice is at all passive in their relationship, or her life, just that Alice did not rebel or struggle with more contemporary feminist ideals. As in Wendy's narrative where there was a strong desire to highlight how she managed to get her husband to the ballet, to her this was a somewhat feministic achievement.



Any harmful effects of Alice's lived experience of drought were clearly shielded by her ability to be strong, resilient and pragmatic. It is worth acknowledging however, that this tone and approach may be an ageing effect. Perhaps if Alice was asked about her lived experiences of rural life and drought in Australia 30 years ago her response may have been quite different. However, this is not a known affect and can only be acknowledged as one element 'beyond the conscious' that may be at play within Alice's narrative.

Alice lives contently with her husband and she approached life in a very rational, logic and accepting manner. In Alice's narrative these two components appeared to be supportive systems that were at play for Alice during the drought.

In each of the women's narrative analyses different coping and management systems have been highlighted. A strong sense of identity is key for good health during drought along with a willingness to seek support. For Tracey this support shifted, from a higher being, her God, to her parish and husband. For Wendy she took refuge in her diary which enabled her to mentally organise and be prepared to make better decisions in the future, and finally for Alice a strong sense of logic and resilience were key components of her coping mechanisms. In this performative narrative analysis it has been revealed how the unconscious is at play as stories are experienced, re-told, shared and interpreted. For each of these women the social, cultural and individual presuppositions were a mix in the narratives, shaping the women's decision making. Societal expectations, such as notions of retirement, were revealed and often challenged. Cultural and individual processes such as feminist challenges, ageing and individual conflicts such as a crisis of faith, were also explored. Each of these narratives demonstrates that drought is an individualised experience. There are similarities yet diversity of experience is foremost.

## **6.6. Narrative Conclusion**

The narrative analyses conducted on telephone interview transcripts provide a rich source of insight into women's daily lives and experiences of drought. The narratives have demonstrated that an experience of drought does not occur in isolation. Many complex and intricate life events, relationships and challenges occur during this time. The narratives have provided evidence that drought is not a simple phenomenon but a complex weave of thoughts, feelings, emotions and decision makings. Tracey, Wendy and Alice through their narratives have shown that they participate, observe and hold great responsibility during times of drought, at all stages of life. The findings from these narratives will be discussed in light of the thematic and longitudinal analyses undertaken in this project in the following chapter.



# Chapter 7

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## Discussion and Conclusion

This project has explored Australian women's stories, experiences, perceptions and interpretations of drought over a 16 year time period. This project has detailed a range of ages across the life span and identified how age is an important factor when examining women's experiences of drought.

This project sought to find answers to specific research questions regarding Australian women's experiences of drought in Australia (as outlined in Chapter One). Specifically, this project aimed to provide a woman-centred perspective of drought experiences in Australia by drawing on qualitative and quantitative data, analysed thematically, over time and in-depth. In particular, this project *investigated* the links between drought and emotional wellbeing and mental health as women age. Each of the three studies undertaken in this project have provided detail about these links. The findings from Study One, Two and Three demonstrate that drought is not an isolated experience and that experiences of drought can impact many wider life events, such as family life, physical activity and retirement. Study Two particularly highlighted how these links occur over a long period of time and the ageing implications of this such as retirement planning.

This project *identified* characteristics that support and assist women in coping with drought and maintaining emotional wellbeing. The results from each study undertaken demonstrated that women seek support in a variety of ways. Some women turned inwardly to their own inner strength, some women were able to draw on family while others were involved in community based activities such as church groups. Women in the current study appeared more inclined to seek informal support rather than support through organised healthcare (e.g. psychologists). The reported 'connectedness' of

small communities was also found to be beneficial for these women and assisted them in coping with drought. These findings offer valuable information about the types of community structures that can be used as a base for building further supports that will assist in adaptation to drought conditions (for further discussion see section 7.6).

Finally, this project *determined* the generational differences in experiences of drought across the lifespan. In each of the studies undertaken a generational comparison was completed (see sections 4.5, 5.23 and 6.5). Women in their early twenties wrote about big-picture issues but this tendency faded once these women had children, when the focus became very inward with most comments relating to day-to-day challenges of raising children. By comparison, mid-aged women wrote primarily from a forward looking stance, writing about their concerns for the future, the older group wrote reflectively, with a big-picture viewpoint but rather than focussing on the world, as the very young women had done, this big-picture viewpoint was historical in nature, taking in a lifetime of experiences to provide context to their current life. In this project evidence was provided for the importance of recognising age differences and generational needs. It has been shown that drought impacts different aged cohorts of women differently. The inward focus of the young women meant they dealt with drought in a practical day-to-day manner, the forward focus of the mid-aged women led them to feel stressed as time passed and the drought worsened, whereas the older women were able to place their experience of current drought into a perspective that included past survival of drought. The needs of women vary across the lifespan. The findings from this project highlight that an awareness of age is key in providing relevant and useful support to women during drought.

The specific aims of this project fit under a broader objective, which was to contribute to the climate change discussion by bringing evidence for the importance of gender and ageing as essential components for policy and planning. This final chapter will address the findings of this project in relation to the literature and policy implications.

As well as providing policy recommendations this chapter contextualises the research findings within the body of existing literature and theories employed. The application of the Bio-psychosocial and Ecosystem models of health to the research findings is discussed, followed by an examination of vulnerability in drought, which then leads the evaluation of the suitability of Solastalgia as a framework for understanding the impact of drought. The complexity of women's roles and the application of Place theory are then detailed prior to the implication of the results for policy, practice and future research. The strengths and limitations of this project are examined followed by some final conclusions.

## **7.1. A Comprehensive Approach To Health**

One of the overarching aims of this project was to address health within an holistic framework. In doing this the bio-psychosocial model (Engel 1980) and also the Ecosystem Health model (Rapport D 2002) were applied.

The bio-psychosocial model purports that human beings are more than just biological components and that in fact, humans are part of a system. This systems approach to understanding health means that individual, family, community and behavioural factors, as well as the sequence of events are all examined when investigating a health issue (Borrell-Carrió, Suchman et al. 2004). This view has a sociological and a psychological foundation which forms the basis for how health was viewed in this project. For example, when exploring women's narratives in drought it was important to know what other major life events were occurring parallel to the drought, such as raising children or family disagreements. Understanding the system that the women were a part of enabled a presentation of the women's experiences of drought in a real-world situation, not in a vacuum.

While the bio-psychosocial model provided a suitable framework to discuss the origins of health for women, the way in which the environment impacted on these perceptions was not adequately covered by this approach. Therefore, the Ecosystem Health model

was employed. This approach suggested that the natural environment has a relationship with human health. This model presents an holistic view of health, particularly important to this project, in examining the experiences of Australian women during drought. These two health models combined provided a comprehensive lens in which to examine health. The Bio-psychosocial model describes systems and connectivity, while the Ecosystem Health model overtly incorporates the natural environment into understandings of health.

This combination of health models was important for this project in its investigations. For example, it was important to incorporate the rainfall patterns of the women when creating the narrative analysis, placing their health into the broader natural environment. This approach also assisted the thematic analysis particularly as women were going through menopause while in drought, overtly acknowledging the impact of the natural environment, alongside social, family and personal factors in the women's life stories.

In each of the analyses conducted in this project women wrote and talked of their health and its relationship with the natural environment as well as psychosocial factors. Interestingly women linked their sense of self to the natural environment. Previous research has also explored how a strong sense of identity can have positive implications for human health and wellbeing (Ryff and Keyes 1995). In the thematic analysis undertaken (Chapter Four) women wrote about their sense of identity and how their health was connected to this and their family role. A strong sense of self often provided inner strength for women in their management of the drought, while for other women their identity became a burden, the sense of responsibility associated their definition of identity created an overwhelming and exhausting situation. For instance, for one woman her identity of 'wife' became overwhelming as she wrote "*he [husband] constantly tells me he needs more help but I'm not super woman...we hope it rains soon*" (Mid-aged participant). However, for others, associating themselves to the rural milieu enhanced their feelings of resilience, being able to contribute to farm life was a positive attribute for some women "*I have been so happy working long hours earning money to help the*

*farm. I feel my wellbeing, health, mind have improved so much- I sometimes get tired, but that's all, I feel I'm a much happier, healthier person for working"* (Mid-aged participant). This two-sided experience of identity was a prominent finding of the thematic analyses (Study One), but was also a shared aspect among the other two analyses, particularly the case narratives.

