

**‘You need to shut up’: Research silencing and what it
reveals about academic freedom.**

A thesis submitted for the degree of

Doctor of Philosophy

of

The Australian National University

by

Jacqueline Elise Hoepner

Centre for the Public Awareness of Science

College of Physical and Mathematical Sciences

July 2017

Declaration

This thesis is original work. None of the work has been previously submitted for the purpose of obtaining a degree or diploma in any university or other tertiary education institution. To the best of my knowledge, this thesis does not contain material previously published by another person, except where due reference is made in the text.

Jacqueline E Hoepner

July 2017

Acknowledgements

I would firstly like to thank my amazing supervisors. Simone—you were exactly what I needed, exactly when I needed it. You say I'm the superstar, but I'm only as good as my brilliant, post-apocalypse, ring-in enabled me to be. Will—you've been a sounding board, comic relief, silver lining pointer-outerer, collaborator, and friend. Rod—you're all about quality not quantity and I appreciate that.

To all the battered and bruised researchers that gave their valuable time to speak with me, I couldn't be more grateful. I hope I've done your stories justice.

I'm immensely grateful to have received an Australian Postgraduate Award from the Commonwealth Government. I have also enjoyed enormous support from the ANU throughout my candidature. To the wonderful people I've met at CPAS: the knowledge, experience, cake, wine, and practical advice you've all imparted have been invaluable. Lindy, you saved me on more than one occasion and I can't thank you enough. My work besties Jarrod and Matt rate a special mention for answering my inane questions and for being the little voices in my head that kept me on track. Inez, for being the best surrogate big sister. Penny, for being my CPAS aunty. Cath, for being the 'Rudy'. Friday afternoons will never be quite the same.

To Inger and Cathy at TBC—you Whispered my Thesis and I couldn't be more grateful.

I need to thank my wonderful, infinitely supportive partner Kiran for giving me the inspiration I needed in the best/worst year of my life. You are my favourite.

Last but not least, my family and friends for the support they've provided throughout this long and winding journey. Mum and Dad, you've been my eternal cheerleaders, even from afar. Annie, I know you didn't *really* move for me but I appreciate you being here all the same. I can't wait for you to see me in my Man For All Seasons hat. Special mention to Jemillah and Annie D for always being there.

Abstract

What do attacks on ‘unpalatable’ or ‘controversial’ research reveal about academic freedom? In this thesis I examine cases in which academic freedom has been curtailed, and show that they reveal a great deal about this dearly held, yet poorly defined and understood, concept. Instances of research silencing based on moral objection—rather than demonstrable misconduct—suggest that academic freedom does *not* allow for the unfettered pursuit of academically rigorous research agendas. Academic freedom is a tightly rule bound concept in and through which the rules of the academic game are promulgated and policed. ‘Freedom’ is not the opposite to rules when it comes to academic work. When breaches to the rules that I argue constitute the core of academic freedom occur, they produce visceral reactions of disgust. It was these I placed under close examination in order to get at the difference between what we believe academic freedom to be, and what it actually is.

Qualitative research interviews were conducted with 18 academics and scientists whose research has elicited controversy, condemnation or constraint beyond the expectations of ‘legitimate’ scholarly critique. A mixed-methods analysis of the data was used to determine shared themes, discourses and characteristics within the dataset.

While academic institutions uphold their commitment to unfettered enquiry, ‘academic freedom’ is highly contingent and subject to the values of players in the field. This research challenges both the ideal and practice of academic freedom and reveals the invisible bounds that hinder free enquiry.

Contents

Declaration.....	ii
Abstract.....	iv
Table of contents.....	v
Figures and tables.....	vii
1.Introduction.....	1
1.1 Overview of thesis.....	2
1.2 The research problem.....	8
Chapter 2: Methodology and methods.....	9
2.1 Why reflexivity?	9
2.2 Reflexive relations between actors.....	10
2.3 Reflexivity and my experience of research silencing.....	13
2.4 Reflexivity of field conditions.....	16
2.5 Defining the problem.....	18
2.6 Interviewee summaries.....	23
2.7 Qualitative interviews and analysis.....	29
Chapter 3: Patterns of silencing behaviour.....	32
3.1 Summary of groupings and their comprised behaviours.....	38
3.2 Private silencing.....	38
3.3 Structural limitations.....	42
3.4 Polarisation effects.....	50
3.5 Beyond peer review.....	52
3.6 Outside pressure.....	57
3.7 Using old and new media.....	61
3.8 Allegations and discipline.....	64
3.9 Distinction between responses from inside and outside academia.....	71
Chapter 4: Explanations for research silencing.....	73
4.1 Participants explain research silencing.....	74
4.2 Participant-experts interpret research silencing.....	84
4.3 Participants' explanations support overarching theory.....	90
Chapter 5: What <i>is</i> academic freedom?.....	92
5.1 Defining academic freedom.....	92
5.2 University guidelines around academic freedom.....	93

5.3 'Legitimate' limits to academic freedom.....	99
5.4 With rights come responsibilities.....	101
5.5 What does research silencing reveal about academic freedom?.....	106
Chapter 6: What drives research silencing?.....	107
6.1 'Suppression of dissent'	109
6.2 Identity, science and justice.....	114
6.3 Further explanation for research silencing.....	118
6.4 Building overarching theory.....	119
Chapter 7: Discussion and overarching theory.....	122
7.1 Moral disgust.....	123
7.2 Disgust reveals boundaries.....	129
7.3 Boundary transgression will be penalised.....	132
7.4 Overarching thesis.....	137
Conclusion.....	139
Overview of argument.....	140
Contextualising findings.....	142
Limitations and scope.....	145
Implications.....	146
Final thoughts.....	148
References.....	150
Appendices.....	160
Appendix A: Original letter to the editor of <i>The Australian</i>	160
Appendix B: Recruitment email template.....	161
Appendix C: Participant information sheet.....	162
Interviews:	
Appendix D: Example of indicative questions.....	165

Figures and tables

Table 1: Tabulating silencing behaviours.....	35
--	-----------

Figure 1: Silencing behaviours and their occurrence inside and outside academia.....	37
---	-----------

In early 2016, news outlets around the world reported that a Japanese man was producing lifelike, child-sized sex dolls to help pedophiles satisfy their impulses in a safe way. Shin Takagi, who himself identifies as a pedophile, believes the dolls reduce child sex offences and should be accepted and used more widely as a treatment method. He says he often receives letters from customers espousing the benefits of the dolls in controlling their urges (Morin, 2016).

In an article for *The Atlantic*, clinical psychologist Dr. Michael Seto from the University of Toronto was quoted as saying:

“[For] some pedophiles, access to artificial child pornography or to child sex dolls could be a safer outlet for their sexual urges, reducing the likelihood that they would seek out child pornography or sex with real children. For others, having these substitutes might only aggravate their sense of frustration.”

“We don’t know, because the research hasn’t been done,” he concluded. “But, it would be a very important study to conduct.”

(Seto in Morin, 2016)

Pause for a moment and consider how Dr. Seto’s statement made you feel. Is it important to give pedophiles lifelike child sex dolls to see if it reduces their chances of offending? Or is this unacceptable, the risk to society too great? What does your gut tell you?

Introduction

This was not the thesis I had intended to write. When I first began my candidature at the Australian National University, I was investigating ‘wind turbine syndrome’ and what factors influence these health concerns. In largely English-speaking, western countries, a phenomenon has gripped several small wind farm towns. Some individuals who live near turbines claim they make them sick. Symptoms range from headaches, dizziness and nausea, through to more serious symptoms, like cancers and cardiovascular disease. Before I began, the literature was small, but suggested there was no credible evidence to link turbines with ill health. And yet the fears and complaints

persisted. I wanted to know if there were shared themes or conditions among those who claimed to suffer health problems. What drove these concerns, if indeed there was no physical link as the literature suggested? The debate has been polarised and divisive, with stark ‘sides’ well established. I hoped to occupy a more objective space and ‘just find out what’s going on.’ But before I could conduct a single interview, anti-wind groups and a major daily Australian newspaper interfered with my project. While it had been difficult to recruit interview participants in such a polarised field as it was, their involvement ultimately made it impossible. Both the newspaper and anti-wind groups told their readers—the very people I was trying to recruit—that I was unqualified, untrustworthy and a paid spokesperson for the wind industry. They said my agenda was to exploit and manipulate vulnerable people. So that was that.

Once I recovered from the shock and disappointment, I realised this attack on my study presented an even more interesting line of enquiry than the one I’d originally intended to pursue. Why was my research considered ‘unacceptable’ and worthy of these silencing responses? This experience provoked analytical fascination with this phenomenon and was central to the intellectual development of the project. As I explore in the methodology chapter, my position as a ‘beleaguered academic’ was fundamental in how I approached the problem of research silencing and its implications for academic freedom.

Overview of thesis

This thesis is concerned with attacks on research and what they reveal about the dearly held yet poorly understood notion of ‘academic freedom’. I present data from interviews with academics whose work has been attacked on what appear to be moral grounds, rather than for demonstrable cases of misconduct. Throughout this thesis, I pose the question: what does research silencing reveal about limits to academic freedom? I present an overarching theory that goes beyond the existing literature: although academic institutions promote and defend an ideal of academic freedom—that unfettered pursuit of knowledge is vital to the function of universities—research silencing reveals clear boundaries around what distinguishes ‘acceptable’ and ‘unacceptable’ enquiry in particular fields. It is not that research silencing is a breach of academic freedom, it fundamentally challenges its existence. I conclude that these

boundaries are only see-able as ‘the rules’ once they have been transgressed, and those actors threatened by the transgression act to penalise rule breakers.

This thesis presents 42 *silencing behaviours* present in attacks on research and interrogates what these behaviours mean for our conception of academic freedom. It is important to distinguish between attacks based on moral objections and patent cases of wrongdoing, as the former are not accounted for in the ‘legitimate’ limits to academic freedom we see from an institutional perspective. That is, universities stress that with rights come responsibilities—that research must take place according to scholarly conventions—ethics clearance, peer review and so on. Research silencing reveals more insidious limits to academic freedom, as these *silencing behaviours* make ‘the rules’ that curtail ‘freedom’ visible only once they’ve been broken. In this way, they challenge what we believe about academic freedom and its limits.

It is important to note that my thesis structure is unconventional. My results chapters are presented before a review of the literature. While unusual perhaps, this decision was necessary for a couple of reasons. First, this structure more accurately reflects the process of my research. I had encountered, both intellectually and personally, a problem that had not been adequately accounted for in a way that spoke to my experience. As such, the most important first step was to speak with other academics, to hear their stories and try to make sense of their experiences. I needed to form a picture of research silencing: its properties, its causes and how it could be understood. Were there patterns or trends? Why did they believe their work had been silenced? I did not know which areas of the literature would be pertinent until after I had data. Once the data had been analysed and interpreted, it was clearer how my approach would contribute to the broader literature concerning attacks on research and what they reveal about academic freedom. Second, this structure makes the most narrative sense. I attempted a conventional structure, but the flow was clunky and I found myself needing to foreshadow and retrace my steps constantly. So please note, my methodology is followed by two results chapters, in which I describe my participants’ experiences; and why they believe they were targeted. I then offer my interpretation of these data in light of relevant literature around academic freedom and attacks on academics. This allows

me to ultimately provide my overarching theory for research silencing, drawing on the data and pertinent areas of the literature.

In Chapter 2: Methodology and methods, I establish and explore my own position within this problem using a reflexivity framework drawn from anthropology. I acknowledge the various ways my own experience with research silencing shaped my approach to this question and my interpretation of the data. First, my traumatic experience at the hands of anti-wind groups enabled me to build rapport with other traumatised academics, as I presented myself, and was perceived as, a sympathetic ally. Second, my experience of this problem lent me insights that would not have been possible had I been a detached or 'objective' researcher. Third, reflexivity allows me to step outside the existing parameters of the field and recognise how impossibly fraught and polarised the wind turbine syndrome area was, in a way that would not have been possible when I was still a participant within the field's limits. It is essential to persistently reflect on how my position has helped and hindered the project, and dictated conditions for research. I also outline my approach to recruiting participants and my analysis of their interview data.

The first results chapter presents *patterns of silencing behaviours*. In this chapter, I analyse 42 *silencing behaviours* from the dataset. I explore these behaviours, how overt they were, and whether individuals from within the scientific community or outside instigated the attacks. I define each of the behaviours and how they were carried out. I draw on quotes from my research interviews to provide concrete examples of the behavior and the impacts they had on my participants. This chapter demonstrates that what may look like unrelated, messy stories from a few academics reveal distinct patterns described in ways that represent a broader problem for academic freedom.

The second results chapter presents *explanations for research silencing*. How have participants explained or made meaning of these attacks on their work and their integrity? This chapter is divided into two sections. The first explores the motivations for attacks upon participants who were unprepared or shocked by the backlash against their work. These researchers were generally from physical science backgrounds and were largely unaware of the potential social or political ramifications of their work.

These explanations are necessarily rooted in personal experience and as such their ability to give a comprehensive explanation of the broader problem of research silencing is difficult to ascertain. However, these individuals were forced to confront these often-vitriolic behaviours and as such were personally motivated to make sense of them. These participants believe the attacks on their work were primarily because their work was seen as ‘unacceptable’ or ‘dangerous’ to the ‘status quo’. The second section provides insights from participants who both experienced research silencing personally and who have expertise in related social science fields. These participants provide a more abstract and nuanced interpretation of research silencing, polarisation and related themes. These perspectives paint a broader picture of research silencing that suggests the primary drivers are intellectual dishonesty, visceral responses to ‘bad’ ideas and tribalism within research communities. These explanations reinforce my overarching theory that research silencing is driven by a visceral, moral disgust response to ideas that transgress boundaries. Players threatened by these crossings police the field and penalise rule breakers.

The first literature review chapter asks *what is academic freedom?* This chapter questions whether there is a gap between the ideal of academic freedom and how it is practiced. I dissect university policies on intellectual freedom and argue that written policies can very rarely deliver practical guarantees in increasingly hierarchical and bureaucratised tertiary institutions. I examine the ‘legitimate’ limits to academic freedom—conventions and constraints that dictate what academics are ‘allowed’ to research. These include ethical committees, peer review and government-determined priorities for funding research projects. This chapter argues there is a tension between what we *think* academic freedom means and the unspoken limits that constrain it. These limits are only revealed once they have been transgressed, where we see a clear demarcation between ‘acceptable’ and ‘unacceptable’ lines of enquiry.

The second literature review section asks *how can we understand attacks on research?* This chapter presents the various ways previous scholars have discussed research silencing and its implications for academic freedom. This review includes the works of Brian Martin (1983, 2014, 2015, 2016), Alice Dreger (2015) and Linda Gottfredson (2010), among others. These areas of the literature provide pertinent insights into

attacks on research. Martin's work on intellectual suppression (1989) provides theoretical support to my argument that those threatened by particular lines of enquiry will employ any means necessary to shut down offending research and the individuals working in that space. Dreger (2015) argues that some research questions provoke emotional, personal responses that override a commitment to scientific truth and academic freedom. Gottfredson (2010) argues that academic freedom is very rarely questioned or defended by academics and institutions, so breaches against one's academic freedom occur with very little resistance. Gottfredson's work is reflected in my argument that written, institutional notions of academic freedom are inadequate when challenged by enquiry that provokes a visceral objection from players in a particular field, who feel compelled to silence those who cross boundaries.

