

**‘Mind Your Mind’: Representations of dementia risk-
prevention in news and digital media**

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Abstract

This thesis presents a discourse analysis of representations of dementia risk and prevention in news and digital media. Dementia presents a major public health concern in many countries with expanding elderly populations, and is associated with significant costs to individuals, families, and societies. Currently, there is no known cure for any type of dementia. Public health efforts relating to the primary prevention of neurodegenerative disorders such as Alzheimer's disease have focused on increasing awareness of a range of risk and protective factors. Such efforts have involved encouraging participation in a range of health and lifestyle practices, including diet, physical activity, social activity, and cognitive activity (e.g., reading, playing board games, learning a musical instrument, brain training). Claims about the possibility of cognitive enhancement and dementia risk-prevention via modification of lifestyle-related risk factors have attracted considerable media attention. However, scientific evidence for the effectiveness of engaging in such practices in terms of decreased dementia risk is mixed. Claims regarding the nature of brain plasticity in later life have also been questioned.

Data in this thesis comprise a sample of Australian newspaper articles, material published on the websites of dementia organisations, and posts in a Facebook conversation about dementia risk and prevention. The studies presented in the four analytical chapters of this thesis explore how media representations routinely construct engagement in brain enhancement and dementia risk-prevention activities as a normative course of action, and how such representations work to position audience members as individually responsible for risk-management. The analysis focuses on

the discursive resources and rhetorical practices routinely deployed in newspaper articles, the websites of dementia organisations, and social media to construct and manage such issues.

Study One examines representations of the topics of dementia risk-prevention, cognitive enhancement, and neuroplasticity in a sample of Australian newspaper articles. Specifically, the analysis focuses on constructions of the concept of neuroplasticity as a scientific breakthrough, with promising health implications for the prevention of cognitive decline and dementia. Promissory representations of neuroplasticity and its related technologies are argued to contribute to constructing the normativity of participation in practices that are claimed to enhance cognitive performance in older age and prevent the onset of dementia.

Study Two builds on the results of the first study by examining the construction of advice about cognitive enhancement and dementia risk-prevention in Australian newspaper articles. The analysis describes two routine advice-giving formulations that were repeatedly used to represent the development of age-related cognitive decline and dementia as consequences of individual action. It is argued that such advice formulations serve to attribute responsibility and blame for the development of dementia to individuals and their practices. Conclusions offer reflections on how social norms and expectations about brain health in old age are constructed and treated as accountable in news media.

Study Three examines online health information about dementia risk and prevention published on the websites of eight non-profit dementia organisations. The

analysis focuses on the repeated positioning of audience members as being at-risk for developing dementia and as individually responsible for dementia risk-management. It is argued that this positioning serves to warrant related proposals about participation in cognitive enhancement and dementia risk-prevention practices, and establishes a moral identity in which an ethic of self-responsibility and risk-management is central.

Study Four explores how a Facebook Page is used as a platform for the exchange of information and advice about dementia prevention and risk-management. Specifically, the analysis explores the routine framing of requests for information or for advice on the official Facebook Page of a popular Australian TV current-affairs program. Problem descriptions that included reference to notions of family history, genetic predisposition, or personal experience of dementia symptoms served to warrant posters' requests for information or advice. Such posts constructed self-monitoring, 'at-risk' identities in relation to dementia risk-management. Implications of the findings for health communication, health promotion, and identity management on social media platforms are explored.

In the concluding chapter, implications of the results are discussed. Specifically, I consider how such media representation can contribute to the prescription of actions, as well as 'at-risk', self-monitoring, or responsible identities in relation to brain health and dementia risk-management. Implications for health promotion, health and social policy, and service provision are also discussed. The findings presented in this thesis contribute to developing understandings of how contemporary representations of the health issue of dementia can work to promote an

ethic of self-responsibility for brain health in older age. The findings also provide insight into the health and illness identities that are routinely made available in relation to issues of cognitive ageing and dementia risk-prevention.

Declaration

I, Michael Lawless, certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, 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. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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. I acknowledge that copyright of published works contained within this thesis resides with the copyright holder(s) of those works. I also give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time. I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

Signature:

Date: 19/11/17

Michael Lawless

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“Instant gratification takes too long”

(Carrie Fisher 1956-2016)

And so I wrote this thesis.

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Thesis structure

Chapter 1 reviews relevant literature in order to provide context for the analyses presented in subsequent chapters. Specifically, I provide background on the following topics: (1) the health issue of dementia and its impact; (2) the concept of neuroplasticity and the possibility of brain enhancement and dementia prevention via modification of lifestyle-related risk factors; (3) neoliberal approaches to health, particularly notions of individual responsibility for health and illness; and (4) health communication in print and digital media (websites and social media). In this Chapter, I also introduce the aims of the research.

Chapter 2 provides an overview of the methodological and analytic approach used in this thesis. The Chapter describes the methodology in detail and provides an explanation of why the chosen analytic approach is suited to the research questions addressed in this thesis. I also outline the sources of data and describe how the data was collected.

Chapters 3-6 present the findings of the four studies, presented in manuscript form. Each of the studies addresses one or more of the aims described in Chapter 1. Although the manuscripts included in this thesis comprise a body of work that addresses the overall research aims, each manuscript is considered a study in its own right, and includes a separate introduction and method section.

Chapter 7 is the concluding chapter of this thesis. This Chapter provides a summary of the analytical chapters in this thesis and considers implications of the

findings for health promotion, health policy, and support services. More broadly, I consider implications of the findings for contemporary cultural understandings of brain health and dementia risk-prevention in Western society. In addition, I discuss limitations of the research and offer directions for future investigation.

A list of references for all Chapters is provided at the end of this thesis (p. 205), followed by an Appendix section that contains material relevant to the analyses presented in Chapter 6 (p. 230).

Thesis format

This dissertation is formatted as a ‘thesis by publication’, which is permitted by the guidelines set down by the University of Adelaide Graduate Centre¹. This thesis therefore comprises a collection of published research papers and under-review manuscripts, constituting a body of work that focuses on constructions of the topic of dementia risk-prevention. I chose this format for several reasons. First, I wished to share my research with peers by publishing my work in journals at the earliest opportunity. Second, the peer review process allowed me to receive criticism from experienced peers in the fields of qualitative health and psychological research. Finally, the format provided me with the opportunity to examine how the topics of dementia risk and prevention are constructed and negotiated in various public areas, and consider prevalent themes and issues present in these different contexts.

This thesis consists of four manuscripts that are formatted according to relevant journal publication guidelines. Currently, two studies have been accepted for publication and two are under review. Analytical chapters reflect the order in which the manuscripts were authored, not the chronological order of publication. Although each chapter includes an introduction and defines its own method, I have provided an introduction chapter and an overarching methodology chapter to: situate this project in the context of previous research; provide a rationale for the analysis presented in this dissertation; and rationalise why the analytic approaches used in this thesis are suited to the topics under investigation.

¹ <https://www.adelaide.edu.au/graduatecentre/handbook/07-thesis/>

Publications

Work contained in this thesis has been published elsewhere, or is currently under peer-review:

Chapter 4: Study Two

Lawless, M., & Augoustinos, M. (2017). Brain health advice in the news: Managing notions of individual responsibility in media discourse on cognitive decline and dementia. *Qualitative Research in Psychology*. 14(1), 62-80.

Chapter 5: Study Three

Lawless, M., Augoustinos, M., & LeCouteur, A. (in press). 'Your Brain Matters': Issues of risk and responsibility in online dementia prevention information. *Qualitative Health Research*.

Under review

Chapter 3: Study One

Lawless, M., Augoustinos, M., & LeCouteur, A. 'This revolution, real plasticity': Constructions of promise and scepticism in news discourse on neuroplasticity and dementia risk-prevention.

Chapter 6: Study Four

Lawless, M., Augoustinos, M., & LeCouteur, A. Dementia on Facebook: Requesting information and advice about dementia risk-prevention on social media.

Chapter 1

Introduction

Your brain is your most valuable health asset. You need to protect it all your life.

(Alzheimer's Australia, 2014)

1.1 Preamble

This thesis is concerned with the construction of the topic of dementia risk-prevention in public forums. Dementia is emerging as one of the greatest health concerns of old age and represents a significant public health concern in many countries. Contemporary public health efforts around the prevention of dementia focus on increasing awareness of a range of modifiable risk and protective factors. Such efforts involve encouraging individuals to engage in various lifestyle activities (e.g., physical activity, diet, and cognitive stimulation) that are claimed to protect against or delay the onset of cognitive decline and dementia. Although certain risk-prevention strategies show promise in terms of delaying the onset of the condition, evidence regarding the possibility of delaying the onset of dementia via participation in particular health and lifestyle interventions is mixed. In addition to ongoing debate regarding the benefit of such interventions, sociologists have posited that information and advice about dementia risk-prevention may serve to construct the issue as a matter of individual responsibility. This thesis aims to examine representations of dementia risk and prevention in print (newspaper articles) and digital (websites, social

networking sites) media contexts. Drawing on the theoretical and methodological principles of discursive psychology, I examine how participation in various dementia risk-prevention behaviours is constructed as normative in these media sites, and how such representations contribute to the positioning of people as individually responsible for dementia risk-management.

1.2 Defining dementia

The general term ‘dementia’, as used in this thesis, relates to symptoms of a range of brain disorders characterised by progressive decline in cognitive functioning and self-sufficiency (World Health Organisation [WHO], 2012). The term does not refer to one disease, but to a collection of illnesses and symptoms that are typically associated with older age and cause profound cognitive (e.g., language, memory, and reasoning abilities) and functional disability. The most well-known and common variants are Alzheimer’s disease (estimated to account for 60-80% of cases; Alzheimer’s Association, 2016) vascular dementia, Huntington’s disease, fronto-temporal lobar degeneration, dementia with Lewy bodies, alcohol-related dementia (Korsakoff’s syndrome), Creutzfeldt-Jacob disease, and Parkinson’s disease, many of which are considered incurable and fatal conditions (WHO, 2004).

Dementia typically involves damage to nerve cells in the brain, which can occur in several areas². Although the aetiology of many types of dementia remains unclear, risk factors for the condition are well established, and include both non-modifiable (e.g., advancing age, genetic factors, learning disability) and potentially modifiable or preventable factors (e.g., hypertension, diabetes, alcohol consumption, head injury; Gwynne, 2012). Current primary prevention recommendations in relation to cognitive decline and dementia focus on a range of lifestyle factors (e.g., nutrition, social, leisure, and cognitive stimulation, and physical activity) that are claimed to attenuate the pathophysiology of cognitive impairment and dementia (Polidori, Nelles, & Pientka, 2010). Secondary and tertiary prevention recommendations³, by contrast, involve screening and diagnosis of pre-clinical dementia to ensure early intervention and treatment aimed at arresting existing disease and its effects. Such strategies are argued to result in a delay of the onset of dementia at the population level, and a significant reduction in the economic burden of the disease by reducing direct (health or aged care-related costs, non-medical expenses) and indirect (loss of productivity) costs of the illness (Alzheimer's Australia, 2017).

² Accumulation of large numbers of beta-amyloid plaques and neurofibrillary tangles (abnormal proteins) in the brain is a characteristic feature of Alzheimer's disease. In contrast, vascular dementia is associated with damage to vessels that supply blood to the brain, often following stroke or a series of mini-strokes.

³ 'Secondary prevention' refers to retarding existing disease through screening and treatment. 'Tertiary prevention' refers to efforts to prevent relapse and the development of chronic conditions – for example, through rehabilitation.

1.2.1 Prevalence and impact

Dementia is an increasingly prevalent health concern. As life expectancy increases both in developed and developing countries, so does the prevalence of dementia. According to the worldwide federation of Alzheimer's associations, Alzheimer's Disease International (ADI; 2016), more than 47 million people live with dementia worldwide. This figure is expected to reach 131.5 million by 2050. Much of this increase is expected to occur in low- and middle-income regions, where growth in the elderly population is most rapid. Research commissioned by the Australian Institute of Health and Welfare (2012) has indicated that dementia represents the single largest cause of disability in people over 65 years of age and the third largest cause of disability burden overall. The death rate associated with dementia, including Alzheimer's disease, is increasing, having risen from 28.6 to 40.1 deaths per 100,000 people between 2006 and 2015. Dementia is currently the third leading cause of death in Australia for males and females after heart disease and types of cancers (Australian Bureau of Statistics, [ABS] 2016). Dementia is expected to become the leading cause of death in Australia by 2021. The economic costs associated with the condition are also significant. The total global cost associated with dementia was estimated at around US \$818 billion per annum in 2016, rising to approximately US \$1 trillion by 2018. Health care and social service provision for people living with dementia is costly, and involves complex integration between services, including social and community engagement services (e.g., day centres, respite, peer support groups), personal care, and health care.

Neurodegenerative conditions are associated with a variety of social and psychological costs to those living with dementia, their families, and carers. Dementia is often represented in Western media as being a highly feared and stigmatised condition (e.g. Kirkman, 2006). The phenomenon of ‘dementia worry’ (or ‘anticipatory dementia’) has been conceptualised as combining elements of ageing anxiety and health anxiety, and typically involves concerns about memory decline and loss of identity (Cutler & Brăgaru, 2015; Kessler et al., 2012). Middle-aged and older people, especially those reporting changes in memory performance and those with relatives who have been diagnosed with dementia, have been found to express worry about developing the condition. Such fears are argued to reflect increased awareness of dementia risk and consequences in Western populations and a perceived lack of coping resources that include informal (friends and family) and formal (e.g., early intervention providers, physicians, social services) resources and supports. Survey research conducted by Alzheimer’s Australia NSW (2010) involving members of the general public, carers, and people with dementia indicated that dementia is the second most feared disease after cancer. The research suggested that those surveyed were more concerned about conditions affecting mental capacity (37.2%), such as Alzheimer’s disease, than they are about heart disease (7.1%) and diabetes (4.1%).

Studies of media coverage of dementia have described how people living with dementia are routinely portrayed as experiencing social isolation and a gradual loss of identity and personality (Van Gorp & Vercruyse, 2012). Such experience is argued to be in opposition to Western values of individualism and personal self-fulfilment. The term ‘dementia’ is associated with negative connotations. Negative cultural understandings of dementia have been argued to be related to the low social status

awarded to older people and people living with mental disorders in Western societies (Benbow & Reynolds, 2000). Such understandings can lead to the discrimination and stigmatisation of people living with dementia, their families, and carers (WHO & World Psychiatric Association [WPA], 2002).

Few studies have examined the nature and extent of stigma in relation to dementia in Australia. A pilot study of stigma beliefs about dementia commissioned by Australia's largest dementia organisation, Alzheimer's Australia (2012), indicated the presence of pervasive negative attitudes towards those diagnosed with the condition. The study found that many of those surveyed would feel a sense of shame (60%), humiliation (47%), or a strong negative affective response, including anxiety (76%) and depression (70%) if they were diagnosed with dementia. Given that stigmatisation of disability and mental health conditions has been linked to numerous negative outcomes, such as social exclusion, discriminative healthcare practices, and delays in seeking diagnosis (Byrne, 2001), the stigma that may be associated with dementia diagnosis is of concern. Carers for those living with dementia – usually family members, such as a son/daughter, sibling, or spouse – have also been shown to express feelings of shame and embarrassment about their role⁴, and communicate concern about the effect of stigma associated with cognitive decline and dementia on the person they are caring for (Alzheimer's Australia, 2012). A significant proportion of carers in Australia have been shown to communicate dissatisfaction with the lack

⁴ Carers of those living with dementia may provide a variety of care including: supporting the person to participate in hobbies and activities; working with healthcare workers and support agencies; helping the person with activities of daily living; and supporting the person when they experience psychological or behavioural changes associated with their diagnosis.

of understanding about dementia in the general community. Negative attitudes, perceptions, and reactions may contribute to a larger care burden among caregivers of people living with dementia (cf. Peel & Harding, 2014). Given the increasing prevalence of neurodegenerative disorders and the various economic, social, and psychological costs associated with dementia, there is growing interest in identifying potentially modifiable risk factors for the condition. Research has also focused on the development and translation of treatments and multi-domain interventions that are intended to prevent or delay the onset of dementia. In addition to research into the effectiveness of various risk-prevention strategies, research into social, psychological, and ethical implications of advice and information about the dementia risk-management is needed. Such research should critically consider whether and how information about dementia risk factors and prevention activity serves to (a) encourage participation in appropriate screening, treatment, and support services; (b) promote the physical, emotional, and psychological well-being of individuals; and (c) provide a basis for victim-blaming of those living with the condition by health professionals and governments.

1.3 Dementia, neuroplasticity, and risk-prevention

It has been argued that certain lifestyle practices, including physical activity, diet (e.g., nutrient rich, high vegetable intake, Mediterranean-style diets), social engagement, and participating in cognitively stimulating activities (e.g., reading, playing action video games, playing musical instruments) may protect against, or delay, the onset of dementia and age-related cognitive decline (e.g., Green & Bavelier, 2008; Hultsch, Hertzog, Small, & Dixon, 1999; Schooler & Mulatu, 2001;

Stine-Morrow & Basak, 2011; Valenzuela & Sachdev, 2009). The possibility of enhancing cognitive functioning and delaying decline through individual lifestyle choices and practices has received much attention in Western news and popular media (e.g., O'Connor, Rees, & Joffe, 2012; O'Connor & Joffe, 2013; 2015; Peel, 2014; Racine et al., 2010; Thornton, 2011). Claims in the media regarding the benefits of participation in brain training and related cognitive interventions frequently reference the concept of neuro- or brain *plasticity*. 'Plasticity' refers broadly to the brain's ability to modify itself (forming new cells, establishing synaptic connections between neurons, or modulating the strength of synaptic connections) in response to changes in its environment or functioning (Kolb & Whishaw, 1998; Pascual-Leone, Amedi, Fregni, & Mearabet, 2005). Numerous studies have indicated that the concept of neuroplasticity applies to multiple areas of brain functioning and structure, as well as across the adult lifespan, rather than being limited to the 'critical period' of early development (e.g., Draganski et al., 2006; Draganski & May, 2008; Scholz, Klein, Behrens, Johansen-Berg, 2009). Aside from its applications in the areas of education and early learning, the concept of brain plasticity is thought to have significant clinical potential. Clinical applications of brain plasticity include: remediating stroke, trauma, and spinal cord injury; treating neuropsychiatric, paediatric, and developmental disorders; as well as delaying or preventing neurodegenerative disorders associated with ageing, such as Alzheimer's disease (Cramer et al., 2011).

Despite the promise associated with the concept of neuroplasticity and its related technologies, claims about the benefit of particular lifestyle practices in terms of improved cognitive functioning in older age and reduced risk of dementia have been questioned. Large-scale studies have indicated that brain-training interventions,

in particular, do little to improve cognitive performance in middle-aged and older adults (Ackerman, Kanfer, & Calderwood, 2010; Boot et al., 2013; Owen et al., 2010). Owen et al. (2010), for example, trained 11,430 cognitively healthy participants aged 18-60 years on a range of cognitive tasks designed to improve memory, attention, visual-spatial ability, planning, and reasoning. Although the exercises resulted in improved performance on trained tasks, the effects of training did not generalise to untrained cognitive activities. The study, therefore, did not provide support for the claim that brain training can improve performance on everyday cognitive tasks, including those related to work and formal educational attainment. Although multi-domain interventions involving social engagement, physical activity, and cognitive training seem to show promise with regard to enhancing healthy brain ageing, longitudinal research is needed to establish clearly whether such interventions result in reduced risk of dementia (see Ballesteros, Kraft, Santana, & Tziraki, 2015 for a discussion). The lack of scientific consensus about the nature of later-life plasticity and the efficacy of the protective effect of particular interventions suggests that claims about the benefit of participation in cognitive enhancement and dementia prevention activity should be treated with caution (Rees, 2010).

Given ongoing debate about the possibility and benefit of dementia prevention activity, the research presented in this thesis aims to contribute to existing literature by providing an analysis of the ways in which dementia risk and prevention activity are discursively constructed in different media sites. The analysis is informed by sociological theorising on Western neoliberal approaches to health that emphasise notions of self-control and self-responsibility for health and illness.

1.4 Dementia: Discourses of risk, self-responsibility, and agency

It has been argued that public health messages and Western media representations of dementia may contribute to the reproduction of a potentially repressive neoliberal ethic of self-responsibility, self-care, and risk-management (Biebrecher, 2011; Pitts-Taylor, 2010; Peel, 2014; Thornton, 2011; Williams, Katz, & Peters, 2011). ‘Neoliberalism’ traditionally refers to an economic ideology and policy model that emphasises the economic and social value of free market competition, free trade, deregulation, property rights, and individual sovereignty (Baum et al., 2016; Hendrikse & Sidaway, 2010). Since the 1970s, the definition and usage of the term has changed, with the term becoming prevalent in the social sciences, particularly in disciplines concerned with criticism of issues of power and ideology. Replacing an ethic of state care, neoliberalism emphasises market fundamentalism and personal responsibility for health and wellness (Ericson, Barry, & Doyle, 2000). Neoliberalism has been argued to be present in health discourse around the prevention and management of chronic illness (Pitts-Taylor, 2010). Such discourse can be drawn upon to target bodies as sites for intervention and enhancement, and construct people as enterprising consumers who are responsible for maintaining their health.

A neoliberal health discourse that promotes values of individualism and consumerism has been examined in relation to a variety of health topics, including breast cancer (Lupton, 1994), smoking (Street, 2005), nutrition (Madden & Chamberlain, 2004), pregnancy (Marshall & Woollett, 2000), women’s health (Roy, 2008), and primary-health care (Baum et al., 2016). Broadly speaking, neoliberal approaches to health (also called ‘healthist’ discourse; Crawford, 1980) centre on

people's responsibility – or moral obligation – to seek appropriate health and medical information and participate in health-promoting activities in order to maintain their health and avoid illness (e.g., Crawford, 2006; Galvin, 2002). According to this neoliberal perspective, a person's health can be attributed to the application of self-control in various lifestyle choices, such as eating habits and physical exercise. An ethos of individual responsibility for maintaining and improving health may be regarded as empowering at an individual level. In addition, at a broader level, neoliberal political agendas may contribute to addressing escalating costs of health care via the development of health policies that prioritise self-care and individualised forms of risk-management (Horton, 2007). However, it has been argued that the risk discourse associated with neoliberalism can become a tool for assigning responsibility and blame for poor health or illness to individuals and their individual practices (Fullagar, 2009; Galvin, 2002; Pitts-Taylor, 2010). Such an emphasis on individual responsibility is argued to: (a) ignore broader social, economic, and environmental determinants of health; and (b) reduce rather than enhance personal freedom. Moreover, the focus on individual responsibility may be used to justify reductions in health care funding, and may also result in increased surveillance of particular groups within health systems (e.g., women, older people; see Galvin, 2002).

In the context of dementia, media representations and health information about risk-prevention might produce inferences about individuals' responsibility, or moral obligation, to maintain brain health and avoid illness through practices of self-care and risk-management. As Pitts-Taylor (2010, p. 649, emphasis added) writes:

Seeing ourselves in neuronal terms may become a duty of biomedical citizenship, since failure to think about our brains in neuroscientific terms, or at all, not only *invites risks* but may increasingly constitute *moral failure*.

Although a neoliberal health discourse has been investigated in relation to a variety of health issues and in different contexts, the emphasis on individual responsibility for the development of dementia in publicly available health information and media representations is a relatively recent phenomenon (Peel, 2014). The presence of a neoliberal health discourse in popular and commercial representations of neuroscience (e.g., magazine articles, popular books, newspaper articles) has been discussed in sociological terms (e.g., Katz & Peters, 2008; Williams et al., 2011). However, less attention has been paid to the particular discursive practices and resources that are routinely used to construct, maintain, and negotiate notions of self-care, self-responsibility, and risk-management in respect of dementia risk-prevention. Research that examines the construction and reproduction of neoliberal discourses is timely in the context of the increasing prevalence of neurodegenerative disorders like Alzheimer's disease. Such research can provide insight into how media portrayals and health information about dementia might contribute to individualising responsibility for the development of the condition.

Neoliberal discourse, with its emphasis on lifestyle and risk, is relevant to the idea put forward by Finkler (2000) that people are becoming perpetual 'patients without symptoms' as a result of developments in biomedical research. A neoliberal ethos may contribute to the positioning of individuals as 'at-risk' of illness as a result of a range of recently identified modifiable and non-modifiable risk factors and,

therefore, as needing to engage in screening, intervention, and risk-reduction activity (Finker, 2000). Explanations of disease that focus on genetic risk and lifestyle practices, in particular, may contribute to the positioning of *all* people as at-risk of illness, and as needing to take responsibility for monitoring and managing this risk. An emphasis on risk and prevention – referred to as ‘surveillance medicine’ by Armstrong (1995) – has been argued to redefine understandings of the health and illness identities that are available to individuals. The risk discourse associated with neoliberalism has been argued to emphasise participation in regular health checks and screening for a range of chronic and progressive illnesses, including types of dementia. Surveillance medicine may contribute to the dissolution of the clinical categories of ‘healthy’ and ‘ill’ by constructing a range of ‘normal’ cognitive phenomena (e.g., poor concentration, poor memory, language difficulty) as signs of future decline, and suggesting the possibility that individuals will be diagnosed with dementia.

Increased understanding of age-related cognitive decline among researchers and health professionals may be a factor in the ‘medicalisation’ of cognitive ageing (e.g., Bond, 1992; Clarke, Mamo, Fishman, Shim, & Fosket, 2003; Joyce & Loe, 2010; Katz & Peters, 2008). As a result of a process of medicalisation, experiences of ‘normal’ signs of cognitive ageing may come to be treated by health professionals, consumers, and corporations not only as markers of dementia, but as medical conditions in their own right, and become the subject of study, diagnosis, prevention, and treatment (cf. Conrad, 2007). Medicalisation of cognitive aging may provide

opportunity for the production of new diagnostic labels⁵ and potentially stigmatised subject positions for people who fail to fit medical norms regarding cognitive functioning in older age. Furthermore, it is possible that medicalisation can provide new opportunities for the marketing of medical technologies (e.g., self-monitoring devices, such as Fitbit and smart watches) and emerging preventative medicine to health professionals and patients (e.g., Lupton, 2012; 2013).

1.5 Health communication in traditional and online media

Print and broadcast media represent important platforms for public communication about science and health-related issues, including those that constitute significant public health priorities (Augoustinos, Russin, & LeCouteur, 2009; Conrad, 1999; 2001; Hardey, 1999; Henderson & Kitzinger, 1999; Lyons, 2000; Nelkin, 1995; Nettleton, Burrows, & O'Malley, 2005; Petersen, 2001). News and popular media have been argued to influence public understandings of a variety of scientific and health-related issues. Such understandings, in turn, can shape agendas for public debate about science, technology, and health, and influence individuals' health behaviours (Lyons, 2000; Petersen, 2001; Priest, 1994). In addition, it is likely that media representations of health-related issues contribute to mediating individuals' subjective experiences of, and responses to, health and illness. From this perspective,

⁵ For example, 'mild cognitive impairment' (MCI): an intermediate stage between age-related cognitive decline and dementia. MCI is characterised by isolated cognitive impairment in non-demented people who report subjective memory problems but normal general cognitive functioning and normal capacity to perform activities of daily living (Petersen, 2004).

media representations may play a role in the construction of identities via the reproduction of particular understandings of health and medical issues.

In addition to traditional print and broadcast media (e.g., newspapers, magazines, radio, television) digital media are important platforms for health communication and promotion. Digital technologies have been argued to provide new opportunities for disseminating health and medical knowledge, and open new channels of communication between individuals and health stakeholders from government, private, and non-profit sectors (Chou et al., 2009; Kreps & Neuhauser, 2010; Neuhauser & Kreps, 2003; Prestin & Chou, 2014). Online media, including health-related websites, tailored education programs, online support groups (OSGs), and social networking sites (SNSs) can promote interactivity, user control over content and forms of communication, convenience, and broad social connection. As a result, such digital platforms may represent more effective channels for health communication than traditional media platforms. Traditional media are argued to be limited due to factors including restricted exposure rates, inappropriately generalised ‘one-size-fits-all’ messages, and a tendency for one-way, downward-focused approaches to health communication and promotion. Increased audience engagement with health information published on websites and SNSs might, for example, be expected to result in improved participation in health screening, health-promotion programs, support groups, and other services (Neiger et al., 2012; 2013). In addition, online platforms, including websites and online support groups, may improve upon traditional channels of health communication by reducing communication barriers, particularly those related to culture, language, and literacy (Neuhauser & Kreps, 2008).

Social media and networking sites represent important new spaces for the construction and reproduction of discourses surrounding health and illness (Nettleton et al., 2005; Pitts, 2004; Seale, 2005). It has been argued that such platforms can work to promote neoliberal discourse emphasising personal responsibility for accessing health information and managing potential health risks through practices of self-care (Hunt & Koteyko, 2015). SNSs like Facebook and Twitter provide opportunities for a variety of activities, including communication about illness experiences, requests for advice, and provision of social support, that have been argued to contribute to the construction and performance of identity in relation to health and illness (Herring, 2004; Koteyko & Hunt, 2016). In the context of dementia, activities that users routinely perform on Facebook (e.g., sharing of narratives about experience of memory loss, dementia diagnosis, treatment, and care) can accomplish interactional work, including the construction of identities and the allocation of individual responsibility for health and illness. Examination of representations of dementia in digital contexts can increase our understanding of how such platforms can function to reproduce contemporary discourses surrounding health and illness and construct identities for individuals.

1.6 Aims of the research

The aim of this research is to examine media representations of dementia risk and prevention in the context of increasing prevalence of the condition and ongoing debate regarding the possibility of delaying or preventing its onset. The research contributes to understanding how the topics of dementia risk and prevention are constructed by examining data from three sources: (1) articles from Australian

newspapers; (2) material published on the websites of dementia organisations; and (3) posts on a Facebook Page. Discursive psychology (Edwards & Potter, 1992; Potter, 1996) is used to examine the routine linguistic resources and discursive practices used in these constructions. Contemporary discourse surrounding cognitive ageing and dementia may influence the experiences of cognitively healthy older people, people living with dementia, and their carers by shaping the subject positions that are typically made available for members of Western societies.