The interviews and narrative analyses allowed this project to build depth to the women's experiences and stories which were raised in the thematic analysis. Themes were often shared among all analyses, however, the narratives developed the experiences of women. Within the narratives the complex roles and identities women have were revealed. When applying the two health models it is possible to see just how intricate the implications of drought are for human health and the personal narratives highlighted this. The women's narratives described the pressures of family life, illness, financial pressures, service use and experiences associated with ageing. Women wrote about how all of these areas of life compromise, challenge or enhance their feelings of health and wellness during drought. This complexity can be seen in Tracey's narrative (see section 6.2) when she is experiencing a devastating drought as well as dealing with her young son's diagnosis of autism. The drought becomes the backdrop in which other life events occur. This did challenge Tracey's health as she experienced serious depression during this time, confounded by her stressful family situation. Similarly, Wendy's narrative (see section 6.3) of her epic journey of droving cattle with her young family, highlighted the complicated nature of drought. Wendy's decision to walk the stock was out of desperation for both the drought, and also her need to escape from her parents in-law. In reflecting on her time in drought, Wendy could see the impact it had on her emotionally and financially. To date, there is little literature which has fully explored the complex nature of drought and the position it has in women's lives.

Without the combination of the Bio-psychosocial model and Ecosystem Health (Engel 1977, Rapport D 2002) model, this understanding of drought and women's health would not have been possible. Understanding the relevant the systems and order of events of



particular life situations was vital in being able to re-present the women's stories and to gain insight into their health and wellbeing, coupled with an appreciation of the natural environment and acknowledging the role of drought in women's health. Each analysis in this project incorporated this holistic view of health and led to the provisions of evidence for the need to recognise the influence of the environment when investigating women's health, experiences and life histories in drought.

## **7.2. Vulnerability In Drought**

There is a plethora of literature exploring the *potential* impacts of climate change on human health (McMichael, Woodruff et al. 2006, Alston 2007, Confalonieri, Menne. et al. 2007, Patz, Gibbs et al. 2007, Patz, Campbell-Lendrum et al. 2008, Anderson 2009, Berry 2009, Kjellstrom and Weaver 2009, McMichael 2009, McMichael, Neira et al. 2009, Berry, Bowen et al. 2010, Page and Howard 2010, Alston 2011). However, there is some tension between empirical evidence and speculative literature about the actual impacts of climate change on human health. In regards to drought there is also this similar contention. Some empirical research indicates droughts do harm human health, particularly for males (Hanigan, Butler et al. 2012) yet other research indicates that droughts do not effect human health (Powers, Loxton et al. 2012). In general, this research is divided for how drought, particularly given the climate change projections, will affect women.

As explored in the literature review (see section 2.3 and 2.4) there are theories surrounding human adaptive capacity and susceptibility. It has been proposed that the most vulnerable will be affected by climate change impacts such as drought, first and disproportionately; the sick, elderly, Indigenous Australians those in remote towns, and with pre-existing health conditions are purported to be at greater risk. Similarly, women around the world could be more vulnerable than their male counterparts since females constitute the majority of the world's poor (United Nations Women Watch 2009). Australia is also experiencing a rapidly increasing ageing population (Australian Bureau

of Statistics 2013). It was for these reasons that this current project sought to place women and ageing at the forefront of the investigation into the experience of drought in Australia.

The issues raised in the results chapters of this project explore the experience of drought for Australian women and identify and contribute to the need for a gendered research agenda (Enarson 1998). Each results chapter revealed gender specific issues that have not been fully explored in previous literature. For instance, in Study One (Chapter Four), the linking of biological ageing and drought had not been previously explored in academic literature. Yet for mid-aged women menopause is often a time of increased service needs and specialised medical help, in drought this can be compromised by the financial constraints and demands on women. Studies Two and Three (Chapter Five and Chapter Six) also explored issues of ageing in drought. The elderly are a vulnerable group of society and do require particular services (Byles, Powers et al. 2006, Byles 2007), this study has provided evidence of the experience of drought among the elderly, information that has not been available until this point. Through the use of multiple methods and multiple cohorts this project explored issues of retirement, security and household stability, all of which are challenged during drought and could increase the vulnerability of a person to ill health and poorer wellbeing (Byles, Powers et al. 2006, Byles, Gallienne, Blyth and Banks 2012).

The longitudinal nature of this research provided insights into the long term and changing impacts of drought. Women's vulnerability was found to alter over time with prolonged exposure to the adverse event of drought. Without this longitudinal view, evidence for understanding resilience and vulnerability in drought would not have been possible.

The longitudinal analyses demonstrated the impact of drought over time. These impacts were different for each cohort and could lead to the increased vulnerability of women at different ages. For instance in the longitudinal discussion of the younger women's free-

text comments it was revealed that as women enter motherhood their concerns change and become directed towards providing for their families. Motherhood can be a time of vulnerability (Beck 2001, Besser and Priel 2003). In a meta-analysis conducted by Beck (2001) socioeconomic status, life stress, self-esteem, child care stress, social support and history of previous depression were all strong predictors of mental health vulnerability for women. Coupled with the results of the current project, it can be seen that a devastating drought could potentially increase women's vulnerability and poor mental health outcomes. In the longitudinal analysis (Chapter Five) it was clear after years of drought women were increasingly concerned about financial pressures and family stress. Many women wrote about beginning off-farm work and the affordability of fresh food for their families – all evidence for the understanding that motherhood and drought can increase pressure and stress for these young women.

The longitudinal analysis of the mid-aged and older-aged women's comments highlighted the risk of increasingly vulnerability in drought as women age. The mid-aged women's comments exposed an increase of stress or exhaustion over time. A cross-sectional analysis may have highlighted strength and resilience however, this was not always the case once the chronic nature of drought was taken account. By Survey Five, many women's comments reflected struggles and burdens. For the mid-aged women, one of the most significant areas of vulnerability involved financial stress. Many women were unable to plan for retirement or access medical services for economic reasons. For the older-aged women, there was also concern over financial stress with 75% of the older-aged cohort in Survey Five indicating it was difficult to manage on their income. Again, at a cross-sectional, level this group may have appeared stoic or resilient but over time financial stress and drought burdened many women. Particularly in this older-aged group, the longitudinal analysis highlighted the increasing caring responsibilities of older women that occur as women age. Often this increase of responsibility became a further burden for older women. Many women in this older-aged group were experiencing widowhood, a major life event that has significant

implications for mental health vulnerability, particularly in the context of other life stresses (Wheaton 1990).

Ageing is inevitable and in the context of drought, occurs as cycles of drought occur. Ageing frequently requires access to health services (Byles, Loxton et al. 2008); however, many of the women's experiences explored in this project highlight the financial constraints that limit health service access.

Each study in this project, the thematic analysis, the longitudinal analysis and the narrative analysis, highlighted the potential risks involved with isolation. Isolation and remoteness were found to be barriers to good mental health, consequently increasing women's vulnerability in drought. Many women drew on social support and community during their times in drought. However, many reflected on their feelings of loneliness and the lack of understanding by government and those not in drought, to their situation. This has important implications for service access and access affordability, which is discussed in further in section 7.6.

Social connection is a key component to adaptive capacity and strengthening people's resilience in drought (Caldwell and Boyd 2009, Pearce, Willis, Wadham and Binks 2010, Stain, Kelly, Carr, Lewin, Fitzgerald and Fragar 2011). For women in drought, this project has shown that social connectedness is an important component of their adaptive capacity. It was evident from this project that women did find support in being connected socially to their families and communities. Women participated activities such as volunteering, work and church commitments which engaged and supported them during the difficult times associated with drought.

Integral to women's vulnerability to poor health and wellbeing was their sense of place, with place contributing to both resilience and susceptibility to poor outcomes.

### 7.3. Connection To Place

This project explored and examined women's experiences of drought. One overarching theme was that women loved their lives, their farms and their communities. From this project, it became clear that women did not opt easily to move into urban areas as a first option in response to drought. Evidence from this project showed that women have a deep connection with their rural settings, even among environmental adversity many women did not choose to leave.

Drought is a difficulty and for some women moving into a town was an option (or a necessity) that suited them and their families. However, what was interesting is that most women did not willingly want to sell and move away from their rural properties. The drought placed great pressure on many women to do so; some women did move, but many did not. This has important public health implications. Even as women aged, many women were content and enjoying their independence on the farms, comfortable at home with no intention to move - happily 'ageing in place' (Chapman 2009). As Alice, aged 89 years, in her narrative agreed (see section 6.4) *"I wouldn't leave it for all the tea in China"*. Understanding that place is a part of people and people a part of place, it can be appreciated that the experience of ageing well is linked to the physical, socio-cultural and historical threads of a place (Keating 2008). This project has provided a evidence to suggest that ageing needs to be a vital component of any drought related research and again underscores the importance of a longitudinal approach.

It was noteworthy that the younger and mid-aged women (see section 6.2 and 6.3) acknowledged that they would move off-farm if it became necessary. It was still not their first option, however ideas around ageing, retirement and finances did make these women consider selling their property. The breadth of information from this project indicated that women would generally prefer to stay on in their properties..