The discussion and overarching theory chapter presents my thesis on research silencing and what it reveals about academic freedom. In this chapter I draw on Chapman and Anderson's (2013) cognitive psychology research around moral disgust, arguing that people respond to ideas they find morally reprehensible in similar ways to physical disgust. This leads into an exploration of Mary Douglas (1966) and Michael Smithson's (1989) work on disgust and its role in revealing boundaries and taboos. I argue that moral-based objections to research reveal a boundary has been transgressed. These silencing behaviours aimed at shutting down 'unpalatable' lines of enquiry expose a clear demarcation between 'good' and 'bad' research. This tells us that research fields are not as open as we like to believe. I conclude this theory by drawing on Bourdieu's field theory (1986) to argue that those threatened by boundary crossing will police borders in research fields and penalise anyone not playing by 'the rules'.

The conclusion chapter draws together the overarching theory presented in my literature review and discussion chapters, and the findings from the two results chapters. I argue that research silencing fundamentally undermines what many people believe about academic freedom. In other words: we like to imagine academic institutions mean what they say in their academic freedom policies, that scholars' ability to pursue the lines of enquiry they deem important without interference or penalty is central to the university's role within society. My data exposes flaws in this institutional conception of academic freedom. The instances of research silencing within my dataset

reveal that some lines of enquiry may be deemed ‘unacceptable’ or ‘dangerous’. These responses tell us that a moral line has been crossed, and that those threatened by this boundary transgression will work to punish the rule-breaker and underscore the margins to discourage further breaches: ‘It is not worth it for you to pursue this’. My participants’ accounts—that they did not know what they had done to provoke such a response; that the attacks on their work felt disproportionate; that they believed they were being punished for disrupting the status quo—clearly demonstrate that my overarching theory holds weight. They believed they were doing ‘all the right things’ and yet endured attacks on their work and their integrity. I also acknowledge several limitations of this study. My data is drawn from a small sample and as such it is difficult to account for the full severity and scope of research silencing. My sample was drawn from just four countries, so the ability to generalise my findings beyond these geographical limits is limited. However, the findings are broadly applicable in the sense they reveal patterns and themes across disciplines and levels of seniority within academia. It is possible there is not a large population from which to draw a sample, and if there is, it’s not necessarily clear where that population resides if it lay outside my recruitment area. I conclude by contextualising this thesis and its implications for our understanding of academic freedom; for the broader literature and for players in the academic field: universities, research communities and individual scholars. This thesis provides an important contribution to our understanding of the role of research and expertise. How free are we to pursue the lines of enquiry we deem important? Does academic freedom, as we know it, exist at all?

The research problem

The problem I address in this thesis is: what does research silencing reveal about limits to academic freedom?

As such, I have four subsidiary research questions that allow me to explore this problem.

1. Is there a gap between what academic freedom *is* and what many *think* it is?
2. What does research silencing look like and how does it play out?
3. How can we understand research silencing and why it happens?

4. What conclusion can we draw from attacks on academics and their research about limits to academic freedom and the ways we think and talk about it?

The aim of this study is to explore the many incarnations of research silencing to understand why it happens and what it reveals about academic freedom.

Chapter 2: Methodology and methods

In this chapter, I outline my research methodology and its theoretical underpinning. As I briefly explored in the introduction, my own experience of polarised and contested research shaped my conception of research silencing and what it means for academic freedom. My interpretation of seemingly disproportionate responses to my participants' research has undoubtedly been influenced by my own experience. With this in mind, it is necessary to employ a reflexive methodology, common in participant-observer, ethnographic and anthropological studies. 'Reflexivity is the process of reflection, which takes itself as the object; in the most basic sense, it refers to reflecting on oneself as the object of provocative, unrelenting thought and contemplation' (Nazaruk, 2011, p73). Reflexivity requires a consistent, active awareness of, and reflection on my own position relative to the research problem. It allows me to recognise why my initial research project within the wind turbine syndrome space was always going to be difficult, if not impossible. It also allows me to acknowledge the various ways my position both orients me and the enquiry I'm following, while also making it possible for me to gather a rich diversity of data. Only by gaining participants' trust, as 'one of them' was I able to elicit candid accounts of their experiences with research silencing. While this began as an informal impression, it became clear during interviews that our shared experiences allowed some participants to open up in ways they wouldn't have otherwise. From these accounts I was able to draw an overarching theory: lines of enquiry that cross boundaries elicit a moral disgust response. It is only once this response is triggered that hidden borders in a field are revealed. Those threatened by boundary transgression will act to enforce 'the rules' through silencing and suppression.

Why reflexivity?

Reflexivity or partisan observation is a method drawn primarily from anthropology. It posits that researchers must be persistently aware of and reflect on their own position—socially, institutionally and epistemologically—and the role this positionedness plays in their research (Engels-Schwarzpaul, A; Peters, 2013).

From the point of view of the author, narrator, or anthropologist-writer, reflexivity refers to what is otherwise known as the author's or discipline's self-

consciousness. The word reflexive comes from the Latin reflexus, meaning bent back, which in turn comes from reflectere—to reflect. Reflexivity is a process... which has imbued post-structural anthropological discourse with a focus on the narrator's proverbial self: self-examination, self-strategies, self-discovery, self-intuition, self-critique, self-determination, selfhood.

(Nazaruk, 2011, p74).

Reflexivity is important at every stage of the project, from framing research questions, to data collection and analysis. 'Adopting a "reflexive approach" means considering what is happening during the research process in which you are implicated: during the choice of subject, during the fieldwork and finally during the analysis' (Guillermet, 2008). Because my research direction has been shaped very much by my own experiences of the research field, it would be impossible, and even counter-productive, to attempt impartiality. I am not impartial. As such reflexivity was central to the ways I approached this problem in three overlapping, yet distinct ways.

Reflexive relations between actors

Many of my participants have been attacked, positioned and curtailed in a number of ways they found distressing. If I was claiming to be a 'neutral' researcher, it is unlikely my participants would feel comfortable relaying their oft-traumatic experiences. If I were unable to share my experiences with them and build a rapport, it would be difficult for them to trust me and share their experiences in an open and honest way. My ability to *embody empathy* means I was perceived as someone trustworthy—sympathetic, compassionate and unlikely to perpetuate their trauma, allowing them to open up to me. This manifested itself in both tangible and intangible ways. In initial emails to participants, I mentioned my experience in the polarised wind farm space and how that had led me to the problem of contested research and attacks on academics. When I sensed participants were reluctant to elaborate on a particular experience during an interview, I gently divulged that I had been through a similar experience, and that I understood. This was not meant to coerce them into speaking further, but merely to reassure them it was safe to do so if they felt comfortable, that there was no shame in what had happened to them. In less material ways, I presented myself as someone who wanted to understand why this had happened and hopefully provide practical recommendations. Several participants said they hoped I would publish my findings to help others, as they 'could have used something like this' when they experienced

research silencing. It was clear from interviews that this experience with research silencing was deeply traumatising for some participants. My role as a ‘fellow traumatised researcher’ allowed me to build a rapport with my participants in a way that was impossible in the wind farm space—I was not one of them. I perhaps would never have been seen as trustworthy in this highly fraught space. Reflexivity allows me to see the way my position can both help and hinder my ability to gather data, depending on how I am perceived, or *coded* by players in a field.

Reflexivity allows me to see how my position both shapes how others see me and empathise with their experience. This is a kind of embodied empathy. In the same way my position as an academic coded me as untrustworthy in the wind farm and health field, my experience allowed me to inhabit a position of understanding and empathy with other beleaguered academics.

Individuals are seen as actors playing a game, negotiating, attributing, and defending their social status, their social “identity”. How can the anthropologist be different from these actors? How can he or she be unbiased, without interests, without negotiating, without sympathy or antipathy? How can people accept a stranger without considering his characteristics: nationality, gender, age, economic power...when it is the normal way of meeting and relating to people in everyday life?

(Guillermet, 2008)

Knowing how traumatising my experience in the wind farm research field had been, I knew it might be necessary for me to share my experiences with some academic participants in order to build a rapport. I understood *viscerally* how upsetting it is to have your work and integrity called into question, and how difficult it is to know who to trust once this has happened. Indeed, during several interviews, I could audibly or visually perceive the way they opened up after they heard my story. Many of my participants had been attacked and traumatised by the experience. That they could see I was ‘one of them’—and therefore unlikely to perpetuate the trauma, reputational damage and slights against their character— allowed them to open up and trust me. If I had not been able to build this rapport, it is unlikely my data would be anywhere near as valuable or rich as it is. Below are examples from the data to demonstrate the importance of building this rapport. When I mentioned the trepidation with which some

participants responded to my initial request, one participant, Alan Barclay, had this to say.

Well we've all been, I suspect trapped... I was asked to appear on Channel 7's *Sunday Night* program and of course promised it would be, you know an open discussion. But I was basically strapped in a chair with a headlight in my eyes for nearly two hours. And treated to a barrage of questions.... And believe me—it was a form of torture. There were cameras in both directions, one behind me and one in front of me, under a hot, bright light, so any movement I did or anything I said was picked up and if I got up and left I knew that would have been shown. So it was a really, really unpleasant experience. I'm sure others have been put in similar situations so, you know it's not something to be taken lightly. These people are nasty... They just want to get you to say what they want you to say.

This statement from Barclay is telling of the embodied experience of 'research trauma' to which I was seen as or coded appropriately sensitive and receptive. His experience has taught him to be wary of anyone requesting to discuss his research and the backlash it drew. That he acknowledged how dangerous it is to take any requests for an interview illustrates why it was so vital for my pursuit of this research to be perceived as trustworthy. His colleague and another participant, Jennie Brand-Miller, was extremely reluctant to speak to me. She said she'd have to think about it carefully. Even after she'd cautiously agreed, she sent me a newspaper article by Christopher Snowden that defended her and Barclay, wanting to ensure I was familiar with her side of the story before we spoke (Snowdon, 2014). In the opening ten or fifteen minutes of the interview, her answers were brief and matter-of-fact. It was clear she didn't feel comfortable giving more detailed, open responses. I told her that I understood how hard it was; that I had experienced something similar. The change in her voice and depth of responses was unmistakable. She could trust me. She could let her guard down. The data elicited from her interview was among the richest and most critical I collected. She became a key informant. Her ability to articulate the lasting effects of the backlash against her and Barclay was pivotal. What she went through—the sustained harassment, the calls from journalists that still haven't let up, the several-years long research misconduct inquiry that revealed nothing more than a few semantic errors—haunts her to this day. She says it has forever altered the way she thinks about her career and her worth. She had this to say:

I also think that it's really a sad way to end your career. Because that's where I am at the moment, I'm transitioning to retirement. And without [what happened], you know, I think, I would have finished my career with a lovely sense of achievement. But because of [it], you know, there's a feeling, that a few people, at least, might think the worst of me... So I still walk around thinking, 'Oh perhaps that person doesn't want to talk to me because they've heard about this inquiry into research misconduct.'

Acknowledging how I am embodied and positioned in ways that might code me as either trustworthy or suspicious is central to why I have employed a reflexive methodology. It allows me to not only recognise why I was able to build trust with academics that have been attacked and silenced, but why polarisation in the wind farm field dictated how I was perceived by other players. Debbi Long, a participant from a medical anthropology and hospital ethnography background, explained the relationship between trust, embodiment and reflexivity this way:

There's always going to be topics that people won't talk to you about. Not every field is open to every researcher. And some of them are really logical, you know—like I'm a medical anthropologist, I work in public health frameworks, and it's really important to know what gay men do in cruising places. You know, it's really important from a public health perspective and a sexually transmitted disease perspective, to know what behaviours go on in public toilets that are cruising grounds. Now as a middle aged, white woman, I'm not going to get access to that. That's just—I can know where the cruising grounds are, but if I rock up there, no one's going to pull their cock out, you know. Whereas I've got a PhD student at the moment who's part of that demographic and so he can go in and get the most amazing data. He would really struggle to get people talking openly at a nursing mother's meeting, whereas I could rock in there and get really open data. So part of that is just always part of the fact that we are embodied positioned human beings doing research. We're not robots, we're not automatons, we're not all interchangeable. That we are, in all sorts of embodied ways, we're going to be positioned in our research. That's going to happen in all sorts of unembodied ways as well. And some of those we can control. And some of those we have no control over. So no matter how well intentioned you might have been wanting to go talk to people who were protesting the wind farms, if they perceived you as somebody who would be hostile to them, even if you weren't, but if you coded in some way, as somebody who would be hostile—and just the fact that you're from a university might have, for them, coded you as somebody who was going to be hostile to them. And sometimes you can break through that, but sometimes you can't.

Reflexivity and my experience of research silencing

My experience of being attacked and constrained within a very polarised field has afforded me insight and motivation to understand research silencing that would not

have been possible without the experience. It allowed me to identify the fields that were particularly prone to these kinds of attacks, such as those that concerned risks to public health. It has undoubtedly shaped and coloured my interpretation of my participants' experiences, as I could draw connections between their accounts and my own. It is important for me to continually reflect on this reality and acknowledge the role my experience has played in how I've approached participants, the questions I've asked and the ways I've interpreted data.

Although my position as a participant-observer is multi-faceted and complex, I will attempt to unravel it here. First and foremost, I acknowledge that trust and suspicion are fundamental to human experience. While it is tempting to see ourselves as impartial, fastidious, truth-seeking researchers, we are all embodied in different ways that shape our perception of the world, others' perceptions of us; and our position in the field.

When I was first seeking to interview individuals who claimed to suffer from wind turbine syndrome—ill health caused by infrasound from nearby wind farms—I am willing to admit I was naïve. I believed this problem had been reduced to two starkly polarised positions: either this was a physiological health condition that would only be solved with the abolition of the wind industry; or it was a psychosomatic 'nocebo' effect—people were sick because they expected to become sick. These two positions seemed equally simplistic and unhelpful. The evidence seemed to suggest that peoples' susceptibility to health problems from wind farms might be based on a complex range of concerns from physical, through to psychological, economic or aesthetic (N. Hall, Ashworth, & Devine-Wright, 2013). Without understanding what these fears were and how they related to one another and manifested in symptoms, there was little hope of addressing them. There were 'victim impact statement' video interviews already available through the anti-wind website *Stop These Things*. Though these interviews were quite short and poorly edited, there were some rich data that I felt could be drawn out further, if I were to conduct my own interviews. Some of the residents interviewed made statements such as 'I couldn't enjoy my home...' and "Over and above all this, is the anxiety that your home is worthless and you're going to have to move on. The dream is shattered" (Stop These Things, 2013). These were powerful statements that

seemed to go beyond the infrasound or nocebo hypotheses. Many of the people interviewed in these videos claimed to suffer from crippling anxiety, insomnia and hopelessness. That previous researchers did not deem these concerns important or worthy of enquiry seemed strange. I believed *I* could be the researcher to *finally* get to the bottom of it. I thought by talking to people, really listening to their concerns, I could begin to uncover what was really going on, and why someone would believe something scientific studies tells us is benign would be making them sick.