Scant attention has been paid to how print and online media may be used as vehicles for the prescription of particular actions around the management of age-related cognitive decline and dementia. This thesis will examine the recurring discursive practices and linguistic resources that are routinely used to recommend participation in brain enhancement and dementia prevention activity. The thesis will also explore how such practices *position* people and construct identities in relation to dementia risk-management, and how language is flexibly used to manage issues of blame and responsibility for the development of the condition in these contexts. This thesis will contribute to developing theoretical understandings of the notion of *accountability* in the context of health psychology by exploring how media representations of dementia can serve to construct and perpetuate discourses of agency, blame, and/or responsibility.

It is not my intention to criticise claims about the possibility of preventing dementia through individual lifestyle choices and practices, nor to comment on whether people should, or should not, participate in various dementia risk-prevention behaviours. Rather, by examining representations of dementia and exploring the

routine discursive practices that emerged in different media contexts, I aim to contribute to understanding of contemporary sense-making around the issue of dementia risk-prevention – in particular, how representations of dementia prevention might mediate people’s subjective experience of, and responses to, cognitive ageing.

1.7 Chapter summary

In this chapter, I have reviewed literature around the topics of analytic concern, and outlined the aims of this thesis. Specifically, I have provided a background to the health issue of dementia, including related social, economic, and psychological impacts of the condition. I have discussed the concept of neuroplasticity and the possibility of cognitive enhancement and primary prevention of dementia via participation in specific lifestyle practices, such as brain training. Lastly, I discussed neoliberal approaches to health and associated notions of risk, surveillance, and self-responsibility in relation to cognitive decline and dementia.

The next chapter presents an introduction and discussion of the methodological and analytical approach used in this thesis.

Chapter 2

Methodological approach and data

In this chapter, I provide an overview of the methodological and analytical approach used in this thesis. I will begin by describing the approach of discursive psychology to the study of text and talk, and highlight features of this approach that are relevant to the present research. I will also explain why this approach can make a useful contribution to exploring questions relating to health and illness, including those examined in this thesis. I finish this chapter by describing the sources of the data examined in Chapters 3-6 and providing an overview of the procedures involved in data collection.

2.1 Discursive psychology

The analyses presented in this thesis use discursive psychology (see Edwards, 1997; Edwards & Potter, 1992; Hepburn, 2000, Potter, 1996; Potter & Wetherell, 1987 for a detailed discussion). Examination of the situated, constructive, and action-oriented nature of everyday language is central to discursive, or discourse analytic, research. I begin by providing a brief overview of discursive psychology and discuss key features of this approach to analysis.

Rather than referring simply to a technique or method of analysis, discursive psychology “involves a theoretical way of understanding the nature of discourse and

the nature of psychological phenomena” (Billig, 1997, p. 43). Discursive psychological approaches involve a radical rethinking of the subject matter of psychology, and contrast with traditional experimental and cognitivist approaches that characterised the discipline in the mid- to late-1980s (Wooffitt, 2005). Critiquing traditional cognitivist paradigms, which treat inner mental processes as the proper topics for analysis, discursive psychology treats different kinds of *discourse* – talk and text – as topics for empirical research and theorising. Instead of approaching discourse as a product of psychological states or processes, discursive psychology treats discourse as a domain of activity in its own right (Edwards & Potter, 1992). From this perspective, activities such as justification, attribution, and blaming, as well as references to psychological phenomena such as memory and identity, can be understood as *discursive actions* (rather than cognitive processes). Such activities are regarded as being performed by participants in social interaction, and attend to a range of concerns, including those related to stake and interest, identity, and morality.

Discursive psychological methods have been used to explore a range of issues including attitudes (Edwards, 1997; Potter & Wetherell, 1987), social identity (Edwards, 1998), conversational remembering (Edwards & Middleton, 1988), and claims of personal knowledge (Potter, 1996). Such methods have also been used to examine dominant understandings of health-related topics and their implications (see Seymour-Smith, 2015 for a discussion). In the following section, discursive psychology’s constructive, action-oriented approach to language is detailed.

2.1.1 Language as constructed and constructive; action-orientation

Discursive psychological research treats discourse as functional: talk and text are regarded as mediums in and through which people perform social actions in specific contexts (Potter & Wetherell, 1987). Such actions can be recognised as discrete speech-act verbs, for example, persuading, complimenting, or blaming. Actions can also be embedded within particular institutional practices or performed indirectly by way of descriptions of events, objects, or people. The focus on the action-oriented nature of language is a major point of difference between discourse analytic approaches and mainstream approaches. Such approaches tend to treat language as a passive, neutral, and transparent medium that merely *reflects* reality, or as a pathway to understanding putative cognitive phenomena, such as attitudes, motives, and mental states (Edwards, 1997; te Molder & Potter, 2005; Wetherell, 2001). Another central concern of discursive approaches is the constructed and constructive nature of language. Discourse is treated as constructed in the sense that descriptions are put together using particular discursive resources and practices, including grammatical structures, words, conversational practices, categories, and interpretative repertoires (i.e., recurrent patterns of talk used to describe events, actions, or people). The organisation of these resources and practices in specific contexts can become topics of analysis. Discourse is also constructive insofar as it builds particular versions of reality and identity (Benwell & Stokoe, 2006; Edwards & Potter, 1992). Discursive psychology is therefore in keeping with social constructionist epistemological positions. Such positions are diverse, but are unified in their criticism of the notion of objective reality, and their emphasis on the historical

and cultural contexts and social processes through which knowledge is produced (Burr, 2003).

Language can be regarded as constructive and action-oriented at different levels, corresponding to different traditions of discursive work that have developed over past decades. I will briefly outline key differences between two prominent traditions of discursive work that are relevant to this research: (1) ethnomethodology and conversation analysis-informed discursive approaches, and (2) approaches influenced by post-structuralism, particularly the work of Michel Foucault (Foucault, 1980; see also Wetherell, 1998). Discursive approaches influenced by conversation analysis focus on the action-orientation and constructive nature of language at the local – or ‘micro’ – level of interaction. Conversation analysis developed out of ethnomethodology, and involves the study of naturally occurring⁶ talk in social interaction, commonly known as ‘talk-in-interaction’ (Hutchby & Wooffitt, 2008). Conversation analysis-informed discursive psychological approaches aim to avoid the issue of imposing the researcher’s own understandings and agendas of what is relevant in a particular situation by focusing on the action-orientation of talk as *displayed* by the participants’ orientation (Schegloff, 1997). Rather than examining language at the broader, ‘macro’ level of the historical and cultural production of

⁶ The term ‘naturally occurring’ is taken to mean that the data in question come from actual instances of interaction, rather than data contrived in a laboratory or generated via the methods of interviews or surveys, which necessarily require the researcher’s involvement (see Potter, 1996; 2002). According to this definition, examples of naturally occurring data include everyday face-to-face conversations, telephone calls, online interaction, etc.

social meaning, studies informed by conversation analysis focus on the detailed structure and local function of language in turn-by-turn interaction (Potter, 1996).

Although the analysis presented here draws on discursive psychological insights, it also integrates features of poststructuralist-influenced discourse analysis (see Wetherell, 1998; 2001 for a discussion of synthetic discourse analysis). ‘Macro-level’ approaches to discourse analysis attempt to highlight the cultural and historical implications of text and talk, as well as the truths, power structures, and forms of subjectivity that are (re)produced by the discourses being drawn upon beyond the local action-orientation. One key poststructuralist-influenced concept that is relevant to this research is that of *subject positions*. ‘Subject positions’ can be broadly defined as “locations’ within a conversation”, and as “identities made relevant by specific ways of talking” (Edley, 2001, p. 210; cf. Hepburn, 2000). Constructions of health-related topics, for example, can serve to make available identities and position people in particular ways in different contexts. Integrating this concept into the analysis offers a framework for examining the rhetorical organisation of language in its local context, as well as its broader context in terms of its implications for subjectivity.

2.2 Analytical approach in this thesis

The analysis presented in this thesis focuses on the constructive and action-oriented nature of language. In particular, I examine how accounts of dementia risk and prevention are constructed using certain discursive practices and resources, and how such resources function to accomplish particular social actions. The analysis in

this thesis is therefore compatible with a social constructionist epistemology that treats language as being shaped by, and constructive of, social meaning.

Discursive psychology is suited to the research questions addressed in this thesis for a number of reasons. First, as I will explain in the following section, the data used in this thesis are naturalistic, involving text sourced from newspaper articles, websites, and Facebook postings. Such data are appropriate to address a range of questions about the management of accountability and identity in ‘everyday texts’: topics of central concern for discursive psychology. Discursive psychology can be used to examine how particular representations of dementia are constructed as factual (i.e., working up certain versions of reality as ‘true’), and how issues of accountability are managed (i.e., orienting to issues of agency, blame, or responsibility). Such principles can also be used to examine how issues of accountability, morality, and identity may be bound up with particular social and health practices in a range of settings. As Seymour-Smith (2015) argued, fine-grained analysis can make a valuable contribution to health research – for example, by drawing attention to the ways in which issues of individual responsibility for health and illness is negotiated by those directly affected by health promotion efforts; or how compliance or non-compliance with health advice is worked up in interaction.

In this thesis, I examine samples of texts (newspaper articles, websites, and Facebook posts) around the topics of dementia risk and prevention. I focus on how particular discursive resources and practices are used to accomplish specific actions in these contexts, including: the construction of descriptions of neuroplasticity and dementia risk-prevention practices as factual and objective; attributing, or resisting,

accountability for the development of neurodegenerative disorders; and the construction and management of identities in relation to brain health.

Use of thematic analysis and approach to coding

In the studies presented in this thesis, data were subjected to preliminary coding according to the protocol outlined by Braun and Clarke (2006). In their paper, Braun and Clarke outline steps for undertaking thematic analysis, and describe how thematic approaches can be used as a first-stage in conducting discursive analysis. In this thesis, such methods were used to generate initial codes and define overarching themes in the data. The style of coding in the studies in this thesis was iterative and inductive: rather than being pre-determined by a theoretically informed coding frame, themes were data-driven, emerging from close examination of the data. Following the identification, definition, naming, and review of themes, representative extracts were further analysed using discursive psychology with a focus on the constructive and action-oriented use of language within each context.

2.3 Sources of data

The data examined in this thesis come from three sources: Australian newspaper articles; the websites of non-profit dementia organisations; and Facebook posts. Such data represent examples of the discursive construction of culturally available notions about dementia – for example, health, risk, and responsibility. The sources of data and methodology are explained in each of the analytic chapters. In the

following section, an overview of how data were collected, including the criteria used to sample the data, is provided.

2.3.1 Newspaper articles

In Chapters 3 and 4, I present an analysis of representations of dementia, brain ageing, and risk-prevention in a sample of Australian newspaper articles. Print media have been argued to play a significant role in the dissemination of information about a range of scientific and health issues, contributing to the shaping of public understandings of, and responses to, issues related to health and illness (e.g., Augoustinos, Russin, & LeCouteur, 2009; Conrad, 1999; 2001; Henderson & Kitzinger, 1999; Lyons, 2000; Nelkin, 1995; Peterson, 2001; Priest, 2006; Seale, 2003). It is also likely that media representations of certain health issues can influence people's subjective experience of health and illness, and affect how those living with particular diseases, such as Alzheimer's, are viewed and treated (Lyons, 2000).

Newspaper articles were sampled from five high-circulation Australian newspapers: *The Age*, *The Australian*, *The West Australian*, *The Sydney Morning Herald*, and *The Daily Telegraph* (Roy Morgan Research, 2015). The monitoring period covered five years (June 30, 2009 to June 30, 2014). The *Factiva* newspaper database was used to extract articles. The following search terms were entered into the search engine: *brain*, *neuro-*, "*brain research*", "*brain science*", *plasticity*, *dementia*, *ag[e]ing*, *Alzheimer's*, *senility*, "*cognitive decline*", and *anti-ag[e]ing*. Given the exploratory nature of the research, the initial search was deliberately broad

in order to capture a wide range of newspaper articles on neuroscience and dementia. The search retrieved 773 articles, including letters to the editor, commentaries, opinion pieces, and news stories.

2.3.2 Websites

Although traditional newsprint media continue to represent important sources for the dissemination of information about health-related issues, the Internet has been argued to provide new sites for health communication and promotion (Hardey, 1999; Nettleton, Burrows, & O'Malley, 2005; Pitts, 2004). Analysis of websites can contribute to understanding the construction and reproduction of contemporary discourses surrounding health and illness in online spaces. Online platforms (e.g., health information websites, online discussion groups, tailored education programs) have the potential to be more effective channels of health communication compared to print and broadcast media as a result of features of convenience, tailored information, and interactivity (Kreps & Neuhauser, 2010; Neuhauser & Kreps, 2003; Prestin & Chou, 2014). However, it has been argued that such websites may serve to perpetuate values of individualism and consumerism, positioning audience members as individually responsible for accessing appropriate health information to improve and manage their health (Nettleton, 2013).

In Chapter 5, I analyse information about dementia risk-prevention that was published on the websites of eight, non-profit dementia organisations. Like newspaper articles, websites represent 'everyday texts' (Wetherell & Potter, 1992) that can be systematically analysed to explore how language is used to manage

relevant issues of accountability and identity. A list of the websites of non-profit dementia organisations published by Alzheimer's Disease International (ADI), the worldwide federation of Alzheimer's associations under the auspices of the World Health Organisation, was used to identify appropriate websites. The websites of the following dementia organisations were selected for inclusion in the analysis:

Alzheimer's Australia; Alzheimer's Society of Canada; Alzheimer's Society of Ireland; Alzheimer's New Zealand; Alzheimer's Scotland; Alzheimer's Society (UK); Alzheimer's Research (UK); and Alzheimer's Association (USA).

2.3.3 Facebook posts

In Chapter 6, data for analysis comprise posts on Facebook. The analytic focus is on requests for information or for advice on a conversation that took place on the official Facebook Page of *7.30*, a popular Australian TV current-affairs program. Social networking sites (SNSs) like Facebook represent emerging channels for a range of activities including peer discussion and social support and the provision of tailored health information (Abramson, Keefe & Chou, 2014; Bender, Jimenez-Marroquin, & Jadad, 2011; Prestin & Chou, 2014; Zhang, He, & Sang, 2013). Like websites, social media platforms have also been described as important sites for the construction and negotiation of contemporary discourses about health and illness (e.g., Hunt & Koteyko, 2015; Koteyko & Hunt, 2016). Examining posters' contributions on Facebook provides an opportunity to consider how the activities that routinely occur on SNSs, such as the exchange of information and advice, can contribute to the construction of identities in relation to health and illness.

Postings were extracted from the official Facebook Page of the Australian current affairs program *7.30* (Australian Broadcasting Corporation [ABC], 2014) in the week after a national television broadcast, ‘*Can exercising your brain keep Alzheimer’s away*’ (November 19, 2014). The Facebook Page was chosen as a source of data for the following reasons: (a) the program and subsequent online conversation focused specifically on prevention of dementia via modification of lifestyle-related risk factors, with a particular focus on brain training interventions; and (b) the online conversation attracted a number of posts and replies by stakeholders (members of the general public and dementia researchers). The corpus comprised 115 comments and their associated replies.

2.4 Chapter summary

In this chapter, I have introduced the methodological and analytical approach that I will use in this thesis: that is, a discursive psychological approach. This approach provides a framework for examination of the situated, action-oriented, and constructive nature of language. Specifically, the approach allows for in-depth examination of the discursive resources and practices that are routinely used to construct the topics of dementia risk and prevention in different contexts, and the social actions accomplished by these constructions. In addition, I have also described the sources of data under investigation, including the methods of data collection. Given the overall interest in the contexts in which the topic of dementia risk-prevention is represented, the range of data sources included in this thesis allows for detailed examination of the construction and negotiation of issues around brain health, risk, and responsibility across multiple sites of health communication.

In the following four Chapters, I present the manuscripts of the four studies that comprise this thesis. These Chapters are followed by a discussion of the overall findings, implications, limitations, and future study directions.

Chapter 3

Study One

The first study presented in this thesis examines the discursive practices and linguistic resources that were routinely used to construct the topic of neuroplasticity in a sample of Australian newspaper articles about cognitive enhancement and dementia risk-prevention. The study explores the way in which the articles commonly represented the concept of neuroplasticity as a scientific breakthrough that has changed, or contrasts with, previous scientific consensus about brain functioning in older age. The way in which articles represented the concept as having positive health implications in terms of improving cognitive functioning and preventing the onset of dementia is examined. Instances in which scepticism was expressed about the reliability of information and advice around participation in dementia risk-prevention and brain enhancement practices are also considered. Analysis shows how such positive representations of cognitive enhancement and risk-prevention activity worked to build inferences about the normativity of participation in such measures. Findings from this analysis, particularly around the issue of advice giving, are pursued in Studies Two and Three.

‘This revolution, real plasticity’: Constructions of promise and scepticism in news discourse on neuroplasticity and dementia risk-prevention (Under review).

Statement of Authorship

Mr Michael Lawless (first author)

I am responsible for the conception and primary authorship of this paper. I conducted the literature review, developed the research aims, conducted analysis, and wrote the manuscript. I was identified as the first author when this article was submitted for publication, and I have been responsible for all communications with journal administration including responses to reviewer feedback.

Michael Lawless

Signature:

Date: 19/11/17

Professor Martha Augoustinos; Associate Professor Amanda LeCouteur (co-authors)

The realisation of the idea, collection of data, and analysis of data were the work of Mr. Lawless. Mr. Lawless was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the

journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Lawless' submission for the degree of Doctor of Philosophy from the University of Adelaide.

Martha Augoustinos

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Amanda LeCouteur

Signature:

Date: 20/11/17

Abstract

Claims about the possibility of brain enhancement and dementia risk-prevention have become widespread in print, broadcast, and online media. Such claims regularly describe the concept of brain plasticity, which refers to the brain's capacity to adapt in response to changes in its environment and functioning. In this study, a discursive psychological approach is used to examine representations of neuroplasticity in articles on dementia risk-prevention that appeared in a sample of Australian newspapers over the period 2009 to 2014. We describe how the sampled newspaper articles routinely presented the concept of neuroplasticity as a scientific 'breakthrough', with promising health implications for preventing age-related cognitive decline and dementia. Descriptions of neuroplasticity commonly implicated advice about participation in brain enhancement and dementia risk-prevention activities. We also examine instances in which newspaper articles expressed scepticism regarding the reliability of information and advice around participation in dementia risk-prevention and brain enhancement practices. We argue that promissory representations of neuroplasticity-related concepts and technologies contribute to constructing the normativity of participation in health and lifestyle practices that are claimed to enhance cognitive functioning and prevent dementia. The implications of these constructions for self-care and risk-management practices around brain health are considered.

3.1 Introduction

The concept of neuro- or brain plasticity has gained substantial attention in print and broadcast media, and is often focused on the topic of dementia risk-prevention (Peel, 2014; Pitts-Taylor, 2010; Thornton, 2011). The term ‘plasticity’ refers broadly to several processes associated with the brain’s capacity to modify itself (including by forming connections between neurons and creating new cells) in response to changes in its functioning or environment (Pitts-Taylor, 2010). Using a discursive psychological approach (Edwards & Potter, 1992; Potter, 1996), we examine the rhetorical resources and linguistic practices that were routinely used in a sample of Australian newspaper articles to describe the concept of neuroplasticity in relation to brain enhancement and dementia risk-prevention. This study contributes to developing understandings of how media representations of neuroplasticity and related technologies may serve to shape public understandings of, and responses to, issues of cognitive ageing and dementia risk-prevention (Peel, 2014; Pickersgill, Martin, & Cunningham-Burley, 2014; Rose & Abi-Rached, 2013; Williams, Higgs, & Katz, 2011).

3.1.1 Brain ageing, neuroplasticity, and dementia risk-prevention

As populations age in many countries throughout the world, so does the prevalence of age-related cognitive decline and dementia increases (Bishop, Lu, & Yankner, 2010). Indeed, the international federation of Alzheimer’s associations, Alzheimer’s Disease International (ADI; 2015), predicts that by 2050, the number of

people living with dementia is predicted to reach 131.5 million. The term ‘dementia’ refers to symptoms of several brain disorders that are characterised by progressive decline in cognitive functioning and self-sufficiency. The most common variants include Alzheimer’s disease and vascular dementia, both of which are ultimately terminal (World Health Organisation [WHO], 2016). Aside from the direct (e.g., medical and non-medical expenses; health and aged care) and indirect (e.g., loss of productivity) economic costs associated with dementia (estimated as US \$818 billion per annum; ADI, 2015), there are also significant social and psychological costs. Dementia is often portrayed in Western news media as a highly feared and stigmatising condition (Kirkman, 2006). Media coverage studies have described how representations of dementia focus on the experience of loss of identity and autonomy that may be associated with diagnosis (Van Gorp & Vercruysse, 2012). Concerns about memory decline and loss of personal identity have been argued to contribute to worry about developing dementia among middle-aged and older people (Cutler & Brăgaru, 2015; Kessler et al., 2012). The economic, psychological, and social costs associated with dementia are significant reasons for developing interventions that might delay or prevent the onset of the condition or ameliorate its effects. For example, it has been claimed that even a modest delay in the onset of dementia symptoms by five years (from an average age of 85 to 90 years) could effectively halve the burden of the disease (Valenzuela & Sachdev, 2009).

Evidence suggests that certain lifestyle practices (e.g., physical activity, social activity, cognitive training) can contribute to preserving healthy cognitive performance in older age and prevent or delay the onset of dementia (e.g., Ballesteros,

Kraft, Santana, & Tziraki, 2015; Hultsch, Hertzog, Small, & Dixon, 1999; Schooler & Mulatu, 2001; Stine-Morrow & Basak, 2011; Valenzuela & Sachdev, 2009).

Lifestyle interventions that exploit adult brain plasticity have also been proposed to assist rehabilitation of trauma as well as the remediation of age-related cognitive decline. These potential benefits have been the basis of recommendations that older people – even cognitively healthy individuals – should participate in certain lifestyle practices to delay the onset of cognitive impairment (Valenzuela & Sachdev, 2009).

Despite some promising evidence, and a growing market for popular cognitive training products and programs (Holman & de Villers-Sidani, 2014), the validity of claims about the brain’s plasticity in older age have been questioned. Several large-scale studies have reported little evidence that brain training improves cognitive functioning beyond trained tasks (e.g., Ackerman, Kanfer, & Calderwood, 2010; Owen et al., 2010). The lack of scientific consensus about the nature of later-life plasticity, and the efficacy of the protective effect of cognitive exercise, suggests that claims about dementia prevention should be treated with caution (Rees, 2010).

Nevertheless, brain enhancement and dementia prevention are topics that have received much media attention (e.g., O’Connor & Joffe, 2015). Examination of media representations of neuroplasticity and implications in terms of brain health is needed to establish how participation in a range of dementia risk-prevention measures are constructed as holding ‘promise’ or ‘potential’ in contemporary Western societies.

3.1.2 Notions of promise in scientific discourse

A number of studies have examined the role of discourses of ‘promise’ and ‘expectation’ in public communication about science, particularly in relation to biotechnology research (Brown & Michael, 2003; Caulfield & Condit, 2012; Petersen, 2001; 2009; 2015; Väliverronen, 2004; Van Dijck, 1998). A variety of rhetorical resource and linguistic practices are commonly used in the public sphere to construct the promise or potential of preliminary research findings (e.g., Brannigan, 1981; Brown, 2000; Woolgar, 1976). Mulkey’s (1993) account of UK parliamentary debate on human embryology, for example, described how certain representations of the future – especially those evoking ‘hope’ – are part of the dominant discourse of science in contemporary society. Mulkey argued that this ‘rhetoric of hope’ requires little justification, relying, as it does, on a modernist ideal of scientific progress. Media portrayals that emphasise the promise of scientific and technological developments may be necessary to secure research funding or support from policy-makers. However, it has been argued that such promissory representations also have the potential to be misleading or detrimental, both to consumers and for the credibility of science-related institutions and industries if claims lack appropriate qualification (e.g., acknowledgement of uncertainty, economic contingencies, or limited applications; Petersen, 2009). For example, ‘hyped’ claims about the applications of preliminary neuroscientific research may motivate participation in a variety of ineffective and/or harmful interventions and treatments, undermining the credibility of effective treatments and interventions. It is therefore important to examine the construction of discourses of promise, particularly in relation to emerging

technologies associated with contentious scientific claims (e.g., neuroplasticity research and its applications in relation to dementia prevention).

Several factors contribute to the construction and reproduction of discourses of ‘hope’ and ‘promise’ in news media representations of science. Although online spaces, including social media, health information pages, and online support groups, are emerging as important platforms for public communication about science, the newsprint media continue to be an important resource for conferring legitimacy in relation to scientific issues (e.g., Augoustinos, Russin, & LeCouteur, 2009; Conrad, 1999; 2001; Nelkin, 1995; Petersen, 2001). Media representations can also be a powerful influence on public debate about science, health, and technology (Petersen, 2001; Priest, 1994), and are argued to mediate individuals’ experiences of health and illness by influencing how people behave with regard to their own, and others’, health conditions (Lyons, 2000).

3.1.3 Neuroplasticity and dementia risk-prevention in the media

Reference to neuroscience-related concepts is common in news media in relation to a number of subject areas, including parenting, education, law, and public policy (O’Connor, Rees, & Joffe, 2012; O’Connor & Joffe, 2013; 2015; Peel, 2014; Racine, Waldman, Rosenberg, & Illes, 2010; Thornton, 2011). Although several studies have examined the prominence of neuroscience-related concepts in the media, the topic of plasticity with regard to dementia risk-prevention has received less attention from researchers. Studies of media coverage of neuroscience have typically used content analytic methods to examine portrayals of neurotechnologies, including

fMRI, EEG, and PET (e.g. Racine, Bar-Ilan, & Illes, 2005; Racine et al., 2010). Studies taking a Social Representations Theory (SRT) approach have also been carried out on topics such as ‘personhood’, sex differences, and brain optimisation (e.g., O’Connor et al., 2012; O’Connor & Joffe, 2013; 2014; 2015). To our knowledge, only one study has used a discourse analytic approach to examine how the topic of dementia is constructed in news media. Peel (2014) examined how UK newsprint media represented dementia over a one-year period (2010-2011). She identified two prevalent discourses in the UK press: (1) dementia as a public health crisis or ‘epidemic’; and (2) a discourse of prevention and individual responsibility. Notions of personal responsibility for the onset of dementia, as described by Peel, are relevant to the claim that information about dementia risk-prevention can serve to promote an ethos of self-control and self-responsibility for the management of cognitive ageing (e.g., Pitts-Taylor, 2010; Williams, Katz, & Peters, 2011). In this study, we build on Peel’s findings by adopting a discursive psychological approach to examine how representations of dementia and neuroplasticity in the media work to construct and reproduce particular norms and values about cognitive ageing and dementia.

3.1.4 The present research

This study examines representations of the topics of neuroplasticity, brain enhancement, and dementia risk-prevention that appeared in a sample of Australian newspaper articles. Analysis examines the recurring discursive practices and linguistic resources that were routinely used in the sampled articles to construct the concept of neuroplasticity. We build on previous studies of media representations of

neuroscience (e.g., O'Connor et al., 2012; O'Connor & Joffe, 2013; 2015; Racine et al., 2005; Racine et al., 2010) by considering how the articles under investigation represent neuroplasticity as holding promise for preventing the onset of cognitive decline and dementia. The analysis also focuses on how news representations make available inferences about the normativity of participation in brain enhancement and dementia risk-management practices.

3.2 Method

The data are a corpus of articles published in five high-circulation Australian newspapers: *The Age*, *The Australian*, *The West Australian*, *The Sydney Morning Herald*, and *The Daily Telegraph*. These newspapers are the most popular tabloids and broadsheets⁷ published by the two major Australian public-listed proprietors (Fairfax and News Ltd., respectively). Articles were extracted from the electronic database, Factiva, covering a 5-year monitoring period (June 30, 2009 to June 30, 2014). This timeframe provided sufficient scope to permit monitoring of a wide range of representations while not being restricted to particular events and developments. Key events included the addition of dementia as an Australian national health priority (2012); Dementia Awareness Month (an initiative of Alzheimer's Australia, held annually in September); World Alzheimer's Day (21 September); and neuroplasticity-related conferences and events in Australia (e.g., the annual 'Mind and Its Potential' conference). The following search terms were entered into the search engine: *brain*, *neuro-*, "*brain research*", "*brain science*", *plasticity*,

⁷ 'Tabloid' and 'broadsheet' here refer to page format, rather than journalistic style.

dementia, ag[e]ing, Alzheimer's, senility, "cognitive decline", and anti-ag[e]ing.

The search retrieved 773 articles, including letters to the editor, commentaries, opinion pieces, and news stories.

The analysis of the data occurred in two stages: (1) coding; and (2) a finer-grained discourse analysis. In the first stage, the first author read all articles, and extracted any that made specific reference to the concept of neuroplasticity with reference to brain ageing or dementia ($n = 240$). During this stage, initial codes were generated and recurrent patterns were identified (see Braun & Clarke, 2006 for a discussion of thematic analysis as a first-stage in conducting discursive analysis). The style of coding was inductive: themes were not pre-determined and were strongly linked to the data. Each author assisted in reviewing and refining the analysis by independently checking the identified themes and illustrative extracts against the original data. Two common patterns that emerged through this process were identified as involving themes of 'promise' and 'scepticism'. A pattern of 'advice-giving' was also identified, typically associated with promissory descriptions of neuroplasticity. A selection of extracts is included in the results section to illustrate the most pervasive themes identified in the corpus. These extracts are the focus of the analysis that follows.

The analysis drew on a discursive psychological approach (Edwards & Potter, 1992; Potter, 1996). Discursive psychology is concerned with the action-oriented, situated, and constructive nature of everyday language. Discursive psychological studies of media texts treat descriptions both as *constructed* (using various linguistic and rhetorical resources) and *constructive*, insofar as they 'build' versions of reality.