Women did not easily opt for moving off-farm as they found much joy in country living. This project, by drawing on place theories (Williams, Patterson et al. 1992,

Shenk, Kuwahara et al. 2004, Somerville 2010), showed that at different life stages women found reason and purpose to stay living on their property, even among drought. As evidence, in the narratives, findings indicated that drought was viewed as a part of life and women were often pragmatic about this reality. Women shared their love of the rural life and often described it positively for example, “*magnificent country*”, “*my quiet place*”, “*absolute heaven*” (see section 6.2, 6.3, 6.4). It is important to recognise that drought is not catastrophic or unexpected experience for many but one that can enable connection and community (Stehlik 2013). The ability of drought to enable this sense of community is particularly important for policy design and implementation as adaptive capacity, social connectedness and reduced vulnerability to drought is possible when responses to drought are place-based (Cutter, Barnes, Berry, Burton, Evans, Tate and Webb 2008) and not only government top-down approaches (policy implications are further explored in section.7.6). The current project has highlighted the significance of ‘place’ to women in drought and shown that for many women their ‘place’ provided them support and enjoyment in their lives. The next section will explore how women’s wellbeing is related to their connections to place.

## 7.4. Solastalgia

Solastalgia (Albrecht 2005) suggests that living among environmental change, for instance a mining town or drought, can lead to feelings of nostalgia, powerlessness, loss of control and sadness. This project set to investigate this theory more fully in the Australian drought context.

Results from this project have highlighted that over time there is an impact of drought on women and their perception of mental health. Women wrote and spoke of the pain and hardship associated with drought for themselves, families and communities. It would be unrealistic to present drought as an easy, simple experience for Australian women. However, what was not found was a clear cyclical or circular pattern of the Solastalgia model which showed a direct correlation between environmental decline and

declines in mental health (Figure 1), whereby changes to the natural environment could be expected to negatively impact wellbeing.

This project found that at times women did write about feelings of powerlessness and loss of control. However, rather than a simple cycle, this current research found complex and fluctuating impacts of drought that were influenced by other social factors. With continued exposure to the drought women began to feel less powerful and wrote about the emotional impact and struggles. In the longitudinal analysis conducted it was clear, however, that a cyclical nature of depression was not evident. It was found that these feelings of powerlessness and sadness did occur from time to time but that women employed many strategies to assist them in coping with the drought rather than being trapped in a pattern of depression, sadness and loneliness. An example of the environmental sadness can be seen clearly in Tracey's narrative (see section 6.2) when she reflected on the damage of the drought and how sad it was to see this change in the landscape. This finding is somewhat supported by literature in the rural women's field which suggests that women are often resilient and robust in times of difficulty, as was Tracey, even though she did experience some distress during the drought. Research suggests that women often developed the necessary skills to continue managing (Stehlik 2000, Leipert and Ruetter 2005, Alston 2009, Greenhill, King et al. 2009) such as beginning off-farm work or drawing on necessary help social supports, again in Tracey's narrative the connection to her local church was most supportive. This view point on resilience can be a fragile assumption, as this project illustrated that not all women were always resilient. Instead resilience peaked and dropped at different times and different life stages for women. This is similar to the finding from Hegney who suggested that resilience is not a steady state and that it varies over the life time (Hegney, Buikstra et al. 2007). These findings challenge and extend earlier work on Solastalgia (Albrecht 2005; Albrecht, Sartore et al. 2007) where those in drought are seen as passively reactive to their changing environment. The findings from this current project show that instead of passive, women were proactive and optimistic, although in complex ways, in the face of climatic adversity.

This project appreciated the concept of Solastalgia and saw the benefit of such a framework in conducting this research. There are few frameworks available which address human relationship with the natural environment, and even fewer that address mental health and the environment. Therefore, the strengths of this concept did contribute to the findings of this research by providing insights into the possibility of potential impacts of drought. Even more so, this tool provided a framework which acknowledged human connection and the importance of the home environment. The concept of Solastalgia shaped the interview questions asked and consequently enabled the participants to share their relationship to place with this research project. This is evident in the narratives (Chapter Six) when each women talked specifically of a place which has meaning for them, or a place they can go to feel rejuvenated, such as the peace and serenity of their farms, or in Wendy's narrative the "the fort", or Alice's narrative, the veranda. Through the use of Solastalgia relationships and importance of the home environment was explored.

The concept of Solastalgia allowed women's connections to their gardens to be explored. The garden was an opportunity to see life flourish among drought. This was particularly pertinent to the older women who took great joy in their gardens and often kept aside just enough water to be able to maintain a small patch of garden. The garden for some was a buffer against mental health decline. However, through the lens of Solastalgia it was possible to see that sometimes the garden became a place of sadness for some women as the drought continued and gardens died.

This project employed Solastalgia as a tool for examining women's relationships to the environment and implications of environmental change. Two important conclusions can now be made. Firstly, this project argues that Solastalgia may be experienced by some women however it was found the experience of Solastalgia was not cyclical in nature and instead was often complex and inconsistent. Secondly, the concept of Solastalgia can be an important framework for viewing women's connections to their home environment.



One thing that Solastalgia does not take account of is the complexity of rural life in drought. A major finding of the current project concerned the complex roles that women occupy in rural Australia.

## **7.5. Complexity Of Women's Roles In Drought**

This project highlighted that drought is not a simple phenomenon. Drought is intricate, connected, and implicated in so many areas of women's lives. Women who are in drought are also experiencing normal life events such as raising families and participating in the work force. This project provided evidence for the importance of understanding this reality, women are not in a vacuum when experiencing drought, they are active participants in life. Women's roles in rural Australia have been explored greatly in the literature, albeit this has not always focused on the experience of drought for rural women. It is known that women are involved in all areas of farm and family life such as business management, livestock care, house work and family care (Teather 1998, Jennings and Stehlik 2000, Stehlik 2003, Pini 2005, Harvey 2007, Muenstermann 2009). This project builds on this body of literature by contributing the evidence that drought is not a simple phenomenon and that ageing and gender must be components of future research and policy. This project also brings light to the complexity of women's involvements in their families, businesses and communities.,

Through employing multiple methods and analyses, this project has illustrated that women's roles on the farm are often underestimated by research and society and that their roles change over time. The thematic analyses provided clear evidence that women have a significant role in providing care for their families. At each life stage, in each cohort this was evident. Family and family pressure was a theme in each of cohorts' thematic analysis. Women at all ages are significant contributors to family life. In drought, this responsibility can be challenged. As explored in Study One (Chapter Four), women felt their parenting was compromised by, for example, not being able to walk the baby outside or afford the necessary fresh foods. The mid-aged women's

thematic analysis gave particular attention to the role women have in caring for their husband during drought, in fact for some women this responsibility was linked to their sense of identity. The thematic analyses of the older-aged data explored the complexity of women's roles through the work that women were involved in. This was particularly interesting when the women's ages were considered. This group of older women linked their caring roles with work. For example, standards of living were compromised during drought, leading older women who were caring for their partners to return to work in order to afford medical costs and maintain their standard of living. It is also important to acknowledge women's roles in the volunteer sector, older women wrote often about their volunteering roles. For many women, volunteering was potentially a buffer to adverse mental health outcomes (Parkinson, Warburton, Sibbritt and Byles 2010). To date, there has been very little literature exploring older-aged women's roles in drought.

The complex roles women have was particularly evident in Study Three. The narrative case studies linked together many areas of women's lives including immediate family, extended family, work, pleasure, volunteering, physical and emotional health, finances, future plans to their experiences of drought. This was important in providing context to women's experiences of drought but also demonstrates the complexity of women's responsibilities. Importantly, from these narratives it was clear that drought was a backdrop to the rest of life's events, as other major life events were also occurring. For example, in Study Three (see section 6.2) Tracey spoke about the distraction from the drought with her son being diagnosed with autism.

In Wendy's narrative (see section 6.3) her role in managing her husband's wellbeing during the drought was highlighted. Wendy in her narrative openly challenged traditional views of farming masculinity and femininity, she encouraged her husband to take time off-farm and to enjoy social activities such as the ballet. Wendy has a pivotal role in her husband's wellbeing. Wendy's role can be likened to the roles explored in Liepins (1998). In Liepins' paper she explored gendered profiles of farming and its representations in agriculture (see section 2.6). Liepins discusses how different

identities emerge in farming and agriculture and that they can be useful in modifying and challenging the stereotypes (as with Wendy) or that such discourses of gender and identity can work in reverse, and maintain gender power relations in agricultural politics (Liepins 1998).

While Wendy's narrative highlighted her caring role it is worth acknowledging that this is not necessarily the best-practice model of health care. Wendy and other women have responsibility in the wellbeing of their families. The complex roles of rural women in drought including the caring, volunteering, farming and management were found to contribute to stress but also were a source of pride and self-worth.