From the outset I had hoped to conduct sensitive, nuanced and open-minded research and I made this clear throughout. That ‘both sides’ seemed to consider any research that did not follow their pre-existing agenda pointless or a waste of time motivated me even further to pursue this complex issue. But about eighteen months into my candidature, despite all attempts, I still had not recruited a single interview participant. I created an online survey about general attitudes to wind farms, hoping that by avoiding mentioning ‘health concerns’ in the recruitment material, I might stay off the radar of anti-wind groups. I deliberately targeted towns that had seen the most virulent anti-wind sentiment and health complaints, based on Simon Chapman’s study into the nocebo effect hypothesis for health complaints (Chapman, St. George, Waller & Cakic, 2013). My survey had yielded some curious findings, but it was nowhere near substantial enough for a doctoral thesis. Around this time, major Australian daily newspaper *The Australian* published a front-page article by Environment Editor Graham Lloyd, declaring ‘Turbines may well blow an ill wind over locals, ‘first’ study shows’ (Lloyd, 2015a). The story focused on a study by acoustician Steve Cooper and Pacific Hydro, the company responsible for the Cape Bridgewater wind farm. The study was yet to be peer reviewed and involved six participants from three households. The participants had all previously complained about the wind farm and knew the purpose of the study. *The Conversation* approached me to critique this study and put its findings into a broader context (Hoepner & Grant, 2015). I did not comment on the validity of the acoustic findings—Cooper had found a wind farm ‘signature’ which could well be useful for future studies into wind farm noise and health. I did however, comment on the inability of the study to prove correlation, not to mention causation, as Lloyd’s article had suggested. I also questioned the appropriateness of this kind of sensationalist coverage in an issue that is already highly fraught. I argued that if and

when quality research showed a cause-effect relationship between wind farms and health problems, it should be taken seriously and acted upon. But in the meantime, poorly designed studies and misleading media coverage would only create more anxiety and health concerns. The initial response to *The Conversation* article was positive. It was not until the Australian Broadcasting Corporation (ABC) news media critique program *Media Watch* used it to support their critique of *The Australian's* coverage and the study itself that the backlash really hit (Lloyd, 2015b). I was accused of being a paid spokesperson of the wind industry. I was not to be trusted. I was a journalist, rather than a researcher that had been studying the issue for several years. I didn't care about the suffering of ordinary Australians. I had no relevant qualifications or experience and therefore nothing of value to offer. If I tried to interview anyone claiming to suffer from wind turbine syndrome, they ought to hang up on me, delete my emails and report me to the Australian Health Practitioner's Registration Agency for impersonating a health practitioner (Stop These Things, 2015). This reaction to my work was baffling at the time. I couldn't understand why I was considered so untrustworthy, when I thought I'd done 'all the right things'. Using reflexivity to unpack this experience has allowed me to understand this problem from a perspective I would not have been capable of when I was within the wind farm and health space.

Reflexivity of field conditions

The polarisation of the wind farm and health field initially curtailed what I was able to achieve in that space. However, reflexivity allows me to acknowledge how bounded and entailed the field was, and step outside those bounds. I was able to call these conditions into question to see the field from a different perspective. My ability to see how constrained the field was and how unlikely it would have been for me to produce meaningful knowledge, is a direct result of my capacity to critically respond to the otherwise 'just there' conditions (Bourdieu, 1986) for thinking when I was inside the field. I draw on the work of Pierre Bourdieu throughout this thesis, as it became clear throughout the data collection and analysis how pertinent field theory was to understanding how players in particular fields police and underscore boundaries, determine what is seen as 'acceptable' or 'unacceptable', and punish rule breakers through silence and suppression.

The relative autonomy of the field never totally excludes dependence on power relations. The specific form taken by the conflicts between the legitimacy-claiming agencies in a given field is always the symbolic expression, more or less transfigured, of the relations of force which are set up in this field between these agencies and which are never independent of the relations of force external to the field (e.g the dialectic of excommunication, heresy, and challenges to orthodoxy in literary, religious or political history)

(Bourdieu & Passeron, 1990, p18-19)

Though it is beyond the scope of this research to comprehensively examine why this happened to me, it is worth noting some things. First, it appears the timing of my research could not have been worse. When you have the then Prime Minister Tony Abbott (Akerman, 2014; Glenday, 2015) and Treasurer Joe Hockey publicly attacking wind farms (Bourke, 2014) numerous Senate Committees (Department of Health, 2012; The Select Committee on Wind Farms, 2015) National Health and Medical Research Council reviews (NHMRC, 2015) and rolling media coverage, it is almost impossible to be an impartial researcher working in this space. There is immense pressure to pick a side. If you don't, both sides will be suspicious of you. Second, so fraught was this issue, that even if I had persisted and been able to recruit a few interview participants, it is unlikely any resulting papers or thesis would have achieved much. To the anti-wind side I'd have let them down, and the pro-wind people would have argued I didn't go far enough. This ability to reflect on the fraught nature of field conditions makes it possible to situate my experience within the larger field, as well as relate my experience to those of my interview participants'. Unfortunately, my naivety cost me. With the benefit of hindsight, I can see how my position as a young, city-dwelling, academic from one of Australia's most prestigious universities might not be the most trustworthy person to enter largely rural communities who believe wind power has been forced upon them by powerful people, removed from their victims. It was clear very early in the recruitment phase that I was in trouble. Initial email exchanges with a key anti-wind group gatekeeper were immediately suspicious, and bordering on hostile. The message implied was clear—either you acknowledge wind turbine syndrome is a physical ailment, or we won't grant you access to this community. I said I understood her reluctance, but that I had no intention of perpetuating further division or tensions—that my only aim was to understand the issue in an attempt to resolve it. My position as a university researcher also meant I was bound by my ethics protocol, which explicitly forbade me from doing or saying anything which would validate or exacerbate health

concerns. After a few more emails, this gatekeeper became more aggressive and my supervisors urged me to cease contact, as it was clearly not going to be a productive or fruitful recruitment strategy, in addition to the overt hostility. As I continued to try, in vain, to recruit interview participants, the antagonism towards my project and me as an individual became more pronounced. As I mentioned, an article I'd written for *The Conversation* was picked up by *Media Watch* and used to critique coverage of the wind farm and health debate by *The Australian*. Following this, the backlash against me hit new extremes. *The Australian* published a rebuttal in both their online and print editions, the latter of which heavily criticised my qualifications, my agenda and my trustworthiness; and implied I was a paid advocate for the wind industry. One of the anti-wind groups Stop These Things (STT) I'd initially contacted for help with recruiting continued with *The Australian's* line of argument. STT argued I was unqualified to research this issue, that I was a 'mouthpiece' for wind power and that I was not to be trusted. They urged their subscribers—the very people I had wanted to interview—that I would manipulate and betray them if given the chance. Any hope of delivering the original contribution to knowledge required for a PhD thesis was extinguished. This experience was devastating, for several reasons. I was forced to defend my integrity, my qualifications, my motivations for conducting the research and my qualifications, all of which had been misrepresented or fabricated by *The Australian* and anti-wind group *Stop These Things* (Appendix B). Not only this, but it felt like I had wasted 18 months of my PhD candidature, not to mention the years of research I'd done prior around wind turbine syndrome. All the work I'd done writing thesis proposals, literature reviews, ethics applications were seemingly for nothing. The temptation to quit altogether was overwhelming. As a young, female researcher the impostor syndrome is already crushing. Having my integrity, reputation and professionalism dragged through the proverbial mud in a national newspaper was an all-new low, however. With the support of supervisors and colleagues, though, I realised all hope was not lost. I needed to use what had happened to me in a productive and meaningful way.

Defining the problem

After wallowing in self-pity for a while, I realised I can't be the only person to experience a response like this, just for pursuing a line of enquiry I'd considered important. I conducted some preliminary research and discovered that these attacks

upon academics are surprisingly common. I also realised my experience was mild compared with others'. The cases I found in my initial research involved termination, research misconduct enquiries and sustained harassment in blogs and over social media, sometimes for months or years. I began to wonder why some individuals and groups were compelled to attacks research and researchers in these ways. What was driving these responses, when the academics involved *should* be afforded their right to academic freedom? My preliminary research yielded a list of names—academics or researchers who had received some form of backlash for their work in pursuing a particular line of enquiry. As I clarified in the introduction, it was important to set very clear parameters about what this research *was not about*. Issues around research misconduct or fraudulent research were not within the scope of this thesis. This research is focused very narrowly—how can we understand attacks on research when they seem to be based on a moral objection, rather than research that is invalid or deficient in some demonstrable way? What do these responses tell us about academic freedom, and the questions we can ask?

Public health as contested field

So these were the questions that brought me to this problem. And it is only my experience of this phenomenon firsthand that gave me a sense of the fields subject to these kinds of attacks—namely those that overlapped with or threatened a normative public health position. From my experience in the wind farm space, it seemed that health had become a dominant lens through which research and public policy is examined and dictated. Any risk to health takes on special importance, as health is highly personal, as well as being both political and public. The participants I chose to interview came from a range of fields related to public health and encountered varying degrees of backlash against their work. When deciding whom to contact for an interview, I had a loose criterion—they needed to be an academic or researcher who had encountered what seemed to be an unexpected or disproportionate response to their work that limited what they were able to achieve in that space. Identifying that limits had been placed on their ability to pursue a particular line of enquiry was important. Negative response to my research had a demonstrable impact on my ability to carry out research and provide an original contribution to knowledge in the wind farm and health field. If other researchers are unable to ask questions or publish

unpopular findings for fear of attack, what does this mean for ‘academic freedom’? As I have discussed in this chapter, some of my participants were reluctant to speak with me because their experience had been so traumatic. In order to examine the broader problem of responses to research and the ways it constrains academic enquiry, it was necessary to look beyond my own experience. I used a variety of methods to find and recruit participants. I consulted widely with colleagues, friends and family; I used Google; I snowball sampled. Though initial research suggested public health was a field particularly prone to these kinds of attacks (Gregory, 1996), it was important not to limit the fields I looked at. I thought it would be better to cast the net widely and narrow it down later if need be. So my interview participants are drawn from a wide range of research areas, nonetheless with a preponderance of participants who have fallen afoul of the public health community. I have epidemiologists, anthropologists, nutritionists, sociologists, science historians, and evolutionary biologists, among others. When I found academics that had faced seemingly disproportionate or unwarranted backlash for pursuing a line of enquiry they deemed worthwhile, I sent out requests for interviews. While there are cases of academics being disciplined or attacked for a whole host of reasons, it was important that my interviews be with researchers who hadn’t breached a behavioural conduct policy or committed demonstrable wrongdoing. While institutional responses to research misconduct or research fraud are interesting and worthy of investigation in the current climate, this was beyond the scope of my study. The negative response or attack had to be based on the academic either following an unpalatable line of enquiry, or publishing controversial findings—backlash based on the ‘acceptability’ of the research itself. As such, my participants were selected because their cases reflected a pattern of silencing responses largely from the field of public health, rather than demonstrable misconduct.

Another critical aspect of employing a reflexivity framework is looking beyond the micro perspective: my own position and how it sets the conditions for research; and towards the more macro perspective: what are the broader conditions for thinking about and doing research that we must work within? How do notions of academic freedom and norms around scholarship curtail and influence what we can and do ask? Researchers, particularly those in the physical sciences, are taught to be ‘objective’ and to control their biases as much as possible. There are expectations around what

research is 'supposed' to be like—unemotional, unbiased and reductive (Latour, 1998). The purpose of the scientific method is to ensure whatever biases you may have, will be clearly identified and managed (Shwed & Bearman, 2010). French anthropologist Guillermet argues that for an anthropologist or participant-observer, any attempt at detachment is fanciful. 'Neutrality in the sense of staying out of political or public debates is not possible. The anthropological expression "participant observation" is not only about practices of everyday life, it is about the participation in the social play' (Guillermet, 2008).

It may be tempting to think of reflexivity as the opposite of objectivity, as it means expressly and deliberately considering the researcher's position in influencing and carrying out research, rather than the detached neutrality promoted in the scientific method. But controlling for a tendency towards bias is not the opposite of reflexivity. It is critical to be reflexive about the positionedness of those we study, and how that influences and curtails how others think about, perceive, and respond to us as researchers. This allows us to see what we bring to the research and what our position might obscure or leave out. The danger in being un-reflexive means not examining our own practice and believing it is the 'right' way. Indeed, one of my participants inhabits both the 'victim' and 'perpetrator' roles in the context of research silencing. His own work has been attacked viciously and he speaks quite openly about the reasons why he and his work are seen as controversial. He argues that the individuals who condemn his research are some combination of obsessive, ill informed and mentally ill. Meanwhile, several participants mentioned him as a leading perpetrator of attacks on their work. It would appear he is either un-reflexive on his own position, or chooses to justify his thoughts and actions as essential to the 'greater good'. This is not meant as a criticism of this particular individual, but merely to point out that we are able to justify research silencing when it aligns with our own moral stance, while condemning it when it works against us. This is *the problem*. According to the work of Daniel Kahneman our 'thinking' is actually judging (Tversky & Kahneman, 1974). We look for cognitive shortcuts, or heuristics to order new information. We incorporate any new information into existing cognitive patterns and structures so it doesn't confuse or upset us. We effortlessly accept information that confirms the way we see the world and condemn or ignore that which conflicts with our worldview. It is who we are. As such, I argue that institutional

notions of academic freedom cannot possibly account for these feelingful and visceral responses to unpalatable or discomfiting ideas. This lack of intellectual honesty and reflexivity adds to our murky and contingent understanding of academic freedom and what lines of enquiry we deem 'good' or 'bad', as this distinction is only revealed when it has been crossed.

In addition, reflexivity allows findings to be more valid, as it allows us to closely examine the research tool— ourselves as researcher. In a classic case described by Carol Delaney (1990) male bias at a societal level influenced reproductive science. Prior to the discovery of an ovum in 1826, and a broader societal push for women's rights, women were not considered to be able to influence the fetus – they were merely the soil to the male seed. The male fetus was considered the template for human. Once women began to recognise their own contribution and those biases were considered, the female fetal form is now considered the template, the male the deviant form (Delaney, 1991).

I do not wish to limit my biases, per se, rather acknowledge them and the role they play in how I conduct research. I realise my experience and position allows my participants to trust me, in the same way it alienated me from rural wind farm residents. One participant, Debbi Long, noted quite openly that she would not have spoken with me as candidly as she did if I did not have a relationship with a mutual friend (my supervisor Simone Dennis) who had 'vouched' for me. As I've noted, several others were clearly reluctant to speak with me. They said they needed to think about it. They sent articles and news coverage of their cases, generally those that painted them in a positive light. When those reluctant participants did agree to speak to me, they began the interview quite nervously. Their responses were short, matter of fact. They didn't open up until I mentioned my own experience. When they could see I would not further perpetuate the trauma they had experienced, they could trust me. So although I generally stuck to my prepared questions, the interview became much more free flowing and candid. They revealed their vulnerability. And this *opening up* is undeniably the reason my data is as rich as it is. Following many of my interviews, I felt quite moved. I made a conscious effort to not transcribe the interviews immediately, so I had time to make some notes, collect my thoughts. It was important to come back to them later, with fresh eyes. This

allowed me to put my ‘rigorous researcher hat’ back on, without the emotion stirred up during the interviews. Anthropologist Maja Nazaruk says:

‘Personal history is not the only element which influences objectivity. The social interaction between the ethnographer and his subjects of study influences the way in which an ethnographic account is constructed. Participant observation is characterised by a ‘stepping in and out of the context’, a sort of distance between self vis-à-vis the subject of study... It is critical that research be based on pragmatic and realist ontology; however, the personal element cannot be removed from the equation’

(Nazaruk, 2011, p78).

Interviewee summaries

In this section I briefly introduce my interview participants, their research fields and experience with attacks on them and their work. This provides a reference point for subsequent results chapters, so I can analyse their data without lengthy explanations and introductions to their work.

James Enstrom

An epidemiologist from UCLA, whose case is possibly the most extreme among my participants. His research into fine particulate air pollution (Enstrom, 2005) created waves across California—for industry, for academia and for himself personally. Enstrom questioned the credentials of the scientist responsible for the Californian Air Regulation Board’s (CARB) study and policy directive, which would curtail trucking and transport industries. He also highlighted what he saw as corruption in the CARB board itself, with the chairman overstaying his term by a decade (Enstrom, 2005). In 2010, University of California in Los Angeles announced they would not be renewing his contract. When he questioned their reasons, they said his research was “not aligned with the department’s mission”. Enstrom launched a wrongful dismissal suit and eventually won, though the costs of pursuing the case outweighed his financial settlement. The victory was largely symbolic for Enstrom. He now says if he did not have decades of experience, resources and support, he would never have survived. His language is that of battle. “They tried to kill me, but I’m not dead yet.” When I mentioned my research obstacles and the actions of anti-wind groups in sabotaging my interview recruitment, he was horrified. He was also surprised I had ‘survived’. He warned younger researchers to stay away from these

kinds of controversial issues, as it would be almost impossible to survive with any kind of reputation intact.