Discursive psychology also treats descriptions as accomplishing certain actions in specific contexts. Thus, discursive psychology is concerned with how descriptions are worked up to accomplish various activities, including countering actual or possible alternative versions (Billig et al., 1988). This approach allows us to explore the recurring resources and practices used to construct the concept of neuroplasticity as having the potential to prevent the onset of cognitive decline and dementia.

3.3 Results

The analysis is organised around two pervasive themes identified in the corpus: (1) neuroplasticity as a breakthrough that has changed previous scientific understanding of the brain, and holds promise for the prevention of dementia; and (2) expressions of scepticism regarding the reliability of information and advice about neuroplasticity and the possibility of dementia prevention.

3.3.1 *'We used to think X, but now we think Y'*: The promise of a neuroplasticity 'breakthrough'

In this section, analysis focuses on representations of the concept of neuroplasticity as a scientific breakthrough that has changed, or contrasts with, previous scientific thinking about brain functioning in older age⁸. Such

⁸ Previous scientific consensus stated that the brain changes little, or is fixed, after a 'critical period' of early development (Pascual-Leone, Amedi, Fregni, & Merabet, 2005).

representations routinely suggested the possibility of improving cognitive functioning and preventing the onset of dementia as a result of participation in certain health and lifestyle activities. Specifically, analysis focuses on a pattern of textual construction that was repeatedly used to represent neuroplasticity as a promising scientific breakthrough. The pattern involved the use of *contrast structures* (Edwards, 1997) to draw a distinction between previous scientific consensus about the brain, and new claims about plasticity, particularly with regard to brain enhancement and dementia risk-prevention. A contrast structure is a rhetorical device that allows speakers to contrast two or more objects or actions in a way that allows inferences to be drawn about the normativity or legitimacy of those objects or actions. The most common formulation of such contrast structures was, '*We used to think X, but now we think Y*'. The terms and figures of speech that were used within this formulation of 'old' and 'new' scientific knowledge contributed to constructing neuroplasticity as having changed previous understandings of brain functioning, and as having promising implications relevant to the prevention of dementia.

Health and lifestyle advice was regularly presented as a corollary of neuroplasticity research findings. This was achieved by suggesting that readers (including cognitively healthy older and middle-aged adults and people experiencing age-related memory impairment) could benefit from engaging in certain lifestyle practices in terms of improved cognitive performance and reduced dementia risk. Instances of advice giving were broadly identified as follows: any construction that forwarded or promoted a future course of action (Heritage & Sefi, 1992). Advice was most frequently seen in opinion pieces and reviews written by scientists and other experts who were represented as entitled to make particular knowledge claims and

recommend health behaviours. As will be demonstrated, advice also worked to produce attributions of personal responsibility for cognitive decline and dementia. The focus on advice giving in this section is relevant to our overall interest in how claims about the promise associated with plasticity were mobilised to position readers as individually responsible for improving cognitive functioning in older age and preventing the onset of dementia.

Extract 1 is an example of how the concept of neuroplasticity was typically represented as contrasting with, or as having changed, previous scientific understanding about brain functioning in older age, and as having promising implications for brain enhancement and dementia risk-prevention.

Extract 1: ‘A quick change of mind’ (*The Sydney Morning Herald*, 7 October 2013)

- 1 “Science has told us for many years that you are born with the brain you have
- 2 and you follow a natural mental decline through life. This revolution, real
- 3 plasticity, has proven that is absolutely false”
- 4 “It’s down to training. It’s not self-help. There’s no fire walking or chanting
- 5 or excessive hugging. It’s practical science”.

In this extract, neuroplasticity is described as a ‘revolution’ (l. 2), that has changed or overturned previous scientific consensus about brain functioning in older

age. ‘*Revolution*’ metaphors, as well as comparable ‘*breakthrough*’ metaphors⁹, have been shown to feature in representations of a range of scientific topics, including genomics and neuroscience (e.g., Augoustinos, Crabb, & LeCouteur, 2005; Brown, 2000; O’Connor & Joffe, 2013). In the dataset, metaphors such as ‘*advance*’, ‘*breakthrough*’, and ‘*revolution*’ were frequently used to describe the concept of plasticity as an important scientific discovery with promising consequences, particularly in terms of improving cognitive functioning in older age and preventing dementia. These descriptions served to undermine the credibility of previous scientific understanding about brain functioning, being routinely built in terms of contrast structures. The following type of formulation was among the most common contrast design: ‘*We used to think X [i.e., the brain is fixed], but now we think Y [i.e., the brain is plastic]*’. That is, descriptions of neuroplasticity were framed in reference to previous thinking about the brain – specifically involving notions about brain fixity – and this was contrasted with claims that presented brain plasticity as having promising health implications. This form of description can be seen as implicative of advice, and also makes available inferences about the normativity of participation in brain enhancement and dementia risk-prevention practices based on neuroplasticity research findings. In Extract 1, the account in lines 4-5 (‘*it’s down to training*’, ‘*it’s practical science*’) can be argued to provide inferences about the normativity of participation in cognitively stimulating activities by (a) alluding to

⁹ ‘*Revolution*’ and ‘*breakthrough*’ metaphors differ in important respects. The ‘*revolution*’ metaphor is usually used to characterise a fundamental change in underlying assumptions (i.e., an ‘overturning’ of knowledge, or a ‘paradigm shift’). In contrast, the ‘*breakthrough*’ metaphor is usually used to characterise the uncovering of new knowledge, or solutions to existing problems (new technology) within existing paradigms (see, e.g., Brown, 2000).

scientific evidence, which serves to establish such activity as rational or evidence-based; and (b) drawing on common-sense understandings about ‘training’ (i.e., the development of capacities, capability, productivity, or performance through physical and vocational training etc.).

Extract 2 provides another example of how ‘breakthrough’ metaphors were repeatedly used to construct neuroplasticity as having changed previous understandings of the brain. It also shows how descriptions of plasticity in the corpus were regularly implicative of the normativity of engaging in dementia risk-presentation measures.

Extract 2: ‘The use it or lose it theory’ (*The West Australian*, 18 August 2010)

- 1 Harnessing the brain’s ability to rewire itself and form new connections
- 2 may also help the slide into negative thinking associated with some
- 3 mental illnesses and prevent age-related cognitive-decline.
- 4 Published in 2008, Doidge’s book, *The Brain That Changes Itself*, explains the
- 5 concept of neuroplasticity – the latest understanding of the brain as a dynamic
- 6 organ capable of changing its structure and function in response to human
- 7 activity.
- 8 This new frontier changes the centuries-old view of the brain as hard-wired
- 9 and machine-like with defined parts and set ways of functioning. Turned on
- 10 its head is what Doidge calls ‘neurological fatalism’ which previously
- 11 reasoned that people with brain trauma or learning problems were stuck with
- 12 disabilities and that memory deterioration was a normal part of ageing.
- 13 Doidge doesn’t say that Alzheimer’s – a disease of the brain – is yet treatable

14 but claims that the far more common age-related cognitive decline is
15 completely reversible and endemic because of the way we underuse our
16 brains.

In this extract, specific terms and metaphors are used to represent the concept of neuroplasticity as contrasting with previous thinking about brain functioning, and as having promising health implications in relation to age-related cognitive decline. For example, lines 8-10 represent neuroplasticity is described as '*a new frontier*', heralding a significant change to scientific understanding. Here, contrasting metaphors of the '*dynamic*' and '*plastic brain*', and the '*hard-wired*' and '*computer-like brain*', are used. This type of imagery was common in the corpus. Similar '*brain-as-a-computer*' metaphors have been shown to be common in descriptions of concepts in cognitive science and artificial intelligence (e.g., Papadopoulos, 2011; Rees, 2010). In the dataset, metaphors of '*networks*', '*circuits*', and '*rewiring*' were used flexibly in descriptions of neuroplasticity to imply the brain's capacity to adapt, and to contrast such thinking with previous scientific theories of the brain's immutability. As in Extract 1, descriptions of neuroplasticity involving such metaphors were not only used to contrast previous thinking about the nature of the brain with notions of plasticity, but also made available inferences about the normativity of engaging in cognitive enhancement and risk-prevention activities. Descriptions involving metaphors and linguistic terms that conveyed a sense of promise and potential represented a common way in which participation in individualistic brain enhancement and dementia-risk prevention activities, like brain training, were constructed as relevant and desirable.

Extracts 3 and 4 further demonstrate how descriptions of neuroplasticity were contrasted with previous thinking in order to present plasticity as a scientific breakthrough that had promising implications for dementia risk-prevention and treatment.

Extract 3: ‘How to rewire a brain’ (*The Sydney Morning Herald*, 17 March 2012)

1 Without realising it, Arrowsmith-Young was utilising the principles of
2 neuroplasticity, at the same time that scientists were only beginning
3 experiments in this field. Previously, science had contended that the brain is
4 hardwired at birth. This view of the unchangeable brain has since been
5 overturned by numerous clinical trials that show mental exercise and mental
6 experience can alter its structure.

Extract 4: ‘Stimulating take on dementia’ (*The Australian*, 25 July 2009)

1 But according to Bartlett, new research into stem cells in the brain shows the
2 tantalising possibility of staving off age-related changes. It's also led to a shift
3 in thinking about the permanence of dementia.
4 “We used to think it was an irreversible process, but now we think what is
5 happening in the brain is more like a machine running down, and the good
6 news is that we think it can be reversed, and this really is a brand-new
7 concept,” he says.
8 In a nutshell, Bartlett says, it's all about harnessing the brain's power for self-
9 renewal, which comes down to stimulating the natural ability of stem cells in
10 the brain to create new neurons, or brain cells.

The contrast structures used in these examples follow the general format discussed previously: ‘*We used to think X, now we think Y*’. The metaphors used to describe the concept of plasticity in Extracts 3 and 4 (e.g., ‘*a shift in thinking*’, ‘*a brand-new concept*’, ‘*hardwired*’) are comparable to the contrasting ‘breakthrough’ and the ‘*brain-as-a-computer*’ metaphors used in the previous examples. The description, here, of plasticity as having ‘*overturned*’ scientific thinking (Extract 3, ll. 4-6) works to present the concept of plasticity, as shown above, as having replaced previous scientific thinking. In addition, the simile ‘*like a machine running down*’ (Extract 4; ll. 4-7) contributes to providing inferences about the possibility of ‘repairing’ the brain as a result of individual action, specifically via participation in various health and lifestyle practices. Suggesting the possibility of protecting the brain against the onset of dementia can be argued to contribute to constructing the normativity of engagement in risk-prevention behaviours.

Extract 5 provides an example of how descriptions of dementia interventions and lifestyle programs were routinely designed in ways that made available inferences about the normativity of engaging in brain enhancement and dementia risk-prevention activities.

Extract 5: ‘Worried about Alzheimer’s? Run for your brain’s sake’ (*The Age*, 8 September 2011)

- 1 Exercise interventions are simple and cheap and can start very early in life.
- 2 There is a growing mountain of evidence linking regular exercise to multiple
- 3 physical and psychological health benefits; the possibility of maximising our
- 4 cognitive potential is another very good reason to turn our sedentary, over-

5 nourished lives around.

Here, advice is framed (ll. 2-5) as a factual generalisation about the benefits of participation in physical exercise in relation to ‘*maximising our cognitive potential*’. The advice is presented as generally relevant to all readers via the repeated use of the inclusive pronoun ‘*our*’ (ll. 3 & 4). Across the corpus, advice about participation in brain enhancement and dementia risk-avoidance was routinely presented in a factual and generalised manner by way of the following elements: (a) appeals to scientific evidence (‘*there is a growing mountain of evidence*’) that presented recommendations as objective and authoritative; and (b); statements about the benefits of making certain lifestyle changes, typically in terms of improved cognitive performance and reduced dementia risk. Constructing advice in a generalised (i.e., applying to all people) and fact-based way functioned to implicate the relevance and benefit of participation in brain enhancement and dementia risk-prevention.

Extracts 6 and 7 show how promissory descriptions of plasticity not only made available inferences about the benefit of participation in brain enhancement and risk-prevention practices, but also contributed to the positioning of readers as individually responsible for improving cognitive functioning and preventing the onset of dementia.

Extract 6: ‘Our body all in the mind’ (*The Australian*, 17 November 2012)

- 1 But the brain, according to Gelb and other leading neuroscientists at the
- 2 conference, is primed to keep growing and improving. The brain cells we lose
- 3 as part of natural attrition are minor in comparison to the brain synapses and
- 4 neuro pathways we already have, and can develop when we use this vital

- 5 organ properly. It's not "Use it or lose it" but "Use it or it will stay dormant".
6 But it's all in there, and we can get it back, says Gelb.

Extract 7: 'Change your mind' (*The Australian*, 8 November 2013)

- 1 The theory of brain plasticity is relatively simple: that the organ inside our
2 skull is actually flexible, and can be manipulated and improved with the right
3 techniques. At any age, you can improve your brain function. Unfortunately,
4 most of us don't put our mind to it.

In these extracts, poor cognitive functioning is attributed to individuals' failure to '*use this vital organ properly*' (Extract 6, ll. 4-5) or to adhere to '*the right techniques*' (Extract 7, ll. 2-3) of brain enhancement and risk-prevention. Across the corpus, responsibility for the development of age-related cognitive decline and dementia was commonly attributed to individuals and their practices. By attributing responsibility for the development of cognitive decline and dementia to individual (in)action, articles repeatedly positioned readers as individually responsible for dementia risk-management.

The extracts discussed in this section demonstrate how neuroplasticity, brain ageing, and dementia-risk prevention were portrayed as promising in the newspaper articles. Advice about participation in cognitive enhancement and risk-prevention activity was regularly presented as a corollary of neuroplasticity research findings. Key findings discussed in this section can be summarised as follows:

- 1) Contrast structures were used to represent the concept of neuroplasticity as a scientific breakthrough, with promising implications for enhancing brain functioning in older age and preventing the onset of cognitive decline and dementia.
- 2) Promissory representations implicated advice about participation in individual dementia risk-prevention and brain enhancement practices.
- 3) Advice about participation in brain health activities worked to position readers as individually responsible for preventing negative outcomes (i.e., cognitive decline in old age and the development of dementia).

3.3.2 Constructions of scepticism

Sceptical constructions of neuroplasticity in relation to dementia prevention were also present in the corpus, although they were less frequent than articles highlighting the promise of the concept of plasticity. Sceptical constructions typically appeared in commentaries and opinion pieces. Some of the most common arguments were that (a) claims about the benefit of engaging in brain enhancement and dementia risk-prevention activities were unreliable, confusing, or exaggerated; and (b) that claims about lifestyle interventions and risk-reduction behaviours, particularly those involving ‘brain training’, had not met with significant success. The constructions examined of neuroplasticity examined highlight how assessments of the benefit of engaging in dementia risk-prevention activity were not homogeneous across the corpus.

Extracts 8 and 9 are examples of how claims about the value of participating in dementia preventative behaviours were undermined as unreliable in the dataset.

The following examples demonstrate the use of two routine resources in establishing this unreliability: rhetorical questions and concessions.

Extract 8: “Ageing disgracefully – get real” (*The Sydney Morning Herald*, 21 April 2012)

- 1 As well, battalions of scientists pump out daily missives on how to ward
- 2 off dementia. There is in fact some merit in the "use it or lose it" argument.
- 3 But unfortunately some of the messages are becoming confusing.
- 4 Crosswords, chess, dancing, singing...it is unclear what really works best
- 5 (the evidence is best for exercise), and at what intensity the activities must
- 6 be pursued to have a significant effect on the brain.
- 7 Is being sociable enough, reading the newspaper, and going for a walk as
- 8 some evidence suggests? Or do we need to try new challenges, learn
- 9 Mandarin, give the brain a real workout, as other research indicates?

Extract 9: “Committed to memory” (*The Sydney Morning Herald*, 29 October 2009)

- 1 But the most recent pressure of middle age surpasses them all – complying
- 2 with the competing directives about preventing Alzheimer’s disease.
- 3 [17 lines omitted]
- 4 Don't left-handers live longer, happier, cleverer lives than right-handers
- 5 anyway? I read that once, or was it another piece of dementia prevention
- 6 advice?

Extracts 8 and 9 show how the presentation of claims about participation in cognitive enhancement and dementia risk-prevention activities as inconsistent, unreliable, and confusing across the corpus commonly involved the use of rhetorical questions (ll. 7-9, Extract 8; ll. 4-6, Extract 9). Another commonly used rhetorical resource in the dataset was a two-part concession structure (cf. Crabb, 2006; Wetherell & Potter, 1992). The first part of the structure was used to acknowledge claims about the benefit of brain enhancement and dementia prevention practices, while the second part undermined this acknowledgement. In Extract 8, for example, the merit of the ‘*use it or lose it argument*’¹⁰ is acknowledged (l. 2). However, the following statement, initialised with ‘But’ (ll. 4-9), works to undermine this acknowledgement and its implications. Concession structures used in the corpus typically contained the following components: (1) acknowledgement of the plausibility of claims about the benefit of engaging in brain enhancement and dementia risk-prevention practices (e.g., ‘*dementia prevention is possible*’); followed by (2) a contrastive conjunction suggesting that advice about dementia risk-prevention is confusing and/or supported by unreliable evidence (e.g., ‘*but the evidence is mixed*’). By acknowledging arguments about the promise associated with neuroplasticity, sceptical claims could be presented as balanced and informed, thereby enhancing their credibility (cf. Antaki & Wetherell, 1999; Potter, 1996).

Scepticism was evident in feature news articles (‘soft’ news) about experiences of people living with dementia and their carers. Extract 10 demonstrates how

¹⁰ In the context of cognitive ageing, the expression ‘use it or lose it’ typically refers to the supposed relationship between a cognitively engaging lifestyle and preserved cognitive capacities, especially in later life (e.g., Salthouse, 2006).

personal accounts of dementia care were used to contest claims about the benefit of engaging in certain lifestyle practices to reduce dementia risk.

Extract 10: ‘When the mind unwinds’ (*The Australian*, 10 July 2010)

- 1 Rosemary Jones is sceptical about prevention. “The people I have known with
- 2 Alzheimer's were all mentally active, intelligent people," she says. “It’s not
- 3 like they haven't used their brains.”

First-person narratives about experience of dementia diagnosis were seen to introduce scepticism about dementia prevention strategies across the corpus. In this extract, the carer refers to her experience (*the people I have known*) to contest the purported relationship between engagement in cognitive activity and risk for developing Alzheimer’s disease. In the sampled articles, first-person narratives that referenced knowledge from personal experience were used to lend credibility to criticisms of claims about the possibility of brain enhancement and dementia risk-prevention. By referring to the personal experience of family members and carers, sceptical claims about the health benefits of participation in brain enhancement and dementia risk-prevention behaviours were warranted.

In this section, we have examined instances in which the promise associated with neuroplasticity was presented as being unreliable and confusing. Common patterns in the corpus included: (1) presentation of claims about the benefit of participation in cognitive enhancement and dementia risk-prevention activities as unreliable or confusing; and (2) use of personal narratives to lend credibility to criticisms about the benefit of participating in dementia preventative behaviours.

3.4 Discussion

This study focused on representations of neuroplasticity, brain ageing, and risk-prevention in a sample of Australian newspaper articles published over the period 2009-2014. Two themes that were pervasive in the corpus included: (1) representations of neuroplasticity as a breakthrough, with promising implications for brain enhancement and dementia risk-prevention; and (2) scepticism about the reliability of claims about the benefit of participation in dementia risk-prevention and brain enhancement practices. Promissory representations of neuroplasticity in relation to enhancement and risk-avoidance can contribute to the construction of norms, values, and expectations about delaying, preventing, or reversing the effects of cognitive ageing (e.g., Pitts-Taylor, 2010; Williams et al., 2011).

In the first section of the analysis, we demonstrated how the sampled newspaper articles represented the concept of neuroplasticity as having changed previous scientific understanding about brain functioning in older age (i.e., that the adult brain is ‘fixed’), and emphasised the potential of neuroplasticity and its technologies for dementia risk-prevention. A common rhetorical resource used to accomplish this pattern of representation was a two-part contrast structure, which was used to draw a distinction between claims about plasticity and previous scientific understanding of brain functioning. A metaphor of ‘breakthrough’ was routinely used to construct the concept of plasticity, and to undermine alternative arguments about brain functioning in older age. We also considered how representations that emphasised the positive health implications associated with neuroplasticity-related

research were implicative of advice about engaging in brain enhancement and dementia risk-prevention activities.

Descriptions of neuroplasticity routinely implied the normativity of participation in various brain enhancement and dementia risk-prevention practices. Such descriptions contributed to the positioning of readers as individually responsible for improving cognitive functioning and avoiding dementia. In addition, poor brain health in older age was often presented as a recognisable and predictable outcome of failing to participate in risk-prevention activity. By implicitly attributing responsibility for cognitive health to individuals and their individual practices, the issue of accountability for dementia risk-management was routinely worked up as an individual concern (cf. Sneijder & te Molder, 2005). This pattern of representation arguably involves an extension of a neoliberal discourse of self-responsibility for health to the area of brain health. The notion of self-responsibility is familiar in academic and lay discourse about a range of health topics, including breast cancer screening (Lupton, 1994), smoking (Street, 2004), and nutrition (Madden & Chamberlain, 2004). However, the focus on self-responsibility is comparatively new in health messages about dementia (Peel, 2014). Future research examining how practices of cognitive enhancement and risk-prevention activities are constructed as normative in everyday language and social interactions (face-to-face medical encounters, helpline interactions) could provide additional insight into how notions of self-responsibility for dementia prevention are constructed and negotiated in natural social contexts.

In the second section, analysis focused on constructions of scepticism about the benefit of engaging in dementia risk-prevention. Such constructions commonly involved: (1) accounts that presented information and advice about the possibility of brain enhancement and dementia risk-prevention as unreliable and confusing; and (2) personal stories about dementia care that gave credibility to criticisms about the benefit of brain enhancement and dementia risk-prevention. Such competing and contradictory constructions may have implications for public engagement with dementia risk-prevention activity and healthy cognitive ageing strategies. For example, constructions of scepticism in popular and news media may serve to limit older adults' compliance with brain health advice provided by primary care providers by presenting participation in risk-prevention as ineffective.

Numerous studies have discussed the proliferation of neuroscience information in the public sphere (e.g., O'Connor et al., 2012; O'Connor & Joffe, 2013; 2014; 2015; Racine et al., 2005; Racine et al., 2010; Thornton, 2011). These studies have typically catalogued the frequency of broad themes, and examined how neuroscientific information is understood cognitively. We add to this knowledge by showing how particular discursive practices and linguistic resources were recurrently used in Australian newspaper articles to construct the topic of neuroplasticity as a promising scientific breakthrough, and to produce inferences about norms associated cognitive health and dementia risk-prevention in older age. Although the results focus on an Australian corpus of newspaper articles, it is likely that the issues of cognitive enhancement and dementia risk-prevention discussed here are relevant in international contexts where dementia presents a significant public health concern.

3.5 Conclusion

Although the concept of neuroplasticity has attracted much attention in Western media, claims about the possibility of brain enhancement and dementia risk-prevention are subject to debate (Pitts-Taylor, 2010; Rees, 2010). This study demonstrates how Australian newspaper articles commonly represented the concept of plasticity as having promising implications for improving cognitive functioning in older age and for the prevention of dementia. Positive media representations of the concept of neuroplasticity may play a part in encouraging participation in lifestyle practices to improve cognitive functioning or protect against the onset of neurodegenerative disorders like Alzheimer's disease (e.g., Rose, 2007). However, claims about the possibility of individualised forms of brain enhancement and dementia risk-prevention can also promote values of individualism and consumerism, positioning individuals as responsible for improving and maintaining health (Peel, 2014; Pitts-Taylor, 2010; Williams et al., 2011). Future research is necessary to explore how media portrayals of dementia and cognitive ageing work to construct involvement in lifestyle interventions and risk-reduction behaviours as normative and accountable.

Chapter 4

Study Two

The second paper included in this thesis examines how advice about engagement in dementia risk-prevention was constructed in a sample of Australian newspaper articles, which was a key issue identified in the analysis presented in Chapter 3. The study provides insights into how contemporary media representations of dementia serve to prescribe actions around prevention and risk-management, and produce attributions of responsibility and blame for brain health in older age. Analysis explores how two common formats of advice (conditional *if-then* script formulations combined with modal expressions and directives) were repeatedly used in the sampled newspaper articles to (a) attribute responsibility for brain health outcomes in older age to individuals and their individual health practices; and (b) position individuals as responsible for the prevention of dementia.

In comparison with Study One, which was intended as a broad analysis of how the topics of neuroplasticity, brain enhancement, and dementia risk-prevention, are constructed in the Australian press, the aim of this study is to provide a detailed account of the construction of advice. In this study, I draw on insights from discursive psychological and conversation analytic studies on advice giving (e.g., Antaki & Kent, 2012; Craven & Potter, 2010; Curl & Drew, 2008; Heritage & Sefi, 1992) to explore the routine discursive resources and linguistic practices used to construct risk-prevention activity as appropriate, necessary, and desirable.

Brain health advice in the news: managing notions of individual responsibility in media discourse on cognitive decline and dementia (Published).

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Statement of Authorship

Mr Michael Lawless (first author)

I am responsible for the conception and primary authorship of this paper. I conducted the literature review, developed the research aims, conducted analysis, and wrote the manuscript. I was identified as the first author when this article was submitted for publication, and I have been responsible for all communications with journal administration including responses to reviewer feedback.

Michael Lawless

Signature:

Date: 19/11/17

Professor Martha Augoustinos (co-author)

The realisation of the idea, collection of data, and analysis of data were the work of

Mr. Lawless. Mr. Lawless was responsible for writing this paper; my role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. I also provided advice on responding to comments by the journal reviewers and editor. I hereby give our permission for this paper to be incorporated in Mr. Lawless' submission for the degree of Doctor of Philosophy from the University of Adelaide.

Martha Augoustinos

Signature:

Date: 20/11/17

Abstract

Advice relating to the prevention of cognitive decline and dementia has become commonplace in the media. This article explores how messages about brain health are constructed in a sample of Australian newspapers in the period 2009-2014. Drawing on insights from discursive psychology and conversation analysis, we identify some specific discursive practices that are used in the media to construct advice and manage issues of responsibility for brain health. Advice-giving formulations fitted recognisable, scripted patterns to suggest a causal relationship between engaging in dementia preventative behaviour and individuals' risk of cognitive decline and dementia. We argue that the advice positioned audiences as individually responsible for brain health in older age and displayed complex moral claims regarding audiences' obligation to commit to brain enhancement and dementia preventative activities. The identified practices were also used to handle stakeholders' accountability for the general implications and prescriptive nature of their claims. Conclusions offer reflections on how social norms and expectations about brain health in old age are constructed and treated as accountable.

4.1 Introduction

Dementia is an increasingly prevalent disease worldwide. Predominantly affecting older populations, the term ‘dementia’ refers to the symptoms of a range of illnesses, which are characterised by a progressive decline in functioning and self-sufficiency (WHO, 2004). Advice pertaining to age-related cognitive decline has also become ubiquitous in the media. Informed by insights drawn from discursive psychology (Edwards & Potter, 1992; Potter, 1996) and conversation analysis (Sacks, 1992), we examine how messages about brain health are constructed in Australian newspaper reports. This approach provides some insights into how stakeholders use scientific ‘facts’ to manage implications about the normativity of participating in dementia preventative practices and allocate self-responsibility for brain health in older age. This paper contributes to a broader discussion of how the media is used as a vehicle for prescribing actions connected with dementia prevention and how these messages produce attributions of responsibility and blame for brain health in old age (Pitts-Taylor, 2010; Rose & Abi-Rached, 2013; Williams, Higgs, & Katz, 2011).

4.1.1 Brain ageing, neuroplasticity, and dementia risk-prevention

As life expectancy increases, so too does the prevalence of dementia; the most well-known and common variant is Alzheimer’s disease (Bishop, Lu, & Yankner, 2010). Alzheimer’s Disease International (ADI; 2015) predicts that by 2050, the number of people living with dementia will reach 131.5 million. Much of this increase is estimated to occur in low- and middle-income regions where the growth in the elderly population is fastest; the greatest risk factor for cognitive decline and

Alzheimer's disease in older adults is age itself (Bishop et al., 2010). In addition to the economic costs (US \$818 billion per annum; ADI, 2015), there are significant social and psychological costs associated with neurodegenerative disease. Dementia is often portrayed as highly feared or stigmatised (Kirkman, 2006; Peel, 2014). The social isolation and gradual loss of identity that the person with dementia may experience is regarded as being in conflict with Western ideals of self-fulfilment and individualism (Van Gorp & Vercruyse, 2012). The shifting age profile of the population, as well as the economic and social cost of the disease, are key motives for developing methods to delaying the onset of dementia or ameliorate its detrimental effects.

There is some evidence that participation in comprehensive health and lifestyle interventions that 'tap into' adult brain plasticity might improve cognitive functioning in older age and reduce the risk of dementia (e.g., Hultsch, Hertzog, Small, & Dixon, 1999; Schooler & Mulatu, 2001; Stine-Morrow & Basak, 2011). The concept of neuro- or brain plasticity refers to the brain's capacity to modify itself in response to alterations in its functioning or environment (Pickersgill, Martin, & Cunningham-Burley, 2014). The promise associated with plasticity has attracted significant media attention, especially regarding the claim that plasticity applies to multiple brain areas and across the lifespan (Mountcastle, 1998). Neuroplasticity is thought to have significant clinical potential, especially in relation to remediating cognitive disorders of ageing and other brain-related injuries and traumas (Pitts-Taylor, 2010). An active 'mental lifestyle' in itself might be considered a prospective predictor of dementia or an early sign of preclinical disease (Gallacher, Bayer, Bel-Shlomo, 2005). Thus, it might be prudent to advise people – even cognitively healthy

individuals – to engage in cognitive enhancement and dementia risk prevention strategies with the hope of improving cognitive functioning and delaying the onset of impairment.