## **7.6. Policy Implications**

This project has provided evidence for the incorporation of age and gender in research exploring drought. Consequently this project has developed policy implications which would assist women going through drought in Australia, in the future. It is important that any policy developed based on this project acknowledges that bureaucracy can be an added stress for women and their families, it is vital that responses be efficient, with as little red tape as possible. Too often government responses and policies to drought are about risk management and not about persons and places, this research has highlighted that an understanding of the lived experience of drought is essential. Understanding how the drought is embedded into daily concerns and activities for women means that policy and service providers have the opportunity to tailor services and offer a well understood approach to assisting women in drought. It is also important to note that drought policy in Australia is the responsibility of Departments of Agriculture, not Departments of Health and Ageing. This therefore has critical implications for how women of all ages, who live outside of cities, become a focus of Departments of Health in times of crisis such as drought. It is a policy point that raises discussion in terms of appropriateness and capacity to provide the necessary support. An integrated policy approach is key to the success of service delivery to those in need.

The following are a list of policy implications derived from this project:

### **Gender is Key in Policy Development**

This project has highlighted gender specific needs of women in drought, in agreement with previous research which has called for gender to be a priority in rural research (Enarson 1998, Enarson E and Morrow B 1998, Stehlik 2000, Little and Panelli 2003, Alston 2006), for example understanding that women have diverse and often demanding caring roles. A blanket approach policy for ‘all people’ in drought may not be as useful and beneficial as an approach which recognises that males and females requires different needs and have experienced different implications of drought.

### **Age is Key in Policy Development**

This project has highlighted age-specific needs of women in drought. This research provides evidence for including age as an important variable when planning policy. This results from the three studies in this project highlight that there are generational differences in women’s experiences of drought. For policy to be effective it must acknowledge generational issues and age differences in experiences of drought.

#### **Young women**

The younger women in this project called for assistance with parenting during drought. Policies that could provide this assistance, include subsidised child care costs in drought, subsidised grocery costs through an increase in parenting benefits while in drought. Assistance with planning for the future and diversifying the property to alleviate the burden of drought are important aspects of management in drought and planning for future droughts.

#### **Mid-aged women**

Mid-aged women called for medical assistance (gender specific) and for assistance with retirement planning. Women in this group are transitioning from working to retirement, assistance here is needed. It is important that policy makers recognise the needs of this age group of women. This age group of women are a part of the ‘baby boomers’ (Schofield, Page, Lyle and Walker 2006), a rapidly increasing demographic in Australia’s ageing population. The needs of this group will change and increase as they get older (Quine and Carter 2006, Humpel, O’Loughlin, Wells and Kendig 2009). Addressing this groups needs is important to the future of Australia’s ageing population.

### **Older women**

This project can contribute significantly to policy regarding older women in drought, women now aged over 90 years have provided important information about their needs. Recognition that women are often widowed, living remotely and caring for others are important policy points. Policy that assists women in drought financially, as this project has highlighted, many older women felt required to return to the work place.

### **Exceptional Circumstance / Drought Relief Assistance**

Droughts are natural events and will occur again. The only way to prepare for the next drought is to look to the experiences of those who have lived through droughts for ways forward. This project has taken advantage of longitudinal data. It was evident from this project that financial assistance was vital and must be supported into the future. Women acknowledged that being business savvy and succession planning was important, yet in crisis the receipt of drought relief payments were necessary. Women spoke of the bureaucracy and complicated rules governing the receipt of these payments. This current project recommends that a streamline approach is most beneficial to women in drought.

### **Social Connectedness: National Broadband Network**

Women in rural areas are at risk of experiencing feelings of isolation, seclusion and loneliness, this is a particular risk as women age. It is proposed that the National Broadband Network could have great potentiality in assisting women's mental health and social connectedness in rural areas and in drought. One imperative note here is that this service needs to be appropriately affordable to women and their families, particularly as ageing occurs. In this project women wrote of the costs associated with communication technology, with the costs being a barrier to access. Programs to assist women, men and their families in using innovative technology is key to the success of such an initiative.

It is also important that physical social connectedness be supported by policy. People need to remain connected physically during drought, it is important to draw on technological advances but connecting physically is also essential. Policies that enable social interactions within people's communities is recommended.

## **Mental Health Care**

Social support during drought is most important. Isolation is a harmful outcome for people experiencing drought. It is vital that people remain connected during droughts, participating in community and communicating to others about their experiences, being engaged and sharing experiences. This connection can become difficult in drought, as sacrifices are made and priorities may shift from the social setting to farm or financial needs, consequently neglecting social connection. National initiatives, such as BeyondBlue (beyondblue 2013) and state organisations such as the NSW Rural Women's Network (New South Wales Department of Primary Industries 2013) play an important role in supporting mental health during droughts and other adversities. It is important that these initiatives continue to be funded and stimulate discussion around mental health and drought. It is important that mental health care does not get forgotten after drought, as the difficulties of drought are not lifted simply with rain, families are indebted and potentially distressed for long periods after drought. It is also important

that people are encouraged to seek help. Stoicism is not always helpful to health, stigma around mental health issues needs to be removed, a continued large scale publicity and advertising of mental health assistance, such as that provided by BeyondBlue, would help with this.

## **National Disability Insurance Scheme (NDIS)**

This scheme has substantial potential to assist women experiencing drought. This scheme would acknowledge that life occurs for many women, against a backdrop of severe drought. At this time, as explored in this project, access to specialised services is often sacrificed by women in drought. The NDIS (National Disabilities Insurance Scheme 2013) is currently proposed to have a lifelong approach, which would mean that the needs of people would be met throughout their life span. This is of particular importance to women and their families as well as the elderly. Home modifications would be attainable and support for ageing in place could occur. The potential benefits of such a scheme is at risk, this scheme is currently new and pilot projects are only just rolling out across certain areas of Australia. This scheme relies on government support and the future of this scheme is fragile given its political context.

## **Ageing in Place**

A recent publication from the Australian Institute of Health and Welfare found that 90% of older Australians wished to remain living in their current home, rather than downsizing or moving into an aged care facility (Australian Institute of Health and Welfare 2013). Findings from this project exploring drought and older women can reaffirm that generally women would prefer to remain in their own home. In drought, this choice can be challenged or compromised. It is recommended that policies and strategies be employed to assist women to age in place and remain in their home. This support could include home maintenance care, property support and financial education around options for older women.

## **Farm Management Deposit Scheme**

Financial management is a key stressor for many people living in rural Australia or working within the agricultural sector. In times of drought financial stress and insecurity escalates, it is important that such schemes as the Farm Management Deposit Scheme (Australian Taxation Office 2013) continue to assist people experiencing drought and more importantly assist them to plan and manage future experiences of drought.

Preparedness is a key component of adaptive capacity and drought management.

Women clearly expressed that their main difficulty with government policies and schemes is that they can be complicated to apply for, or, rigid in their delivery. This project recommends that as much as possible red tape and bureaucracy be reduced.

## **Longitudinal Research is Key**

This research has shown that a longitudinal lens is essential for any investigation into drought. Droughts are not short term events, therefore ageing occurs in this context.

This project has shown that a longitudinal lens must be taken when examining people's experiences and health in drought. This current project proposes that national data and rain fall data be used more regularly to fully understand the impact of drought on people and community. It is vital that this field, and the climate change field, begin to move away from speculative projections and employ some of the national and international data that are available in order to build an evidence base for this research field.

This project has also validated the use of free-text comments as being of great value to academic research. Often comments are collected for survey evaluation, rarely analysed as research data – however these data have provided invaluable evidence of the experiences, health and wellbeing of women living through drought. This project proposes that data sources such as free-text comments be used in other research fields. This contribution pushes forward the advancement of qualitative data analysis.



## 7.7. Strengths And Limitations

As with all research there are relevant strengths and limitations. One important limitation to note with this project is that only women were investigated. This was intentional for several reasons, namely women, ageing and drought had yet to be explored and also given the context of climate change and the potential vulnerability of women it was important to investigate women's lived experiences of drought. However, this project recommends that a longitudinal study into men's lived experiences of drought be conducted and contribute to the findings from this project on women's experiences.

It is also important to note the limitations of the ALSWH data. This survey did not specifically ask environmental questions of the women who participate, nor did it ask questions around social connectedness to place. However, some of these types of questions can still be asked of the data by linking it to other data sources such as the rainfall data in this present research project. It is also possible, as it was in this case, to conduct sub-studies of the larger ALSWH sample and ask participants specific questions.