Jennie Brand-Miller

Co-authored 'The Australian Paradox' with Alan Barclay (Barclay & Brand-Miller, 2011). Their findings suggested that contrary to worldwide trends, as sugar consumption has declined in Australia, obesity rates have risen. A lawyer and economist teamed up to publicly attack them, including calling their employers and calling for them to be fired. They were later encouraged by the University of Sydney to defend their findings in a research misconduct inquiry, which found some minor problems, but cleared them of misconduct. Brand-Miller feels the experience has turned her into a coward—no longer confident to speak up about misinformation or challenge the status quo. She says the experience has changed the way she feels about her career and self-worth.

Alan Barclay

Co-authored of 'The Australian Paradox' paper with Jennie Brand-Miller (Barclay & Brand-Miller, 2011). Alan was invited onto Network 7's *Sunday Night* program to 'tell his side of the story', but in his words was interrogated for two hours with hot lights in his face. Barclay says he second-guesses offers of co-authoring papers and the experience has been distressing.

Katherine Flegal

US nutritionist and statistician at the Centers for Disease Control. On two occasions, she has faced both academic and public backlash over her research into obesity and mortality rates (Flegal, Graubard, Williamson, & Gail, 2005). In 2013 she published a meta-analysis of 97 studies that found overweight actually corresponded with lower mortality than 'normal' weight and mild obesity made little difference to life expectancy (Flegal, Kit, & Orpana, 2013). Public health researchers organised conferences to dismiss and attack her study, while publicly denouncing it as "a pile of rubbish that no one should bother reading" and criticising her of "confusing people" and "telling people we can eat ourselves to death with chocolate gateaux" (Hughes, 2013; Snowdon, 2014).

Michael Kasumovic

Evolutionary biologist who published a study that found gamers who performed poorly were more negative to female players than male players, while successful gamers were more positive to female players (Kasumovic & Kuznekoff, 2015). Partly because of mainstream media coverage and its relevance to the 'Gamergate' issue, Kasumovic says he couldn't do anything but respond to attacks on Twitter and email for about three weeks. He expected a backlash, but was surprised when they called his scientific integrity and funding into question. Some people called his employers to fire him. He said he was grateful to have had support from his colleagues, as he knows it could have been much worse, particularly if he were a female working in this field.

Michael Gard

Associate Professor of sports science, health and physical education at the University of Queensland. Most notably for my study, Gard has authored several publications and books critical of obesity research and its coverage in the media and policy debates (Gard, 2011). In his first book on obesity, with Jan Wright, Gard argued that the published literature was heavily imbued with morality and ideology, and foundational 'facts' about obesity were based on little, if any, empirical evidence (Gard & Wright, 2005). Gard received both stinging attacks and unsolicited endorsement from various groups within the obesity field. Gard discussed the tendency to exaggerate research that supports your position, and condemn and take out of context any research that threatens your position.

Simon Chapman

Emeritus Professor in the School of Public Health at the University of Sydney who has worked in a range of controversial areas, including tobacco (Chapman, 1993), gun control (Chapman, 2006), wind farms (Chapman, 2013) and electronic cigarettes or *vaping* (Chapman, 2014). Chapman's research and public health advocacy has faced opposition from industry and interest groups. Responses to his work include conflict of interest accusations, calls to his university demanding punishment and violence and death threats. He believes for some people, identity becomes inextricably tied to some areas of research and they resort to attacking the person, rather than grappling with inconvenient evidence.

Kirsten Bell

Canadian-based anthropologist who has faced controversy for her work in both tobacco research (Bell, 2013) and male circumcision in HIV prevention (Bell, 2014). She is particularly interested in the ways science is used as a rhetorical tool to defend 'gut reactions'. Drawing on Latour (2004), Bell says in many polarised fields, the arguments and rhetoric used by both sides becomes almost indistinguishable. Both use 'facts of the matter' to oppose a 'fantasy' position. Particularly for her circumcision research—in which she examined the nature of the debate and the way evidence was used to advance the agenda of both the anti and pro-circumcision sides—she had a lot of trouble getting published and at times considered giving up altogether. Bell says polarisation is often inevitable. She provided key insights and perspectives into visceral responses to some enquiry and about how academic work can be taken up in often unexpected and undesirable ways.

Anthony Miller

Professor Emeritus of Epidemiology at University of Toronto has periodically been attacked as results were released on 25-year study into mammograms and death rates from breast cancer (Miller et al., 2014). He found that mammograms did not save more lives than physical examinations, and the costs—over-diagnosis; unnecessary treatment; anxiety; false positives—outweighed the benefits. Miller argues mammography should be limited to a diagnostic tool and should not be compulsory for entire age brackets. Miller said he has been accused of research misconduct and faced allegations that his study design is deeply flawed. For instance, some critics have alleged his randomisation process was deliberately tampered with to skew the results. Miller says the experience has been deeply upsetting personally, and the idea that any given policy or scientific paradigm is ever finished or that there is no need to do further research is deeply troubling.

Wayne Hall

Australian public health researcher whose work on both medical cannabis (Hall & Degenhardt, 2011, 2015) and e-cigarettes (Gartner, Hall, & Borland, 2012) has been deeply polarising. In the e-cigarette field, other players in the field have silenced him, as he rejects Australia's ban on their sale, citing individual benefit for people trying to quit

smoking. Says it has tested his friendships with people in the tobacco control research community and many colleagues have given him the “cold shoulder”. Hall believes there is no room for nuance in this and many public health debates: you either have to argue that they will help people quit smoking and we should remove all restrictions on them, or that they are ‘just as bad’ as traditional cigarettes.

Helen Keane

Addiction sociologist who has done research on illicit drug users (Keane, 2011), tobacco (Keane, 2016), e-cigarettes (Keane et al., 2016) and alcohol (Keane, 2009). She spoke about the unique nature of the public health lens and its hostility to nuance and grey areas. She also spoke about the ways research can be used by vested interests in ways that make you uncomfortable. For instance, tobacco companies have used her studies as evidence that nicotine addiction is not dangerous. Keane says she has been relatively lucky to enjoy support from colleagues, as the paradigm of addiction has started to shift towards harm minimisation, but believes it does have a chilling effect. Significantly, Keane noted funding structures and requirements in application processes were skewed towards confirming status quo, rather than scholarship for scholarship’s sake.

Paul Frijters

Economics professor from University of Queensland who investigated racism on Brisbane buses with PhD researcher Redzo Mujcic (Mujcic & Frijters, 2013). Immediately after the study was published, UQ received complaints from the Brisbane bus company Translink, and the Brisbane City Council. Frijters was demoted for ‘failing to obtain the necessary ethics approvals before collecting data’ (Foster, 2016). While the decision has been overturned, Frijters has faced ongoing battle with the University and in 2016 lodged a complaint with the Fair Work Commission. The FWC found UQ’s procedures were so “infected by error” as to be worthless (Foster, 2016). Frijters’ case, like Enstrom’s highlights how these responses can become embedded within institutions and reveals important implications for ‘academic freedom’.

Stanton Peele

US addiction and alcoholism expert who argues Alcoholics Anonymous is not only ineffective for treating the majority of addicts, but that it is actively damaging to many (Peele, 1998, 2012). He has received abuse and violent threats, had people call his home number in the middle of the night, publicly attacked and been blocked from speaking engagements. Peele says the issue of addiction and effective treatment has become so polarised that even people who privately agree with him have publicly distanced themselves for concern of their reputation. Peele has written extensively on implications of contested enquiry on scientific knowledge.

Mark Largent

Historian of science, technology and medicine at Michigan State University who has encountered backlash from his work in the compulsory vaccination debate (Largent, 2012). Largent's research found that most parents with concerns around their child's vaccine schedule were neither anti-vaccination nor anti-science, as is often believed. He argued that it was important to distinguish between genuine, 'rustled on anti-vaxers' and those who were 'vaccine-anxious'. That way, their concerns could be fairly addressed without ridicule or scorn. His work received a backlash from the pro-vaccine, public health sector for validating health concerns and endangering lives. Largent's interview revealed the obstacles in promoting a more nuanced argument in such a polarised issue.

Debbi Long

Anthropologist and hospital ethnographer (Long, Hunter, & Geest, 2008) who worked as an ethnographer for a nurse's union in an industrial dispute. Long's interview was valuable for two primary reasons. Her insights into reflexivity, partisan observation and the role of trust and suspicion in social science research has been critical to my methodology chapter. Her experience as a researcher working in an industrial relations dispute highlights the difference between conflicts that are explicitly adversarial where the rules of engagement are clearly set out and acknowledged, and those where the contested nature is more insidious or unrecognised.

Cathy Frazer

Frazer's PhD research was on bridging the gap between science and parents on vaccination (Frazer, 2003). While she did not receive much of a backlash per se, she says this was because of a conscious effort not to 'stick her head above the parapet'. She was well aware of the polarised nature of the issue. When distributing surveys, many anti-vaxxers would abuse her on the forms. She noted the similarity in rhetoric of the anti-vaxxers she encountered and the skeptic community.

Michael Mair

Scottish sociologist who worked in the critical tobacco control research field. While he has not received the same level of opposition as some working in critical tobacco research, he has critiqued the limiting nature tobacco control research (Mair & Kierans, 2007). He says polarisation is inherently built into the debate and that lines of questioning are being shut down, rather than opened up. Researchers know they will not be published or receive funding unless they are committed to smoking cessation above all else. Mair provided pertinent insights into how issues, particularly those that are value-laden become so irretrievably polarised.

Keith Nugent

Vice-Chancellor of Research at La Trobe University. Nugent is somewhat of an outlier in the dataset, as he did not publish any unpalatable research, though he was the spokesperson for La Trobe in proposing a controversial Complementary Medicine Evidence Centre with multivitamin company Swisse. Before any studies were conducted, an unpaid, near-retirement adjunct professor at La Trobe quit in protest, alerting as many media organisations as he could about his reasons for retiring. His attacks on La Trobe and claims they had 'sold out' created such a backlash against the partnership that it is still 'on the backburner' today. Nugent's interview highlighted the double standards that exist in some research fields and the difficulty in moving past controversies.

Qualitative interviews and analysis

All eighteen interviews were semi-structured, with questions following similar themes and approved by supervisors and my human ethics protocol (See Appendices).

Participants were not anonymised, as many of their cases were covered in the news media, so third-party identification was likely. Participants were given the opportunity to edit their transcripts to ensure any risks of harm to them or others were reduced and confirm the interview was an accurate reflection of their views. My data is drawn from a relatively small and geographically and culturally bound sample. That is, my participants were selected because their cases were overt and demonstrable enough to draw my attention, and are drawn from only four countries: Australia, the United States, Canada and England. As such, I am unable to know for certain how representative my cases are. However, out of the diversity of qualitative data emerges a distinct set of patterns around research silencing and why it occurs. The first results chapter analyses these *patterns of silencing behaviours*. This chapter analyses what these behaviours look like, how frequently they occurred within the data and whether they were instigated from inside or outside the academic community. This chapter concludes this is not just a few isolated cases of academics venting, but a problem shared by academics across disciplines, across countries and levels of seniority. The second results chapter analyses the various explanations for research silencing offered by participants. How were they able to justify or make meaning of their experience? I empiricise and tabulate the conversations I had around the problem of hostility and visceral responses to some areas of enquiry. This demonstrates that research silencing does happen; that there are clearly identifiable patterns and trends; and that it has a profound impact on the researchers who encounter it.

In the current chapter, I employed a reflexivity framework to approach the problem of research silencing and what it reveals about academic freedom. First, using this framework enables a reflexive approach to my relations with other actors, and how I am perceived. Reflecting on my experience and position as a silenced researcher allows me to approach this problem with insights that would not have been possible otherwise. Reflecting on field conditions permits me to step outside the bounds of the wind farm space, and understand the conditions under which I was working, in a way that was impossible when I was an active player in the field. This also allowed me to identify other fields subject to research silencing—those that pose a risk to health. Cases where academics were attacked for promoting ‘dangerous’ views were readily available, once I could see how fields are policed and players arrayed (Bourdieu, 1986). Probing the

broader, macro-effects of reflexivity also directed me towards the substantive question this thesis poses: what does research silencing reveal about academic freedom and the research conditions we work within?

I could see from my interviews that academic freedom was valued across disciplinary parameters—it was recognised and valued and seen as a universal good. Many participants had not questioned its existence until they felt their own freedom had been breached. ‘Reflexivity galvanises discourse precisely because it expresses the silence within us, the indicible’ (Nazaruk, 2011, p81). The following results chapters explore the various incarnations of research silencing, what drives these responses and what they reveal about academic freedom.

Chapter 3: Patterns of silencing behaviour

In this chapter I present a description and explanation of my major findings. This chapter describes the ways research silencing manifests. That is, what happened to my participants? How was their work constrained, attacked or silenced? What does this kind of behavior look like, and what patterns can we see in these behaviours? This chapter empiricises experiences—what appear to be a few isolated cases of attacks on academics and their conversations around that trauma, reveal a broader pattern of silencing behaviours and their implications for academic freedom. Describing these patterns in empirical terms demonstrates that these behaviours are repeated across disciplines, locations and levels of seniority. This allows me to explore participants' explanations for research silencing in the following chapter, and provide an overarching theory: that lines of enquiry that cross boundaries elicit a moral disgust response. It is only once this response is triggered that hidden borders in a field are revealed. Those threatened by boundary transgression will act to enforce 'the rules' through silencing and suppression.

The chapter is broken into several sections. The first section presents a table of *silencing behaviours* described within the dataset. In other words, the table presents the range of responses participants faced when conducting or publishing their work. The table includes: the number assigned; a brief description of the behavior; the total number of participants who mentioned or were impacted by that behavior; and whether the attack was initiated within academia or outside academia. The table (Table 1) outlines raw data that informs the graph (Figure 1) and more in-depth analysis to follow.

The second section presents a stacked bar graph to visually represent the data within Table 1. This is somewhat of a translation—rendering qualitative, conversational data into quantifiable, tabular data. This is not to say my data is quantitative, or that it is a definitive representative of responses to research more broadly. However, it does provide a sense of how often the behaviours occurred *within* the dataset. Is it an anomaly only experienced by one or two participants, or is it something we can see

across disciplines, across different countries and systems, that may suggest a pattern in negative responses to research? It is important to stress that overt cases of research suppression often appear anomalous. This rendering of the data into clear thematic patterns illustrates this is a problem that plays out in subtle *and* explicit ways, both inside *and* outside academia, *and* across different disciplines. The significance of this problem is worthy of investigation and analysis. As such, it is necessary to formalise and tabulate thematic and behavioural patterns within the dataset for this problem to be considered in a more productive way: that this is not just sensitive academics feeling slighted. Visualising the data helps reveal there's something more at play here.

The graph will be followed by a more detailed description of all behaviours described. How did the reaction play out? What were the implications of this response on participants? Were any reasons for this reaction provided? I provide specific examples from within the dataset to demonstrate a real-world context for these behaviours. The 42 behaviours are also divided into seven distinct *groupings*, based on shared characteristics. These groupings are intended to provide another way of understanding the behaviours, so they can be taken as individual actions, or as part of a broader type. Is this an institutional or structural silencing? Is it an attack from an outsider group? What role does the media play in silencing research? How common are misconduct allegations and discipline in research silencing?