Despite some promising evidence for these interventions, the utility of engaging in dementia preventative behaviours, as well as the exact nature of later life plasticity, have been questioned. In particular, several large-scale studies have indicated that ‘brain training’ games do little to improve cognitive abilities and prevent the onset of dementia (e.g., Owen et al., 2010). Concerns have also been expressed about whether the emphasis on purportedly ‘preventative’ behaviours in media discourse might contribute to promoting a potentially repressive ethic of self-control and risk-management (Peel, 2014; Pitts-Taylor, 2010; Williams et al., 2011). In this neoliberal perspective, the development of dementia can be treated as being contingent on exercising self-control in various lifestyle choices such as diet, physical exercise, and ‘mental stimulation’ (cf. Crawford, 2006). Notions of self-control and individual responsibility for health and illness are familiar in media representations of a range of health topics, including breast cancer (Lupton, 1994), smoking (Street, 2004), and nutrition (Madden & Chamberlain, 2004). However, in the context of dementia, the focus on individual responsibility is a relatively recent phenomenon (Peel, 2014). Further examination of the notion of self-responsibility for brain health has clear implications for improving the experiences of people living with dementia and their carers.

4.1.2 Dementia in the media

Newspapers represent a key site for the translation, negotiation, and dissemination of scientific and health information (Conrad, 1999; Lyons, 2000; Petersen, 2001; Seale, 2003). In the absence of direct communication with a health professional, people's health decisions and behaviours are understood as being informed, partly, by messages published in the mass media (newspapers, television, and, increasingly, online; Seale, 2003). Journalists and relevant experts – including members of the scientific community – are instrumental in this mediation process (Conrad, 1999). Stakeholders often use dominant and recurring 'scripts' or 'narratives' to shape certain ideological, political, or pragmatic agendas for public debate (Petersen, 2001). These agendas may be embedded in news discourse – they are likely to influence what sorts of practices (e.g., beginning a new diet or exercise regime) are represented as beneficial, desirable, or appropriate (Seale, 2003).

Although several studies have examined media coverage of dementia (e.g., Kirkman, 2006; Van Gorp & Vercruyse, 2012), considerably less attention has been given to the topic of dementia risk and preventative behaviour. A notable exception is Peel's (2014) study of representations of dementia in the UK press, in which she identified a nascent discourse of individual responsibility and blame. Unlike previous investigations, which have drawn on a framing analysis of media content, Peel used a thematic method of analysis informed by the discursive psychological tradition (Potter & Wetherell, 1987). A discursive psychological approach informed by conversation analysis provides a useful framework for examining how everyday language constructs and reflects the norms of human conduct and accountability

(Edwards, 2012). It is therefore well suited to detailing the discursive devices mobilised to manage facts, norms, and accountability.

4.1.3 Managing responsibility and forming actions in news discourse

News texts, as with verbal utterances, can be examined at the pragmatic level (van Dijk, 1988). A pragmatic approach can be used to explore how representations of health incorporate medical and scientific information to formulate health behaviours as normatively relevant. Directives represent an important linguistic form through which health actions can be initiated via the media. Directives refer to a class of action formations – these are designed to propose, describe, or otherwise advance a course of action (Heritage & Sefi, 2002; Heritage & Raymond, 2005). Examples of conversational directives include commands, requests, suggestions, warnings, and advice. These actions vary along *epistemic* (knowing how the world ‘is’) and *deontic* (determining what is necessary or desirable) dimensions (Heritage & Raymond, 2005; Stevanovic & Peräkylä, 2012). Previous investigations have demonstrated that directives tend to display high degrees of *entitlement* over the actions of the recipient and little orientation to the recipient’s *contingencies* (including their ability or willingness to grant the request; Craven & Potter, 2010; Curl & Drew, 2008). As we will see, the press routinely appeals to the authority of experts and scientific evidence to produce such directives, which are presented as logically warranted and accountable.

Another device that is commonly used to communicate health messages is conditional (*if X, then Y*) script formulations. These ‘scripting devices’ refer to

descriptions that categorise particular activities and actions as routine and expectable, or else surprising or exceptional (Edwards, 1994; 1995). In addition, these devices often handle issues related to the speaker's accountability because they protect descriptions from being rebutted as biased or logically flawed. Scripting devices represent a useful way of examining how advice is constructed as appropriate in newspaper data. This is because *conditional* scripts, in particular, mutually implicate temporal sequence, causality, and rational accountability (Edwards, 1997; Sneijder & te Molder, 2005), which are important in the negotiation of facts, norms, and specific actions. Modal auxiliaries represent another notable linguistic feature of the conditional structures in question (e.g., 'to keep the brain in good shape, you *have to* stimulate or tax it'). Modal verbs (like *can*, *must*, and *should*) provide some inferences about the epistemic – and, sometimes, moral – implications of the speaker's claims (He, 1993; Palmer, 1986). The capacity of modal verbs to express the necessity or likelihood of particular events is especially applicable to the current study. Prior discursive studies demonstrate that modal constructions tend to be semantically ambiguous; as a result, they are well suited to accomplishing subtle interactional work like attributing, or cancelling out, accountability (cf. Hutchby & Wooffitt, 1998).

4.1.4 The present study

This study adopts a discursive psychological approach informed by conversation analysis to explore how brain health messages are constructed in the press. Specifically, the analysis concentrates on two forms of advice that were pervasive in the current data. These advice-giving formulations were used to construct engaging

in brain enhancement and dementia preventative behaviours as a strongly normative course of action and attribute responsibility for poor brain health outcomes to individuals and their practices. We extend recent analyses of media coverage of dementia (e.g., Kirkman, 2006; Peel, 2014; Van Gorp & Vercruyse, 2012) by considering how relevant stakeholders use the press to construct and reproduce potentially problematic notions of self-control and responsibility for brain health in older age. In doing so, we hope to contribute to a growing literature on how these individualising portrayals might mediate people's experiences of, and responses to, cognitive ageing and dementia.

4.2 Method

The data examined in this study came from a larger analysis of media representations of neuroplasticity and brain ageing published in the major Australian newspapers over a five-year monitoring period (June 30, 2009–June 30, 2014). The five newspapers were: *The Age* (12-month Monday-Friday readership: 566,000), *The Australian* (340,000), *The West Australian* (431,000), *The Sydney Morning Herald* (518,000), and *The Daily Telegraph* (638,000)¹¹. The sources included in this analysis represent the five widest circulation tabloid and broadsheet newspapers published by the two major Australian public-listed proprietors (Fairfax and News Ltd., respectively). A search of the online newspaper database Factiva using the following keywords *brain*, *neuro-*, “*brain research*”, “*brain science*”, *plasticity*, *dementia*, *ag[e]ing*, *Alzheimer's*, *senility*, “*cognitive decline*”, and *anti-ag[e]ing*

¹¹ <http://www.roymorgan.com/industries/media/readership/newspaper-readership>

returned 775 print and online news articles. This search included not only news stories, but also letters to the editor, commentaries, and opinion pieces. Articles that made specific reference to terms and concepts associated with neuroplasticity and brain ageing were then extracted for further detailed analysis ($n = 240$).

Analysis of the newspaper data was carried out in two stages: a coding stage and a finer-grained discursive analysis. In the first stage, the first author read all the articles and conducted a thematic analysis (Braun & Clarke, 2006) to identify dominant and theoretically meaningful themes across the data and generate preliminary codes. The theme of ‘advice giving’ was among the most common identified in the data corpus. Other pervasive patterns that emerged in the larger study involved themes of ‘promise’, but these are not the focus of the present study. Extracts were purposefully selected, rather than randomly sampled, to illustrate the formats that made up the majority of the advice-giving corpus. These extracts are the focus of the analysis that follows.

In this study, we did not attempt to reflect the themes of the entire dataset. Instead, we limited the scope of the analysis to provide a nuanced account of the theme of advice giving. This narrow focus is relevant to our overall theoretical interest in how self-responsibility for dementia risk prevention is discursively constructed and managed. The notion of ‘advice’ remained the topic for investigation rather than something pre-defined (Shaw, Potter, & Hepburn, 2015). Heritage and Sefi’s (1992) broad definition provides a starting point for attempting to identify advice: that is, something that “describes, recommends or otherwise forwards a preferred course of future action” (p. 368).

To engage in an in-depth examination of the advice-giving formulations, we used an analytic technique informed by discursive psychology (Edwards & Potter, 1992; Potter, 1996) and conversation analysis (Sacks, 1992). Discursive psychology (and conversation analysis) is concerned with the constructed, situated, and ‘action-orientation’ nature of language. Rather than treating discourse as a route to investigating putative mental objects (like attitudes, motives, and identities), discourse can be studied in terms of how action is done. This is a key point of difference between discursive psychology and mainstream psychology of language. Discursive psychology is also concerned with the rhetorical qualities of descriptions. People’s descriptions draw on certain linguistic and rhetorical resources to counter actual or potential alternative versions (Potter, 1996). In this sense, discourse is both *constructed* (using various discursive resources and practices) and *constructive* insofar as it ‘builds’ versions of reality. These versions are an integral part of different actions like assigning blame and accountability. This action-oriented approach to language allows us to demonstrate how certain advice-giving formulations are used to construct and manage a ‘shared ideal’ regarding dementia prevention. The approach also allows us to attempt to unpick how some of these formulations can be used to attribute responsibility for health to individuals and their individual practices (cf. Sneijder & te Molder, 2005).

4.3 Results

The analysis is organised into two sections reflecting the most pervasive advice-giving formats present in the dataset. The first section focuses on conditional script formulations combined with modal expressions. In the second section, the analytic focus is on stronger imperative forms of advice.

4.3.1 Conditional script formulations and modal expressions

This section focuses on the use of conditional script formulations combined with modal expressions. The combination of conditional (*if X, then Y*) script formulations and modal expressions was among the most common forms of advice present in the data. As we will show, conditional formulations appealed to the logic of the scripted structure to present positive or negative brain health outcomes as expectable consequences of individual practices. By contrast with imperatives (e.g., *do X*), which resemble more canonical forms of advice, the advice in the conditional formulations was less prescriptive and presented in a subtle, implicit, or non-directive manner. However, as will become clear, the combination of a conditional formulation and a modal expression not only allowed stakeholders to imply the normativity of participating in dementia preventative behaviours but also perform subtle attributions of responsibility. This distinctive feature relates centrally to our theoretical interest in how issues of blame and responsibility are managed in the context of cognitive decline and dementia.

Extract 1, from *The West Australian*, represents a typical example of how a conditional *if-then* structure was used in the data to manage inferences about the normativity of engaging in ‘mental exercise’.

Extract 1: ‘Our Forgotten Epidemic’ (June 16, 2010)

1 There were many things people could do to reduce the risk
2 of Alzheimer’s.
3 “Research now tells us that if you learn a language, that
4 really reactivates and stimulates your brain”, Mr.
5 Schaper said.
6 “And clearly, if you read and do crosswords and that sort
7 of thing, it is a stimulation for the brain. And if you
8 remain socially connected, watch your diet, don’t drink
9 in excess and exercise regularly, all those things
10 contribute”.

Extract 1 shows how conditional script formulations were used to represent brain health and illness in older age as an expectable outcome of failing to perform certain brain enhancement and dementia preventative practices. The *if-then* formulation in lines 3-4 draws on the logic of the scripted pattern to suggest a causal relationship between participating in certain activities (language learning, social activity, diet, etc.) and reduced risk of developing Alzheimer’s disease. The outcome is offered as a rational, fact-based inference. The conditional formulation, as well as the use of impersonal footing, which references scientific evidence (*research now tells us*; l. 3), diminishes the author’s personal accountability for the generalised nature of the

assertion (Edwards & Potter, 1992). In addition, by formulating brain health and illness in older age as logical outcome of individual practices, audiences are arguably positioned as logically accountable for the consequences of their actions (cf. Sneijder & te Molder, 2005). Thus, aside from simply implying the benefit of engaging in dementia preventative activities, the conditional formulation also makes available attributions of personal *responsibility* for brain health. We will return to these points in the course of examining further examples.

Extract 2, published in *The Age*, provides an example of modal expressions combined with a conditional formulation, which were used to establish the normativity of individualistic preventative actions and protect authors' accountability for their claims.

Extract 2: 'Puzzle solution: mental push-ups ward off brain drain' (November 11, 2010)

- 1 With predictions that nearly a million Australians will
- 2 have dementia by 2050, Professor Hannan said that
- 3 people should do everything they could to protect their
- 4 brains. "If the message of brain fitness combined with
- 5 the message of physical fitness...it could have major
- 6 health impacts helping delay or prevent a whole
- 7 range of diseases".

In this example, we see how the author presents dementia as a serious and widespread health problem, while also establishing the relevance and necessity of

engaging in dementia preventative practices. On line 3, the modal auxiliaries ‘*should*’ and ‘*could*’, refer to the necessary, desirable, or obligatory nature of ‘protecting the brain’ and audiences’ ability to perform the relevant actions, respectively. As Palmer (1986) and others have argued, the ambiguous semantic properties of modals allow speakers to ‘blur’ the epistemic and moral implications of their claims. Within the hypothetical environments common in the present corpus, modals represented an important resource for indirectly attributing responsibility. In this example, the modal expression arguably demonstrates high entitlement over the future actions of the recipient (Curl & Drew, 2008). It also shows little orientation to recipients’ capacity or willingness to comply with the advice. The directive can therefore be used to produce non-compliance as a potentially accountable matter. We will explore this idea further in our discussion of directives (Section 3.2).

Now consider the *if-then* structure (ll. 3-6), which bears comparison to our discussion of Extract 1. In this example, the conditional formulation is used to suggest a causal relationship between public health messages and reduced prevalence of a range of diseases including dementia. Our main interest, however, is how the modal verb ‘*could*’ contained within the script formulation is used to project a stance of uncertainty regarding the claim. As a result, the modal limits the author’s accountability for presenting the epistemic inference (Sneijder & te Molder, 2005). Again, we see how modals and the ‘*if-then*’ structure were used to handle complex issues of moral and epistemic accountability both for authors and their audiences.

Extract 3, published in *The Daily Telegraph*, again illustrates how advice suggested a logical connection between individuals' brain health and individual practices.

Extract 3: 'Forget ginkgo, a healthy lifestyle is the best brain tonic' (January 1, 2010)

- 1 Last but certainly not least, be a social butterfly.
- 2 Studies have revealed that people who live alone and who
- 3 are lonely may develop dementia more rapidly than their
- 4 socially rich counterparts.
- 5 "Having an active social and mental life is critically
- 6 important," Watkins says. "Often when people retire from
- 7 work they retire from life and that's a problem. If
- 8 you're not meeting anyone all day as opposed to someone
- 9 who's interacting with lots of different people each day
- 10 you can imagine your brain activity is actually quite
- 11 different."

By contrast with Extracts 1 and 2, the formulation in line 1 does not involve modals to qualify the force of the advice. Unlike modal forms of advice, which can be used to project a stance of uncertainty or low obligation on behalf of recipients (He, 1993), the imperative on line 1 (*be a social butterfly*) expresses no orientation to potential recipients' capacity or willingness to perform the activity (Craven & Potter, 2010; Curl & Drew, 2008). The imperative expresses strong entitlement over audiences' future health behaviour and reflects the assumed epistemic asymmetry between the author and the audience. As in Extract 1, scientific evidence is again

cited (*studies have revealed that*; ll. 2-4) to manage the objectivity of the account and protect the producer from being held accountable for the claim (Edwards & Potter, 1993; Potter, 1996). The appeal to the objectivity of empirical evidence helps construct the version as disinterested and factual. While such explanations are not the main focus of this study, it is interesting to note their role in implying a particular course of action and addressing associated issues of entitlement and contingency (cf. Antaki & Kent, 2012).

Comparable with Extracts 1 and 2, the *if-then* construction (ll. 7-11) again works to provide for logical inferences about the benefit or necessity of engaging in brain health-related activities. Again, the construction implicates causality, temporal sequence, and logic to package the negative event (i.e., developing dementia) as a routine consequence of failing to perform a normative activity (i.e., being socially 'active'). Here, the construction implicitly associates the conditions associated with increased dementia risk with a specific category of people (i.e., retirees), rather than presenting it as a generalised problem. The formulation invites audiences to co-construct a hypothetical scenario in which the author's epistemic inference is presented not only as rational, but also as ordinary. As a result of the hypothetical nature of the *if-then* structure, the author reduces the need to defend the logic of the claim (Sneijder & te Molder, 2005; Widdicombe & Wooffitt, 1995). So, again, we can see how the script formulation was used to handle responsibility for poor brain health as an individual matter and protect their authors' claims from possible accusations of deficient logical reasoning or bias.

Extract 4, appearing in *The West Australian*, again contains the key components we have identified. Here, we see how the familiar scripted pattern and modal expression are used to produce implicit attributions of responsibility for brain health.

Extract 4: ‘The use it or lose it theory’ (August 18, 2010)

- 1 “We can refine our existing brain processes and develop
- 2 new brain processing abilities at any age,” he says.
- 3 That ‘use it or lose it theory’ which we readily accept
- 4 for physical training also applies to our mental muscles,
- 5 research now shows.
- 6 “To keep the brain in good shape to be able to keep
- 7 learning new things, you have to stimulate or tax it as
- 8 much as you did when you were learning French or Italian
- 9 vocabulary at school”.

Extract 4 features a quotation from a well-known neuroscience expert who, again, cites scientific evidence to support his claims. Again, the modal verb ‘*can*’ in the formulation (*we can refine our existing brain processes*; l. 1) provides an assessment of the strength of the claim. Similarly to our discussion of Extract 2, the modal expression is semantically ambiguous. The evaluation could refer to the following meanings: (a) the *possibility* of the event (i.e., *develop[ing] new brain processing abilities at any age*; ll. 1-2); (b) the *capacity* of the actor to perform the target action; or (c) the *options* available to the recipient in accepting the proposal. All of these possibilities are relevant to the realisation of the event (or health outcome), especially in this hypothetical environment where no specific context is provided. So, as was

often the case in the current dataset, we see how an ambiguous modal expression is employed to subtly allocate responsibility on behalf of the audiences and restrict the author's accountability for the generalised character of the claim.

As in our discussion of previous examples, the conditional formulation (ll. 6-9) packages the desired outcome (*keeping the brain in good shape*; l. 3) as a predictable and recognisable outcome of engaging in mental stimulation. In this example, the force of the modal expression 'have to' contained within the script structure is noticeably stronger: committing to the relevant activity is presented as a logical requirement. This high-modality term arguably reflects both the speaker's *epistemic* stance (i.e., knowledge in a relevant domain) and *deontic* stance (i.e., determining what one must or must not do in a given set of circumstances) in relation to the proposal (see, e.g., Heritage, 2012a, 2012b; Heritage & Raymond, 2005; Raymond & Heritage, 2006; Stevanovic & Svennevig, 2015). The advice in this example also shows little concern for audiences' capacity or willingness to comply with the proposed course of action. A detailed exploration of the notions of epistemic and deontic stance is beyond the scope of this study. However, a general understanding of how speakers express and manage their rights and responsibilities regarding knowledge and obligation is central to our focus on the moral implications of advice about dementia risk prevention. We will explore these ideas further in the following section of the analysis.

Overall, Extracts 1-4 contain a combination of actions that can be typified as follows:

- a) The use of an *if-then* script formulation that produces certain health outcomes as a recognisable and predictable consequence of individuals' practices.
- b) The use of modal expressions, sometimes within conditional formulations, to specify the likelihood of the event occurring, recipients' ability to perform relevant actions, or recipients' moral obligation to perform those actions.
- c) The combination of both features to attribute logical accountability for developing dementia to the recipients and their individual practices.

4.3.2 Directives

This section focuses on directives: that is, constructions that more *directly* express compliance with brain enhancement and dementia prevention practices as highly desirable, appropriate, or necessary. The directives that we focus on in this section most commonly take the form of imperatives (e.g., '*keep your brain active*'), which represented another common form of advice in the corpus. The imperative constructions examined in the present corpus were highly presumptuous. These constructions displayed strong entitlement over recipients' future conduct and little to no acceptance of anticipated contingency conditions that might affect compliance with the proposed course of action (Antaki & Kent, 2012; Craven & Potter, 2010; Curl & Drew, 2008). As we have pointed out, the design of these stronger advice-giving forms tends to create and reflect an epistemic asymmetry between authors and audiences and display a stance of high obligation, making non-compliance a morally accountable matter. This aspect of directives is particularly relevant to our focus on

how dementia prevention advice embodies moral claims about people's responsibility for their *existing* brain health as well as their capacity or opportunity to *act on* their brains to prevent dementia and cognitive decline.

Extract 5, taken from *The Daily Telegraph*, demonstrates how imperative forms of advice expressed specific dementia preventative actions as normative, obligatory, and accountable.

Extract 5: 'A deadly thief which steals the memory' (August 24, 2009)

- 1 To reduce the risk of dementia, Alzheimer's Australia has
- 2 developed seven strategies in the Mind Your Mind
- 3 campaign:
- 4 Keep your brain active
- 5 Have a healthy diet
- 6 Be physically active
- 7 Manage blood pressure, cholesterol, blood sugar and
- 8 weight
- 9 Participate in social activities
- 10 Avoid tobacco smoke and only drink alcohol in moderation
- 11 Protect your head from serious injury

Here, we have a variant of the conditional *if-then* script formulation, but it works in a comparable way insofar as the target action (i.e., complying with the seven strategies recommended by Alzheimer's Australia) is packaged as a highly normative and rational course of action. Our focus is on the imperatives in lines 3-9. These

multiple imperative formulations are produced without modal auxiliaries to qualify the author's evaluation of likelihood, believability, or necessity of the proposed course of action (cf. Extracts 1-4). Instead, the imperatives express the actions as mandatory, displaying upgraded entitlement over the actions of recipients and demonstrating little to no orientation to the contingency conditions that might interfere with the performance of the target actions (Craven & Potter, 2010; Curl & Drew, 2008). Also consider how the construction expresses strong claims of deontic authority: the directive treats the actions as *non-contingent*, or 'binding', rather than as a *proposal* from which the recipient can withdraw. The main observations, then, are that such imperative formats: (a) invoke and manage epistemic asymmetry between authors and audiences; and (b) place normative pressure on audiences' future conduct. We will return to this point after examining some further examples.

In Extract 6, from *The Daily Telegraph*, the imperatives are accompanied by an explanation, which adds some complexity to the basic phenomenon.

Extract 6: 'Another think coming' (October 30, 2010)

- 1 Make forgetfulness a distant memory:
- 2 Get outside. The brain works better with a break; some
- 3 R&R combined with a bit of the sun's vitamin D kick-
- 4 starts your neurons.
- 5 Rest up. Eating lunch at your desk helps no one. Research shows that a quick
- 6 nap helps revive the brain – and makes learning through the afternoon a
- 7 breeze. Bring back nap time.
- 8 Challenge yourself. Learning new things gives your brain

9 the work-out it needs and reduces your likelihood of
10 dementia later in life. Research shows learning a
11 musical instrument is one of the best ways.

In this extract, we have an instance where directives are justified by an accompanying scientific explanation. We again see how the imperatives in lines 2, 5 and 8 embody high entitlement over audiences' future conduct and little orientation to the contingencies that might interfere with compliance. In this example, however, the accompanying explanations can be argued to manage the epistemic and deontic implications of the advice (Antaki & Kent, 2012). Providing an explanation (e.g., *the brain works better with a break*; l. 2) as to why particular health actions are necessary arguably manages the author's epistemic stance regarding the benefit of engaging in the advanced practices and legitimates the author's displayed entitlement over audiences' future conduct. As we have seen in the previous section, by presenting advice in an impersonal, factual, and authoritative manner (e.g., *research shows*; l. 7), the author protects their claims from being discounted as false or interested (cf. Edwards & Potter, 1993).

Extract 7 (from *The Australian*) is different from Extracts 5 and 6 in that it combines directives with conditional formulations, which we examined in the previous section.

Extract 7: 'TRAIN THE BRAIN' (October 15, 2012)

- 1 Techniques to keep your brain healthy:
- 2 'Use it or lose it' – keep your brain active in as many

- 3 ways as possible.
- 4 Be socially active, engage with other people, try new
- 5 things and do puzzles.
- 6 Aim for at least 30 minutes of cardiovascular exercise
- 7 most days.
- 8 If you are drinking more alcohol than recommended, limit
- 9 your intake.
- 10 If you have any risk factors that increase your chance of
- 11 heart attack or disease, such as raised blood pressure,
- 12 cholesterol or diabetes, try to address these.

As in the previous two extracts, we see the production of a list of imperatives (ll. 2-10), which are designed to restrict and manage the range of contingencies that could compromise compliance with the advice (Craven & Potter, 2010). As we have seen, these imperatives (a) reflect and construct an assumed knowledge asymmetry between authors and audiences and (b) frame the course of action as necessary or obligatory. In addition, in lines 8-12, we have another example of the conditional script formulations examined in the previous section. The script structure follows the same basic pattern (i.e., *'if you are [category X], you should do Y'*) and packages the health behaviours as logic-based and strongly normative. The conditional formulation treats brain health as being attributable to audiences' effort and will to comply with advanced practices. Thus, again, responsibility for both existing and future problems is managed as an individual concern. However, in this example, there is an added complexity in that the formulation also functions to propose actions as a means to *correct* certain unhealthy behaviours (*drinking more alcohol than recommended*; l. 8)

and health conditions (*raised blood pressure, cholesterol or diabetes*; ll. 11-12). Note how the advice formulation produces existing unhealthy behaviour and conditions as both problematic and *corrigible*. Relevantly, Antaki and Kent (2012) explain that the degree of entitlement and contingency are occasionally influenced by the need to correct a ‘fault’, which is attributable to some failure on the part of the recipient. While correctives *per se* are not the focus of this study, we note how orientating to prior ‘faults’ might legitimate the forceful nature of the health imperatives.

Summarising this section, we have seen how directives feature in brain health advice, which bears comparison to the use of conditional formulations and modal expressions. The typical elements are:

- a) The use of imperatives, which demonstrate high *entitlement* over recipients’ health behaviour; and little or no orientation to the *contingencies* (including recipients’ willingness or ability) associated with carrying out the proposed brain health behaviours.
- b) Displays of strong *deontic* and *epistemic* authority, which establish an epistemic asymmetry between authors and their audiences and place normative pressure on the conduct of recipients.
- c) References to scientific evidence to frame propositions as factual and robust and protect producer’s claims from being refuted or undermined as false or interested.

4.4 Discussion

This article has demonstrated how reporters and scientific stakeholders use the press as a medium for constructing advice about dementia risk prevention. More specifically, we have examined how two forms of advice (conditional script formulations combined with modal expressions and directives) were mobilised to present brain health in older age as an expectable outcome of individual practices. We also considered how these practices positioned audiences as individually responsible for managing their brain health and preventing dementia.

In the first section, we focused on conditional (*if X, then Y*) script formulations combined with modal expressions. Conditional formulations drew on the logic of the scripted pattern to represent the onset of dementia and age-related cognitive-decline as a recognisable and predictable consequence of individual practices (specifically, engaging in dementia preventative activities). Such formulations were used in the data to ascribe personal responsibility for brain health in older age to individuals and their individual practices. The scripted nature of these formulations also allowed authors to protect their epistemic inferences and subtle attributional work from being undermined as biased, interested, or logically flawed. The modal construction contained within these conditional formulations not only specified the possibility of an event occurring, but also audiences' moral obligation to engage in certain brain enhancement or dementia preventative practices. Expressions of modality often blurred the epistemic and normative implications of authors' claims and, thus, performed implicit forms of accountability attribution for health consequences (cf.

Sneijder & te Molder, 2005). By focusing on this discursive practice, we have shown how the development of dementia is transformed into an expectable consequence of individual practices, and, concomitantly, how preventative behaviours are presented as a possibility and a moral obligation.

In the second part of the analysis, we drew on insights from conversation analytic investigations of directives in institutional and mundane settings (Antaki & Kent, 2012; Curl & Drew, 2008; Craven & Potter, 2010). Comparable to these studies, the directives examined herein assume clear entitlement over audiences' future conduct and little orientation to audiences' contingencies, including their abilities, willingness, past experiences, or understandings. In the present data, directives were often accompanied by an authoritative, science-based explanation; this is a well-known technique for presenting practices as a valid response to factual problems (Edwards, 1997). Such appeals to 'fact' were used to legitimate authors' epistemic stance in relation to the value or necessity of participating in risk prevention activities and address their displayed entitlement over audiences' future health behaviour (cf. Antaki & Kent, 2012). The health imperatives thus expressed and managed an assumed knowledge asymmetry between authors and audiences and positioned audiences as individually responsible for the prevention of dementia.

A prevalent discourse of individual responsibility for health and illness is well documented (e.g., Crawford, 2006, Lupton, 1994; Madden & Chamberlain, 2004; Roy, 2008, Street, 2004). However, as Peel (2014) suggests, this neoliberal discourse is relatively new within the context of dementia, especially when compared with

previous analyses of media coverage of the same topic (e.g., Kirkman, 2006). Some critics (e.g., Williams et al., 2011) have argued that such representations are potentially problematic, particularly if they are used as a tool for assigning personal culpability for the development of dementia. The present study expands on Peel and others' findings by detailing some of the specific linguistic and rhetorical devices that are relied upon to assign individual responsibility for brain health and illness in older age. Health professionals might benefit from the current findings by considering how actions might be formulated and treated as accountable when developing brain health communications.

We acknowledge that a difficulty of using textual data is that it does not allow us to clearly distinguish between alternative advice-type practices (such as requesting, directing, or correcting). This is mainly because we were unable to pursue how this advice was '*realised*': that is, how advice-giving formulations actually influenced recipients' future conduct. Thus, we were limited to exploring some key differences in the displayed normativity and knowledge asymmetry in stronger (imperatives) and weaker (conditional '*if-then*' structures) advice-giving formats. Still, this investigation contributes to an understanding of how alternative advice formats are used to present health actions as normative and engage in accounting practices. An interesting avenue for complementary study could be to explore the delivery and receipt of advice about dementia prevention in healthcare settings where advice giving is constrained and made relevant by institutional roles (e.g., Hepburn & Potter, 2011; Kinnell & Maynard, 1996; Pilnick, 1999). For example, by investigating how advice is packaged, sequentially positioned, and received in health counseling

services, medical encounters, or helpline interactions, future research might contribute to developing effective, 'person-centred' approaches to health communication.