There were limitations surrounding the sample used in this project. The younger cohort of the ALSWH wrote less, the mid-aged women wrote more often and the older-aged woman wrote free-text comments most frequently. Each of the datasets had their own 'feel' and style. The younger women tended to write more directly and briefly while the mid-aged women and particularly the older-aged woman wrote in a letter style fashion, usually beginning with a salutation to the ALSWH study director "Dear Ms [Annette] Dobson"... It is interesting that even over the study period, from one survey to the next, the women would continue their story from three years earlier, for example, "I know I mentioned last time that ...since then...". Each of these aspects highlights the relationship that the participants have with the ALSWH. It is important to note that this bias in the qualitative dataset can also be recognised in the health demographics of those

that write compared to those that do not write free text comments. As published by Rich, Chojenta et al (2013) for example, across all cohorts, women who wrote free text comments tended to have poorer physical health, were un-partnered and had higher levels of education. Nevertheless, these comments provided valuable insight into the health, wellbeing and lifestyle of Australian women over time.

As much as the broader ALSWH sample is representative, the sample used in this project is not representative. This current project was interested in the diversity of experiences of living with drought for Australian women. The participants who have been included in this analysis are diverse. The data from the younger cohort was more disparate than the other cohorts as the young women did not write as often as the other cohorts. However, rich insights about women's experiences of drought were derived from analysing the young women's free-text comments.

It is important to acknowledge that only women who chose to write about their experiences of drought were included in this analysis. It is also noteworthy that the women were not asked explicitly about their time in drought, instead their responses were un-elicited. This has both positive and negative implications. The approach has captured women who felt strongly enough about their experience to write about it, as described in Chapter 3 and the validity of the women's responses can be attributed to women's motivation and their incentive to express their experiences to the researchers. This suggests that the issues surrounding drought were of importance to the women, and that they were seeking to let the researchers know about their situation.

There were methodological challenges involved with using these data, ranging from the enormity of text, the diversity of the subject matter and then the longitudinal nature of the comments. As described in Chapter 3, these challenges involved much trial and error before being able to systematically manage and analyse the data from the three cohorts. To draw on and appreciate the diversity of subject matter, rather than this being a hindrance, better enabled the investigation of drought and ageing to be situated in the

broader context of women's lives, given the un-elicited nature of the responses. Learning the Leximancer software program proved to be of great benefit when attempting to thematically and longitudinally read the data, as this software was able to manage large quantities of qualitative data.

Using free-text comments as research data is an emerging area and pushes the boundaries of qualitative research (Rich, Chojenta et al. 2013). The approaches used to complete the analyses in this project are novel and innovative, yet a necessary exploration for the advancement of qualitative data and methodology. It is believed that this study will highlight the useability and potentiality of free-text comments, and encourage researchers to utilise these comments as valid qualitative data. This innovative approach has been a methodological process and has been a pioneering project for qualitative data analysis.

## **7.8. Future Directions**

It is recommended that future research continues to explore the relationship between health and drought in an holistic manner. This research has provided new insights into women's experiences, particularly surrounding ageing and wellbeing. What needs to follow is an examination of this experience of drought for men, drawing on qualitative and quantitative data. A longitudinal study into men's experiences of drought is a necessary step for the future understanding of Australian's health and wellbeing.

This project recommends that an investigation into drought at a nationally representative level be undertaken. It would be vital that this investigation take a holistic approach to examining drought for both men and women. It would also be useful that this be a mixed-methods study. This current project has highlighted the importance of qualitative research in this research field.

This project recommends that a rigorous discourse analysis of government documents, policies and reports takes place. This project found that there is a gap between what

information is available in the academic sphere compared to the ‘grey literature’ or non-academic field. To succinctly and efficiently understand recent government approaches and policy implementations as well as understand their effectiveness would be a useful resource for researchers in this field.

It is also necessary that future research into health take a comprehensive view. This project has highlighted that there are not many frameworks that consider health in such an holistic manner, drawing on environmental and biological aspects. This project has provided evidence to suggest that an interdisciplinary framework can be a useful tool when assessing people’s experiences and relationships to health. This current project suggests this approach be applied to other aspects of health and wellbeing, drawing on a consideration of the natural environment.

## **7.9. Final Conclusions**

The findings from this project provide an explanation of diverse experiences of drought for Australian women. The women whose stories and experiences were analysed as part of this project provided comprehensive evidence to support the suggestion by Alston (2009) that drought is a gendered experience. It is detrimental to investigate drought and propose policy without considering gender as there are significant differences between how males and females experience drought, and given their difference roles in their families and communities the support needs of each gender also differs. The results from this current project show that ageing is a significant component of a woman’s lived experience of drought, as was demonstrated through the results chapter. Women’s ability to consider retirement was challenged, physical work increased, and there were also biological challenges in drought including menopause and health service access. Ageing has not previously been explored in relation to drought. There is a complex interaction with drought and emotional wellbeing, and all the while, a woman ages. This project has provided strong evidence to support the proposition that gender and ageing

must be essential components of any future planning and policy concerned with drought.

This thesis has drawn on a variety of theories; Bio-psychosocial model of health, Ecosystem Health, Place Pedagogy and Solastalgia, this research then placed gender at the forefront of these frameworks. These theories worked together by providing different angles and components to assess, hence then being able to examine women's health and wellbeing in its fullest. By appreciating the feminist principles of valuing women's knowledge, using methods which were not burdensome, (using the free text comments already provided by women) or contributors to oppression and by being reflective with this process this current research has been able to not only challenge traditional views surrounding women and drought but provide new ideas and insights, particularly around ageing. There has been no previous research that has focused solely on women's experiences of drought and the current studies demonstrated different implications for women across the lifespan including raising families and experiencing menopause.

This project provided an holistic and in-depth analysis of women's experiences of drought and contributes to a greater understanding of health, wellbeing and ageing. By taking a bio-psychosocial view and ecosystem view of health, and by considering the attachment of humans to their environment through the lens of place theory, and by considering the loss of place through Solastalgia, this project has provided strong evidence in understanding the relationship between age, health gender and drought.

Ultimately, those affected by drought, are those that also sustain Australia's food production. This is of national and international significance. Providing the appropriate services and support mechanisms for these people to maintain a good quality of life must be an essential element of responses to drought and more broadly, climate change. As this project has demonstrated listening to the narratives and experiences of people

living with drought and climate change offers a useful tool in assessing their needs and experiences and consequently can provide effective policy recommendations.

It is important to acknowledge that drought is not new, it may pass from time to time, but it will return. Therefore it is necessary to plan for the future and know that drought will come again, perhaps the intensity and frequency of droughts will increase with climate changes, but either way drought will return. It is vital that lessons from the past be incorporated in any future planning. It is vital that the nation, communities, researchers, policy makers and health services do not forget about previous lessons from drought and be sure to include the lived experiences of drought in any future planning. In a recent conference presentation this lack of recall was coined by Stehlik as ‘collective amnesia’ - a forgetfulness once the drought had passed (Stehlik 2013).

This project is a part of the necessary reminder that drought will occur again. Given the context of climate change, perhaps now more than ever, research into the health and wellbeing of the country is essential. It is important that research takes a comprehensive approach to understanding and interpreting the health of Australian men and women.

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# Appendix A ARIA+

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## ARIA Scores: Index of accessibility/remoteness

<b>Age Cohorts</b>	Younger, Mid-age and Older
<b>Surveys</b>	Survey 2
<b>Derived Variables</b>	ARIA & ARIAPlus
<b>Definition</b>	Index of accessibility/remoteness based on the distance to the nearest service centre.
<b>Source Items</b>	Address at Survey 2
<b>Statistical Form</b>	Categorical variable
<b>Index Number</b>	DEM-071 & DEMO-073
<b>Prepared by</b>	Anne Russell and Jean Ball
<b>Endorsed</b>	18 December 2003

### Abbreviations

ABS	Australian Bureau of Statistics
ARIA	Accessibility/Remoteness Index of Australia
ARIA+	ARIAPlus
ASGC	Australian Standard Geographical Classification
GISCA	National Key Centre for Social Applications of Geographic Information Systems
GPO	General Post Office

### Background

*The following text is a summary of the reference materials only. Some sections are taken directly from these references.*

#### **ARIA<sup>1</sup>**

ARIA was developed by GISCA as a measure of remoteness based on road distances to service centres. Road distances are calculated for all places in Australia and scores are available for various geographic units (such as Census collector's district, statistical local area and postcode). Addresses from Survey 1 of the ALSWH were coded to ARIA and have been reported previously (Report 14, 10 June 2000, ALSWH).