The third section explores why it is important to distinguish between behaviours instigated by those inside the academic community, or outsider groups, whether they be industry representatives, the media or members of the public. Briefly, this distinction is critical because the behaviour may be experienced differently depending on who initiated it. If it is a member of the public, this behaviour might be brushed off more easily as an ignorant or ill-informed view, as I will demonstrate in the following chapter. If the attack comes from an industry that may suffer as a result of the research, identifying the motive is more straightforward, which came through during several interviews. These external attacks are every bit as debilitating and constraining as any other, but the origin may be more easily recognisable and therefore easier to understand. If the attack comes from a colleague or someone *inside* the research community, it may be more difficult to grasp the motivation. This confusion adds to the

already fraught and constrained atmosphere. Another reason for this distinction is it suggests that being a scientist or academic does not inoculate someone from visceral, knee-jerk responses to unpalatable ideas. My dataset indicates these reactions are *more* frequent within academia than without. This tension will be explored in more detail in this chapter's final section and will help inform subsequent chapters.

Tabulating silencing behaviours

Below is a table that outlines *silencing behaviours* and their occurrence within the dataset. The left-hand column gives the number assigned to the behaviour. The next column names the silencing behaviour. It then gives the total number of participants who mentioned or were affected by this behaviour. In the following two columns I have distinguished these behaviours by where they originated—inside or outside the academic community. This distinction will be clarified in the third section of this chapter. This table is intended as a quick reference point for subsequent sections and chapters.

These distinctions will become clearer throughout the chapter, but it is important to note at this stage why I have chosen the term 'silencing behaviour' to describe this facet of the data. While it is not within the scope of this research, nor my intention, to suggest my participants' research was beyond criticism, most responses did not seem to be aimed at critique, but rather as a silencing or shutting down response. As I have explained, my participants were selected because their research has drawn criticism or attack based on moral objections to their work. The motivation for this condemnation was often unclear at the outset, though from researching each participant's experiences through interviews, media coverage and peer-reviewed literature; it seemed to be beyond the standard peer-review process expected by researchers. As outlined in the methodology chapter, opponents of my participants were largely unable to provide proof of misconduct or wrongdoing. From the beginning of this project, the responses experienced by my participants appeared to follow a similar pattern. For instance, from the media coverage I reviewed surrounding my participants, several mentioned conflict of interest accusations or denouncements in mass media. Once I began interviewing participants, it became clear these kinds of responses were common. These responses are not part of an established peer-review structure, as they do not appear to be aimed

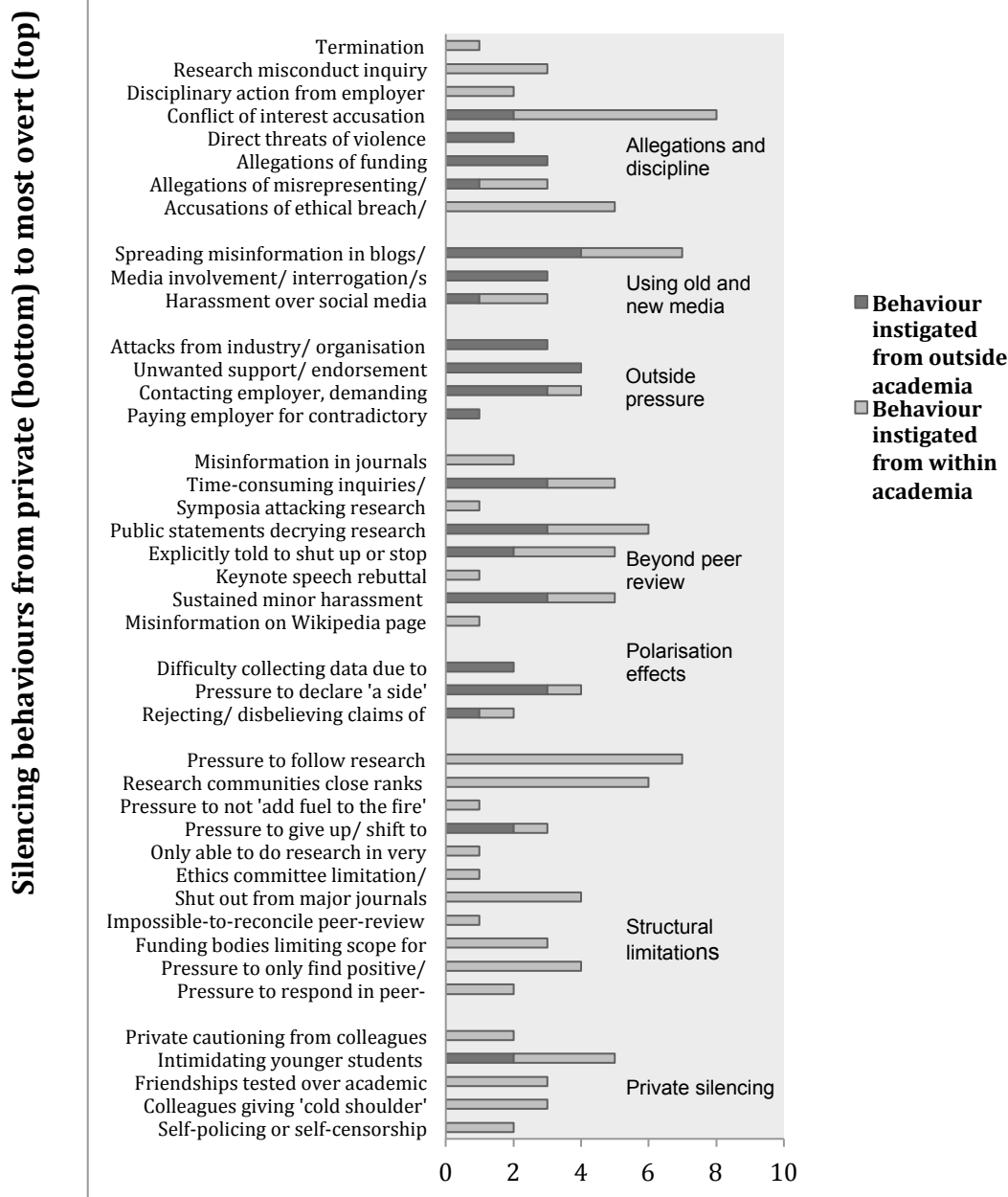
at improving research or furthering understanding through critique, but rather to silence or shut down.

Table 1—Tabulating silencing behaviours

No. assigned	Silencing behaviour	Total n affected	Outside	Inside
1	Self-policing or self-censorship	2	0	2
2	Colleagues giving 'cold shoulder'	3	0	3
3	Friendships tested over academic disagreement	3	0	3
4	Intimidating younger students	5	2	3
5	Private cautioning from colleagues	2	0	2
6	Pressure to respond in peer-reviewed literature	2	0	2
7	Pressure to only find positive/ striking findings	4	0	4
8	Funding bodies limiting scope for research	3	0	3
9	Impossible-to-reconcile peer-review comments	1	0	1
10	Shut out from major journals	4	0	4
11	Ethics committee limitation/ interference	1	0	1
12	Only able to do research in very narrow area	1	0	1
13	Pressure to give up/ shift to something safer	3	2	1
14	Pressure to not 'add fuel to the fire'	1	0	1
15	Research communities close ranks	6	0	6
16	Pressure to follow research orthodoxy	7	0	7
17	Rejecting/ disbelieving claims of neutrality	2	1	1
18	Pressure to declare 'a side'	4	3	1
19	Difficulty collecting data due to polarisation	2	2	0
20	Misinformation on Wikipedia page	1	0	1
21	Sustained minor harassment	5	3	2
22	Keynote speech rebuttal	1	0	1
23	Explicitly told to shut up or stop	5	2	3
24	Public statements decrying research	6	3	3
25	Symposia attacking research	1	0	1

26	Time-consuming inquiries/ harassment	5	3	2
27	Misinformation in journals	2	0	2
28	Paying employer for contradictory research	1	1	0
29	Contacting employer, demanding discipline	4	3	1
30	Unwanted support/ endorsement from industry	4	4	0
31	Attacks from industry/ organisation	3	3	0
32	Harassment over social media	3	1	2
33	Media involvement/ interrogation/s	3	3	0
34	Spreading misinformation in blogs/ online	7	4	3
35	Accusations of ethical breach/ causing harm	5	0	5
36	Allegations of misrepresenting/ manipulating data	3	1	2
37	Allegations of funding misappropriation	3	3	0
38	Direct threats of violence	2	2	0
39	Conflict of interest accusation	8	2	6
40	Disciplinary action from employer	2	0	2
41	Research misconduct inquiry	3	0	3
42	Termination	1	0	1

Figure 1: Graph of silencing behaviours and their occurrence within and outside academia



Scale represents number of participants affected by silencing behaviour

Summary of graph

The graph in Figure 1 above visually represents several aspects of my dataset, based on the data listed in Table 1. The y axis represents what I describe as discrete forms of *silencing behaviour* for the purpose of this analysis, though they may frequently overlap and occur simultaneously. They have been placed on a scale from more covert or

implicit behaviours on the bottom, to overt or explicit behaviours on the top for ease of interpretation. The behaviours range from self-policing or self-censorship, to termination of employment. Pale grey represents silencing behaviour that came from within academia or the scientific community, while dark grey represents behaviours from outside academia—whether members of the public, media or industry. The x axis represents the number of participants interviewed who were affected by this behaviour in some way. The 42 *forms of silencing behaviour* in both Figure 1 and 2 have been broken into seven groupings: private silencing; structural limitations; effects of polarisation; beyond peer-review; outside pressure; using old and new media; and allegations and discipline. This is to both simplify the graph and provide a breakdown of the different *types of behaviours* my participants encountered. This means that the behaviours can be understood in several ways: by grouping, by their level of overtness and by whether the response came from within or outside academia. These distinctions will be clarified and justified throughout this chapter.

Summary of groupings and their comprised behaviours

The following section briefly describes the seven groupings and the individual behaviours that comprise them, with reference to examples from the dataset. This is to provide a clearer sense of why I have made distinctions between what might otherwise appear to be overlapping and concurrent behaviours. This section also serves to highlight the various ways the behaviours were experienced by participants and their role in silencing research.

Private silencing

The *private silencing* grouping refers to behaviours that are most difficult to pin down or prove. I will briefly outline and provide an example for the five behaviours that comprise this grouping below.

Self-censorship or self-policing in this instance refers to participants who felt pressure to avoid controversial research topics as they felt it was too risky or potentially damaging to their careers and reputation. Participants who mentioned this had previously been attacked or suppressed and did not want to experience it again. For example, one

participant, Wayne Hall discussed the various reasons academics may avoid particular research areas.

I don't doubt that concern about the reputational damage and personal attacks deter a lot of people from getting involved in the field, or at least in making public comment on these sorts of controversial issues. It probably also affects their preparedness to get involved in the research.

This kind of silencing behaviour may be entirely unspoken or even unconscious. It would be difficult to ascertain how frequently academics police themselves out of controversial topics is, as there is little data on what research academics *don't choose to pursue*. Hall's comment here suggests that steering clear of fields likely to draw attacks might happen at every stage of research—from deciding not to pursue it in the first place, through to avoiding publication or public engagement. Katherine Flegal spoke about this dynamic following the attacks on her work in the obesity field. While she received private messages of support, many colleagues were reluctant to offer support publicly, for fear they would face a similar backlash.

A lot of people thought my article in 2005 was fine, but they didn't do anything about it. They didn't hold any symposia, they didn't write letters to the editor, they didn't write letters to the journal. They didn't do anything, I said 'You have to speak out if you think it's okay, because I'm getting hammered here by all these people who really hate it.' And there's plenty of people who think it's just fine but you would never know that, because they're not writing entries in Wikipedia, they're not writing letters to the editor, they're not talking to the press. So trying to get that idea across to people was very difficult, that maybe they should speak out in some way. And they said 'Why should I do that?'

Again, it is near impossible to definitively measure self-policing or censorship *because* of the controversy surrounding some lines of enquiry. If people do not want to be seen to be involved in controversial topics, they are unlikely to discuss this reluctance in any kind of documentable or measurable way.

Colleagues' giving the 'cold shoulder' in this context refers to participants who experienced peers turning against them or treating them differently after their 'unpalatable' research was published. Participants who experienced this typically said they could not prove their colleagues were behaving differently, but they could sense a change. This could mean they were no longer included in informal social engagements

or communication was less friendly than usual. For example, Jennie Brand-Miller talked about how she and her co-author both noticed a distinct frostiness from several of their co-workers once their paper questioning the relationship between sugar and obesity, *The Australian Paradox* was published. While these colleagues often denied they felt differently towards Brand-Miller and Barclay, Brand-Miller was unequivocal.

So, I mean, some of it I think is imagined, but there were definitely instances where colleagues were not supportive. And I knew that, when I spoke to them, I said 'Is something wrong? I can detect the difference. And has it got something to do with The Australian Paradox?' They'd say: 'Oh no no no no no' So really, in some ways your colleagues really rub the salt into the wound, by taking that attitude... They really did make it worse because it was as if there—perhaps there was some element of truth in what [critic] was saying. And for them to think that, I know it wasn't imagined.

These instances of colleagues treating participants coldly were generally described as very upsetting, particularly because they couldn't prove or address it constructively. It contributed to an atmosphere of paranoia and feeling like an outsider among friends and colleagues. Participants said that in academia, fellow researchers are not just their co-workers, but often they're friends outside work and collaborate on projects together. So to feel that sense of camaraderie and cooperation threatened was described as very difficult for some participants.

Friendships tested in this context refers to participants who lost friends because participants' research was seen as abhorrent. Participants who mentioned this argued that particularly in research communities where a normative position is promoted or defended, researchers who question such orthodoxy might draw animosity even from close friends. This animosity can outweigh any existing amity. For instance, Wayne Hall says that once colleagues knew his position on e-cigarettes, he felt a considerable change in their manner towards him.

There's been a real strong polarisation of views pro and con. [A younger colleague] and I have attempted to be reasonably civil about the issue in analysing the points of view that have been put forward. I've tried to remain friends with people who... I have known for 30 years. But friendships get tested when you find yourselves on opposite sides of these sorts of public debates.

Intimidating younger students in this context refers to the particular vulnerability of younger or early career academics to these kinds of attacks. Several participants spoke about the requirement to have some level of seniority or authority within a research community to ‘get away with’ pursuing unpalatable lines of enquiry, taking an unorthodox position or publishing controversial findings. One participant, James Enstrom believed that without the resources and reputational clout accrued from 45 years as an epidemiologist, he would not have survived the attacks against him.

I’ve only been able to survive because of the scientific training that I had initially and because of the assets that I built up over a long career, which I basically built up since 1970. And because I have a very supportive family situation. Otherwise it would have been impossible.

He warned younger researchers:

You have to really think about this carefully. You do not want to do this at the beginning of your career because you may not be able to get the kind of help that I’ve got.

Katherine Flegal echoed Enstrom’s advice. She believes her work on the obesity paradox would have been devastating for her career if she’d been a junior scientist.

I think the 2005 paper was essentially a career-ending move... If I had been a junior person and I depended on some career, this would have been a career-ending move to publish that paper, so... It warns you not to do this, and then if you do do it, your career is kind of—you get relegated to some obscure backwater of some kind and no one will ever pay any attention to what you say again... So I think it’s really quite unhealthy.

Private cautioning from colleagues in this analysis refers to participants being warned or dissuaded from pursuing unpalatable research in the first instance, or from defending their position following an attack. Several participants mentioned colleagues privately agreeing with them or their findings, but insisting they not pursue it any further, for the sake of their careers or wellbeing. Jennie Brand-Miller says she was dissuaded from responding to apparently misinformed views in a nutrition journal because the editor—a friend—had warned her against it.