No claims are made for the representativeness of the current sample in a broader sense. The study is not intended as a large-scale analysis of brain health messages in the news. It is anticipated that the current results will inform the analysis of other datasets in similar or different domains (e.g., larger textual corpora or face-to-face interaction).

4.5 Conclusion

News media represent important sites where contemporary discourses of individual agency, risk-management, and social control are constructed, negotiated, or contested (Seale, 2003). This article has shown how advice about dementia in the press might contribute to presenting dementia preventative action and brain enhancement as a moral obligation and positioning audiences as individually responsible for brain health in older age. More broadly, it is possible that media portrayals of dementia might play a part in redefining the normative standards of cognitive health and ageing. The ability to reduce the risks associated with cognitive decline and dementia can be regarded as empowering. However, it is also possible that this neoliberal approach might promote a potentially repressive ethos of social control and risk-management in older age (Biebricher, 2011; Pitts-Taylor, 2010; Thornton, 2011; Williams et al. 2011). The implications for identity and morality

represent fertile territory for further critical work. Within the context of increased prevalence of cognitive decline and dementia, this study provides insight into how norms, values, and social expectations about brain health in old age are constructed, reproduced, and treated as accountable.

Chapter 5

Study Three

The third study of this thesis examines health information published on the websites of eight non-profit dementia organisations. The study contributes to understanding how information and advice presented on the websites of dementia organisations serves to position audience members as being at-risk for cognitive decline and dementia, and as individually responsible for managing their dementia risk. We argue that this at-risk positioning served to justify claims and proposals about the normativity of participation in dementia risk-prevention measures.

This study extends the results of Study Two by considering how information about dementia risk and prevention involves the positioning of audience members as (a) at-risk of developing dementia and (b) as individually responsible for dementia risk-management. This study focuses on the routine discursive and rhetorical resources used to accomplish this ‘at-risk’ and ‘responsible’ positioning and consider how such positioning works towards justifying constructing related claims about the need to participate in risk-prevention measures. We argue that this positioning serves to promote a moral identity for audience members in which an ethic of self-care and individual risk-management is key.

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Statement of Authorship

Mr Michael Lawless (first author)

I am responsible for the conception and primary authorship of this paper. I conducted the literature review, developed the research aims, conducted analysis, and wrote the manuscript. I was identified as the first author when this article was submitted for publication, and I have been responsible for all communications with journal administration including responses to reviewer feedback.

Michael Lawless

Signature:

Date: 19/11/17

Professor Martha Augoustinos; Associate Professor Amanda LeCouteur (co-authors)

The realisation of the idea, collection of data, and analysis of data were the work of

Mr. Lawless. Mr. Lawless was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be incorporated in Mr. Lawless' submission for the degree of Doctor of Philosophy from the University of Adelaide.

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Date: 20/11/17

Abstract

The Internet has been argued to provide new sites for health communication and promotion, including issues that constitute major public health priorities such as the prevention of neurodegenerative disorders like Alzheimer's disease. In this study, discursive psychology is used to examine how information about dementia risk-prevention was presented on the websites of the largest English-language, non-profit dementia organisations. We demonstrate how information about dementia risk and its prevention positions audiences as at-risk of developing dementia and constructs preventative behaviour as a matter of individual responsibility. Websites represented participation in certain lifestyle practices as normative and emphasised audience members' personal responsibility for managing dementia risk. It is argued that such representations promote a moral identity in regard to brain health in which an ethic of self-responsibility is central. The implications of such identity construction in a context of increasing prevalence of dementia diagnosis are discussed.

5.1 Introduction

Western media representations of dementia have been shown to encourage older people to participate in a range of lifestyle practices, not only to improve cognitive functioning, but also to prevent or delay the onset of the condition (Peel, 2014; Pitts-Taylor, 2010). Certain lifestyle choices and practices are argued to encourage the formation of new neural connections, thus preventing the onset of cognitive impairment in older age. Drawing on insights from discursive psychology (Edwards & Potter, 1992; Potter, 1996), we present an analysis of information published on the websites of the largest English-language, non-profit dementia organisations that provide information and support to people living with dementia, their carers, and health professionals¹² are positioned as at-risk of developing dementia and how participation in risk-prevention behaviours is constructed as normatively relevant for all audience members. We consider how the language used on these websites locates management of dementia risk as a personal issue, and reproduces attributions of individual responsibility for brain health in older age. The study contributes to developing understandings of how contemporary representations of dementia risk-prevention might work to promote an ethic of self-responsibility for brain health in older age (Pickersgill, Martin, & Cunningham-Burley, 2014; Pitts-Taylor, 2010; Rose & Abi-Rached, 2013; Williams, Higgs, & Katz, 2011).

¹² In this study, we use the term ‘audience’ to refer to website readers.

5.1.1 Brain ageing, dementia, and dementia risk-prevention

Dementia is emerging as an increasingly prevalent health concern, with the most common variants being vascular dementia and Alzheimer's disease (World Health Organisation [WHO], 2016). 'Dementia' is a general term referring to a range of symptoms associated with a progressive decline in cognitive functioning and self-sufficiency. The international federation of Alzheimer's associations (Alzheimer's Disease International; ADI) has predicted that by 2050, the number of people living with dementia worldwide will reach 131.5 million (ADI, 2015). Aside from the economic costs associated with the disease (US \$818 billion per annum; ADI, 2015), dementia is often portrayed as a highly feared and stigmatising condition. Media representations of those affected by dementia routinely focus on their loss of personal identity, autonomy, and self-determination (Van Gorp & Vercruyssen, 2012). With expanding elderly populations worldwide (ADI, 2015), there is growing interest in understanding the neural mechanisms that underlie brain ageing. The broad hope is to develop effective interventions and treatments to delay the onset of age-related cognitive decline and dementia. Delaying the onset of dementia symptoms for a relatively modest five years (from an average age of 85 to 90) has been predicted to halve the burden of the disease (Valenzuela & Sachdev, 2009). This possibility serves as a key motivation for encouraging people to participate in dementia screening and lifestyle programs.

Claims about the possibility of brain enhancement and dementia prevention are common in the media (e.g., O'Connor, Rees, & Joffe, 2012; O'Connor & Joffe, 2013; 2015; Peel, 2014; Racine et al., 2010; Thornton, 2011). Such claims regularly

involve reference to the concept of neuro- or brain ‘plasticity’, which refers to the brain’s capacity to modify itself (i.e., generating new cells and synaptic connections) in response to changes in its functioning or environment (Pickersgill et al., 2014). Once thought to be restricted to early life and limited brain regions, the concept of plasticity is now thought to apply to multiple processes of brain function and structure across the lifespan (Mountcastle, 1998). There is some evidence that lifestyle-based interventions (involving physical, social, and cognitive stimulation) that exploit neuroplasticity might promote improved health, longevity, and cognitive vitality in old age (e.g., Hultsch, Hertzog, Small, & Dixon, 1999; Schooler & Mulatu, 2001). Although the results of such studies seem promising, the nature of plasticity in later life and the utility of brain-training interventions have been questioned (e.g., Owen et al., 2010). Concerns have also been raised regarding the extent to which popular representations of brain enhancement and dementia risk-prevention promote a potentially repressive ethic of perpetual risk-management and social control (Pitts-Taylor, 2010; Thornton, 2011). Such concerns are relevant to the notion of ‘patients without symptoms’ (Finkler, 2000), whereby healthy people are positioned as at-risk of illness as a result of a range of genetic, social, environmental, and economic factors (income, socioeconomic status, education, social support network, physical/ built environment; WHO, 2017). Further research into popular media constructions of the issue of dementia risk-prevention in traditional and online media platforms will provide additional insights into how public health messages function to reproduce notions of responsibility for the development of the condition.

5.1.2 Online health information

Although traditional health communication channels (e.g., print, radio, and television) continue to be an important source of information, the Internet has created new spaces for the dissemination of health and medical knowledge by government, private, and non-profit sectors (Nettleton, Burrows, & O'Malley, 2005, Pitts, 2004). Online sites – particularly those encouraging user-generated content and social connection – also provide opportunities for sharing personal experiences of health and illness (Hardey, 1999; Nettleton et al., 2005). The effectiveness of public health campaigns using traditional media have been argued to be limited due to factors that include limited exposure rates, lack of individual specificity, and a tendency for one-way, downward-focused approaches to health communication (Kreps & Neuhauser, 2010). By contrast, the features of online platforms: convenience, tailored information, social connectivity, and interactivity have been argued to promote greater effectiveness, particularly in terms of encouraging the adoption of healthy behaviours (e.g., Kreps & Neuhauser, 2010; Neuhauser & Kreps, 2003; Prestin & Chou, 2014). In the context of dementia, online information provided by non-profit organisations might play a useful role in addressing preventable behavioural factors by (a) engaging audiences in a manner that is interactive, personally relevant, credible, and convenient; and (b) encouraging greater participation in health screening and lifestyle programs. Online health information may also be able to improve on traditional media channels by alleviating communication barriers associated with literacy, language, and culture (Neuhauser & Kreps, 2008). E-health tools (e.g., health information websites, support groups, and tailored education programs) might, for example, be expected to increase rates of behavioural change and improve

population health by matching information to different audiences. Despite the promise associated with online health communication, it has also been argued that such websites serve to perpetuate values of consumerism and individualism, often positioning audience members as individually responsible for maintaining and improving health (e.g., Nettleton, 2013; Gibson, Lee, & Crabb, 2015a).

5.1.3 A discursive perspective on online health information

Online platforms represent sites at which contemporary discourses surrounding health and illness are constructed, maintained, and negotiated (Nettleton et al., 2005; Pitts, 2004; Seale, 2005). Online health messages about dementia have the potential to contribute to the reproduction of a potentially repressive neoliberal rationality of self-control and risk-management (cf. Lawless & Augoustinos, 2017; Pitts-Taylor, 2010; Peel, 2014). According to this perspective, an individual's health can be regarded as reliant on the application of self-control in various lifestyle choices that include diet, physical activity, and cognitive activity (cf. Crawford, 2006; Lupton, 1995; Nettleton, 2013). The risk discourse associated with neoliberalism is focused on risks associated with individual lifestyle choices. Such understandings can serve as a powerful tool for allocating responsibility for the development of chronic illness to individuals (Galvin, 2002). This focus on individual responsibility for health has been documented in many contexts (Lupton, 1994; Madden & Chamberlain, 2004; Street, 2004). However, as Peel (2014) argued, neoliberal discourse that focuses on individual risk and prevention is relatively new in the context of media portrayals of dementia and is potentially problematic, especially when compared to other more treatable or controllable chronic conditions (e.g., Type 2 Diabetes). Such neoliberal

discourse may be present in online health advice and information, and is relevant to the positioning of individuals as responsible for the management of risk factors and the prevention of illness through participation in practices of self-care (Galvin, 2002). Given the importance of the Internet as a source of health direction, we consider how information and advice published on websites can serve to mediate subjective experiences of, and responses to, cognitive ageing and dementia by constructing participation in prevention activity as relevant, desirable, or necessary.

Relatively few studies have used discourse analytic approaches to investigate how representations on health websites can contribute to the construction of particular experiences and meanings around health and illness. A recent exception is Gibson et al.'s (2015a) multimodal critical discourse analysis (MCDA) of how breast cancer websites position women as individually responsible for their health. In the present study, discursive psychology is used to examine how health messages about dementia risk-prevention are routinely constructed online. This approach provides a set of methods for examining how facts, social norms, and accountability are constructed in everyday language (Edwards, 2012). Rather than referencing psychological models of risk, health decisions, and health behaviours (e.g., Conner & Sparks, 1995; Waters, McQueen, & Cameron, 2014), we focus on what the language of the websites typically *constructs* and *accomplishes* in terms of health communication practice. This approach provides insights into contemporary sense-making around the issue of dementia risk-prevention, and demonstrates how such platforms are used as vehicles for the production of normativity via the prescription of particular actions and identities.

5.1.4 The present study

This study adopts a discursive psychological approach to examine information about dementia risk and prevention that was published on dementia websites.

Specifically, analysis concentrates on the discursive resources and practices used to position audiences as (a) at-risk of dementia; and (b) as individually responsible for dementia risk-prevention. We aim to extend recent qualitative analyses of dementia risk-prevention (e.g., Lawless & Augoustinos, 2017; Peel, 2014) by considering how online information generates inferences about individual risk of developing dementia and the normativity of engaging in dementia preventative behaviours. More broadly, this study contributes to a discussion of how individualised health messages about dementia risk and prevention might mediate individuals' experiences of, and responses to, cognitive ageing and dementia.

5.2 Method

Data included in this study were drawn from the websites of eight non-profit dementia organisations. The websites were identified via Alzheimer's Disease International's list of non-profit dementia organisations (www.alz.co.uk/associations), which included 71 websites at the time of writing (August, 2016). For practical reasons, only English-language websites were considered. Analysis was conducted as follows: first, websites were assessed by the first author to determine whether they met the following selection criteria, adapted from Gibson, Lee, and Crabb (2015b): (1) that each represented (one of) the largest and most comprehensive non-profit organisations for the country or region; (2) that it provided information specifically

about dementia risk and prevention; (3) that it contained information relevant to people living with dementia (including their family, friends, and carers); and (4) that it provided links to support services/resources. Content published on the websites is considered public information and can be accessed by anyone; thus ethics approval was not required (but see Convery & Cox, 2012 for a discussion of the ethics of researching materials sourced from webpages). This study was not intended as a large-scale analysis of information about dementia internationally. Rather, we limited the scope of the analysis in order to provide a more nuanced account of dementia risk-prevention information on websites from Western countries. Table 1 provides descriptive information about the websites included in this study.

Table 1

Details of websites selected for inclusion in analysis

Organisation	Country	Website
Alzheimer's Australia	Australia	www.fightdementia.org.au
Alzheimer's Society of Canada	Canada	www.alzheimer.ca
Alzheimer's Society of Ireland	Ireland	www.alzheimer.ie
Alzheimer's New Zealand	New Zealand	www.alzheimers.org.nz
Alzheimer's Scotland	United Kingdom	www.alzscot.org
Alzheimer's Society	United Kingdom (except Scotland)	www.alzheimers.org.uk
Alzheimer's Research	United Kingdom	www.alzheimersresearchuk.org
Alzheimer's Association	United States of America	www.alz.org

Analysis was carried out in two stages: a coding stage and a finer-grained discourse analysis. In the first stage, the first author developed familiarity by repeatedly reading the texts published on the websites; this included information, news, personal stories, events, and links to resources/services. During this stage, initial codes were generated, and recurrent themes were identified (Table 2). The style of coding was inductive: the authors did not analyse the data searching for pre-determined themes; rather, identified themes were data-driven (see Braun & Clarke, 2006, for a discussion of thematic analysis as a first-stage in conducting discursive analysis). Each author assisted in reviewing and refining the analysis by independently checking the identified themes and illustrative extracts against the original data. Among the most common themes in the data were (1) positioning of audiences as at-risk of dementia; and (2) positioning of audiences as responsible for managing dementia risk-prevention. Advice about engaging in dementia preventative behaviors was also common in the data. The notion of ‘advice’ was treated as a topic for investigation rather than a pre-defined conceptual category (Shaw, Potter, & Hepburn, 2015). Heritage and Sefi’s (1992, p. 368) broad description of advice was used to code instances in the data: that is, advice was identified as an act that “describes, recommends, or otherwise forwards a preferred course of future action” – in this case, health and lifestyle changes to prevent the onset of dementia. A selection of examples was chosen to illustrate the two most pervasive themes identified in the analysis. These extracts are the focus of the analysis that follows.

Analysis drew on insights from discursive psychology (Edwards & Potter, 1992; Edwards, 1997). Discursive psychology is concerned with the situated, constructive, and action-oriented nature of everyday language. Discourse is treated as

functional: talk and text are analysed as social practices that accomplish actions in the world (e.g., attributing blame, or resisting accusations of interest). This is a major point of difference between discursive and mainstream psychological approaches to language, which consider it a route to understanding cognitive phenomena (motives, attitudes, etc.). Discursive approaches analyse the rhetorical organisation of language, focusing on the ways in which versions of reality and identity are constructed in talk and text. Descriptions are typically assembled to counter actual or potential alternative versions (Billig et al., 1988). This is routinely achieved by mobilising specific discursive strategies (e.g., warrants of consensus on a particular issue) in order to build versions as factual and disinterested (Potter, 1996). In this sense, discourse is not only constructed (using various linguistic resources), but also constructive: it builds particular versions of objects, events, and people. This analytic approach allows examination of how particular discursive resources are used to construct dementia risk as a relevant concern for audiences, and how dementia preventative actions are established as desirable and necessary. In this study, discursive psychology provides a useful framework for examining how language is used to position individuals as culpable for the development of dementia in the face of known, modifiable risks.

Table 2

Summary of codes and themes identified on websites

Codes	Themes identified
Acknowledging non-modifiable risk factors	Positioning as at-risk for developing dementia
Identifying modifiable risk factors	
Lifetime risk statistics and risk factor statistics	
Dementia as an abnormal part of ageing	
Biomedical explanations of causes and symptoms of dementia	
Advice about dementia prevention	Positioning as individually responsible for dementia risk-management
Attributing the development of dementia to individuals and their practices	

5.3 Results

The following analysis is organised into two sections, reflecting two pervasive issues identified in the corpus: (1) the positioning of audiences as at-risk of developing dementia; and (2) the provision of health and lifestyle advice that positioned audiences as individually responsible for dementia risk-prevention.

5.3.1 Positioning audiences as ‘at-risk’ of dementia: Quantification and two-part concession structures

In this section, the analytic focus is on how audiences were constructed as at-risk of developing dementia. Specifically, we focus on two regularities or patterns of textual construction that were repeatedly seen in the sampled websites to accomplish this ‘at-risk’ positioning: (a) *quantification*; and (b) *two-part concession structures*. Quantification, both numerical and non-numerical, frequently involved estimates of the lifetime risk of developing dementia and quantification of specific risk factors associated with the disease. Another common device on the websites was the use of a two-part concession structure, which acknowledged counter-arguments about the likelihood of developing dementia and the relevance of non-modifiable risk factors associated with the condition. As we will show, positioning audiences as at-risk of developing dementia via the use of these common devices routinely served to justify claims about audiences’ need to be vigilant about dementia risk and to participate in dementia risk-prevention behaviours. The routine patterns examined in this section are relevant to our overall interest in how the normativity of performing certain dementia preventative actions was established.

Extract 1 comes from the Alzheimer’s Society’s (UK) website, on a page entitled ‘*Worried about your memory?*’ The page provides information about memory problems, some of which are described as being an early sign of cognitive decline. The extract is an example of the way audience members were routinely positioned as ‘at-risk’ of developing dementia via the use of a two-part concession structure.

Extract 1

1 It happens to all of us from time to time. You can't put a name to a face. You
2 forget where you put your keys. You can't remember where you parked the
3 car. Most of the time such slips are a nuisance, rather than a sign of
4 something more serious. But if you are worried that your memory is getting
5 noticeably worse, or if memory loss is beginning to affect your everyday life,
6 it is worth seeking advice.

In this extract, the author's description of common or 'normal' instances of forgetfulness (ll. 1-4) arguably works to minimise the positioning of audience members as at-risk of developing dementia. The statement that follows, initialised with 'But' (ll. 4-6), undermines this initial claim however, and encourages all audience members to be vigilant about dementia risk-management. This type of two-part concession structure (cf. Crabb, 2006; Wetherell & Potter, 1992) was common in the data. The format typically involved: (1) a minimisation of the likelihood that audience members have, or will develop, dementia ('*everyone gets more forgetful as they get older*'); followed by (2) a contrastive conjunction and second statement that undermined this initial minimisation ('*but it's worth seeking advice*'). The second part functioned to position audience members as at-risk of developing dementia and, therefore, needing to be vigilant about dementia risk. We argue this 'at-risk' positioning contributed to the construction of dementia preventative behaviours as relevant and necessary. In the sampled websites, two-part concession structures were frequently used to acknowledge and manage two opposing sides of arguments about dementia risk, specifically those involving claims about individuals' *likelihood* of developing dementia, and the *possibility* of risk-prevention. By acknowledging and

managing potential counter-claims about these risk factors, claims and recommendations could be presented as balanced and informed, thereby defending claims from accusations of interest (cf. Potter, 1996). We will expand on this point in the examples considered below.

Extract 2 comes from Alzheimer's Research (UK)'s website, on a page titled '*Reducing the risk*'. In this example, quantification of lifetime risk was combined with a two-part concession structure to position audience members as susceptible to developing dementia and therefore needing to participate in risk-prevention activities.

Extract 2

- 1 The risk of developing most dementias increases with age. That means as we
- 2 get older, we are more likely to develop dementia. About two in 100 people
- 3 aged 65 to 69 have dementia, but this figure rises to one in five for those
- 4 aged 85 to 89.
- 5 Dementia is not a normal part of getting older or an acceleration of ageing. It
- 6 is caused by different diseases, most commonly Alzheimer's. We can't
- 7 change our age and there is currently no way we can completely prevent
- 8 dementia but there may be some simple things we can all do that might
- 9 help lower our risk.

In lines 2-4, statistics are used to present the risk of developing dementia as a relevant concern for audiences. The quantification of lifetime risk, also termed the incidence of the disease (Slaytor & Ward, 1998), was the most common form of quantification in the dataset. Statistics and other forms of quantification have been

noted to be common in a variety of contexts, including genetic counseling and health promotional campaign material, such as pamphlets and brochures (e.g., Crabb, 2006; Gigerenzer, 2002; O'Doherty, 2006; Slaytor & Ward, 1998). Potter, Wetherell, and Chitty (1991) have argued that quantification can be understood as a type of *rhetoric* that accomplishes particular goals in certain contexts, such as persuading people to engage in healthy behaviors to avoid risk. From this perspective, estimates of lifetime risk of developing dementia served to accomplish the following functions in the sampled websites: (a) representing dementia as a sufficiently serious and widespread health concern; and (b) implying that with increasing age, people become increasingly at-risk. In the corpus, quantification of lifetime risk of developing dementia represented an important rhetorical strategy for positioning audience members as at-risk of developing dementia and justifying proposals that preventative action is appropriate, necessary, or desirable.

Lines 6-9 of this extract provide another example of the two-part concession structure that was common across websites in the corpus. By contrast with the structure in Extract 1 that involved a minimisation of audience members' likelihood of developing dementia followed by a statement about the relevance of dementia risk-management, the two-part structure here follows the form, '*We cannot change X, but we can do Y*'. That is, there was initial acknowledgement of risk factors that cannot be modified, followed by a contrastive conjunction, introduced with 'but', emphasising that certain lifestyle changes *can* or *should* be made to prevent the onset of dementia. As in the previous example, the concession works to build the claims as factual and unbiased. By acknowledging potential counter-claims about risk factors,

websites presented their claims and recommendations as balanced and informed, thus defending against discounting due to interest or bias (cf. Edwards & Potter, 1992; Potter, 1996).

Extracts 3 and 4 are from the Alzheimer's Association's (USA) webpage, '*Risk Factors*', and the Alzheimer's Society of Canada's website campaign, '*Heads up for healthier brains*', respectively. The websites focus on public awareness about brain health and dementia risk-prevention, and provide advice about addressing modifiable risk factors associated with Alzheimer's disease. These extracts provide examples of the way rhetorical devices of quantification and two-part concession structures were regularly combined in order to position audiences as potentially at-risk of developing dementia, thus establishing the relevance and necessity of dementia risk-prevention activity.

Extract 3

- 1 Scientists have identified factors that increase the risk of Alzheimer's.
- 2 The most important risk factors—age, family history and heredity—can't be
- 3 changed, but emerging evidence suggests there may be other factors we can
- 4 influence.
- 5 The greatest known risk factor for Alzheimer's is advancing age. Most
- 6 individuals with the disease are age 65 or older. The likelihood of developing
- 7 Alzheimer's doubles about every five years after age 65. After age 85, the
- 8 risk reaches nearly 50 percent. One of the greatest mysteries of Alzheimer's

9 disease is why risk rises so dramatically as we grow older.

Extract 4

1 Will healthy lifestyle choices prevent Alzheimer’s disease? There are no
2 guarantees, but evidence suggests that healthy lifestyles help the brain
3 maintain connections and even build new ones. That means that a healthy
4 brain can withstand illness better. So take action today. Some risk factors you
5 can’t control, such as your genetic makeup and growing older, but there is a
6 lot you can do that may help reduce your risk of getting the disease.

The two-part concession structures in these examples (Extract 3, ll. 2-4; Extract 4, ll. 1-3 & ll. 4-6) about the non-modifiable risk factors of age, family history, and heredity, are structured in the same general format contained in Extract 2: ‘*We cannot change X, but we can do Y*’. This routine two-part concession structure is again used to acknowledge potential counter-arguments about non-modifiable risk factors for dementia, while constructing participation in dementia risk-prevention as beneficial, appropriate, or necessary. Repeated use of such concessions can be seen as working to protect claims about the relevance of prevention activity on the part of audience members.

Lines 5-7 of Extract 3 contain another example of quantification rhetoric, this time involving quantification of the risk factor of age. Factors of age and heredity were most commonly mentioned in the sampled websites. Like quantification of

lifetime risk (Extract 2), quantification of risk factors associated with dementia served to maximise descriptions of the susceptibility of audience members to developing dementia, thus working to construct risk-prevention as a relevant concern.

Quantification of the risk factor of age can be argued to position all audience members as increasingly at-risk of the disease with increasing age, regardless of other potentially relevant risk factors, such as family history or heredity. By creating an 'at risk' subject position for audiences, websites can also be seen to justify their advice about the need for lifestyle changes.

In summary, Extracts 1-4 demonstrate how websites routinely positioned audience members as at-risk of developing dementia, and constructed participation in dementia prevention activities as appropriate and necessary. Key features of this at-risk positioning included:

- a) Use of quantification rhetoric (i.e., numbers and statistics to describe lifetime risk and various risk factors such as age and heredity) that served to maximise the construction of the likelihood of cognitive decline and dementia, positioning audience members as at-risk.
- b) Use of concessions to acknowledge counter-claims about non-modifiable risk factors, while positioning audience members as responsible for managing modifiable risk factors. Such concessions arguably served to protect claims and recommendations of the need for prevention activity from being challenged as false or interested.

5.3.2 Positioning audiences as responsible for dementia risk-prevention: Health and lifestyle advice

In this section, we focus on how health and lifestyle advice on the websites positioned audience members as individually responsible for dementia risk-prevention. In particular, we focus on formulations designed to induce audiences to perform a preferred course of action (i.e., a lifestyle change to reduce dementia risk). The advice formats examined in this section presented the proposed risk-prevention measures as highly normative (i.e., as actions audience members *should* take). Advice in the sampled websites typically took the form of imperative formulations ('*Keep your brain active*'). Imperative formulations assume a high degree of entitlement over an audience's future conduct, and exhibit little to no orientation to the contingencies associated with committing to the proposed course of action, including an audience's willingness, ability, and past experience (Curl & Drew, 2008; Craven & Potter, 2010). In this way, advice was both normative and *asymmetric*, in that it reflected an assumed difference in knowledge and authority between advisors and advisees (Antaki & Kent, 2012; Heritage, 2012; Heritage & Raymond, 2005; Heritage & Sefi, 1992; Stevanovic & Peräkylä, 2012). These features of advice worked to establish the necessity of participation in dementia risk-prevention practices, and position audience members as needing to take personal responsibility for dementia risk-management. We argue that such directives served to promote a *moral identity* (i.e., an identity defined by moral obligation to engage in certain behaviours) to with regard to brain health in which an ethic of self-care, self-responsibility, and risk-management is key.

Extract 5 is from the Alzheimer's Society of Ireland's website, on a page about a national health promotion campaign called '*Forget me knot*', that focuses on brain health and dementia risk-prevention. The following extract is an example of the types of imperative advice formulations that were typical of the corpus.

Extract 5

- 1 Push it with puzzles, challenge it to figure out new things, make it earn it's
- 2 keep. Stimulate it by connecting with others socially. Push it to protect itself
- 3 from losing every memory, name and piece of you it holds inside. Take up a
- 4 hobby such as painting, woodwork or craft work. Read different styles of
- 5 books, newspapers and magazines. Learn a language, an instrument or to
- 6 dance.

This example demonstrates how advice about participating in different lifestyle choices and practices displayed entitlement over audience members' future conduct and little orientation to the possible contingencies associated with carrying out the proposed course of action (Curl & Drew, 2008; Craven & Potter, 2010). The imperatives, which reflect an assumed epistemic asymmetry and project a stance of high obligation to comply with the advice, worked to construct participation in prevention activity as normative and accountable. In the corpus, such imperative advice formulations served to construct a 'responsible' subject position for audience members in relation to dementia risk-management. It can be argued that these websites not only locate awareness of dementia risk as a personal issue for audiences – as we saw in the previous section – but also position audience

members as individually responsible for dementia risk-management.

Three further extracts exemplifying the use of directives to position audiences as individually responsible for dementia risk-management will be examined.

Extracts 6, 7, and 8 are from the following sources: Alzheimer's Society of Canada's website campaign, '*Heads Up For Healthier Brains*', Alzheimer's Australia's brain health program, '*Your Brain Matters*', and Alzheimer's Scotland's webpage, '*Reducing the risk of dementia*', respectively. As was the case in many organisations' brain health campaigns, directives were among the main form of advice delivery.

Extract 6

- 1 Keep your brain active every day. Studies show that regularly challenging
- 2 your brain may reduce your chances of developing Alzheimer's disease, so it
- 3 is important to give your brain a regular workout. Try something new or
- 4 change the way you usually do a task, such as brushing your hair with your
- 5 less dominant hand. Play games to challenge your mind - chess, cards, word or
- 6 number puzzles, jigsaws, crosswords, and memory games.