Scores range from 0 to 12 and define 5 categories of remoteness:

<b>ARIA score</b>	<b>Category - Description</b>
0 - 1.84	Highly accessible <i>Relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction</i>
>1.84 - 3.51	Accessible <i>Some restrictions to accessibility of some goods, services and opportunities for social interaction</i>
>3.51 - 5.80	Moderately accessible <i>Significantly restricted accessibility of goods, services and opportunities for social interaction</i>
>5.80 - 9.08	Remote <i>Very restricted accessibility of goods, services and opportunities for social interaction</i>
>9.08 – 12	Very Remote <i>Locationally disadvantaged - very little accessibility of goods, services and opportunities for social interaction</i>

#### **ARIA+**

In 2003, GISCA released a new version of its ARIA, called ARIA+.<sup>2</sup> ARIA+ has been chosen by the ABS to be the basis of the remoteness categories included in the 2001 Australian Standard Geographical Classification. Scores range from 0 to 15 and the ABS has defined 5 categories for remoteness<sup>1</sup>:

<b>ARIA+ score</b>	<b>Category</b>
0 – 0.20	Major cities of Australia
>0.20 – 2.40	Inner regional Australia
>2.40 - 5.92	Outer regional Australia
>5.92 – 10.53	Remote Australia
>10.53	Very remote Australia

Although it is anticipated that ARIA+ will supersede the ARIA index as the standard measure of remoteness, the fact that ARIA is still widely used means that for some purposes the index will still need to be calculated.<sup>2</sup>

### ***Differences between ARIA and ARIA+<sup>2</sup>***

The major difference between ARIA and ARIA+ is the inclusion of a fifth service centre category, resulting in an index ranging from 0-15 rather than 0-12 as in ARIA. The fifth service centre category includes all urban centres with population of greater than 1,000 and less than 5,000 people. The additional class was included in response to a need by some users to analyse smaller service centres than those included in the original ARIA index. The inclusion of the fifth service class in ARIA+ results in a slightly more detailed representation of remoteness across Australia. The finer differentiation of remoteness categorisation is useful for those applications where ARIA was previously considered too broad.

ARIA+ increases the distance weighting of Tasmanian localities from 500km to 763 km. This distance is estimated to more accurately indicate the additional cost of travelling from Tasmania to the mainland. The overall effect of this change is to increase the remoteness score of Tasmanian localities.

ARIA+ models accessibility at the urban fringe more effectively by reducing the estimated distance to the nearest service centre. In ARIA, the distance was measured from each town to the GPO of the nearest service centre. In ARIA+, distance is measured instead from each town to the edge of the built-up area of the nearest service centre, as defined by the ABS Urban Centre and Locality boundary. The greatest impact of this change is for towns with service centres such as Sydney, where the edge of the built up area is found some distance from the GPO.

### ***Derived Variables<sup>2</sup>***

ARIA scores for Survey 2 data from the ALSWH were assigned by GISCA according the November 2002 Revision of ARIA coding. This version of ARIA incorporates some features of ARIA+, such as the 763km distance weighting for Tasmanian localities and the use of the edge of the urban centre rather than the GPO to calculate distance to an urban centre. In fact, the only difference between this version of ARIA and the ARIA+ index is that ARIA+ measures distance to 5 levels of service centre rather than four. The implementation of these measures is viewed as a marked improvement over the previous methodology.

Accordingly, ARIA scores for surveys 1 and 2 should not be compared with one another, nor should differences in scores between surveys 1 and 2 be calculated.

ARIA+ scores were assigned by GISCA to Survey 2 data according to the 2001 version of the ASGC.

### ***Missing Values***

ARIA and ARIA+ scores are missing for records which could not be geo-coded and for records with addresses which are 'VIA' another locality.

The distribution of ARIA and ARIA+ scores among the three age-cohorts of the ALSWH are shown in Table 1.

**Table 1**      **ARIA and ARIA+ Scores at Survey 2**

	Younger		Mid-age		Older	
	Number	Percent	Number	Percent	Number	Percent
<b>ARIA Category</b>						
Highly accessible	7 458	77.3	8 245	67.2	7 673	73.6
Accessible	1 424	14.8	2 568	20.9	1 943	18.7
Moderately accessible	511	5.3	923	7.5	631	6.1
Remote	171	1.8	388	3.2	131	1.3
Very remote	83	1.9	151	1.2	43	0.4
<b>ARIA+ Category</b>						
Major cities	4 950	51.3	4 082	33.3	4 041	38.8
Inner regional	2 961	30.7	4 960	40.4	4 285	41.1
Outer regional	1 445	15.0	2 611	21.3	1 858	17.8
Remote	224	2.3	491	4.0	200	1.9
Very remote	67	0.7	131	1.1	37	0.4
<b>Total Categorised</b>	<b>9 647</b>	<b>100.1</b>	<b>12 275</b>	<b>100.0</b>	<b>10 421</b>	<b>100.1</b>
<b>Missing</b>	<b>38</b>	<b>0.4</b>	<b>63</b>	<b>0.5</b>	<b>0</b>	<b>0.0</b>

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(Australian Longitudinal Study on Women's Health 2013)

## Appendix B SF-36

Information about SF-36 Health Status Scales and the interpretation of low and high scores (Ware and Sherbourne 1992).

Mean of scores				
Concepts	N of items	N of levels	Low	High
Physical Functioning	10	21	Limited a lot in performing all physical activities including bathing or dressing	Performs all types of physical activities including the most vigorous without limitations due to health
Role of limitations due to physical problems	4	5	Problems with work or other daily activities as a result of physical health	No problems with work or other daily activities as a result of physical health, past 4 weeks
Social Functioning	2	9	Extreme and frequent interference with normal social activities due to physical and emotional problems	Performs normal social activities without interference due to physical or emotional problems, past 4 weeks
Bodily Pain	2	11	Very severe and extremely limiting pain	No pain or limitations due to pain, past 4 weeks
General mental health	5	26	Feelings of nervousness and depression all of the time	Feels peaceful, happy, and calm all of the time, past 4 weeks
Role limitations due to emotional problems	3	4	Problems with work or other daily activities as a result of emotional problems	No problems with work or other daily activities as a result of emotional problems, past 4 weeks
Vitality	4	21	Feels tired and worn out all the time	Feels full of pep and energy, past 4 weeks
General health perceptions	5	21	Believes personal health is poor and likely to get worse	Believes personal health is excellent

# Appendix C

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## **Women's life stories: experiences with rural living**

### **Initial invitation:**

Hello my name is Jane Rich; I am calling from the Women's Health Australia project at the University of Newcastle. Can I please speak to Ms [name of participant]?

Hello [participant] a few weeks ago you received an invitation and information statement to participate in an interview to talk about your experiences living in rural Australia? Did you receive this? Would you like to participate?

### **Option 1 {Participant agrees}**

Thank you, could I arrange a time and place to visit you?  
{A time and place is decided upon}.

Thank you Ms [name of participant] for your time and talk to you again soon. Goodbye.

### **Option 2 {Participant disagrees}**

Thank you for your consideration that is not problem at all, have a nice day Ms [participant].

### **Interview transcript:**

Good morning [participant name], I am Jane from Women's Health Australia. Thank you for your time this morning. Is it still convenient to do the interview now? The interview will take no more than one hour.

You can let me know at any point if you would like me to stop during the interview. I would like to confirm that you received the letter we sent you regarding this project, and I ask if I can answer any questions before we begin.

Just before we start I need to read a series of statements to you. These are to comply with ethical clearance to confirm that you give consent to participate in this project. Do you have any questions before I turn on the recorder?

Do you understand that you have been invited to participate based on your experience in living in a rural area which was notified in the ALSWH. Your responses will also be linked to your survey information.

Do you have any questions at this time before I turn on the recorder?

Ok, I am going to turn the recorder on now.  
{Recorder on}

### **Consent:**

The recorder is running now. Before we begin with the interview questions I need to ask you to simply say 'yes' or 'no' the following consent questions.

1. Do you acknowledge that you have read and kept a copy of the letter which invited you to take part in this research?
2. Do you understand why this research is being conducted and have you had all of your questions about the research answered?
3. Do you consent to participate in an interview about your experiences with living in a rural area?

4. Do you understand that the interview is being recorded, and that information on this recording will be used for research which may be published, provided that you will not be identified in the research or publications?
5. Do you understand that you can stop the interview at any time if you do not wish to continue, or would like to take a break, and that you do not have to give any reason for doing this?

Do you have any questions before we begin? Ok, now, I'll begin with the interview questions.