There were some letters in the New England Journal of Medicine, there were some commentaries about sugar and sugar-sweetened soft drinks and how clearly it was related to obesity. And this is all based on what you call circumstantial evidence, they're observational studies... I wanted to write to say 'Well if the link is so strong, why has Australia got the fastest rate of increase in obesity over the last 30 years, despite a fall in consumption of sugar and sugar-sweetened beverages?' And so I'd written the letter and everything, and then before I sent it I decided to put it past the editor... just because I know him... I just wanted to ask him what does he think of me writing and submitting this letter, did he think it was a good idea or not... And his response was 'Jennie, this letter is perfectly okay, but why do you want to attract all the nutters out there?' He said 'You will attract all the nutters, do you really want that?'

Kirsten Bell also had colleagues encouraging her to give up attempting to get a circumcision and HIV prevention paper published. The implication was that this kind of controversy wasn't worth it.

I had one colleague in the department, I showed him some of the reviews and he basically said 'Look I think you shouldn't try to get this paper published. I think it's going to be damaging to you and your career'. So his advice was not to try and proceed with publication.

These private silencing behaviours are the most difficult to prove or name. Participants who were affected by these forms of behaviours typically did not feel these were particularly harsh in the scheme of responses, but said they had a more insidious impact. Because of their covert nature, it was difficult for participants to pin them down or address them in the same way they might an explicit attack. Other participants dismissed these kinds of responses as the 'nature' of academic research.

Structural limitations

The *structural limitations* grouping refers to behaviours or responses that originates or is dictated by academic structures themselves. These may be funding bodies or university policies that prioritise certain research topics over others, which may discourage studies in unpalatable or controversial areas. Also included in this grouping are implicit norms that are demanded of researchers in dealing with attacks on their work. Like the *private silencing* grouping, participants found these behaviours were often difficult to prove or quantify as they are accepted as 'just the way it is'. For instance, a critical mechanism for limiting what academics are 'allowed to ask' both theoretically and practically, is funding structures. How universities, funding bodies and

governments determine the balance between basic and applied research changes over time and in different contexts, and it is outside the scope of this thesis to assess research-funding structures. However, it's important to acknowledge how controversial lines of enquiry may be incompatible with modern funding arrangements. A 2008 study into US scientists' reactions to controversy around their work found they were likely to self-censor and avoid contentious or provocative lines of enquiry in subsequent grant applications (Kempner, 2008). If most research is 'safe' or applied—that is, with a clear purpose in mind—then it suggests we're only asking questions we already know the answers to. There is a careful balancing act between funding applied research that delivers what it needs to, and basic or pure research that may have unknown long-term benefits—let alone controversial or unorthodox research.

Helen Keane spoke about this balancing act in the Australian context:

I think absolutely the sort of research that's looking for solutions to problems is important and should be funded. But I also think, you know, that the sort of research should go on—especially in research-intensive universities, should also be more exploratory... It's hard for everyone to get funding for research but I think it's probably, since the [Australian Research Council] and [National Health and Medical Research Council] approach is these kind of National Priorities and they want to see national benefit and I think it's much harder to argue for national benefit for these kinds of critical, conceptual questions. You know, it's easy to see if you're going to find a smoking cessation device that's going to enable millions of people to stop smoking, it's really easy to argue what the national benefit is of that. To have a project that says, 'I want to understand the kind of meanings smokers attach to their practices' without immediately going to the position 'So that I can get them to stop', it's much harder to argue the national benefit for that.

When research must be justified in line with national research priorities, it is difficult to see how a study that questions a normative public health position, (for instance, the health dangers of smoking or obesity); or studies that are aimed at exploring or understanding phenomena rather than practical application, would receive funding as readily as those that align with the existing normative position.

Pressure to only respond in peer-reviewed literature in this case refers to participants who were attacked in popular media or online platforms but were discouraged from defending themselves in these same channels. Department heads or employers would

encourage them to only respond in peer-reviewed journals and not descend to their attackers' level. Some participants felt this would be futile, as their reputation was being publicly slandered and it is unlikely that a mass audience would see their defence in a journal. One participant, Jennie Brand-Miller felt that her hands were tied. While the individual instigating the attacks against her gave numerous interviews to *ABC News* journalists, Brand-Miller's boss was telling her to decline comment and only respond in journals.

There's definitely this element that we should all be in agreement and in fact the universities, their advice to me was: 'Keep this argument in the scientific literature, keep it out of the press.'

Pressure to only find positive or striking findings in this context indicates the established trend towards publishing only positive or striking findings in major journals. As null or negative studies are cited less, mainstream journals are less likely to publish them, compared to papers that positively reflect the study's proposed hypothesis (Fanelli, 2011). Several participants found this pressure overwhelming and could see tangible differences in how their work was received depending on whether their findings were positive or negative. Of all my participants, Katherine Flegal felt this pressure most starkly. Her previous studies on prevalence of obesity that indicated an increase in obesity were often lauded and highly cited. Meanwhile, her meta-analysis of mortality rates for overweight and obese that found 'overweight' was associated with lower morbidity rates than 'healthy' weight, and mildly obese only slightly higher, was widely attacked and denounced publicly.

I've published all these articles about the prevalence of obesity in the United States, everybody loves those; this is great when I do this kind of thing. But then you start publishing stuff that's different and there's, what I what regard as attacks from behind the scenes, in some unexpected way... Because epidemiologists like positive, striking findings, this is not a positive or striking finding, probably could cause some trouble and not going to be worth it anyway, so why bother mentioning it?

This reinforces a sense that only some kinds of research are acceptable. And although these kinds of rules are not formally codified or institutionally acknowledged, Flegal could see where the line was drawn once she had crossed it.

Funding bodies limiting scope for research in this study refers to participants who conceded their research was much more likely to be funded if it reflected national priorities or aligned with the current research orthodoxy. Participants felt that this creates a perverse set of incentives, rather than encouraging open enquiry or debate. Katherine Flegal spoke about the trend towards relating any nutritional studies to the obesity epidemic in order to get funding.

Also, there are a lot of people who have a lot vested in these outcomes. You know, they have programs or centers or they get funding, you know prevention institutes and this sort of thing. And they're all sort of threatened by some of these kinds of findings—'I've built my career on telling people what to do and now maybe what I'm telling them isn't completely the whole picture.' You might have to find another job. I've seen that in nutrition and I am a nutritionist by the way. And nutritionists go around saying you should eat right and nobody really cares about that. But if it's obesity it's like 'Oh good—eat right because obesity.' And that gets you much more funding; much more interest and the legislature will do something or other and give you money or whatever it is. You know that kind of thing, so there's a lot of that going on, a lot of vested interests that accumulate. That is often not completely obvious.

Michael Gard also spoke about the role of funding in determining the conditions for research and which lines of enquiry become seen as legitimate or acceptable.

[There's] the person who likes the money and will just publish away, the ethics committee will give them a big tick and in some ways, I don't think—I mean maybe that person... thinks they have the idea that will solve the problem, but they get more money than everybody else does. And in some ways... the university is going down this path. That people will say—'here's this problem, I've got a solution, and if you give me the money we'll try this program.' And that's really what the universities want the money for.

Another related trend may be in evidence in particularly polarised debates, which means only very niche or limited studies are funded. This will be covered further below in the *polarisation effects* grouping.

Impossible to reconcile peer review comments in this case refers to the biases of peer reviewers that result in diametrically opposed comments that are unable to be resolved by the author. One participant, Kirsten Bell experienced this when trying to publish a paper on male circumcision in HIV prevention. Bell said the field is so polarised that two reviewers from opposing sides said the paper was too biased in favour of the *other* side.

Bell contacted the editor to explain her predicament and was shocked by what they told her.

I actually contacted the editor at one point because what had happened was I had got these completely polarised reviews; I got three very positive reviews, and then two reviews saying the opposite: one was saying I was being too pro-circumcision, the other one was saying I was being too anti-circumcision. So I called the editor and said 'Look I don't understand how you can possibly expect me to attend to these reviews, because any step I make in one direction is going to be immediately condemned by the other.' And at that point, the person told me basically that one of the reviewers had been in touch personally, demanding that the paper be rejected and that it would destroy the reputation of the journal to publish it.

Shut out from major journals in this context refers to participants who were unable to get published in major journals because their position was considered indefensible by journal editors and reviewers. This appears not a matter of substantive problems with methodology or data analysis, but intolerance of the moral implications of the paper. Kirsten Bell expanded on her difficulties getting published in mainstream circumcision journals.

I had kind of extraordinary attempts to try and stop publication of the paper. And it took... a long time to get that paper published. I had something like 25 reviews for that paper... And what was happening too is that I quickly realised that there were certain people that if the paper was sent to them they were just in principle opposed to everything I was saying in the paper, so I would specifically list them as non-preferred reviewers. But then what I realised at a certain point was that it was intentionally being sent to those people I had indicated as non-preferred reviewers. And then I think one of the reviews I received in about the third journal I submitted it to, was a one-sentence review where the person said 'In my prior 8000 word review on this topic, I've indicated why the arguments are untenable in this paper and it can't be published. Full stop, end of story.'

An ethics committee limitation in this study refers to the constraints imposed by ethics protocols. Although ethics committees are an often-essential requirement and well-accepted limitation to academic freedom, several participants raised the sometimes unreasonable or pedantic expectations of ethics committees. For instance, some participants felt ethics protocols may invalidate research in fields with extremely important implications for society, as attempts to secure informed consent would likely influence participants behaviour. In my own experience, my initial ethics protocol was

explicit in dictating how I recruited and interacted with participants, ensuring I did nothing to encourage or exacerbate existing health concerns around wind farms. I was told to clearly specify in recruitment material I wanted to interview ‘individuals who *claim* to suffer health problems from nearby wind turbines’ as any other wording might validate their concerns. While the reasoning was understandable, this wording made it very difficult to recruit participants, as the gatekeepers of the community ultimately demanded I accept wind turbine syndrome was a physical condition, not a belief or claim, or I would be denied access. Paul Frijters also encountered problems with University of Queensland’s ethics protocols. As far as he was aware, he and PhD candidate Redzo Mujcic had satisfied UQ’s ethics requirements, and the study had been approved and paid for by the department. Only after it was published did UQ argue that he had not obtained adequate ethical clearance.

[We] sort of devised a research protocol and our understanding was, at the time, that the way the system worked if you wanted it cleared, there were several hurdles. The PhD coordinator at the school had let the PhD students know that he was the first port of call. So that if it was minimal risk research that was it. And that was also the way the local forms were structured, so we thought we... had the minimal risk things signed off, it was paid for by the university as a result. We did the research, it came into the media in March 2013. It made a big local splash, the Translink, the Brisbane bus company complained, the university hierarchy immediately jumped into punishment mode.

While the nature of his study was arguably higher risk than he believed, Frijters thinks it is absurd to imagine Translink giving informed consent to conduct a study about racism in their staff or that informing the bus drivers would not have radically altered the data, rendering it meaningless.

I think they would have been astounded if you would truly be able to get people to agree to sort of observe their racist behavior beforehand... But I think they would have been astounded, the hierarchy here if we would have got informed consent.

Research limited to niche area refers to participants who were only able to receive funding for very limited or niche studies. One participant only explicitly mentioned this, though similar themes were present in other interviews, as explored above. Wayne Hall spoke about the ever-narrowing field of acceptable research into e-cigarette harm reduction.

Trying to do research on the efficacy of e-cigarettes, for example, for smoking cessation is proving incredibly difficult. [A colleague] has managed to do it, but getting funding has been difficult and getting regulatory approval to do studies. The state governments and others say, 'We don't ban e-cigarettes, if they're shown to be effective in smoking cessation we're happy to reconsider it and register them as medical products and allow their sale.' But then they put major obstacles in the way of ever getting the evidence which will tell you whether these products are useful or not. So [colleague] has—she's been quite adaptable and there are areas where even the most vociferous opponents of e-cigarettes have been prepared to entertain their potential use, for example in helping really heavy smokers with serious mental illness or HIV infection to switch from smoking cigarettes to less harmful alternatives. So that's where she's gone looking for funding and conducting trials.

Pressure to shift to something safer in this context refers to a confluence of silencing behaviours that encourage researchers to give up on a particular line of enquiry for something less controversial and more likely to be supported, both financially and socially. This relates to several other listed behaviours and groupings but warranted its own section as five participants explicitly mentioned it. Katherine Flegal spoke about the relentless pressure to re-check and justify her findings under excessive scrutiny and attack.

So I have a couple of projects, but sometimes I think, I just can't take this any more, I should just give up on the whole thing... There's this constant pressure, and it's hard to explain and I probably see an awful lot more of it than any one other person might see, but it's just this constant pressure that something's wrong, you're doing the wrong thing, your findings are wrong.

Keith Nugent also spoke about this pressure in relation to the Complementary Medicine Evidence Centre. He said the La Trobe hierarchy had become very risk-averse following the public backlash and that previously interested researchers had backed away.

So there is a—so when you get into these areas where there is not very much open-mindedness or at least a very loud lobby against them, then universities do get very cautious of it. And for a university—they're very worried about reputational risk and so on about it. And some of the staff members who had agreed to come and work on it were given a certain amount of—were given a hard time by some of their colleagues in the sciences about whether they should do this stuff or not. So it does have an effect.

Pressure to ignore attacks refers to participants who were encouraged to ignore attacks on their professional reputation and integrity. Some participants felt limited by this

advice, as they considered their data defensible and could prove it, they just weren't 'allowed to'. Jennie Brand-Miller feels, in hindsight, that the advice to ignore the attacks was inadequate and she wished she were given more support by the University of Sydney's public relations and Research Integrity offices.

Their advice to me was to ignore, ignore it, because you know it was something that deserved to be ignored. That it was over-the-top nonsense really. And they felt that—I think their words were 'Don't give it oxygen, don't give fuel to the fire'... I think it was a terrible experience to have. [In retrospect] I can say I wish I'd had more advice. I think if it happened again I would do things differently. I think it would have been useful... to sit down with [critic], perhaps with a mediator and just explain where we were coming from.

Flegal also felt her hands were tied in defending her data. Her employers at the CDC made it clear she wasn't supposed to defend her findings by pointing out that her data were more accurate than in other studies, but merely 'different'. She felt it gave the impression that all obesity and mortality data were equally valid, when they weren't.

I was *encouraged* to, when someone asked 'Why are your results different?' I was supposed to say 'Because we're using different methods and different data'... So I wasn't really supposed to say 'Well our methods were better, there was a problem before and our data are better.' So that limitation on what I could say didn't help either.

Research communities 'close ranks' in this context refers to participants who have personally experienced or witnessed research communities ostracising scholars who don't follow what appears to be the accepted normative position. Michael Mair spoke about this phenomenon in relation to his experience of the tobacco control research community.

There [is] a chilling effect... Communities of researchers do close ranks against those they think are not playing to the rules. They don't publish their papers because they don't see them as speaking to the fundamental problems that are part and parcel of what they do. So they see them as non-researchers almost... I think they do police these fields. The question is, we also police ourselves out of it... you'll find that there is no space for somebody to come up and say 'Wait a minute, actually, should we consider the facts and different models or assumptions?' That's not something that will play out in a public arena, particularly well.

Related to this behavior is an *expectation to follow research orthodoxy*, which in this context refers to participants who feel their instincts as researchers are being curtailed in favour of the accepted position or status quo in a particular field. Kirsten Bell recounts the first time she was confronted with what she saw as the prevailing tobacco control orthodoxy and her response to it.