Extract 7

- 1 Take action:
- 2 Step 1: look after your heart

- 3 Step 2: do some kind of physical activity
- 4 Step 3: mentally challenge your brain
- 5 Step 4: follow a healthy diet
- 6 Step 5: enjoy social activity

Extract 8

- 1 What can you do?
- 2 There are practical, achievable things you can do now which could reduce
- 3 your chances of developing dementia or, at the very least, improve your
- 4 general health and wellbeing.
- 5 1: Eat healthily
- 6 2: Stay mentally active
- 7 3: Take regular physical activity
- 8 4: Keep up social networks

These extracts provide further examples of imperative formulations of dementia risk-prevention, which (a) invoke an assumed asymmetry in knowledge and authority between authors and audiences; and (b) construct certain brain health actions as required or obligatory. As in the previous example, the imperatives display high entitlement over audience members' future conduct and little to no acknowledgment of the contingencies that might prevent them committing to the proposed course of action. Again, the advice serves to provide for inferences about audience members' capacity or opportunity to benefit from participation in risk-prevention activities, and their personal responsibility to be vigilant in order to manage their dementia risk.

Such constructions arguably worked to promote a moral identity that entails participation in practices of self-care and risk-management.

Overall, this section demonstrates how advice published on the sampled websites positioned audiences as individually responsible for taking action in relation to dementia risk-prevention. The imperative advice formulations examined in this section communicated high entitlement over audience's future conduct and little acceptance of the possible contingencies that might interfere with compliance. Such advice presented audience members as responsible for managing dementia risk, and as active agents in dementia risk-prevention

5.4 Discussion

In this study, we have presented an analysis of online health information about brain health and dementia risk-prevention. Drawing on insights from discursive psychology, we have explored two related issues that were pervasive in the data: (1) how information on non-profit dementia organisations positioned audiences as at-risk of developing dementia; and (2) how health and lifestyle advice about dementia preventative behavior positioned audiences as individually responsible for managing dementia risk-prevention. This positioning of all people as at-risk of or dementia as a result of non-modifiable and potentially modifiable risk factors serves to construct participation in prevention activity as a relevant course of action. Such representation arguably contributes to the reproduction of a neoliberal health discourse that

emphasises individual responsibility for accessing appropriate health information and managing potential health risks (cf. Crawford, 2006).

In the first section, we examined how information on the sampled websites positioned audiences as at-risk of cognitive decline and dementia. We identified two recurring patterns that were used to accomplish this ‘at-risk’ positioning: (1) quantification of lifetime risk and quantification of risk factors, which functioned to maximise constructions of risk; and (2) two-part concession structures, which were used to acknowledge and manage counter-arguments about the possibility and benefit of dementia risk-prevention measures. These rhetorical devices were used repeatedly to position all audiences as ‘at-risk’ of developing dementia, and served to justify related claims about the need to engage in risk-prevention activities. This analysis of online representations of dementia risk-prevention has shown (a) how dementia and cognitive decline were constructed as a relevant and serious health concern for audience members, and (b) how participation in preventative activities was presented as an appropriate and necessary response to being at-risk of developing dementia.

In the second section of the analysis, we discussed how advice about preventing age-related cognitive decline and dementia positioned audiences as individually responsible for managing prevention. These health imperatives routinely presented participation in brain enhancement and dementia preventative practices as a desirable or necessary course of action. As in previous conversation analytic studies of directives in various mundane and institutional settings (Antaki & Kent, 2012; Curl & Drew, 2008; Craven & Potter, 2010), the health and lifestyle advice examined here

demonstrated strong claims of entitlement over recipients' future conduct (i.e., showing high expectation of recipients' acceptance) and little acknowledgement of the contingences that might interfere with compliance, including an audience's ability, willingness, or past experience. On the websites, advice presented audience members as active agents in dementia risk-prevention, and served to promote a moral identity in regard to brain health that is defined by an obligation to engage in practices of self-care and risk-management. Exploring the ways in which issues of blame and responsibility for dementia risk-management are handled in institutional and everyday settings is a future avenue of enquiry.

Several studies have explained dementia risk-reduction with reference to psychological models of health behavior (e.g., Galvin et al., 2008; Kim, Sargent-Cox, Cherbuin, & Anstey, 2014) or in sociological terms (e.g., Katz & Peters, 2008; Williams et al., 2011). By contrast, we have demonstrated how specific discursive practices and linguistic resources are routinely used in online health information settings to position audiences as at-risk of developing dementia and to construct prevention as an appropriate and desirable future course of action. Information and advice about dementia risk-prevention published on websites arguably reflects wider organisational agendas relating to health promotion around dementia risk-prevention. These findings have implications for norms associated with dementia prevention more broadly. Notions of personal responsibility may mark an individualising turn in understandings of dementia risk and prevention (Peel, 2014; Pitts-Taylor, 2010). In addition, imperative-framing of advice about engaging in brain enhancement and risk-prevention may carry moral connotations about how individuals' *should* behave to

prevent the onset of dementia. Such notions are relevant to the development of health policies that emphasise individual self-care as part of the risk-management of population health (Williams et al., 2011). Health and social policy documents in the UK, for example, have been shown to encourage the adoption of healthy and protective lifestyle behaviors in order to prevent cognitive decline (Broer & Pickersgill, 2015). Representations of the causes of dementia as preventable through lifestyle modification, and associated discourses of self-responsibility, have been argued to be problematic given the lack of a cure or of effective treatments for the condition. Attributing responsibility or blame, albeit implicit, for the development of chronic and progressive conditions, including dementia, to individuals and their practices has ramifications for how those living with such conditions are defined and treated by health professionals, governments, and the general community. Specifically, notions of individual responsibility can contribute to, or be a precursor of, victim-blaming of those living with dementia and result in increased stigmatisation (Peel, 2014; Pitts-Taylor, 2010).

We acknowledge that we are unable to explore how information and advice published on the websites actually influences audiences' future conduct. Future work might investigate trajectories of advice giving about cognitive decline and dementia in a variety of contexts, including health counseling services, medical encounters, and helpline interactions. This approach could provide complementary insights into (a) how healthcare professionals establish certain lifestyle changes as relevant and necessary (b) how they manage instances of advice resistance (cf. Butler et al., 2010; Ekberg & LeCouteur, 2015; Hepburn & Potter, 2011; Kinnell & Maynard, 1996;

Pilnick, 1999). Future work could also examine how issues of moral accountability are handled in contexts where professionals' proposals for lifestyle changes involve clients accepting some degree of personal responsibility for existing or anticipated brain health problems.

5.5 Conclusion

Dementia presents a significant public health concern worldwide. This study has examined how the information published on the websites of dementia organisations' works to position audience members as at-risk of developing dementia and as individually responsible for dementia risk-management. Existing research has highlighted that a focus on risk-prevention in the context of dementia represents an extension of a broader neoliberal rationality of self-care and self-responsibility for health and illness (e.g., Peel, 2014; Pitts-Taylor, 2010). We add to these analyses by examining how online information about dementia risk and prevention works to construct participation in prevention as desirable, necessary, and obligatory, despite ongoing debate about the benefit of such practices. Further research is needed to establish a more detailed understanding of how norms, values, and expectations around cognitive health and ageing are constructed, negotiated, and treated as accountable in public forums.

Chapter 6

Study Four

The fourth study presented in this thesis examines how a Facebook Page is used as a platform for health communication, health promotion, and identity management in relation to dementia risk and prevention. Specifically, this study describes how individuals use Facebook Pages to request information or advice about dementia risk factors, screening, and prevention activity. Posters' requests for information and for advice routinely involved reference to notions of family history, genetic predisposition, and personal experience of signs and symptoms of cognitive decline and dementia. Such references are argued to warrant posters' requests, construct 'at-risk', self-monitoring identities for posters, and make relevant the necessity of participation in self-care and risk-prevention practices.

This study builds on the analyses presented in Chapters 3-5 by describing how posters' requests for information or for advice routinely drew on culturally available understandings of causes, risk factors, and symptoms of dementia. The study highlights how social networking sites are used to perform a range of interactional tasks, including constructing identities through the description of problems and the sharing of advice and information.

Dementia on Facebook: Requesting information and advice about dementia risk-prevention on social media (Under review).

Statement of Authorship

Mr Michael Lawless (first author)

I am responsible for the conception and primary authorship of this paper. I conducted the literature review, developed the research aims, conducted analysis, and wrote the manuscript. I was identified as the first author when this article was submitted for publication, and I have been responsible for all communications with journal administration including responses to reviewer feedback.

Michael Lawless

Signature:

Date: 19/11/17

Professor Martha Augoustinos; Associate Professor Amanda LeCouteur (co-authors)

The realisation of the idea, collection of data, and analysis of data were the work of Mr. Lawless. Mr. Lawless was responsible for writing this paper; our role was to comment on drafts, make suggestions on the presentation of material in the paper, and to provide editorial input. We also provided advice on responding to comments by the journal reviewers and editor. We hereby give our permission for this paper to be

incorporated in Mr. Lawless' submission for the degree of Doctor of Philosophy from the University of Adelaide.

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Abstract

Social media platforms like Facebook have the potential to make significant contributions to health communication and promotion. Health organisations can use social media to encourage participation in lifestyle programs and interventions designed to address public health concerns, like the prevention of dementia. In this study, discursive psychology was used to examine posts on a Facebook Page about dementia and risk-prevention activity (e.g., brain training) monitored by representatives from Australia's largest non-profit dementia organisation, Alzheimer's Australia. Opening posts in the conversation routinely involved requests for information and advice about dementia risk factors, screening, and the benefits of participation in particular brain enhancement and dementia risk-prevention activities. We describe how opening posts routinely referenced notions of family history, genetic predisposition, and personal experience of signs and symptoms of cognitive decline and dementia. Such references can be seen to construct a self-monitoring, at-risk identity for posters that positioned them as personally responsible for risk-management. Understanding more about the routine construction of individual responsibility for dementia risk-prevention on social media can contribute to insight into broader contemporary sense-making around issues of cognitive ageing and dementia risk-prevention. This is of significance given the increasing prevalence of dementia worldwide, and ongoing debate about the causes of the condition, and the possibility of risk-prevention.

6.1 Introduction

Social networking sites (SNSs) like Facebook are important tools for health communication and the promotion of health behaviour change. Social media platforms are a new site for the dissemination of information about neurodegenerative disorders like Alzheimer's disease that are increasing in prevalence worldwide (Alzheimer's Disease International [ADI], 2016). In this study, we explore how a Facebook Page was used as a platform for requesting information and advice about cognitive decline and dementia, including risk factors, screening, and prevention activity. The study contributes to developing understanding about the structure of health communication on SNSs, and how such platforms can be used for purposes of education, health promotion, and identity management. In addition, the study builds on current knowledge about media representations of dementia risk-prevention – in particular, how they can function to promote an ethic of self-responsibility and risk-management (Lawless & Augoustinos, 2017; Peel, 2014; Pitts-Taylor, 2010; Rose & Abi-Rached, 2013; Williams, Higgs, & Katz, 2011).

6.1.1 Facebook and health communication

Social media and networking services such as Facebook and Twitter are recognised to be important channels for health communication and promotion (Bender, Jimenez-Marroquin, & Jadad, 2011; Prestin & Chou, 2014; Zhang, He, & Sang, 2013). Key uses of SNSs for health communication include: access to tailored health information; communication between stakeholders (including health professionals, caregivers, and patients); peer discussion and support; public health

surveillance (e.g., monitoring public responses to health issues, and identifying particular groups for targeted intervention efforts); and the potential to influence the development of health policy (Moorhead et al., 2012). SNSs have become platforms for non-profit and government health organisations to communicate health messages, and encourage audience participation in discussions of health-related topics (e.g., Abramson, Keefe, & Chou, 2015). Interaction between individuals and health organisations on social media has been argued to lead to a range of positive health outcomes, including increased awareness of health and medical information and greater participation in support groups, health screening, and lifestyle programs (Korda & Itani, 2011; Neiger et al., 2013). Further study of the nature of health communication on SNSs will increase understanding of how activities that regularly occur on such platforms can contribute to the prescription of actions and the construction of identities in relation to health and illness.

Facebook is the most popular SNS worldwide, attracting approximately 1.86 billion active users monthly as of December 31, 2016 (Facebook, 2016a). Although people under the age of 30 are most likely to use Facebook, the fastest growing demographic is claimed to be those over 65 years of age (Jung & Sundar, 2016). Unlike health-related Facebook ‘Groups’, which are typically created by individual users for the purpose of group discussion, Facebook ‘Pages’¹³ are public profiles that represent the official voice of companies, organisations, campaign groups, or institutions (Facebook, 2016b). Official representatives are able to manage the content published on Pages, which is available for public consumption and discussion.

¹³ In this study, we use ‘Group’ and ‘Pages’ to refer to Facebook-specific uses of the terms.

It has been argued that organisations might be able to use their official Pages to accomplish particular organisational goals, such as education and health campaigning, as well as the commercial practices of marketing and advertising (e.g., Hunt & Koteyko, 2015; Park et al., 2011; Thurlow, 2013). Despite the potential of social media to improve health promotion practice and empower users via the provision of shared and tailored health information, it has been argued that content published on SNSs may also contribute to the reproduction of a potentially problematic ethos of consumerism and individualism. The positioning of audience members as individually responsible for taking appropriate action in relation to health has been argued to result in increased surveillance of individuals' health practices, providing new opportunities for the marketing of health technologies (Hunt & Koteyko, 2015; Koteyko & Hunt, 2016).

6.1.2 SNS use and dementia risk-prevention

Little is known about how the health issues of cognitive decline and dementia are represented on SNSs, although previous research has examined traditional print and broadcast media coverage of these topics (e.g., Kang, Gearhart, & Bae, 2010; Kirkman, 2006; Peel, 2014; Van Gorp & Vercruyse, 2012). To our knowledge, only one study has examined peer-to-peer discussions about dementia on Facebook. Facebook support groups for people living with early-onset dementia were described as providing peer support, raising community awareness, and reducing social isolation (Craig & Strivens, 2016). As has been shown in relation to breast cancer (Abramson et al., 2015) and diabetes (Hunt & Koteyko, 2015), individuals, health professionals,

and organisations can use Facebook Pages to share information, opinions, and advice. Such Pages facilitate interaction between individuals and organisations, and, like other digital-media platforms (e.g., websites, online chat rooms), may represent an important space for the construction, reproduction, and negotiation of contemporary discourses around health and illness (Nettleton, Burrows, & O'Malley, 2005; Seale, 2005).

Recent analyses have highlighted that advice pertaining to prevention of cognitive decline and dementia is common in print media (Lawless & Augoustinos, 2017; Peel, 2014). Such advice routinely takes the form of recommendations to participate in lifestyle practices (such as diet, physical exercise, and cognitive stimulation) that are claimed to improve neural connectivity and reduce the risk of developing dementia. Although information about risk and prevention can be regarded as empowering, it has been argued that such representations may also contribute to the promotion of a potentially repressive neoliberal discourse of self-responsibility and self-control (Peel, 2014; Pitts-Taylor, 2010; Williams, Katz, & Peters, 2011). In this neoliberal discourse, participation in health-promoting activities becomes a moral obligation, and individual health and wellness is presented as a matter of exercising self-control in relation to various lifestyle choices and practices (Crawford, 2006; Lupton, 1995; Nettleton, 2013).

Digital technologies and social media may contribute to the reproduction of neoliberal health discourse by providing new opportunities for promoting participation in practices of self-monitoring and self-care (Lupton, 2012; 2013). Such concerns are relevant to the notion, proposed by Finkler (2000), that healthy

individuals are being positioned as ‘patients without symptoms’: that is, as responsible for participation in risk management to prevent future illness. Such ‘at-risk’ positioning can be accomplished via the dissemination of information about appropriate self-care practices, including individual lifestyle choices, and relevant risk factors, such as age and genetic susceptibility. Komduur and te Molder (2014), for example, argued that reference to notions of genetic susceptibility and family history (i.e., the notion that a condition ‘runs in the family’) are routinely presented as justification for health consciousness and participation in healthy behaviours as a form of risk prevention. Notions of genetic susceptibility feature in people’s understanding of the aetiology of different illnesses, and are factored into estimates of individuals’ risk of particular conditions, including types of dementia (Lock, Freeman, Sharples, & Lloyd, 2006). People have been shown to draw on notions of genetic predisposition in relation to health promotion campaigns to negotiate personal responsibility and blame for illness by emphasising a lack of control over the development of particular conditions (Crossley, 2002a). In addition to awareness of family history, people’s capacity to self-monitor, recognise, and evaluate their symptoms can be regarded as central to risk-management and self-care for minor and chronic conditions. The present study contributes to understanding the construction of issues of self-care and risk-management by examining how posters use social media to seek information and advice about dementia risk factors and the necessity of prevention activity. Such activities are argued to involve the management of particular identities around brain health.

6.1.3 Advice giving in computer-mediated communication

Several studies involving the use of conversation analysis, discursive psychology, or membership categorisation analysis have examined health-related content on digital platforms, including online discussion forums, e-mail, instant messaging services, and social networks (e.g., Giles, 2013; Horne & Wiggins, 2009; Smithson et al., 2011; Sneijder & te Molder, 2005; Stommel & Koole, 2010; Vayreda & Antaki, 2009; Veen, te Molder, Gremmen, & van Woerkum, 2010). These studies highlight the social nature of computer-mediated communication, concentrating on the interactional work that participants accomplish in digital environments. Studies of online support groups (OSGs), in particular, have focused on the social actions that participants perform in their contributions, including the management of accountability¹⁴ and identity. In addition, a number of studies have examined how participants request and deliver advice in such contexts (e.g., Morrow, 2006; Sneijder & te Molder, 2005; Stommel & Koole, 2010; Vayreda & Antaki, 2009; Veen et al., 2010). Requests for advice are routinely presented in complex and indirect ways, and serve to perform a range of interactional tasks, such as demonstrating adherence to norms of the online community, managing accountability, and constructing identity (Burke, Kraut, & Joyce, 2010; Stommel, 2009; Vayreda & Antaki, 2009). Requests for advice and information about particular health-related topics (e.g., self-harm, depression, and eating disorders) have also been shown to be prefaced, or followed

¹⁴ In the context of OSGs, ‘accountability’ can be characterised broadly as an orientation to normative expectations regarding conduct and self-presentation in particular online contexts (Stommel & Koole, 2010). Matters of accountability in OSGs include managing the legitimacy of posters’ claims or the factual status of descriptions.

by, accounts of personal problems (Lamerichs & te Molder, 2003; Morrow, 2006; Smithson et al., 2011; Stommel & Koole, 2010). Accounts that demonstrate relevant knowledge and experience can function to construct 'authentic' identities in relation to particular health issues, and display legitimacy for membership to online communities (Horne & Wiggins, 2009; Smithson et al., 2011). Such descriptions typically included relevant background information about the duration and possible causes of symptoms, expressions of feelings, and descriptions of incidents that prompted posters to participate in OSGs. Although comparisons can be made with OSGs, interaction between users on Facebook Pages is different from that in online communities. Research into how health communication on Facebook Pages is structured can provide insights into the interactional work involved in describing problems and requesting information and advice.

OSGs are typically private groups that are established and managed by non-professionals who share similar experiences or interests. By contrast, companies and organisations tend to administer public Facebook Pages (Hunt & Koteyko, 2015). Like OSGs, Pages may be used to exchange information and social support. Unlike OSGs, however, organisations may use Pages for the purposes of advertising, campaigning, and promotion. Although activities relating to joining and maintaining online communities are arguably less important on Facebook Pages than in private groups, comparisons can be made with OSGs in terms of relevant activities like the sharing of personal problems, requesting advice, and giving advice.

6.1.4 The present research

This study uses an approach informed by discursive psychology to examine the routine framing of requests for information and for advice on a discussion on a Facebook Page about dementia risk and prevention. We argue that these activities by posters typically served to construct ‘at-risk’, self-monitoring, responsible identities with regard to brain health, thus establishing the normativity of participation in self-care and risk-management practices. The study builds on current understanding of online health communication around dementia (e.g., Craig & Strivens, 2016) by investigating how responsibility and identity is constructed. More broadly, this study highlights the relevance of SNSs like Facebook as emerging platforms for health communication, health promotion, and identity management. Findings can inform future health campaigning initiatives in relation to dementia risk-prevention that involve the use of social media platforms.

6.2 Method

Data comprised Facebook postings collected for a larger investigation of representations of dementia on Facebook. Postings (i.e., comments and replies) were extracted from an open ‘Q&A’ style conversation that took place on the official Facebook Page of *7:30*, a current affairs program broadcast on the state-owned Australian Broadcasting Corporation (ABC) (www.facebook.com/ABC730). The Facebook conversation took place after a national television broadcast titled ‘*Can*

exercising your brain keep Alzheimer's away?' (November 19, 2014)¹⁵. Audiences were invited to '*ask questions [about brain training] and anything Alzheimer's-related*'. Researchers representing Alzheimer's Australia monitored the online discussion. Any registered Facebook user was able to post and reply to other users' comments. Posts and their associated replies constituted a single conversation 'thread'. Analysis focuses on initial posts (i.e., posts that 'opened' a thread) as such posts provided a rationale for posters' participation in the conversation. A total of 115 opening posts were published. The number of replies to each post ranged between one and eight, although several posts received no response. Posts published on Facebook Pages are considered public information and can be accessed by anyone (Facebook, 2016c; see Zimmer, 2010 for a discussion of the ethics of researching materials sourced from Facebook). All posts were copied from the conversation verbatim, retaining original spelling and grammatical errors, emoticons¹⁶, and formatting.

The 7.30 Facebook Page was chosen as a source of material for the following reasons: (1) the conversation attracted a number of posts and replies, providing a large corpus of data for analysis; (2) the 7.30 Page had a higher number of 'Likes' (i.e., subscribers; 66,742¹⁷) than the official Alzheimer's Australia Page (43,984) and other

¹⁵ An archived recording and transcript of the report are available at www.abc.net.au/7.30/content/2014/s4132162.htm. A transcript of the report with line numbers added is included in Appendix 1.

¹⁶ An emoticons is a pictorial representation of a facial expressions constructed using punctuation marks, numbers, and letters (e.g., ☺ means 'happy').

¹⁷ This figure is correct as of 13 February 2017.

large dementia organisations in Australia; (3) the 7.30 Page is likely to be visited by a broader section of the community than Pages created specifically to provide information and support to people living with dementia and their carers; and (4) the conversation focused on the issue of dementia risk-prevention through lifestyle choices and practices, rather than general discussions about diagnosis, care, and support services.

Common types of opening posts in the corpus included the following: requests for information, requests for advice, descriptions of problems, expressions of thanks, and criticism (see Table 1 for a summary of types of opening posts with examples). Requests for information and requests for advice were the most common type of opening posts. Such requests were often presented together with a description of problems, typically involving accounts of family history, genetic predisposition, or personal experience of signs and symptoms of cognitive decline and dementia. Opening posts that illustrated these common framings of requests were selected for inclusion in the analysis. These posts are the focus of the analysis that follows. Previous studies of OSGs have shown that asking for and providing advice giving are among the most common activities in which users engage in such environments (Morrow, 2006; Smithson et al., 2011; Stommel & Lamerichs, 2014; Vayreda & Antaki, 2009). In the corpus, requests for information and requests for advice, respectively, were identified according to the following broad definition: that is, any solicitation of a factual response (information); or a recommendation, or evaluation of, a future course of action (advice).

Given that viewers were explicitly invited to ask about brain training and the possibility of cognitive enhancement or dementia risk-prevention, the frequency of requests for information or for advice is perhaps unsurprising. In this study, our interest is not in the frequency of information or advice requests *per se*, but rather how such requests routinely presented participation in healthy behaviours as a form of risk-prevention as *accountable* (i.e., requiring accounts of problems, such as family history or experience of symptoms). Examination of the routine framing of requests for information and for advice on Facebook can also provide insight into people's sense-making around the issues of cognitive decline and dementia, and how such contributions serve to construct identities.

Drawing on insights from discursive psychology (Edwards & Potter, 1992; Potter, 1996), this study describes the routine framing of posts on the Facebook Page, describing how discursive resources (terms, categories, and common-sense understandings) functioned to construct particular identities for posters, and establish the normativity of participation in dementia risk-prevention activity.

6.3 Results

Table 1

Common types of opening posts (N = 115)

Opening Post Type	Definition	Example	Frequency in the data (%)
Request for information	A request for factual information.	<i>Is there a difference between dementia (or senile dementia) & alzheimers or is it a term loosely used for much the same condition?</i>	47.8%
Request for advice	A request that asks others about a possible future action (i.e., what 'should' be done).	<i>Interested to know where to look for brain training programs?</i>	17.4%
Description of problems	A description of symptoms and/or relevant background information about	<i>I am 56 and sometimes can't find the right words to use I work in the bank and don't have any</i>	27.0%

	particular problems. Such descriptions frequently prefaced or followed requests for advice and information.	<i>problems with remembering things but it worries me should I be tested my gp says no what do you say</i>	
Expression of thanks	Expressions of appreciation for information and advice presented in the television report, often followed by elaboration, or by further description of problems.	<i>Thank you for taking the time to share information on Dementia</i>	10.4%
Criticism	Expressions of criticism or scepticism about scientific claims presented in the television report and/or Facebook conversation.	<i>What a shame that Alzheimer's Australia supports this unfounded rubbish</i>	3.5%

Note. Some posts were categorised in more than one category; for example, requests for information often involved a description of problems. As a result, there is some overlap. For the purpose of authenticity, all examples are presented in their original format, with spelling and punctuation uncorrected.

The analysis is organised in two sections, reflecting two common framings of requests for information or for advice about dementia risk and prevention in the corpus: (1) reference to notions of family history and genetic predisposition; and (2) reference to personal experience of symptoms of age-related cognitive decline and dementia. It should be noted that several posts in the corpus referenced a combination of family history and dementia symptoms, or other risk factors, such as chronic stress and brain injury (12.2% of posts).

6.3.1 Reference to family history and genetic predisposition

Requests for information or for advice were typically presented together with a description of problems. Such descriptions commonly involved accounts of genetic predisposition/ susceptibility, heredity, or family history of dementia, particularly in first- and second-degree relatives, such as a parents, grandparents, or siblings. Such accounts routinely worked to present posters as potentially at-risk of developing dementia, and provided justification for posters' displayed health consciousness (i.e., by seeking expert health knowledge and/or expressing intention to engage in risk-prevention activity). Such problem presentation appears similar to that identified in previous studies of help- and advice-seeking in helpline and Internet forum interaction (Lamerichs & te Molder, 2003; Morrow, 2006; Smithson et al., 2011; Stommel & Koole, 2010).

Posters' requests for information or advice typically took the following form: (1) an opening/ general salutation (*'hi there'...*); (2) a description of problems that involved reference to family history and/or genetic susceptibility (*'my mother had*

Alzheimer's); and (3) a request for information and/or advice regarding the value of participation in dementia screening and risk-prevention activities like brain training (*'what are the simple brain training exercises I can do?'*). Requests were typically specific, inviting confirmation of a planned future course of action, or other relevant information (e.g., *'Is that correct that something like Lumosity or Active Memory is not effective if done alone at home?'*). By showing awareness of individual genetic risk factors posters in the corpus arguably worked to display some degree of competence in relation to managing their dementia risk. As Lamerichs and te Molder (2003) argued, asking for support and/or advice about health on online forums is a complex matter, involving the management of identity by displaying some degree of competence (i.e., displaying knowledge of relevant topics) and incompetence (i.e., asking for help) in relation to their situation.

Extract 1 is an example of a request for information about dementia risk and prevention activity. The extract illustrates how posters routinely positioned themselves as 'at-risk' of developing dementia via reference to family history and, therefore, as in need of information.

Extract 1: Information request – family history example 1

- 1 My great grandmother and grandmother had alzheimers. My great uncle had
- 2 dementia. My mother is showing signs and her brother has been diagnosed
- 3 recently with dementia. Is there any way myself, my siblings and my children
- 4 can find out if this is a genetic thing or not

Here, the poster's description of problems (ll. 1-3) involves providing detail about family history of dementia in first- and second-degree relatives over two generations (i.e., grandparents, mother, and uncle). The description serves to suggest the relevance of heritability or genetic risk and warrants the request for information, thus performing identity work in this context. Posts that described family history were common in the corpus (41.9% of requests). Such accounts worked to warrant posters' requests for information or advice by constructing genetic factors as a reasonable basis for displaying 'health consciousness' (i.e., assessing health risks, seeking health information, and expressing intention to engage in self-care practices). By demonstrating awareness of individual genetic risk factors, and evaluating the personal relevance of those risks, posters can be seen to (a) position themselves as 'at-risk' for dementia; (b) demonstrate competence in relation to managing dementia risk. This positioning bears similarity to that described by Crabb (2006) for women in focus groups talking about breast cancer screening. Here, participants oriented to issues of accountability for their health by presenting themselves as capable of reflecting on, and evaluating, their health knowledge and behaviours.

Extract 2 provides another example of how reference to family history was repeatedly used to warrant requests for information about taking action in relation to dementia risk, and to position posters as at-risk of developing dementia.

Extract 2: Information request – family history example 2

1 Hi there, interesting segment tonight, my mother has and her mother

- 2 had Alzheimer's, I would like to find out if I might inherit it as well, how
- 3 do I go about this, cheers, michelle

In this extract, the posters description (*'my mother had and her mother had Alzheimer's'*) serves to construct a genetic account of increased risk of dementia via reference to family members of different generations with a diagnosis of Alzheimer's disease. By providing detail about multiple instances of dementia diagnosis among first-degree relatives, posters provided evidence for genetic predisposition and increased likelihood of developing the condition, thus warranting their requests for information or advice. As was common in the data, in this example, the poster displays both competence in managing their affairs (i.e., demonstrating understanding of the relevance genetic risk factors and the need to seek guidance; *'I would like to find out if I might inherit it as well'*), and lack of knowledge via the use of an open-ended request for advice (*'how do I go about this'*).

Three further extracts demonstrating reference to family history in posters' requests for information or advice will be examined. These extracts provide examples of how problem descriptions that provided detail about family history regularly functioned to position posters as at-risk of developing dementia.

Extract 3: Information request - family history example 3

- 1 Does brain training help people who have dementia with Lewy bodies
- 2 that runs in the family? I know it's a big ask, but I would really like to
- 3 believe it's possible.