Interview Question	Prompt if needed
<b>Context to living situation</b>	
I'm interested in your life here at XX, could you tell me a little bit about your life?	<ul style="list-style-type: none"> <li>- What does a normal day consist of for you?</li> <li>- What was yesterday like?</li> <li>- Who lives with you?</li> <li>- How long have you lived here?</li> <li>- What do you like about living here?</li> </ul>
Here is a picture I took this morning of your local main street, can you tell me a little more about this part of town?	<ul style="list-style-type: none"> <li>- Is this area a busy place?</li> <li>- Do you often bump into people you know down this street?</li> <li>- Do you feel connected to your local community?</li> </ul>
<b>Relationship between human health, well-being and environment</b>	
Do you think living here as a relationship with your health?	<ul style="list-style-type: none"> <li>- Does the farming lifestyle stress you?</li> <li>- Do you feel safe and secure?</li> <li>- Financially secure? Does this have a relationship with your wellbeing?</li> </ul>
What about your family's health?	<ul style="list-style-type: none"> <li>- How do you think your family managed during the drought?</li> </ul>
I'm interested in places on your farm that are important to you; could you describe any areas that you feel are particularly important?	<ul style="list-style-type: none"> <li>- Perhaps you have a vegetable garden?</li> <li>- An area that you particularly look after? Water plants etc?</li> </ul>
What does this space (XXX important place) mean to you?	<ul style="list-style-type: none"> <li>- What do you like about this space?</li> <li>- What do you do when you are there? ie water plants? Pick food etc? Green grass?</li> <li>- Peace and quiet?</li> </ul>
<b>Ageing and relationship to environment</b>	
So you have lived in drought for awhile now...?	<ul style="list-style-type: none"> <li>- What has the drought been like for you?</li> </ul>
You've lived in this area for XX what changes have you noticed in the past XX years?	<ul style="list-style-type: none"> <li>- Environmental changes</li> <li>- Changes in yourself or family?</li> <li>- Are these changes related to drought?</li> </ul>
Do you work outside of the home?	<ul style="list-style-type: none"> <li>- Do you have plans for retirement?</li> <li>- What would retirement look like for you?</li> </ul>

Thank you Ms [participant name] that concludes the interview today. Do you have any further question before I turn the recorder off? I am turning the recorder off now.

{Recorder off}



# Appendix D

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the Australian longitudinal  
study on women's health

Dr Deborah Loxton  
Women's Health Australia  
The University of Newcastle  
Callaghan, NSW 2308, Australia  
Tel: 02 4913 8872  
Fax: 02 4913 8888  
e-mail: [Deborah.Loxton@newcastle.edu.au](mailto:Deborah.Loxton@newcastle.edu.au)

ID

## **Information Statement for the Research Project: Women's life stories: exploring rural living**

Dear Ms

Document Version 1 date 14/10/11

You are invited to participate in the research project identified above which is being conducted by Dr Deborah Loxton and Ms Jane Rich from the School of Medicine and Public Health and Dr Sarah Wright from the School of Environment and Life Sciences at the University of Newcastle.

The research is part of Ms Jane Rich's PhD studies at the University of Newcastle, supervised by Dr Deborah Loxton and Dr Sarah Wright.

### ***Why is the research being done?***

The purpose of the research is to explore women's experiences of rural living across the life span. This research is qualitative and the researchers have a particular interest in the life stories of women which relate to their health and wellbeing. The research aims to draw out different women's experiences with rural living particularly drought and environmental changes.

### ***Who can participate in the research?***

We are inviting women from each cohort of the Australian Longitudinal Study on Women's Health to participate. You have been selected because previously you have stated in the Australian Longitudinal Study on Women's Health survey that you have experienced rural living, farm life or drought. Even if you have since moved from this living situation we are still interested in your experiences with rural life.

### ***What choice do you have?***

Participation in this research is entirely your choice. Only those people who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you.

If you do decide to participate, you may withdraw from the project at any time without giving a reason and have the option of withdrawing any data which identifies you. Your decision to participate or not will have no bearing on your future participation in the Australian Longitudinal Study on Women's Health.

### ***If you choose to participate...***

If you choose to participate in this project, you will be asked to take part in an interview conducted by Ms Jane Rich. If it would suit you, Jane could come to your home to talk with you face to face, or if it suited you more, we could arrange a public space for the interview, or thirdly a telephone interview. Jane will ask you about your time on the farm and how different challenges in life are faced when living in rural areas. The interview will be audio-recorded and later typed into a transcript, which you may view if you like.

### ***How much time will it take?***

It is expected that the interview would take no more than one hour.

***What are the risks and benefits of participating?***

There are little risks involved in this study; your information will be kept confidential and de-identified. This interview will give you the opportunity to talk about your experience in a rural setting, such as family life, raising children and access to services. The research questions are broad and aim to provide a woman centred perspective of rural life and challenges to women as they age. There is a small risk you may feel uncomfortable discussing your experience of rural life. If you start to feel upset during the interview, you can choose to cease the interview or speak privately with the project staff after the interview has ended. You may also wish to discuss your feelings with someone else at Lifeline on 13 1114.

***How will your privacy be protected?***

All the information you provide to us will remain confidential and will only be made available to the researchers. Your name and address will not be released and the results of the research will only be published in a form whereby you cannot be identified. This means that your name and other identifying information will not appear on your transcript. All information will be stored at the University of Newcastle in locked filing cabinets or on a password protected computer database for up to five years after which time it will be destroyed.

***How will the information collected be used?***

The results from this study will only be used for the purposes of publication in scientific journals and presentations at conferences as well as contributing to a thesis to be submitted for Jane's PhD degree. Please note however, that the audio-recorded interviews will be destroyed at the conclusion of the study, following checks for accuracy. Further, to save you re-answering many questions that you have already answered in previous surveys, we will link your responses from this interview to your answers from previous Australian Longitudinal Study on Women's Health surveys.

At the conclusion of the research phase you will be offered a summary of the results.

***What do you need to do to participate?***

Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, contact the researcher.

If you would like to participate you don't need to do anything. Jane will call you in 2-4 weeks to arrange with you a suitable time and venue. If you do not want to participate please call the Australian Longitudinal Study on Women's Health on the free call number 1800 068 081 or you can just tell Jane when she phones you.

***Further information***

If you would like further information please contact Ms Jane Rich or Dr Deborah Loxton on 02 4913 8872

Thank you for considering this invitation,

Ms Jane Rich	Dr Deborah Loxton	Dr Sarah Wright
PhD Student	Deputy Director/PhD Supervisor	PhD Supervisor

***Complaints about this research***

This project has been approved by the University's Human Research Ethics Committee, Approval No. H-2011-0257

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email [Human-Ethics@newcastle.edu.au](mailto:Human-Ethics@newcastle.edu.au).



# Appendix E How To Interpret A Leximancer Map

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The black text on the map (Figure 8) represents concepts derived from the data. Leximancer assumes that words mentioned together in the text (word-association) have some connection. It combines these words into ranked lists and calls each concept after the most frequent word in that list. For example, the *drought* concept is made up of a thesaurus that included such words as *drought*, *remember*, *commodity*, *current*, *exceptional*, *information*, *negative*, *downturn*, *prolonged*, *unreliable*, *watering*, and *worrying*. These words were mentioned often when participants used the word *drought* and were rarely mentioned without the word *drought*. This allows the software to reveal the content of the data in an emergent way. There is no need for hand coding and the potential for researcher bias is eliminated. This software produces a list of related words to indicate where concepts are described, this allows for some implicit coding. For example, if people refer to drought indirectly (without the key word *drought*) but use other words such as *exceptional* and *prolonged*, the drought concepts would still be coded against that comment. This boosts the recall and capture of relevant data in each concept, that is, relevant words are unlikely to be missed.

The Concept Frequency (Table 30) presents the main concepts derived from this introductory analysis. These thirty concepts were the most common among all women sampled, across the three cohorts. These concepts present a consensus of shared commonalities among the group

TABLE 30 CONCEPTS FROM ALL COHORTS MAP

Concepts	Top 5 Thesaurus words for concept
<b>work</b>	volunteer, company, decide, degree, manual.
<b>drought</b>	commodity, remember, current, exceptional.
<b>time</b>	leisure, apologise, finding, relax, shocking.
<b>husband</b>	dear, decide, ex, decorator, discussed.
<b>farm</b>	caravan, finances, park, work, activities.
<b>health</b>	excellent, medications, women's, endured, pets.
<b>life</b>	better, abusive, anywhere, aspects, autism.
<b>family</b>	immediate, absolute, accept, acknowledge, allowing.
<b>months</b>	twelve, accompanied, angiogram, appointment, arms.
<b>feel</b>	environmental, pollution, accessed, achieving, allergy.
<b>live</b>	breaks, kms, 80th, activities, belongs, birthday.
<b>property</b>	manage, anxious, seeing, kms, accept.
<b>home</b>	pelvis, slow, purchase, sooner, afternoon.
<b>stress</b>	downturn, unbelievable, uncertainty, adjust, balancing.
<b>week</b>	least, mail, catch, commute, confirmed, deliveries.
<b>survey</b>	apologise, interesting, achieving, clearly, climatic.
<b>year</b>	looks, thousand, applied, awhile, bile, bladder.
<b>business</b>	partnership, accountant, accounts, afternoon.
<b>children</b>	mum, adopted, accept, ageing, apprehensive.
<b>take</b>	guided, least, accessed, apparently, batteries.
<b>women</b>	environmental, motherhood, pollution, allergy, among.
<b>working</b>	harder, appreciation, breathe, clientele, dearer.
<b>town</b>	data, mail, kms, bandages, boss, catch.
<b>problem</b>	brother, reduce, apparently, bachelor, batteries.
<b>living</b>	area, arises, bitterness, closely, coastal.
<b>happy</b>	achieving, brand, bushfires, clothing, coffee.
<b>house</b>	built, allowing, chicken, cleans, coast.
<b>old</b>	commission, complaining, especially, fools, pensioners.
<b>care</b>	hostel, blue, cerebral, contents, debilitating.
<b>rural</b>	isolated, downturn, hardship, prolonged, ageing.