So this was early 2007, and I was invited to give a presentation at a conference on smoking where I took part in a meeting where there were all these big wigs sitting around the table and somebody said something like 'Well, maybe we should have some smokers here, because these are the people most directly affected by smokefree legislation'. And then somebody said something like 'Well, why would we do that? These are people with an addicted mentality'. And so nobody at the table said anything about that, or seemed to think that was problematic, but I was sort of gob smacked, actually, at that sort of response.

Michael Mair echoed this reaction to the tobacco control orthodoxy, and the role it plays in shutting down or obscuring potentially meaningful lines of enquiry.

I really feel uncomfortable with the overwhelmingly kind of normative positions, which are exhibited by a lot of the work in the field. And also the fact that in a sense a moral position has been turned into a kind of statement of research orthodoxy. So for me a lot of it was very poor research because it was based upon one particular perspective. And that was true of both sides—the tobacco lobby and the public health side. Ironically they looked very like each other when viewed from a more social science or philosophical perspective, I thought... The thing about public health is that that view obscures alternative ways of thinking about the problem... it shuts down actually, a whole range of possibilities.

It is this *shutting down* response that is central to this thesis. It's important to explore why some research that otherwise satisfies scholarly conventions comes to be seen as 'unacceptable' and what this demarcation between 'good' and 'bad' research reveals about academic freedom.

Polarisation effects

The *polarisation effects* grouping refers to a set of behaviours seemingly inherent to, and shared by, divisive research fields. These behaviours mirror my own experience in the wind farm and health debate, and suggest polarisation in a range of fields produce and share striking thematic trends. This grouping includes difficulties in maintaining a

neutral or unaligned stance when an issue becomes tribalised and the impact polarised debates have on data collection.

Disbelieving neutrality claims in this case refers to participants who were unable to be seen as neutral or unaligned when conducting research in a contested field. The field of study they were working in had become so polarised that proponents from both sides saw any claim of neutrality as supportive of the *other* side. In other words—you're either with us or against us. It appears from the data and my own experience that attempting to study a particular phenomenon or problem from an unaligned position is simply 'unacceptable' in some areas. Wayne Hall experienced this in several fields, including medicinal cannabis and e-cigarette regulation.

So it's very hard in that sort of framing to avoid being pigeon-holed. If you claim to be neutral, people don't believe you. You're seen as... a closet supporter. If you're not wholeheartedly in favour of or sympathetic to the view of the person you are interviewing then clearly you're a closet supporter of the opposition view.

Pressure to declare a side in this context is a related and often overlapping response as *disbelieving neutrality claims*. Several participants felt both explicit and implicit pressure to declare a 'side' when working in a polarised field. In my own case, one of the anti-wind groups that worked to shut down my research made it clear they did not believe my only motivation was to find out what underlies health concerns around wind farms (Stop These Things, 2015). These groups attempted to expose my 'agenda', eventually settling for an old *Conversation* article written by my supervisor, written before I'd met him, to 'prove' I wanted to 'mock sufferers'. They also stated I was in the pocket of 'Big Wind' and a mouthpiece for the wind industry (Stop These Things, 2015). Kirsten Bell's experience in critical tobacco research reflects this phenomenon. Tobacco control researchers believed she was either being paid by tobacco companies, or at least doing their work for them. Without declaring a side, she was hamstrung.

The typical response is that, because it's such a polarised field, it's a sort of 'if you're not with us you're against us' mentality. So what tends to happen is I've been criticised as being pro-tobacco and so the most common criticism I get... by tobacco control organisations, I think a direct quote would be: 'Bell is just parroting the tobacco industry'. That's a very frustrating criticism to deal with... I guess the problem is it becomes very difficult... to study something in that way. Because... you can have positions, but you *have* to take a position and you can't

sort of study it as a social phenomenon, you've sort of got to align yourself with one direction or the other.

Difficulty collecting data due to polarisation refers to the various effects of polarisation on collecting data. This may be because potential participants feel vulnerable or distrusting of academics. I have briefly discussed my experience with this phenomenon in the methodology chapter. It appears that when an issue becomes intensely fraught and divided, distrust and suspicion rises, particularly if academics are seen as part of a pro-science, city-dwelling elite. Cathy Frazer also experienced problems recruiting participants in her research on beliefs and behaviours around vaccination. She wanted to know why most parents opted to vaccinate their children and why others chose not to. While parents who decided to vaccinate their children were happy to complete surveys, those who chose not to vaccinate their children were reluctant and often hostile at her attempts to collect data.

Anti-vaxxers don't want to be identified, they're used to being vilified. And so they were very reluctant to put their hands up, to have anything to do with government or any establishment really. I don't think they were particularly worried about the university, they just feel like they're on the other side, whatever it is... But I did make contact with some local organisers and I got them to distribute questionnaires to their followers. So I ended up—I think I only got about 30-something like that, maybe 35... I had no trouble getting people who did vaccinate but the others were very reluctant to come forward. Some of them scribbled all over the questionnaires too, you know mouthfuls of righteous: 'This is what I believe so tough luck to you and all your cronies, you've been sucked in and the truth is all about to be revealed. We're doing it the proper way and you're just taking the easy way out.'

These polarisation effects limit potential lines of enquiry, as there is hostility to any research that won't directly support the position or agenda of either polar position. Researchers that do not declare a side or have a particular agenda are assumed to serve the other sides' interests. When whole communities feel alienated by government or academic research institutions, the data available to researchers on key issues is limited.

Beyond peer review

This grouping refers to behaviours that lie outside the established peer review process expected by and engaged in by academics and scientists. These behaviours often involve

personal, ad hominem attacks, often made in public, that are unexpected or unanticipated. While this grouping could encompass all the behaviours described in this chapter, this particular grouping refers to attacks perpetrated by fellow academics or researchers that exceed the established peer review structures in both tone and medium. Katherine Flegal's experience broadly describes the impact of these kinds of attacks.

It was pretty stressful. It was like being in a constant adrenaline rush for several years on end, because we were being attacked, in all kinds of ways. It wasn't even so much in the peer reviewed literature we were attacked; it was in roundabout, complicated ways.

Participants who experienced these behaviours often had no 'rulebook' on how to respond or deal with these kinds of attacks.

Misinformation on Wikipedia page refers to participants whose Wikipedia page was edited to spread misinformation and perpetuate further onslaught on their research and reputation. Katherine Flegal was the only participant to explicitly mention this behaviour. She was shocked that someone would bother to lie through this medium.

You should see some of the things that someone put on Wikipedia! Wikipedia? I mean who does that? You know: 'This study has been criticised by the American Heart Association, the American Cancer Society, Harvard School of Public Health, Harvard Medical School, and even CDC itself'!

Sustained minor harassment refers to participants who experienced persistent, petty attacks or incidents over weeks, months and even years. While individually taken these confrontations didn't necessarily bother participants, the relentless nature of them provided a lingering sense of unease and frustration. Several participants experienced this ongoing harassment. Michael Kasumovic was one such participant:

So yeah, it took a lot of my time. I was probably—two weeks I didn't do anything else. And that wasn't only responding to these individuals, but also because, you know, the audacity in the responses, kind of niggle at you a little bit and eat away at you and make you rethink things in a lot of ways. You wonder why people are so aggressive, so you find yourself not being able to calm down in periods of time... I'm still feeling some little backlashes.

Keynote speech rebuttal refers to the unusual silencing behaviour experienced by Katherine Flegal. While keynote speeches are typically intended to establish the defining theme of a conference, Flegal realised her address would be rebutted by one of her primary detractors.

One thing that I found very disturbing is I was invited to give a main lecture at the American Epidemiological Society. So I was pleased by that, it was kind of an honour and I didn't get a lot of invitations to a lot of universities—in fact I didn't get any for about four years. So I was pleased and I agreed to do this. And then just about two months before, I got the program and they had put a rebuttal speaker on, from Harvard. So I was like—what happened? There were a lot of things like that where you think something happened here, but what was it exactly... It's not usual to have a rebuttal speaker without telling the original speaker that that is the plan. So I called the President of the Society and said: 'Do you know these people are calling my work rubbish and ludicrous in the popular press?' And she said 'Oh no I wasn't aware of that'. And I said how did this happen and she said 'Oh well we wanted more balance to this program.' And you think, well this is probably the result of some phone calls that someone or other made, that I don't know about. So there are always things like that that crop up in all sorts of unexpected ways that you have to kind of well, keep looking around.

Explicitly told to shut up in this context refers to participants who were directly told to stop doing research in a particular field, or stop communicating a particular message to the public. This is not something one would expect in the peer review process as I'll discuss further in Chapter 5. Wayne Hall was told to stop what he was doing by colleagues in the tobacco control community who disagreed with his stance on the Australian government's e-cigarette ban. He spoke about the pressure he was under to present a 'united front' and how much harder this would be for younger researchers with more to lose.

There was a meeting held about 18 months or so ago, of senior people from around Australia in the tobacco control community. There were about twenty of us in the room, and I think there were about three of us who expressed some dissent from the current policy. And at that point we were strongly encouraged to shut up and keep our views to ourselves: 'We've all got to speak with the same voice here and if you're out there dissenting, then that's bad for policy, so please shut up.' And so you're put under a lot of pressure to do so. So it's not a very comfortable position to be in, even for someone who's been around for as long as I have and who doesn't have a lot to lose, with retirement just around the corner. It's much, much tougher for younger people who have a lot more to lose by getting offside with their colleagues.

This is behaviour aimed at silencing and shutting down research, rather than an attempt to critique or appraise. Along with Wayne Hall, participants who experienced or mentioned this behaviour felt that those who told them to shut up saw their research as morally or politically unacceptable. I will explore this phenomenon in much greater detail in the following chapter.

Public statements decrying research in this analysis refers to participants who had their research condemned in public forums, rather than through journal peer-review. This overlaps with several other behaviours. This often caught participants by surprise, as they expect to justify their work through established peer review channels and not in the mainstream media. Anthony Miller believed he was doing the right thing by sending advance publications of his follow-up paper to relevant organisations, but it ultimately backfired.

When... I knew the twenty-five year follow-up was about to be released by the BMJ, I notified the Canadian Cancer Society Research Institute that it was coming out, and I sent them the advance publication. Their reaction was to thank me for this, but what it did was to arm them with the ability to react as soon as our report hit the media, when they were out in force decrying it, on the wrong basis. So these were people who were definitely obsessed with the idea that mammography was the right thing to do and they weren't prepared to listen to evidence.

Symposia attacking research refers to a seemingly unusual behaviour experienced by Katherine Flegal, not once but twice. In both 2005 and 2013, academics from the Harvard School of Public Health organised symposia specifically aimed at condemning Flegal's studies into obesity and mortality. *Nature's* Vanessa Hughes covered the latter of these events extensively:

Late in the morning on 20 February [2013], more than 200 people packed an auditorium at the Harvard School of Public Health in Boston, Massachusetts. The purpose of the event, according to its organisers, was to explain why a new study about weight and death was absolutely wrong. The result seemed to counter decades of advice to avoid even modest weight gain, provoking coverage in most major news outlets—and a hostile backlash from some public-health experts. “This study is really a pile of rubbish, and no one should waste their time reading it,” said Walter Willett, a leading nutrition and epidemiology researcher at the Harvard school, in a radio interview. Willett later organized the Harvard symposium—where speakers lined up to critique Flegal's study—to counteract

that coverage and highlight what he and his colleagues saw as problems with the paper. “The Flegal paper was so flawed, so misleading and so confusing to so many people, we thought it really would be important to dig down more deeply,” Willett says.

(Hughes, 2013)

Flegal herself sees these kinds of attacks as absurd. The irony of calling a study ‘rubbish and not worth the paper it’s written on’ while simultaneously spending time and energy to attack it was not lost on her.

I think the point of the scrutiny, the message is ‘This is so bad that we have to destroy it’. Actually they had two symposia, they had one [in 2005] also. And I have to laugh sometimes, I think, I write a literature review and the Dean of the Harvard Medical School has to attack it. It’s a literature review! It’s not even a published article! I mean what can you say, I mean, it’s ridiculous.

Time consuming inquiries overlaps with several other behaviours, but in this context refers to ongoing inquiries and demands that took up participants’ valuable time and ultimately hindered their ability to do meaningful research. Following one detractor’s public attacks on La Trobe’s Memorandum of Understanding with Swisse, Keith Nugent ultimately gave in to pressure and decided not to go ahead with the Evidence Centre until someone else matched Swisse’s money. The constant pressure from this primary opponent and several journalists made relenting to demands easier than trying to persuade the public there was nothing nefarious going on.

[One] of the things I ended up saying publicly, because we just ended up being backed into a corner, was that we won’t accept money from Swisse until it’s backed up with independent money from elsewhere. And that’s kind of a requirement that [detractor] put in the public domain... So I’ve now got this company that... want to give us \$15million and I’m just saying, I’m not going to accept it, and I still haven’t accepted any money from them until we get that matching funding, because I know that unless I get that matching funding in there, I will just be pounced on in the media for saying one thing and doing another. So it’s already put a constraint on what we can do. Because running the argument in the media is such a time consuming and unproductive way of spending your time.

Another participant affected by this behaviour is Jennie Brand-Miller. Brand-Miller received unrelenting inquiries from journalists following the outcome of the research misconduct investigation, demanding to know when her and Alan Barclay will publish an updated version of *The Australian Paradox*. These persistent demands mean she

must focus on this update of the paper instead of the numerous other projects she is working on.

So these ABC journalists have really made things a lot worse. And one in particular, the one that you're probably aware that there was a one hour program about it on ABC radio? Well she has continued to write to the University's Office of Research Integrity asking 'Why hasn't this paper been published?' So it comes back to bite me again and again, I can't really do what I'd like to do. I know now I have to, before the end of the year I have to have written that paper and submitted it somewhere. So that's a shame, it means that other papers that should be written will be pushed back.

Misinformation in journals refers to participants whose detractors made factually incorrect assertions in peer-reviewed papers. So although this behaviour played out in established peer review channels, it goes far beyond what is expected by participants. Katherine Flegal noticed that one of the (what she called) "Flegal is wrong" papers alleged her employer, the Centres for Disease Control, had recanted her paper, which was demonstrably false.

There was one paper that got published from people at Harvard... saying our paper had been recanted by the CDC and we ended up communicating with the authors saying 'We want you to publish an erratum, we don't want to write a letter to the editor, we want an erratum because our paper was *not* recanted by the CDC. And they were quite resistant to this. You know, and they drafted some public statement that really wasn't correcting it. I said you have to say the paper *was not recanted* by CDC otherwise I'm going to write to the editor and get the journal to say that because not only was it not recanted, we actually got a big award at CDC for the paper, surprisingly enough.

The motivation and nature of these *beyond peer review* behaviours will be explored in the subsequent chapter, though it is worth noting here that these are atypical and unexpected in established peer review processes. These are far outside what most academics might anticipate when publishing and communicating their research findings. This suggests these are not based on critique, but rather appear to be based on a moral objection to what is considered a 'bad' or 'dangerous' idea.

Outside pressure

The *outside pressure* grouping refers to silencing behaviours initiated or driven by individuals or groups from outside academia. I will explore the distinction between

‘inside’ and ‘outside’ behaviours further in the third section of this chapter, but it is worth noting here the kinds of pressure outsiders can exert on academic institutions.

Paying employer to produce contradictory findings in this context refers to participants whose detractors donated money to their university on the understanding that the money would go towards contradicting their study. Jennie Brand-Miller and Alan Barclay were given to believe the ongoing research misconduct inquiry might have been a result of their primary detractor giving a substantial donation to the Vice Chancellor of the University of Sydney.

What I was told was that [critic] made a donation to the university, for research that would question the Australian Paradox... And apparently [he] scored a meeting with the Vice Chancellor when he handed over his cheque. And the Vice Chancellor told him that this is the way to sort the problem out, to do this research. Which is possibly true—that you could sort the problem out, by having people fund it to do research which proved you wrong, but I would have thought you’d come from it, from a point of view that was more open-minded than that.