Extract 4: Advice request – family history example 4

- 1 My dad has early onset alzheimers, he did all the right things, active, healthy
- 2 diet, engaged his brain, he was diagnosed at 55 and had to stop work because
- 3 of it, and is now 63 and in a nursing home. Both his parents died of
- 4 Alzheimers as well. It is always in the back of my mind, should I be looking at
- 5 genetic testing? Are there trials to be a part of?

Extract 5: Advice request – family history example 5

- 1 With a mother, grandmother, aunt and sister all with diagnosed dementia,
- 2 would I be wise to get tested. I am 70, exercise regularly and feel fairly sharp
- 3 but wonder if there is more I could do.

In these examples, posters reference relatives of two generations who were diagnosed with dementia (Extract 5), one of which draws on the idiom of ‘*running in the family*’ (Extract 3) to construct a genetic explanation of dementia diagnosis. Posters provided biographical detail about first-degree relatives who were diagnosed (15.4% of requests involving mention of family history). By including detail about relatives’ attributes and activities (age, occupation, participation in healthy lifestyle activities), posters worked to construct descriptions of family members’ diagnoses that highlighted the importance of genetic causes of dementia, as opposed to environmental- and lifestyle-contributing factors. For example, in Extract 4, the poster’s account works to construct her father who was diagnosed with early-onset

Alzheimer's disease as 'healthy' and 'responsible' as a result of his lifestyle practices (*'he did all the right things, active, healthy diet'*), and suggests the relevance of a genetic explanation of his diagnosis (*'both his parents died of Alzheimer's'*). In the corpus, constructions that emphasised the relative importance of family history or genetic factors in accounts of diagnosis contributed to the positioning of posters as 'at-risk' as a result of causes that may be outside individual control.

Advice requests in which posters asked about a specific future course of action (e.g., brain training, Extract 2; genetic testing; Extract 4) via the use of Yes/ No interrogatives positioned posters as aware of relevant health information about genetic risk, self-care practices, and the possibility of screening and prevention activity (i.e., checking that one is doing the 'right thing'). As in Extract 1, such framing of questions functioned to display posters' competence regarding management of individual dementia risk.

In summary, the extracts presented in this section illustrate how posters routinely referenced notions of genetic predisposition and family history in their requests for information and advice about dementia screening and risk-prevention activity. Such references functioned to warrant these requests by positioning posters as at-risk of developing dementia as a result of genetic risk factors. Reference to notions of family history or genetic factors can be argued to provide justification for posters' displayed health consciousness and signal some degree of competence in relation to managing dementia risk.

6.3.2 Reference to dementia symptoms

In this section, the focus is on requests for information and for advice that involved reference to common signs and symptoms of cognitive decline and dementia, particularly involving personal experience of memory loss (29.0% of requests). In contrast to descriptions of family history of dementia, posters who referenced first-hand experiences of memory loss can present their risk of developing the condition as immediate and, therefore, position themselves as needing to engage in screening, treatment, and relevant risk-management activity. In such problem descriptions and questions, posters constructed a self-monitoring, at-risk identity that involves self-awareness, recognition of dementia symptoms, and an ability to evaluate the relevance of engaging in practices of self-care and risk-prevention. In addition to positioning posters as at-risk of developing dementia, questions that referenced personal experience of symptoms often involved the use of modal expressions (*'should I do X?'*) that served to demonstrate posters' orientation to the normativity of participation in dementia screening and risk-prevention activity.

The extracts below are typical examples of how reference to personal experience of signs of cognitive decline and dementia routinely served to establish 'at-risk' and self-monitoring identities for posters. Such requests contributed to establishing the relevance and necessity of dementia prevention activity.

Extract 6: Advice request – symptoms example 1

1 Hello. Even if you are younger, say 30, and have symptoms like those

- 2 mentioned on the show (very forgetful, regularly have trouble finding the right
- 3 word or replace one word with another word) should you go for some sort of
- 4 check up? Is early onset alzhiemers a risk?

Extract 7: Advice request – symptoms example 2

- 1 Hi I'm 62 and forget things all the time particularly words when forming
- 2 sentences should I start doing something?

Extract 8: Advice request – symptoms example 3

- 1 I am 56 and sometimes can't find the right words to use I work in the bank
- 2 and don't have any problems with remembering things but it worries me
- 3 should I be tested my gp says no what do you say

Extract 9: Advice request – symptoms example 4

- 1 Hi, very informative programme. I am 70 and blank out sometimes regarding
- 2 names of simple things that I've known well for years. Should I be tested for
- 3 Alzheimer's. I also have a brother who has been diagnosed with early onset of
- 4 Alzheimer's and a sister with Multiple Sclerosis aged 59, who is very disabled
- 5 and has lost the detailed memories of her life. She resides in a nursing home
- 6 and I would like to know how I can help to bring more stimulation into her
- 7 life.

Descriptions of dementia signs and symptoms in the corpus typically involved detail about (a) posters' age, and (b) the frequency with which posters experienced symptoms, such as trouble remembering words and names (e.g., '*I'm 62 and forget things all the time particularly words when forming sentences*', Extract 7; '*I am 70 and blank out sometimes regarding names of simple things that I've known well for years*', Extract 8). Descriptions of symptoms often involved reports of significant change in cognitive abilities and typical activities. Such detail served to validate posters' self-positioning as at-risk for dementia. In these examples, posters display both competence in managing their affairs (i.e., demonstrating ability to self-monitor and recognise their symptoms and use of Yes/No questions), and lack of knowledge via the use of open-ended requests for advice or information.

These extracts also provide examples of how posters regularly oriented to the normativity of participation in dementia screening and prevention practices. In the corpus, this was routinely accomplished via use of modal auxiliary verbs (*should, can, could*) in requests for information or advice. Modal expressions can be used to construct the performance of certain actions as desirable, necessary, and obligatory (He, 1993; Palmer, 1986). Modal auxiliary verbs, for example, reflect speakers' *deontic* rights (relating to duty or obligation; what 'should be done'), and can be used to express the degree to which the performance of particular actions by morally responsible actors is permitted or necessary (Lyons, 1977). Use of modal expressions has been examined in relation to management of issues of blame and responsibility on online forums. Sneijder and te Molder (2005), for example, described how participants routinely used a combination of *if-then* script formulations and modal expressions to construct the prevention of health problems as a matter of individual

responsibility by presenting the development of problems as an expectable outcome of individual (in)activity (e.g., *'if you eat a varied diet, there shouldn't be any problems'*). We argue that posters' use of modal verbs and expressions in the corpus (e.g., *'should I start doing something?'* Extract 7; *'should I be tested for Alzheimer's'*, Extract 9) served to display a normative orientation to the desirability and necessity of preventing risk and addressing symptoms. By displaying this orientation, it can be argued that posters worked up the relevance and necessity of participation in screening and risk-prevention activity, and positioned themselves as responsible with regard to dementia risk-management.

To summarise, the examples presented in this section demonstrate how posters referenced personal experience of signs and symptoms of dementia in requests for information and advice to position themselves as at-risk and in need of guidance. The examples also showed how modal expressions were repeatedly used to construct engaging in dementia screening and risk-prevention activity as normative, and construct posters as responsible in relation to dementia risk-management.

6.4 Discussion

This study has presented an analysis of posts in a conversation about dementia that took place on Facebook Page monitored by researchers representing Alzheimer's Australia. Drawing on insights from discursive psychology, we have explored two common framings of requests for information or advice about risk factors for dementia, screening, and prevention activity: (1) reference to family history and genetic predisposition; and (2) reference to experience of dementia symptoms.

Analysis focused on how requests constructed ‘at-risk’, self-monitoring identities for posters and made relevant the normativity of participation in screening and preventative action.

In the first section, we focused on opening posts in which posters referenced notions of genetic predisposition, heredity, and family history. Posts that described or implied family history or genetic predisposition were used to warrant posters’ requests for information or advice about topics including dementia risk, screening and risk-prevention activity. In this sense, posters worked to position themselves as at-risk of developing the condition. It was argued that such problem descriptions functioned to display posters’ competence by demonstrating knowledge of relevant health information about risk factors of family history and genetic susceptibility and their ability to assess the relevance of individual genetic risk factors.

In the second section, we focused on opening posts in which users referenced personal experience of symptoms of cognitive decline and dementia (e.g., memory loss) to construct self-monitoring and at-risk identities with regard to brain health. Such accounts warranted posters’ requests for information or advice by presenting posters as perceptibly at-risk of dementia as a result of their first-hand experience of memory problems. Such problem descriptions demonstrated posters’ ability to recognise and self-monitor symptoms of dementia. Analysis also described how posters made relevant the necessity of participation in self-care and risk-prevention practices in their requests via use of modal expressions. In summary, posters’ requests for advice and information in the Facebook conversation served to construct self-monitoring, and ‘at-risk’ identities for posters in regard to brain health and

dementia risk-management. Further research into delivery of health advice on social networking sites like Facebook could provide insights into differences between features of face-to-face and online interaction around brain health, focusing on why advice might be accepted or resisted in these different environments. Such research could also examine different constructions of identity in relation to dementia on Facebook and the nature of responses to such contributions. Findings could provide insight into how different identity constructions relate to the likelihood of advice, information, or social support being offered and accepted by stakeholders.

The construction of a self-monitoring, agentic identity in relation to dementia risk and prevention on social media is relevant to the notion of ‘perpetual patients without symptoms’, whereby healthy individuals are positioned as at-risk of illness as a result of a range of risk factors, including lifestyle practices and genetic susceptibility (Finkler, 2000; Finkler, Skrzynia, & Evans, 2003). Media representations of dementia and its consequences, particularly in Western countries, have been argued to contribute to shaping public understanding of susceptibility to neurodegenerative disorders, including Alzheimer’s disease, and the possibility of early detection (via screening and genetic testing), treatment, and intervention (e.g., Kessler et al., 2012; Peel, 2014). Social media provide new spaces for the dissemination of tailored information about dementia risk factors, risk-prevention, and peer discussion about experiences of diagnosis, treatment, and intervention. Although these uses of social media may empower consumers, such platforms may also serve to promote an ethos of self-care and self-responsibility that positions people as individually responsible for monitoring and managing health risks to prevent future illness. This ethos may be regarded as problematic if it allows for individualising

responsibility and blame for the development of dementia, and the stigmatisation of people living with the condition.

A growing literature recognises the importance of SNSs like Facebook, Twitter, and YouTube as emerging sites of health communication and promotion (e.g., Abramson et al., 2014; Bender et al., 2011; Prestin & Chou, 2014; Zhang et al., 2013). In recent years, conversation analysts have examined interaction on OSGs for various health-related topics (Horne & Wiggins, 2009; Lamerichs & te Molder, 2003; Morrow, 2006; Sneijder & te Molder, 2005; Stommel & Koole, 2010; Vayreda & Antaki, 2009; Veen et al., 2010). However, considerably less attention has been given to interaction around health and illness on public profiles on Facebook. In this study, we have demonstrated that, like OSGs, Facebook Pages are used as sites for performing various activities including exchanging information, advice, and support. Future research might consider how organisations exploit social media platforms like Facebook to promote their agendas, including promoting involvement in certain health behaviours and lifestyle practices (cf. Hunt & Koteyko, 2015; Thurlow, 2013). This consideration represents a key point of difference between research into uses of Facebook and previous studies of interaction on health-based OSGs, which are generally fully managed by non-professionals, and whose interactional concerns are quite different from stakeholders representing health organisations. Findings of such research could help inform the context-driven development of health promotion strategies that involve the use of social media, and guide knowledge translation initiatives related to dementia prevention and management in online environments.

This study was limited to exploring the construction of issues of dementia risk and prevention activity on a Facebook Page. As a result, it is likely that this analysis is not representative of the range of social actors and interactional styles that might be present on Facebook Pages that focus on dementia-related topics. However, it was not our intent to provide a large-scale analysis of conversations about dementia on Facebook. By limiting the scope of the analysis to posts on a Facebook Page, we hope to have described how some patterns of requesting information and advice about dementia risk, screening, and prevention work to construct identities in relation to the issue of brain health. Furthermore, this study was limited to examination of *opening* posts, rather than entire message threads, which has been the focus of previous studies of CMC (e.g., Giles, 2013; Sneijder & te Molder, 2005; Stommel & Koole, 2010). Analysis of responses to questions posted in the Facebook conversation, especially advice messages, is a topic for future study. The results of this study can be compared to previous studies of communication on online support groups, particularly those examining the sharing of personal problems and the requesting of advice. This study provides additional insights into the interactional activities that routinely occur on Facebook Pages, and how users' contributions serve to construct and manage relevant health identities (cf. Koteyko & Hunt, 2016).

6.5 Conclusion

SNSs like Facebook have been argued to represent important channels for health communication and promotion. Such platforms might be used to promote the exchange of information and advice about dementia, which is emerging as one of the most prevalent health concerns of old age. This study has examined routine framings

of requests for information or advice about dementia screening, risk factors, and prevention activity on a Facebook Page. We demonstrated how such practices served to construct at-risk and self-monitoring identities in relation to dementia risk-management, and make relevant the necessity of participation in self-care and risk-management activity. Further work is needed to examine the interactional work that people accomplish in such environments. This study of interaction on Facebook extends recent analyses of representations of dementia in public forums, and provides some insight into contemporary sense-making around the issues of cognitive enhancement and dementia risk-management.

Chapter 7

Conclusions

7.1 Thesis overview

This thesis has examined representations of dementia risk and prevention in print and online media. The analysis of empirical data (newspaper articles, websites of dementia organisations, and online interaction on Facebook) presented in the analytical chapters of this thesis focused on the discursive resources and practices repeatedly used to construct the issues of dementia risk and self-responsibility for the prevention of age-related cognitive decline and dementia. It has been argued that contemporary representations of the topic of dementia risk-prevention may represent an extension of a broader Western neoliberal approach to health that emphasises self-control and self-responsibility for health and illness (cf. Crawford, 2006; Galvin, 2002; Lupton, 1994; Nettleton, 2013; Williams et al., 2011). This thesis further explored this argument by considering implications of dominant discursive practices surrounding issues of cognitive enhancement in older age and dementia risk-prevention for (a) individuals' experiences of, and responses to, cognitive ageing and dementia; and (b) health policy and practice.

In Chapter 1, I provided background regarding cognitive decline and dementia, including causes and risk factors, economic, social, and psychological impacts of the condition, and the possibility of risk-prevention through participation

in lifestyle practices aimed at addressing potentially modifiable or protective factors. Background was also provided in relation to neoliberal approaches to health and illness. Specifically, issues of self-responsibility for maintaining health and preventing illness through the application of self-control in various lifestyle choices were discussed. It was argued that such notions are relevant to the medicalisation of cognitive ageing (Katz & Peters, 2008), and the related positioning of individuals as ‘patients without symptoms’ (cf. Finkler, 2000). Lastly, health communication in news and digital media (websites and social media) was discussed, particularly in relation to how such platforms can be used for the dissemination of health information and the promotion of health behaviours. In Chapter 2, I outlined the theoretical and methodological approach that informed the analyses presented in the subsequent Chapters: a discursive psychological approach based on a social constructionist conceptualisation of language.

The analytical Chapters of the thesis focused on the discursive construction of the topics of cognitive enhancement, dementia risk, and prevention activity in a range of empirical data. The following sections summarise the findings of these analytical Chapters (Chapters 3-6), and discuss implications that can be drawn from the analysis.

7.2 Summary of studies

This thesis addressed several research aims relating to contemporary discourses surrounding dementia risk and prevention in three media contexts (newspaper articles, websites, and Facebook posts). The findings from the analyses, summarised below, were presented in four manuscripts.

7.2.1 Study One. ‘This revolution, real plasticity’: Constructions of promise and scepticism in news discourse on neuroplasticity and dementia risk-prevention.

Study One focused on media representations of the topics of neuroplasticity, cognitive enhancement, and dementia risk-prevention in Australian print media in the period 2009 to 2014. The data were a corpus of articles published in five high-circulation Australian newspapers: *The Age*, *The Australian*, *The West Australian*, *The Sydney Morning Herald*, and *The Daily Telegraph*. Mass media have been argued to have a powerful influence on shaping public debate around science and health-related topics (Conrad, 1999; Petersen, 2001; Seale, 2003). The aim of analysis in this study was to examine the construction of dominant representations of neuroplasticity, cognitive enhancement, and dementia risk-prevention in a sample of Australian newspaper articles, and consider how such representations worked to construct involvement in various lifestyle-related risk-prevention practices as necessary.

Analysis described how the concept of neuroplasticity was commonly represented as a scientific breakthrough, with promising health implications for the maintenance of cognitive functioning in older age and the prevention of dementia. Specifically, such accounts of brain plasticity and its possible applications were routinely built in terms of *contrast structures*. Such contrast structures involved the following format: ‘*We used to think X [e.g., the brain is fixed], now we think Y [e.g., the brain is plastic]*’. A recurring metaphor of ‘*breakthrough*’ was used within this contrast design to represent the concept of plasticity as contrasting with, or as having significantly changed, scientific consensus about brain functioning in older age (i.e.,

the brain is ‘fixed’ in adulthood). It was argued that this pattern of representation that emphasised the promise associated with neuroplasticity research was also implicative of advice about participation in various cognitive enhancement and dementia risk-prevention activities (regular physical activity, cognitive stimulation, a healthy diet, etc.). Analysis also highlighted instances in which scepticism was expressed about the possibility or benefit of improving cognitive functioning in older age and preventing the onset of dementia via engaging in particular lifestyle practices. Constructions of scepticism in the sampled articles commonly involved accounts that represented claims about the possibility of brain enhancement and dementia prevention through lifestyle modification as unreliable or confusing.

It was suggested that promissory representations of neuroplasticity and its related technologies might contribute to construction of the normativity of engaging in particular brain enhancement practices, such as brain training. Such promissory representations of neuroplasticity can be compared to studies of public communication about biotechnology research (e.g., genetic therapies, cloning, personalised medicine), in which metaphors of ‘*breakthrough*’ and ‘*discovery*’ have been repeatedly used to characterise scientific developments as having a wide range of applications (Brown, 2000). Promissory representations of science have been argued to be problematic for healthcare consumers (e.g., motivating participation in scientifically unsupported therapies or interventions) and for the reputation of science-related industries if such representations are unrealistic or unaccompanied by appropriate qualification (e.g., acknowledgement of limited applications and benefits; Petersen, 2009). It was argued that representations of neuroplasticity worked to build the normativity of participation in individualised cognitive enhancement and dementia

risk-prevention behaviours, positioning readers as individually responsible for improving and maintaining brain health. In contrast, sceptical constructions presented in the newsprint media might serve to limit older adults' compliance with health advice delivered by primary care providers by presenting claims about brain enhancement and risk-prevention activity as contradictory or confusing. Key findings of this study were pursued in Studies Two, Three, and Four.

7.2.2 Study Two. Brain health advice in the news: Managing notions of individual responsibility in media discourse on cognitive decline and dementia.

Study Two extended the results of the first study by examining the construction of advice relating to the prevention of age-related cognitive decline and dementia in a sample of Australian newspaper articles. 'Advice' was a pervasive theme identified in Study One; this theme was commonly associated with promissory descriptions of the concept of neuroplasticity and its applications in a range of settings, including education, rehabilitation, and ageing. The aim of Study Two was to develop a more detailed account of the routine construction of advice about participation in dementia prevention activity in a sample of Australian newspapers. The articles included in the analysis came from the same corpus of newspaper articles that was used in the analysis presented in Study One.

Analysis focused on two pervasive advice-giving constructions in the sampled newspaper articles: (1) conditional (*if X, then Y*) script formulations using modal expressions; and (2) directives. Analysis described how a combination of *if-then* conditional formulations and modal expressions (e.g., ‘*to keep the brain in good shape, you have to stimulate it*’) drew on the logic of the scripted structure to suggest a causal relationship between individual lifestyle choices and people’s risk of developing age-related cognitive decline and dementia. It was argued that such formulations worked to ascribe personal responsibility for the onset of cognitive decline and dementia to individuals and their practices (as opposed to considering broader economic, social, or systemic factors). Script formulations, which presented the relationship between individual prevention activity and the development of dementia as a rational inference, were argued to protect such attributions from being discounted as biased or flawed (cf. Sneijder & te Molder, 2005). Directives were also common in the corpus. Such directives assumed entitlement over readers’ future conduct and little orientation to the contingencies that might interfere with compliance (e.g., ability, willingness, past experiences), positioning readers as individually responsible for maintaining cognitive functioning in older age and preventing the onset of dementia.

Media representations were discussed as a vehicle for encouraging participation in dementia risk-prevention activity through the communication of health information and advice. Advice about engaging in cognitive enhancement and dementia risk-prevention activity routinely constructed the onset of dementia as a predictable consequence of individual practices, thus positioning readers as personally

responsible for the development of the condition. Prevention of dementia was constructed both as a possibility and as a moral obligation. These findings were discussed with reference to a neoliberal discourse of individual responsibility for health and illness. It was argued that the findings contribute to an understanding of how the media is used as to construct norms, values, and expectations around brain health.

7.2.3 Study Three. ‘Your Brain Matters’: Issues of risk and responsibility in online dementia prevention information.

Study Three examined the construction of norms around brain health on the websites of eight non-profit dementia organisations from English-speaking countries: Alzheimer’s Australia; Alzheimer’s Society of Canada; Alzheimer’s Society of Ireland; Alzheimer’s New Zealand; Alzheimer’s Scotland; Alzheimer’s Society (UK); Alzheimer’s Research (UK); and Alzheimer’s Association (USA). Study Three aimed to explore how websites that provide information and support for people living with dementia, their carers, and health professionals, work to generate inferences about the individual risk of developing dementia and the normativity of engaging in dementia preventative behaviours. It was argued that such representations promoted a moral identity in relation to brain health in which an ethic of self-discipline and risk-management is key.

The analysis concentrated on the discursive practices and linguistic resources that were repeatedly used in the sampled websites to (a) position audience members

as at-risk for developing dementia; and (b) position audience members as individually responsible for dementia risk-management. Specifically, I described how a *two-part concession structure* was used to acknowledge counter-arguments about non-modifiable risk factors associated with the development of dementia (age, heredity, etc.), while positioning audiences as responsible for managing modifiable risk factors. I also discussed how forms of *quantification* (i.e., lifetime risk statistics and specific risk-factor statistics) were employed to maximise the construction of risk, and position audience members as at-risk of cognitive decline and dementia. The positioning of audience members as ‘at-risk’ arguably served to justify claims about the need for vigilance about dementia risk, as well as recommendations about participation in dementia risk-prevention behaviours. I described how health and lifestyle advice – particularly *imperative formulations* – were also used to position audience members as active agents in risk-prevention, and as individually responsible for preventing the onset of cognitive decline and dementia.

Online health information that emphasises individual responsibility for risk-prevention was discussed in terms of an individualising turn in Western cultural understandings of dementia (Peel, 2014; Pitts-Taylor, 2010; Williams et al., 2011). Such representations may reflect organisational objectives relating to health campaigning, education, and promotion, specifically, encouraging people to engage in certain interventions, programs, and lifestyle practices to reduce the burden associated with the condition. I suggested that this discourse of self-responsibility has implications for the development of health policies that emphasise individual responsibility for brain health as part of the risk-management of population health. I also argued that emphasising personal culpability for the development of dementia

may have ramifications for the treatment of those living with dementia. Specifically, the positioning of individuals as responsible for dementia in the face of known, modifiable risks may contribute to the victim-blaming of those diagnosed with the condition, resulting in increased stigmatisation.

7.2.3 Study Four. Dementia on Facebook: Requesting information and advice about dementia risk-prevention on social media

In Study Four, a thematic approach informed by discursive psychology was used to examine posts on a Facebook Page about dementia. Data comprised opening posts (comments) in a conversation that took place on the official Facebook Page of an Australian current affairs TV program *7.30*, monitored by representatives of Alzheimer's Australia, Australia's largest dementia organisation. Specifically, the routine framing of posters' requests for advice and information was described, for example, about dementia risk factors, screening, and prevention activity.

The analysis demonstrated how posters repeatedly referenced notions of family history, genetic predisposition, and personal experience of signs and symptoms of dementia, such as memory problems, in their requests for information and advice (e.g., regarding participation in dementia screening or risk-reduction activity). It was argued that routine reference to such notions served to: (a) warrant posters requests for information or advice; and (b) construct 'at-risk', self-monitoring, and responsible identities for posters. In the corpus, posters displayed some degree of competence in relation to dementia risk-management by demonstrating an ability to recognise risk factors and self-monitor their symptoms. These results bear similarity to previous

conversation analytic studies of interaction in online support groups, in which participants were seen to attend to issues of identity and accountability by demonstrating competence in regard to managing their affairs (e.g., Lamerichs & te Molder, 2003). Demonstrating relevant knowledge and adherence to group norms via various activities, including help or information seeking, has been argued to contribute to posters' gaining membership in online communities (Burke et al., 2010; Smithson et al., 2011). Such studies highlight the importance of examination of the interactional work that may be achieved via requests for information and advice on online platforms.

SNSs like Facebook represent important platforms for health communication, including the exchange of information and advice among peers and health professionals. The way that such platforms are used to prescribe particular actions and construct identities in relation to health and illness was considered. This study adds to current understanding about representations of dementia on social media by demonstrating how Facebook is used to construct and manage identities around the issue of brain health through the performance of various activities like sharing illness experiences, describing symptoms, and requesting advice or information.

7.3 Implications of the findings

In this section, implications of the analyses presented in this thesis are considered. First, implications for understandings of dementia prevention and risk-management are discussed. I then consider implications for health policy and practice. Implications for qualitative and critical health research are also explored.

7.3.1 Implications for understandings of dementia

Implications of the emphasis on risk-management, prevention, and self-responsibility

The analysis presented in this thesis has implications for taken-for-granted understandings of dementia at individual and societal levels. First, I will consider implications of two related themes that were identified across each of the datasets: (1) the repeated construction of people as at-risk of developing dementia, and (2) the positioning of people as individually responsible for the modification of lifestyle-related risk factors in order to prevent the onset of cognitive decline and dementia. Such constructions contributed to working up the normativity of participation in cognitive enhancement and dementia risk-prevention activities.

The analyses demonstrated a recurrent positioning of people as at-risk for developing dementia. People may be at-risk as a result of a variety of non-modifiable

(including advanced age, family history) and potentially modifiable risk factors (e.g., vascular diseases, smoking, high blood pressure, physical activity, cognitive activity). This at-risk positioning, and associated notions of self-monitoring and -surveillance, is relevant to debate around the ‘medicalisation’ of ageing (Bond, 1992; Clarke et al., 2003; Joyce & Loe, 2010; Katz & Peters, 2008; Liebing & Cohen, 2006; Mykytyn, 2008; Vincent, 2006; 2009). The notion of medicalisation (sometimes pejoratively termed ‘disease mongering’ by some critics; e.g., Payer, 1992) has been discussed in relation to a variety of health, social, and psychological issues, including alcoholism, homosexuality, erectile dysfunction, halitosis, gambling, antisocial behaviour, and learning disabilities. It has been argued that medicalisation can have a powerful influence on people’s identities by shaping understandings of health and bodies (Conrad, 2007; Finkler et al. 2003). Through a process of medicalisation, certain routine aspects of the human condition (e.g., unhappiness, menopause, age-related bone thinning) may be characterised as deviating from norms about desirable physiological and psychological functioning. Such understandings may result in the production of deviant, problematic, and stigmatised diagnostic labels and subject positions for individuals who do not fit medical norms. Experience of ‘normal’ age-related memory changes and cognitive decline could come to be defined and treated by healthcare professionals, consumers, and corporations as medical conditions that can be subject to prevention, diagnosis, or treatment (Clarke et al., 2003)¹⁸. The construction of new diagnostic categories around age-related memory impairment and

¹⁸ Mild cognitive impairment (MCI), for example, represents an ‘pre-dementia’ category used to distinguish individuals whose decline is greater than normally expected for their age, but less severe than those with typical dementia trajectories. MCI has become a focal point for pharmaceutical and anti-ageing industries (see Katz & Peters, 2008; Williams et al., 2011).

cognitive decline (e.g., treating memory impairment as a prodromal stage of dementia) may contribute to increased marketing of anti-ageing technologies, including pharmacological treatments, cognitive training products, brain stimulation, and ‘nutraceuticals’, such as fish oil supplements and Gingko biloba (Holman & de Villers-Sidani, 2014; Katz & Peters, 2008; Pickersgill & Hogle, 2015; Williams et al., 2011).

Medicalisation of cognitive ageing is arguably relevant to the positioning of healthy people as perpetual ‘patients without symptoms’. This positioning involves the presentation of individuals as ‘at-risk’ due to a range of modifiable and non-modifiable risk factors and, therefore, as needing to engage in self-monitoring and risk-management behaviours (Finkler, 2000; Finkler, Skrzyni, & Evans, 2003). It has been argued that such notions may relate to more general shifts in conceptualisations of health and health-care in Western liberal-democratic societies in the past decades (Bunton, 1997; Petersen, 1997; Petersen & Lupton, 1996). Rather than being restricted to specific settings and times in people’s lives (e.g., when a person is ill and/or admitted to hospital), the pursuit of health and wellness can be understood as central to all aspects of life, with the possibility of risk being regarded as a constant concern. The positioning of people as at-risk of dementia may allow for increased surveillance of people’s lives (i.e., monitoring signs and symptoms of dementia in middle-aged and older people). As discussed in Study Four, digital technologies (e.g., interactive e-health tools, wearable activity-tracking devices, brain training games, and health apps) provide new opportunities for self-monitoring and public health surveillance of targeted ‘at-risk’ groups. Such developments raise important

questions regarding the role of preventative medicine and self-monitoring technologies in the construction of identities and the negotiation of notions of self-surveillance of health risks. For example, future research could explore how the promotion of self-surveillance technologies might contribute to the reproduction of an ethic of self-responsibility for health that draws attention away from broader social, environmental, and economic determinants of ill health and disease.