The concepts are clustered on the map based on the relationship between them. Concepts that are coded together within the same sentence, attract another strongly when the map is generated. This means that concepts that are near each other in the map space are mentioned together often by the participants. For example, on Figure 8 *income* is mentioned often with the concept *rural* and *drought*. Most concepts are mentioned in the context of several others, however, relative location represents the strongest correlation.

The coloured circles on the map (Figure 8) are thematic groups of concepts. The circles capture clusters of concepts that are positioned near each other because of common mentions. The themes are heat mapped in that the hottest or most connected theme appears in red, then orange, then yellow as can be seen in Figure 9. The most connected theme is the group of concepts that has the most connections with other concepts on the map, in this case *work*. As can be seen in Figure 9 the theme of *work* has a connectivity rate of 100%, because work has a connection, direct or indirect, with all other themes.

Each theme is automatically named after the most connected concepts in that circle. In a few cases these names have been adjusted to reflect an alternative concept within the theme where this seemed more appropriate. For example in the All Cohort's map (Figure 8), the theme that was initially named *times* was renamed *care*, as *care* better reflected the connections. It is worth clarifying that concepts fit under the larger umbrella of a theme. Themes are the large coloured circles on the map and concepts are the small words inside the coloured circles.

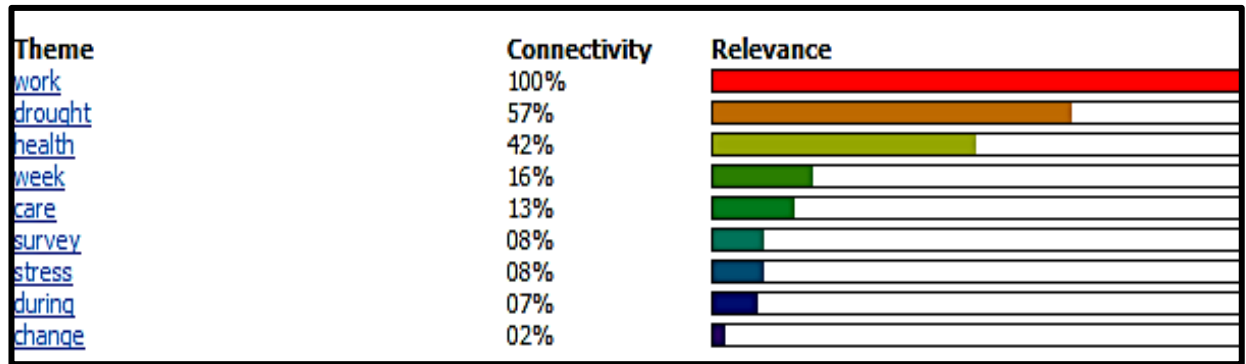


FIGURE 9 HEAT MAP OF CONCEPTS FROM ALL COHORTS' ANALYSIS

The bright red text on the map (Figure 8) represent the responses from the different cohorts. Each set of responses was compiled on separate spread sheets for analysis. The software was configured to recognise which source document the text was coming from and the red labels then applied. The concepts mentioned most by each cohort settled near that cohort's label. For example, *stress* is located tightly against the 1946-51 cohort label because compared with the other cohorts, the mid-aged participants wrote about stress most often. The map conveys and compares the different perspectives expressed by each of the cohorts, highlighting the topics of most concern to the each cohort. Located at the centre of the map are the commonalities of content between cohorts.

## Results: All Cohorts Map

The purpose of this section is to provide an overview of the cohorts free-text comments. Although this All Cohort's analysis does not overtly address time, it does provide an insight into the most common themes raised by all women in the same sample over a 16 year period. The hottest theme of the All Cohort's map (Figure 8) is theme *Work*. *Work* occupies the central part of the map space indicating that the topic of this theme was discussed by most respondents. This theme included such concepts as *son*, *husband*, *business*, *property*, *farm* and *family*. Comments within this theme tended to focus on employment. These comments described different work types, challenges with work, changes to family working arrangements and physical work.

Within the *Work* theme each cohort contributed different concerns about the effect of drought on their working life. There were not as many comments from drought-affected younger women, but their comments did indicate a sense of increased financial pressure as a result of the lack of work opportunity during drought. The mid-aged cohort comments reflected the need for various family members, including themselves, to begin off-farm work due to drought. This was described as a major challenge. The older women's comments tended to describe the need for them to continue working on the farm in some capacity due to drought. This sometimes meant overseeing farm operations and other times meant being physically involved in farm life, despite their advancing years.

The second most connected theme, *Drought* also occupied the most central part of the map space reflecting the commonality of experience between all cohorts. This circle included concepts such as *income*, *rural*, *busy*, *problems* and *difficult*. The comments belonging in this theme conveyed a variety of difficulties experienced by women across the cohorts. Often these comments explored the pressures of drought on family life, income and health. The younger women expressed their worries about financial security and the associated emotional burden. The mid-aged cohort data indicated that drought was a long, drawn out burdening experience. The comments often reflected the years spent in drought and how this had an emotional impact. The mid-aged cohort comments, also suggested a strong sense of resilience in those trying times. The older women wrote of similar problems to those of the mid-aged cohort and simply reported that the problems of income and health were continuing. The emotional strain on these older women was obvious through their comments.

The third most connected theme, *Health*, lay in the upper central part of the map. Concepts within this theme included *women*, *believe*, *happy*, *questions* and *feel*. Comments contributing to the theme often described women's views and feelings about their health. The women also described some support systems to good health including, pets, faith and a sense of purpose.

The positioning of the *Health* theme reflects the ownership of many of the concepts within this theme. The older and younger women tended to refer to their health more so than the mid-aged women. This is reflective of life stage. The younger women were more likely to be concerned with pregnancies and changes to their physical health during early family life. The older women tended to report on their declining physical health. The *Health* theme is positioned further from the mid-aged cohort. The *Health* comments by the mid-aged cohort often mentioned good health, menopause or described actions to self-manage health issues.

The All Cohorts' analysis revealed insights and shared experiences among women who narratively referred to drought in the ALSWH surveys. It is interesting that given how these data were drawn from the larger ALSWH pool (selected if participant had commented about drought), that drought itself was not the major theme. It was somewhat unexpected that *Work* rather than *Drought* was most common among the women's free-text comments.

The results so far have focused on the shared aspects of the cohorts' experiences of drought. Following this, is an explanation of the unique themes belonging to each cohort.

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### Key Themes by Cohort

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For the younger cohort, the theme of *Survey* featured most strongly. This theme primarily included feedback to the ALSWH researchers. The younger women wanted to give their views and inform the researchers on a variety of aspects of women's health. These often included clarification of answers and suggestions for improvements for survey items.

The theme nearest the mid-aged cohort was *Stress*. This theme reflected the women's concern over the impact of stress on their health. These comments often referred to the

drought as a causal factor. They also mentioned effects of drought on family members and this was a compounding factor. One message most strongly conveyed from this cohort was that of self-reliance and self-responsibility for health and welfare. For instance some women in this group reported the use of complimentary medicines in managing their own health, along with keeping physically active.

Comments from the older cohort were most responsible for the *Care* theme. In this theme the concepts included *age*, *people* and *times*. The women in this group shared their call for additional care for those in rural areas, tailored particularly to the needs of ageing country people. The comments in this theme also covered these women's roles in caring for their community, family members and especially their husbands.

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### Summary Of All Cohorts' Analysis

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This analysis began by focusing on consensus and chartered the topics that were most common drought experiences of all the women. The women listed negative implications of the drought; they described an impact on working life and explored the health consequences. The discussion moved on to consider the unique perspectives and characteristics of each cohort. Different life stages resulted in changing priorities for women over the life span. This All Cohorts' analysis has built on some of the findings from Chapter Four that highlighted themes such as Family Life, Stress, Ageing and Health in drought. Similarly this analysis has both confirmed and expanded on these findings by providing some visual structure to the association of the themes described in the women's comments. By analysing all the free-text comments across the three cohorts this appendix has been able to provide a step-by-step guide on reading and interpreting a Leximancer map analysis to accompany the results in Chapter Five..