As stated in Chapter 1, it is not the intention of this thesis to criticise attempts to reduce the burden associated with cognitive decline and dementia through the promotion of risk-prevention activity. Increased knowledge of dementia risk factors among health professionals and older people can be regarded as a positive development in public health efforts around primary dementia prevention. Public education around dementia may empower individuals by improving understanding of age-related cognitive changes and increasing awareness of supports and services offered by various organisations. Social constructionist approaches to health and illness, however, are concerned with critical examination of the discourses that underpin particular representations of health topics. In this thesis, then, possible social and political implications of constructions of individuals as at-risk of cognitive decline and dementia are considered. Specifically, I hope to have contributed to theorising about the implications of the medicalisation of cognitive ageing. Such medicalisation can contribute to shifting boundaries between standards of normality and abnormality, thus allowing for increased emphasis on self-monitoring, early detection, pharmacological treatments (e.g., cholinesterase inhibitors), and lifestyle interventions that are claimed to prevent or delay the onset of the condition (Katz &

Peters, 2008; Williams et al., 2011). As discussed in Study One, although such possibilities are typically associated with a discourse of promise (cf. Mulkay, 1993), medicalisation can serve to produce restrictive subject positions for individuals, positioning them as at-risk as a result of a variety of potentially harmful lifestyle practices (e.g., sedentary lifestyle, cognitive inactivity, high-fat diet). The construction of various lifestyle practices as associated with increased risk of dementia may produce ‘medicalised’ identities in which an ethic of self-responsibility is key.

A focus on individual forms of risk-prevention is related to a Western neoliberal health discourse, which emphasises individual responsibility for improving and maintaining health through practices of self-care and risk-avoidance (e.g., Crawford, 2006; Galvin, 2002; Lupton, 1994; Nettleton, 2013; Williams et al., 2011). Such neoliberal discourse was discussed with reference to information and advice about engagement in individual forms of dementia risk-prevention that were examined in the four studies. Again, notions of individual responsibility for health maintenance and risk-management are not problematic *per se*. However, information and advice about dementia risk-prevention that focus on notions of self-responsibility and self-control can be regarded as problematic for the following reasons: (1) lack of scientific consensus regarding the efficacy of lifestyle changes in terms of reduced dementia risk; and (2) lack of cure and effective treatments for dementia; (3) disregard of broader factors that determine the health of individuals and communities; and (4) disregard of disadvantages faced by diverse needs groups (cf. Galvin, 2002).

It is possible that representations of the causes of dementia as preventable through individual practices, rather than a result of genetic, social, environmental, and economic determinants of health (income, socioeconomic status, education, social support network, physical/ built environment; WHO, 2017) may contribute to individualising responsibility for managing risk and preventing the onset of the condition. Such understandings may be used as a tool for the allocation of personal responsibility and blame for the development of dementia, and result in increased stigmatisation (prejudicial views and/or negative stereotypes) of people living with the condition (see Alzheimer's Australia, 2012). People may be positioned as culpable for their inability to prevent dementia in the face of known and modifiable risks, thus allowing for the possibility of victim-blaming of those living with dementia by health professionals, governments, and the general community (Peel, 2014; Pitts-Taylor, 2010). As Smith (2006) argued, the moral connotations associated with psychiatric labels can contribute both to 'enacted stigma' (i.e., discrimination or rejection of those diagnosed with a condition) and 'felt stigma' (i.e., distress associated with the experience, or possibility of, social alienation or loss of identity). Thus, although an ethic of individual responsibility may empower people to improve cognitive health and reduce health risks, it is possible that such notions may contribute to a range of negative outcomes for people who are experiencing symptoms of dementia, those diagnosed with the condition, as well as their families and carers.

Reflections on the possibility of resisting dementia prevention advice

The accounts of dementia in this thesis were repeatedly seen to construct

participation in cognitive enhancement and risk-prevention activities as necessary. However, it has been argued that individuals' acceptance of claims regarding cognitive enhancement and dementia prevention may be connected to personal experiences of health and illness and interaction with health systems (e.g., recovery after trauma, onset of age-related cognitive decline) rather than the persuasiveness of claims about neuroscience in public forums. Pickersgill et al. (2014), for example, showed that people often draw on personal or professional experience of 'change' (i.e., improvement, recovery, or deterioration of cognitive functioning) in order to justify argumentative positions regarding the possibility of cognitive enhancement and dementia prevention. The results of Studies One and Four suggest that health professionals and laypeople frequently challenge claims about the concept of neuroplasticity and the possibility of preventing dementia, and resist recommendations about participation in cognitive enhancement and risk-prevention activity. The studies identified criticism and expressions of scepticism regarding claims about the possibility of preventing the onset of dementia and the benefit of participation in brain training. The notion of 'resistance' to health promotional messages and authorities (e.g., governments, health organisations) impinging on individual freedom has been studied in relation to a range of issues including breast cancer screening (Crabb, 2006), frailty (Grenier & Hanley, 2007), and unsafe sexual practices (Crossley, 2002b). Such 'resistance' may be related to the construction of different discourses around cognitive decline and dementia from which identities may be built. Indeed, individuals may engage in risky behaviours "*because of their association with risk*"; by doing so, individuals can resist or rebel against social norms (Crossley, 2002b, p. 49, emphasis in original). Consideration of different groups' (e.g., cognitively healthy people, people who are diagnosed with dementia, and

carers) understandings and experiences of dementia and the concept of dementia prevention may provide insights into how people construct and manage their identity in relation to the condition. For example, people may present themselves as responsible for their health by complying with medical advice, or account for non-compliance in ways that attend to their identity construction as responsible and informed. Such insights may contribute to understanding why some campaigns around brain health are more effective than others among certain groups in terms of health behaviour change.

Implications for use of cognitive training products

On a practical level, information about the possibility of cognitive enhancement and dementia risk-prevention may result in increased marketisation of cognitive training products and programs developed by companies such as Lumosity (Lumos Labs), Brain HQ (Posit Neuroscience), and Cogmed (Pearson Clinical Assessment Group; Holman & de Villers-Sidani, 2014). Although participation in cognitive training has been shown to improve performance on trained tasks, companies have been criticised for exaggerated claims that specific training generalises to other areas of academic or professional performance, or that training can prevent or treat cognitive decline (Simons et al., 2016). In 2016, Lumos Labs agreed to pay US \$2 million to settle charges of deceptive advertising brought by the Federal Trade Commission. The company was prohibited from making disputed assertions that its products can delay or protect against the onset of age-related cognitive decline, mild cognitive impairment, and dementia including Alzheimer's

disease. Implications of the increased marketisation of cognitive enhancement technologies, including cognitive training products and programs, is a topic for future research.

Reflections on qualitative and critical approaches to health research

The analysis presented in this thesis has highlighted the contribution of qualitative approaches to health research, specifically that of discursive psychology. By emphasising the constructive and action-oriented nature of language, discursive psychological approaches add to knowledge about health-related topics by highlighting the social actions that are accomplished in everyday text and talk, and the details of their production. In addition, discursive psychology can be useful in examining how issues of accountability and identity are constructed and managed, and how such issues may be bound up with particular social practices. For example, approaches informed by discursive psychology can be used to examine how people attribute responsibility for particular health outcomes (e.g., weight gain and obesity; Wiggins, 2009) to individuals and their practices, or resist such attributions by locating blame for health problems outside their control (e.g., by referencing genetic predisposition; e.g., Crossley, 2002a). Such analysis can add to knowledge about health understandings and experiences and inform the translation of such knowledge into health care practice by highlighting how wider cultural discourses surrounding health and illness are collectively produced and tied up with social practices.

This thesis contributes to the development of a critical perspective on the health issues of age-related cognitive decline and dementia. Specifically, this thesis contributes to developing theoretical understandings of the notion of accountability for health by examining how media representations serve to position audiences as responsible for dementia prevention and management. Rather than being oppositional to mainstream health research and practice, critical perspectives are concerned with examining the values, assumptions, and implications associated with health and psychological research and practice, as well as dominant understandings of health and illness (e.g., Lyons & Chamberlain, 2006; Murray, 2004; Prilleltensky & Prilleltensky, 2003; Willig & Stainton-Rogers, 2007). Critical perspectives draw on various concepts and theories (e.g., social constructionism, Marxism, feminism, post-modernism) and share an interest in the use of various qualitative and participatory methods of analysis. Such perspectives can make a valuable contribution to critical, ethical, and reflexive health research by examining political, social, and cultural aspects of health and illness (e.g., racism, poverty, sexism and other social inequalities and power differences). Such perspectives can also provide a framework for examining the construction of taken-for-granted notions relevant to health behaviour, critiquing potentially disempowering health discourses and practices, and advocating for the reduction of social inequalities.

In the context of cognitive decline and dementia, critical health perspectives can draw attention to a variety of social, political, and ethical issues that may be associated with the condition. Future critical work, for example, could further consider implications of individualising and potentially stigmatising health promotion

practices for people living with dementia, their families, and carers. In the following section, possible implications of the constructions of dementia examined in this thesis for health policy, support, and services are discussed.

7.3.2 Practical implications of the findings: Reflections on health policy, support, and services

The analyses in this thesis have highlighted several issues that are relevant to, and have practical implications for, health policy, support, and services. Media representations that emphasise the possibility of dementia prevention may be relevant to the implementation of health policies and programs that involve reducing contributing risk factors and enhancing protective factors in the population. As discussed in Study Three, such health policies may place an increased emphasis on the notion of ‘active ageing’, and prioritise practices of self-care as part of the risk-management of population health (e.g., WHO, 2002, as cited in Williams et al., 2011). Broer and Pickersgill (2015), for example, discussed implications of neuroscience concepts for UK health and social policy. The study described how policy documents concerning older adults frequently involved themes of ‘vulnerability’ and ‘self-governance’. Such documents were shown to encourage people of various ages to exercise self-discipline in relation to various lifestyle practices (e.g., smoking, alcohol consumption, diet), and promote awareness of own and others’ risk of for a variety of brain-related conditions, including dementia. One of the documents included in the study, the Foresight Mental Capital and Well-being Project (2008) report, published in the UK by The Government Office for Science, stated that all people have a

responsibility to adopt a healthy lifestyle in mid-adulthood to promote well-being, and protect against cognitive decline. Comparably, an important focus of Australia's National Framework for Action on Dementia (2015-2019) is improving community awareness dementia, inducing risk factors, and encouraging people to take advantage of opportunities to reduce risk and delay the onset of the condition.

Policy documents intended to promote awareness of the possibility of dementia risk-reduction can be considered a positive step in addressing the public health issue. However, care should be taken when developing policy to ensure that the choices, dignity, quality of life, and safety (physical, emotional, and psychological) of people with cognitive impairment, including dementia, are valued and respected. This can be achieved via policy that (a) involves the use of strengths-based language around experiences of cognitive decline and dementia; (b) develops links between organisations that support the wellbeing and social inclusion of people living with dementia; and (c) supports the participation of stakeholder groups (well older adults, people living with dementia, carers) in initiatives related to the translation of research into dementia prevention, management, and care into practice. Policy should also be sensitive to specific supports and services that may be required by diverse needs groups, including people from culturally and linguistically diverse (CALD) backgrounds, people with a disability, people living in rural and remote areas, people who are financially and socially disadvantaged, and people who identify as lesbian, gay, bisexual, transgender, or intersex (LGBTI). Future work should consider implications of policies that prioritise practices of cognitive enhancement and dementia risk-prevention for diverse needs groups, particularly documents that

emphasise notions of self-care and self-responsibility for risk-management.

The current findings have implications for support services around dementia, including general advisory services, carer support groups, and counseling services for those living with dementia. Such services assist individuals and carers by providing support, practical assistance, and information about the causes of, and risk factors for, cognitive decline and dementia. The way in which counselors and carers account for the causes of dementia (e.g., by attributing the condition to modifiable lifestyle factors or non-modifiable factors such as advancing age and family history) may be a factor that determines whether people living with dementia are positioned as culpable for the condition and its impacts on families and carers (cf. Lawton, Ahmad, Peel, & Hallowell, 2007; Pill & Scott, 1982). Furthermore, representations of dementia among carers, including uncertainty regarding the causes, trajectory, and controllability of types of dementia, may have implications for initial help and support seeking, coping and illness management (e.g., adherence to treatment programs and medication), and the wellbeing of people living with the condition (Quinn, Jones, & Clare, 2016). Aside from verifying the accuracy of health information, health professionals and support services should ensure that information about dementia contributes to the enhancement of coping, wellbeing, resilience, and illness management, and does not serve to position people living with dementia as personally culpable. Support services might consider providing tailored information about the progression and controllability of the condition in order to help carers make sense of symptoms experienced by the person for whom they care. Researchers could consider working closely with stakeholders (health and social service providers, older adults,

and carers) to develop appropriate and contextualised information about dementia prevention, care, and management. Such information could be delivered via online and social media in the form of, for example, electronic newsletters, links to websites, or webinars, in order to maximise accessibility and visibility.

7.4 Limitations of the research

Limitations of analytic approach

As discussed in Chapter 2, discursive psychology concentrates on the construction, organisation, and function of discourse in its local context, and has been described as a “radically non-cognitive” approach to the study of psychological concepts and processes (Potter & Wetherell, 1987, p. 178). As a result, it has been argued that the focus of discursive psychology – that is, on observable, linguistic features of behaviour – is too narrow: it does not attempt to address the issue of ‘subjectivity’, including topics of intentionality, motivation, and memory (Parker, 2012; but see te Molder & Potter, 2005 for a discussion of debates about discourse and cognition). Moreover, despite discursive psychology’s focus on the action-orientation of language, the approach does not attempt to account for *why* individuals or groups attend to particular discursive objectives, such as the management of stake and interest. The studies included in this thesis might be complemented by interviews or focus groups that explore key stakeholders’ (healthcare professionals, older adults, people living with dementia, carers) perspectives on dementia and the concepts of risk-prevention via screening and/or lifestyle modification. Such research, for

example, could focus on stakeholder perceptions of dementia, which can inform the development of strategies to facilitate the translation of knowledge, and guide the practices of healthcare professionals in the primary care sector.

Limitations of the data

This thesis has examined recurring discursive practices and resources used to construct advice and information regarding dementia risk-prevention in different media environments. As discussed in Chapters 4 and 5, however, analysis did not pursue how such representations might influence the health behaviours and subjective experiences of people living with dementia and healthy individuals who may be positioned as at-risk of developing the condition (i.e., the ‘worried well’). It is likely that media representations that emphasise individuals’ risk of dementia and encourage participation in prevention activity may serve to exacerbate fears among cognitively healthy individuals. Kessler et al. (2012), for example, argued that information about dementia risk factors and the consequences of diagnosis disseminated by news media may be an antecedent to increased worry about dementia in Western populations. The studies included in this thesis highlight the need for further research into how stakeholders (e.g., health professionals, cognitively healthy older people, people living with dementia, carers) respond to, and construct meanings in relation to, such representation and positioning. Further understanding of such issues may be of benefit to healthcare professionals who provide support to people living with dementia, and people who are worried about their memory (e.g., those experiencing ‘subjective memory impairment’: concerns about memory without objective evidence

for memory impairment). Such research could also provide insights into the way in which people take up or resist the subject positions made available by contemporary discourses surrounding brain health and dementia risk-prevention.

7.5 Future directions

The studies presented in this thesis have raised pertinent topics for future research. In particular, further research is needed to examine how norms, values, and expectations around cognitive health and ageing are constructed and negotiated in different face-to-face healthcare settings. For example, focus groups involving cognitively healthy older adults and people living with dementia might explore the way in which participants' accounts serve to construct identities in relation to brain health that involves compliance with medical and health recommendations, and engaging in dementia prevention activity. Such research might offer insights into how people draw on alternative understandings of ageing and embodiment in order to resist health promotional messages around brain enhancement and dementia risk-reduction practices while maintaining a responsible and informed identity. In addition, studies of naturally occurring interaction between members of peer support groups around cognitive health and ageing could examine problem presentation and responses, the nature of advice given, and what is done with advice.

As mentioned in the discussion sections of Studies One, Two, and Three, future research might explore advice giving about brain health and dementia risk-

prevention activity in different settings, such as medical encounters, health counseling services, and helpline interactions (including telephone calls and ‘web chats’). Studies of helpline interaction might examine how information and advice about dementia risk-reduction is requested and delivered by callers and counselors, and how the provision of emotional support is made relevant in this context. Web chat systems allow users to communicate with trained advisors in real time using web browsers, and have been adopted by a number of health organisations including Alzheimer’s Australia (The National Dementia Helpline chat service). Such services may differ in terms of the support provided, the expertise of counselors, and particular institutional mandates around advice giving. Analysis of quasi-synchronous online interaction between counselors and individuals on web chats may contribute to understandings of how routine interactional issues that occur on such mediums are managed (cf. Meredith & Stokoe, 2013). Future research could also focus on how interaction in such environments attends to the management of accountability and identity.

Exploration of cultural and linguistic diversity

The analyses included in this thesis concentrated on exploration of representations of dementia risk-prevention in Australia (Study One, Two, and Four), and other Western countries, including the USA, Canada, and the UK (Study Three). This approach allowed for detailed examination of the construction of contemporary discourses surrounding brain health and dementia risk-management in Western liberal-democratic societies. The current analysis can be contrasted with research that explores similarities and differences in representations of brain health and dementia

prevention across social, political, cultural, and economic divisions. Further cross-cultural research will contribute to understandings of whether neoliberal health discourse is present in media representations in other cultural contexts, and whether such discourse is present alongside alternative representations.

Although numerous studies have focused on experiences of, and meanings associated with, dementia in different ethnic and cultural groups (e.g., Boughtwood et al., 2011; Dilworth-Anderson & Gibson, 2002; Hinton, Franz, Yeo, & Levkoff, 2005), less attention has been given to differences in constructions of cognitive enhancement and dementia risk-prevention across CALD groups. Understanding of dementia (including causes, signs, symptoms, and diagnosis) has been shown to differ significantly between ethnic and cultural groups, and between generations within particular communities, who may express different values and expectations around cognitive ageing, treatment, and family caring roles. In Australia, certain CALD groups are more likely to endorse notions regarding the preventability of dementia through lifestyle choices than others. For example, the Chinese community in Australia has been argued to place considerable emphasis on dementia prevention through participation in a range of lifestyle practices including diet, physical exercise, and cognitive stimulation (e.g., playing Mahjong, a game that requires planning, memory, and calculation; Alzheimer's Australia VIC, 2008). Improved awareness of differences in understanding of the topic of dementia risk-prevention is of importance given increasing ethnic diversity in Australia, and the growing number of CALD older Australians (Alzheimer's Australia VIC, 2008). By examining differences in understandings of dementia-related issues (e.g., causes of the condition, whether

different groups regard dementia as a normal part of ageing) health organisations and health professionals can tailor appropriate resources and counseling services to promote the well-being of people who belong to various ethnic groups.

Examination of representations through visual modes and on video-sharing sites

The focus of the studies in this thesis was on the textual construction of dementia risk-prevention in newspapers, websites, and social media. Exploration of the construction of these topics through visual modes represents an interesting avenue for future study. A growing number of studies have used multimodal critical discourse analysis (MCDA) to examine the construction of particular experiences and meanings around health and illness via the use of language and visual signs, including images (e.g., diagrams, illustrations, and photographs), colour, and layout (Gibson et al., 2015a; 2015b). Such studies have highlighted how visual materials are used in particular online contexts to communicate health information, and how such resources might work to reproduce discourses of health and illness. Visual materials (e.g., photographs of older people and diagrams of the brain and nerve cells) that are used on the websites of dementia organisations and in health promotion material may contribute to lay knowledge and sense-making around dementia and risk-prevention practices. In addition, future research could explore how older adults, their families, and carers use video-sharing websites like YouTube to share first-hand experiences of dementia symptoms, diagnosis, or treatment. Such research could explore how such videos serve to construct identities for older adults in relation to cognitive decline and dementia. Rather than positioning individuals as responsible for risk-management,

videos involving descriptions of dementia diagnosis, for example, may work to normalise experiences of dementia by constructing certain thoughts, feelings, and behaviours as common or relatable. In addition, rather than attributing responsibility for health outcomes to individuals, such narratives may work to promote understanding and empathy.

7.6 Concluding remarks

We owe it to those who have aging brains not to reduce their humanity to one organ.

Whitehouse (2008)

Aside from careful review of evidence for claims about modifiable or protective factors and the benefit of dementia prevention activity, further research is necessary to examine the social, ethical, and political implications of such claims. It has been claimed that increased life expectancy, developments within neuroscience and technology, and the possibility of medical intervention might contribute to changing cultural understandings of ‘normal’ cognitive ageing (e.g., Jones & Higgs, 2010; Williams et al., 2011). Changing conceptualisations of this issue may have far-reaching consequences for common-sense understandings of healthy cognitive ageing, subjectivity, and notions of personal responsibility for brain health and illness.

With growing elderly populations and increasing rates of dementia-related morbidity worldwide, participation in brain health and dementia risk-prevention activity may be a major benefit to individuals, societies, and governments. Despite ongoing debate about the benefit of certain lifestyle practices and the exact nature of the brain’s plasticity in later life, advice about dementia risk-prevention is ubiquitous in Western media. In this thesis, the construction of the topics of brain health and dementia risk-prevention in different media contexts was examined. Specifically, I considered how information and advice around these issues might serve to produce attributions of responsibility and blame, and construct ‘at-risk’, self-monitoring, and responsible identities for audiences, including cognitively healthy people and people

living with dementia. The findings of this research make a contribution to the growing body of research into how contemporary discourses surrounding dementia are routinely constructed in public forums. These findings can be used to inform the development and evaluation of public health campaigns, health service provision, and health policy. Such applications might improve outcomes for people living with dementia, as well as people who are at-risk of developing the condition, by improving understanding of the subject positions available to individuals and encouraging public participation in discussions around norms, values, and expectations associated with cognitive health and ageing.

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Appendix 1: Transcript of 7.30 broadcast, ‘Can exercising your brain keep Alzheimer’s away?’ (November 19, 2014)

1 **LEIGH SALES:** Last night we brought you a very affecting interview with
2 former federal minister Barry Cohen, who spoke about his dementia diagnosis
3 and despair at finding himself in a nursing home. Mr Cohen pointed out many
4 of us can expect to suffer from dementia, but scientists say there are things we
5 can do to at least delay the onset of the disease. Apparently, training your
6 brain may be just as important as other lifestyle changes and Alzheimer's
7 Australia is urging Australians to take action. Tracey Bowen reports.

8 **TRACEY BOWDEN:** This is a window into the confusing and sometimes
9 frightening world of dementia.

10 **FEMALE VOICEOVER:** Mum, are you in the bathroom yet? We have to get
11 going.

12 **FEMALE VOICEOVER II:** I'm going in now. Oh, what's this? You've
13 changed the house around again. There's bugs all over the place.

14 **FEMALE VOICEOVER:** There's no bugs. We've talked about this.

15 **TRACEY BOWDEN:** This multi-sensory simulation developed by
16 Alzheimer's Australia in Victoria uses games technology to create a virtual
17 experience of life with dementia.

18 **DR TANYA PETROVICH:** There are visual perception issues. For example,
19 if there's a light-coloured floor with a dark-coloured mat, for a person with
20 dementia, the dark-coloured mat may appear to be a hole. Where you walk
21 into a bathroom, obviously, a lot of glare. So the white tiles, the white walls.
22 The glare issue for a person with dementia means that they cannot see the

23 difference between the wall and the floor, for example. In the experience you
24 might see that the toilet and the basin and the linen basket are all white and
25 about the same height. So, a person might end up peeing in the sink.

26 **HENRY BRODATY:** Usually the first symptom is loss of short-term
27 memory. So forgetting conversations, forgetting appointments, losing things.
28 Now before everyone panics, we all forget people's names, we all misplace our
29 glasses or keys somewhere. That doesn't mean we're getting Alzheimer's
30 disease. But if it's progressive, people are now also forgetting the words for
31 things, getting tongue tied, "Whatever that - oh, the pen! You know, the thing
32 you write with." So, if people can't follow the plot of a movie, if they lose the
33 ability to grasp concepts.

34 **TRACEY BOWDEN:** Professor Henry Brodaty has been studying
35 Alzheimer's disease and how it slowly destroys the brain for more than 30
36 years.

37 **HENRY BRODATY:** This is an MRI scan of the brain and the one on left
38 here shows some shrinkage. You look at the one on the right here, the brain
39 has shrunk enormously and these cavities or ventricles inside the brain are
40 huge. There's no short-term memory centre left. So this person would have
41 quite severe Alzheimer's disease.

42 **MAUREEN PURCELL:** I feel as though it's a thief in the night that comes
43 and takes a little bit more of John away.

44 **TRACEY BOWDEN:** John Purcell was diagnosed with Alzheimer's in 2009.
45 His wife Maureen is still looking after him at home. He's dependent on her for
46 everything.

47 **MAUREEN PURCELL:** John had this lovely vibrant personality, was happy,

48 is always jovial and he's quite different now.

49 **TRACEY BOWDEN:** Does he know always who you are?

50 **MAUREEN PURCELL:** No, not always. Sometimes he says to me, "I've got
51 to go home to my wife." And I just say, "Is she nice?" And he says, "She's
52 lovely." And I said, "Just as well." (Laughs)

53 **HENRY BRODATY:** The evidence is accumulating that Alzheimer's disease
54 is a very slow buildup of an abnormal protein and pathology in the brain over
55 25, 30 years. And so, if we could delay the buildup of that protein or enhance
56 the clearance of this toxic protein from the brain, then it will slow the rate of
57 onset of the disease.

58 **TRACEY BOWDEN:** While science is still looking for a drug to stop or
59 reverse the disease, there's growing evidence that the onset of dementia can be
60 delayed by tackling the key risk factors other than old age.

61 **HENRY BRODATY:** People who have diabetes, high blood pressure, are
62 overweight, are at increased risk. People who have low education or lack of
63 cognitive stimulation in their work or in their everyday activities are at higher
64 risk. So these are all things we can do something about.

65 **MICHAEL VALENZUELA:** You see all these coloured balls, you're going
66 to see a pattern. You'll see them light up with a sound. Try and remember that
67 pattern, because then it'll ask you straightaway to try and repeat it. OK?

68 **ALETTA LEIBSON:** OK.

69 **MICHAEL VALENZUELA:** So we'll have a go on this first one. Very good.

70 **TRACEY BOWDEN:** This is a brain training session, a kind of gymnastics
71 for the mind. Games target different subparts of the brain, testing memory,
72 speed and accuracy.

73 **MICHAEL VALENZUELA:** We would go through quite a few different
74 exercises and cross-train the brain, for want of a better word, so that we get a
75 whole-brain workout

76 **TRACEY BOWDEN:** Retirees Peter Black and Aletta Leibson are here today
77 after signing up for a brain training course at the Brain and Mind Research
78 Institute at the University of Sydney.

79 **PETER BLACK:** As you get older, when you forget something, you tend to
80 think that, "Well, is this the start of something? Is this Alzheimer's on the
81 way?" I don't think I'm suffering from any real problem at this point in time; I
82 hope I never do. But, yeah, I thought the idea of coming to these sessions
83 would help me to improve and I believe it improves the connectivity in your
84 brain, which would be to our benefit.

85 **TRACEY BOWDEN:** Have you noticed a change, do you think?

86 **ALETTA LEIBSON:** I think I noticed it would be nice to know that other
87 people have noticed. (Laughs)

88 **TRACEY BOWDEN:** Associate Professor Michael Valenzuela and his team
89 have just completed a systematic review of studies on the impact of brain
90 training on older people. The results are promising.

91 **MICHAEL VALENZUELA:** Doing this type of training in a group fashion,
92 in a supervised way, will make you sharper, a little bit more mentally alert
93 and able to I guess handle complex information.

94 **TRACEY BOWDEN:** Scans show changes in activity around the
95 hippocampus, or memory forming part of the brain, after the training.

96 **MICHAEL VALENZUELA:** The front of the brain is connected to the
97 memory centre much better and that is linked to better memory function. ...

98 ... From our own clinical trials that we've run in my group, we know that some
99 of the effects can be maintained for about 12 months after stopping training.

100 **TRACEY BOWDEN:** As Baby Boomers rush to stave off mental decline,
101 online brain training packages and phone apps have become a multimillion-
102 dollar business. But there is not yet evidence of a direct link between brain
103 training and a delay in the onset of dementia and Michael Valenzuela says
104 there's no point in doing this on your own.

105 **MICHAEL VALENZUELA:** I think the marketing has got a bit ahead of the
106 evidence base now. I think what we now know is that doing this type of
107 training home alone, at least in older people, is not effective.

108 **TRACEY BOWDEN:** There are a whole range of things which can stimulate
109 the brain, like dancing, learning a foreign language or playing bridge.

110 **KAYE LAURENDET:** Well they have to remember the steps, they have to
111 remember the order of the steps and which part of the music those steps go to.
112 So, that's a bit of a challenge with some dancers.

113 **DANCE CLASS ATTENDEE:** I certainly get memory, co-ordination and the
114 enjoyment of the company.

115 **MICHAEL VALENZUELA:** Dancing does involve a lot of memory, a lot of
116 learning, particularly if you're doing a partner dance. You have to anticipate
117 people's responses and so forth and kind of problem solve on the fly, and
118 obviously it's very physical and social, so it kind of ticks those three key
119 boxes.

120 **TRACEY BOWDEN:** Specialists say delaying the onset of dementia will
121 save Australia billions of dollars.

122 **HENRY BRODATY:** If we can just push it back two or five years, it'll have a

123 major consequence. A two-year delay would decrease the numbers of people
124 by 20 per cent. A five-year delay by half, 50 per cent. So just pushing it back
125 five years would be a major benefit for people, be a major benefit for our
126 economy. And we sometimes forget the second patient, the family carer.

127 **TRACEY BOWDEN:** And the Professor Brodaty has a message for
128 everyone.

129 **HENRY BRODATY:** People often ask me, "When should I start doing these
130 things? Or is it too late to do these things?" The message is: it's never too late
131 and it's never too early.

132 **LEIGH SALES:** And for any questions you might have about brain training
133 and Alzheimer's, you can see the conversation on the 7.30 Facebook page.