Contacting employer, requesting disciplinary action in this study refers to participants whose critics called or emailed their employer demanding they be punished or their position terminated. This was a common silencing behaviour described by participants. While one-off calls did not appear to be persuasive in most cases, they may have exerted influence when enough pressure was applied. This pressure also contributed to a lingering sense of unease in participants, as the implication was that they had acted inappropriately in some way. Michael Kasumovic was generally unmoved by the attacks he encountered, but says the ones that did upset him were those that called his professionalism and integrity into question.

What bothered me about it was they felt their perception of it was accurate and correct and as a consequence, I must have done something improper. And as a result, they... went as far as they could to try to penalise me for my behaviour. Now this is contacting the Vice Chancellor of our university, contacting the ARC regarding my funding statement. Meanwhile, if they’d just approached me I would have said ‘This is where it came from, this is how I got it.’ And I tried to do that to some and they just said they didn’t believe me.

Likewise, Simon Chapman has had numerous detractors contact his and other relevant departments at the University of Sydney to make allegations about his conduct and demand disciplinary action be taken.

The other thing that people do is complain to the university about me. So I've had anti-wind farm people complain to the university... I suspect it was one of the senators who was very anti-me, and anti-wind farms, started complaining to the university and trying to make out that I was doing research without human ethics clearance. And it turned out—I mean I was director of research at my departments, and I knew the rules about getting ethics clearance back-to-front, and I had to sign off on them all—So I knew when you were using public sources, you didn't have to have ethics clearance, you know if you were using media reports or YouTube statements or stuff like that. And basically it went through the Sydney University ethics committee and they upheld my statement that I didn't need to have ethics committee clearance.

While Chapman seemed unbothered by this behaviour, the influence of politicians and interest groups on research can be more damaging. The statements of James Enstrom and Paul Frijters suggest it was exactly this kind of outside pressure, exerted on risk-averse university hierarchies, that saw them and their work penalised.

Unwanted endorsement from industry in this analysis refers to participants whose work was endorsed and used in ways they were not comfortable with, typically by an industry group. Some participants said they recognised this was an inevitable consequence of working in a contested field, while others were frustrated with what they saw as a distortion of their work to suit an agenda they weren't at all happy with. Kirsten Bell experienced this behaviour in both her tobacco and circumcision research. She acknowledged it is largely unavoidable, but knowing that makes it no less unpleasant. She argued it is the role of researchers to consider how their work may be used and whether they can accept that discomfort and distortion before they conduct research in a polarised field. She ultimately accepted that she couldn't allow this discomfort to stop her from pursuing what she saw as significant lines of enquiry.

I don't feel comfortable about it, but I know for a fact that people, there are various people in the tobacco industry following my work on Academia.edu. Certainly when this newest paper comes out, I'm sure that people in the tobacco industry will say: 'Experts say cigarette packaging doesn't work, therefore we shouldn't have it.' It's going to be used, that work is going to be used in particular ways... And also too, with my stuff on e-cigarettes as well, the same

sort of thing happens. The tobacco harm-reduction folk are like 'Great! We've got this person who's making some of the points that we want to make.' So your work gets taken up very positively and disseminated but I don't necessarily like—there are problems with their position as well. And so, there is this sort of constant battle when your work is being taken up by people and you're being located in ways that don't necessarily fit with your own positions... But it's a really difficult thing, I suppose, and I don't think I've figured out in my own work the answer to this question, which is 'I don't like the way my work is being used but I also don't want to just shut up and say nothing and not write about the things that I want to write about. And I think need to be written about.'

While this behaviour diverges from the other described behaviours in that it is endorsement of research, rather than attack, it is still worth including. If researchers feel that their work will be used in unintended, abhorrent ways or that they will lose ownership of their ideas, it may make them more reluctant to do research in a particular field. Katherine Flegal said there are certain areas of research she wouldn't publish on, even if the data were overwhelming. In other words, if the ideas were too dangerous, or the potential consequences too great, she would self-censor.

Suppose you did some research and you found that cigarette smoking was beneficial for something. I mean, I think you would have to really think twice about publishing it, and you'd be uncomfortable with it. You know, it might contribute something to knowledge, but this is not really something I want to be associated with, as a person who's coming out and saying cigarette smoking is good for you. So, I can understand that point of view, you know and I'd probably be uncomfortable too, so that kind of makes sense to me.

This acknowledgement that as researchers, we are not operating in a vacuum—that our work has an impact on the world—cannot be underestimated. If fear of being misconstrued or used for an unintended end stops us from asking a particular question and raising it publicly, then it may be just as effective a silencing behaviour as any other response described here.

Attacks from industry relates to participants whose work was targeted or suppressed by relevant industry groups. Typically this was in cases where the research would have a potentially detrimental impact on an industry. For instance, Anthony Miller's longitudinal study on mammograms called into question the efficacy of mammography in reducing death rates. Miller says that perhaps understandably, radiographers attacked these findings, as their livelihoods depend on mammography remaining a well

supported and well-funded detection tool. Miller said the backlash was so extreme that even radiographers involved in the study disparaged their own mammograms in a bid to denounce the overall validity of the findings.

The other lot of people who do this of course are the radiologists. [Even] radiologists who are part of the study—some of them have decried their own mammograms saying they were poor quality... I mean when the radiologists do it, [one detractor] as it happens, has a major conflict of interest. He's made a lot of money out of devices that he designed to help find small lesions on mammograms, which were not detectable on breast examination by a skilled person. So he's conflicted. We're attacking, if you like, his livelihood, his career. So people manufacture these accusations, this is what they do; it's part of their defence.

Paul Frijters similarly felt the influence of industry groups on UQ's response to his research.

One thing was that powerful people in the City of Brisbane didn't like the fact that this kind of research was aired in the open. And that put pressure on the university. As for the complaint from Translink—they sort of sprung to attention in a combined elite with Brisbane City Council.

In a subsequent section, I will clarify in more detail why I distinguish between responses from inside academia and those from outside. However, it is worth noting here that whether endorsing or attacking research, outsider groups can have an immense influence on how research is conducted and disseminated.

Using old and new media

This grouping refers to a set of responses that draw on old and new forms of media to silence or impede research. This includes participants whose detractors have sent out press releases or given interviews in newspapers, radio or television to decry their research. It also includes those who experienced harassment over social media or slanderous blog posts written about them and their research.

Attacks over social media refers to participants who were attacked on social media platforms such as Facebook and Twitter. While some participants saw this as 'part and parcel' of communicating their work, it does raise pertinent questions about how eager academics should be to engage new audiences. Michael Kasumovic said that after years

of communicating his work, the response to his *Insights into Sexism* paper was far beyond anything he'd experienced before, despite being prepared for a backlash.

I thought there was going to be some interest and some potential blowback, I really wanted to ensure this paper was open-access, that the data was available, and I was abundantly open and clear with this, so it didn't seem like I was hiding anything. That didn't work as well as I initially expected it to. Because especially when Twitter makes interactions so simple, people don't want to do the work themselves and immediately attempt to blame somebody. This is my feeling anyway. So what I immediately received was massive amounts of knee-jerk reactions to: 'You're smearing gamers, all gamers like this and that's totally uncool and unfair.' Which, if anyone read the paper, I wasn't at all and the paper was actually showing there were some individuals who were actually quite positive and nice. I was showing a nuance to individual behaviour online. Not saying that all gamers are sexist, but of course this is how things kind of snowballed very quickly, especially when one kind of feels that they fall into the group that's being characterised. And feel that 'I'm not like that, so this guy must be wrong.'

Mainstream media involvement refers to participants whose critics used mainstream media to perpetuate attacks, misinformation and call their professionalism into question. In my own experience, *The Australian* newspaper's role in obstructing my research was significant. To have a national newspaper publicly scorn my credibility, integrity, and qualifications and imply that I am a paid spokesperson for the wind industry made it difficult to continue researching in this field. That *The Australian* and anti-wind website *Stop These Things* both publicly denounced my research to their readers ultimately made it near impossible to recruit any participants. Like Michael Kasumovic, Keith Nugent and his colleagues at La Trobe tried to pre-empt any backlash to their Swisse partnership by consulting the individual who would later become the partnership's primary detractor before any announcement had been made.

We said to him: '[We want you to approve of this. We know you have an issue with [Swisse] but we're going to do it in a way that's completely scientifically legitimate. We're going to retain the right to publish good or bad. We're going to treat this as completely objective science. What is your view on this?]' And he came back and he said: 'This is exactly what should be happening, I approve.'

Despite this endorsement, Nugent says the opponent quickly alerted his contacts in the mainstream media that he was resigning from La Trobe in protest over the partnership.

[He] wrote a press release to every media outlet he could find stating that 'La Trobe signed up for this \$15 million (I think it was at the time) and it is

completely unethical and I'm resigning from La Trobe University in protest.' Despite the fact of course that he didn't have a job with us. It didn't much matter, as far as the media was concerned, so basically he just used all his media contacts of which he had quite a few to basically misrepresent what was happening. And also make a statement. So when he did this big media blitz, I was somewhat surprised. I wasn't surprised by the fact that he might object to it, but I was surprised by the fact that he said he was okay with it and then decided he wasn't without, warning us.

Nugent says the pressure of media attention and the partnership's main detractor placed impractical limits on the partnership, and as a result it has stalled indefinitely.

Spreading misinformation in online blogs refers to participants whose opponents wrote inflammatory blogs and other online posts about them, often involving personal attacks, misinformation or outright fabrications. From my own experience, the involvement of anti-wind websites signaled the end of my research in that space, as they told their subscribers—the very people I was hoping to interview—that I was not to be trusted and they should avoid me at all costs. The broader impact of blogs critical of particular research or academics is unclear, though some have argued it could be an example of a new kind of peer review, where other members of the scientific or academic community are able to say the things they perhaps wouldn't or couldn't in a journal (Joglekar 2015; Tyrell, 2016). Fiona McQuarrie argues the penalties may be the same nonetheless—academics who question the lack of diversity in science in blogs are subject to the same silencing behaviours as participants who publish unpalatable or controversial findings (McQuarrie, 2015a, 2015b). My participants' experiences suggest a more negative impact of the blogs written about their work. Katherine Flegal found a blog in which the author claimed her study had been so invalid, the CDC had demoted her.

There was one thing on some kind of blog where—this was kind of funny really—somebody from Harvard posted something saying that I had been demoted by CDC for publishing the incorrect numbers. And I could tell who it was, so I just called him up. And he was so surprised to hear from me. And I said: 'Why did you put that on there? That's not true at all! I didn't get demoted, and CDC gave me an award, they didn't say I'd published incorrect numbers.' He said 'Oh I'm so sorry, I'm so sorry I had a migraine, I had a headache.'

While some participants brushed these blogs off as not particularly damaging or serious, others recognised the ways this kind of acerbic language and personal attacks could hinder attempts to deal with the more substantive issues at play in a particular issue. Mark Largent was the target of a pro-vaccine blogger known as Orac who called Largent ‘clueless’ and insisted that ‘the concerns of these [vaccine-anxious] parents are almost always rooted in pseudoscience, fear-mongering, and outright scientific misinformation’. Largent says he has been conducting interviews with these parents for around a decade and has come to realise their concerns are much more complex than that.

But I mean what it tells you is the position that Orac and others have is so tenuous that a kind of militancy has to be used to police the boundaries... And I think those kinds of ad hominem attacks are really preventing people from empathising with one another. Preventing people from actually dealing with one another’s root concerns. And even the people who have those concerns because they respond with other ad hominem attacks, they don’t have to admit whatever is root in their concerns.

This lack of honesty and reflection will be explored further in subsequent chapters, but it is important to note here the effect these kinds of reactionary, divisive responses have on our ability to think critically or resolve issues. When a field becomes this polarised, there’s a prevailing sense that it would be perceived as weak to compromise your position or empathise with your opponent. Instead you must underscore the boundaries and punish those not playing by the rules.

Allegations and discipline

This grouping refers to the most overt, severe behaviours participants experienced. Included in this grouping are allegations of wrongdoing and ethical breaches. Also included in this grouping are participants who were subject to research misconduct inquiries, and those who were demoted or terminated by their employers. It is important to note that in each of the examples presented, little or no evidence of concrete wrongdoing was ultimately found. The allegations seemed to act as a warning or silencing tool, rather than addressing a genuine, demonstrable case of misconduct. Michael Mair spoke about why opponents of research use conflict of interest or misconduct allegations as a ‘knockdown argument’—the final blow in the fight.

A knockdown argument is a rhetorical thing, it's not—there's nothing in a knockdown argument which carries it in particular ways, it's meant to silence, rather than to convince, in that respect. So it's got a force. So yeah, I think the notion of the kind of knockdown argument or the silencing comments are kind of parts of the rhetorical contemporary, contested fields is very interesting, because you can see the ways in which they're mobilised and take root. And you know, yes, when pushed into a corner, people will always try and have the thing which will end the debate, the last words. You know, it's really important, particularly if you want to leave whoever might be watching or listening with the impression you just won, as well. Or that the person had no decent response to that. So this is the killer, knockout blow sort of stuff.

It is easy to see why allegations of wrongdoing would come to be seen, and employed, as one of the most efficient ways of silencing inconvenient or discomfiting research. It doesn't require identifying a substantive flaw with the methodology, statistics or analysis. The research doesn't need to be invalid—the researcher just has to be painted as devious or untrustworthy enough for the conclusions themselves to be irrevocably tainted.

Allegations of ethical breaches or causing harm refers to participants who were accused of 'promoting dangerous ideas' or 'endangering lives'. This could be because they allegedly breached ethics protocols, or the findings themselves were so potentially damaging that the work is deemed unacceptable. Anthony Miller spoke about these allegations following this work in both breast and prostate cancer. An article by Marc Silver for *National Geographic* recounted his wife's battle with mammogram-diagnosed breast cancer. He argued that if we are to follow Miller's advice and only use mammography as a diagnostic test rather than a general screen for women over a certain age, his wife would have died (Silver, 2014). Miller encountered several people who used their own or loved ones' experiences with cancer to suggest that his conclusions over PSA tests and mammography based on large, longitudinal studies were tantamount to condemning people to death.

One of the things that happens to me periodically is when I go to a meeting and particularly if we get onto the subject of the PSA test for prostate cancer, you can almost guarantee there'll be a man in the audience who's absolutely convinced his life was saved by the PSA test. And for me to suggest something different creates major hostility.

Katherine Flegal faced accusations of harming the public following both her 2005 and 2013 studies. One of her major critics from Harvard charged her with undermining science. In contrast, she believes this ignores the fundamental principles of science.

[My primary opponent] wrote some emails to the director of CDC Tom Frieden, who's my biggest boss basically and he said things like: 'The Flegal article has caused serious damage and undermined public confidence in science', as though somehow science would be undermined if people had different findings, which to me would be, kind of the essence of science, really. That you know, it's self-correcting or it should be self-correcting and it proceeds by fits and starts but this was like 'We already have the right thing to say' and [I] don't, so that's it.

Paul Frijters maintains he followed UQ's ethics protocols, and says if the university had any concerns about his and Mujcic's study prior to the backlash from Translink and the Brisbane City Council, they wouldn't have signed off or funded it. In any case, he says the allegations of ethical breaches were used as a convenient means of shutting down his research.

I don't believe for a moment they actually cared about [ethics]. They just found a good excuse to sort of go after it, but I think it was the complaints from powerful people... plus whatever other things were happening that spurred them into action—but spurred them into action immediately without mulling over anything or you know, paying any attention to what I said.

Allegations of misrepresenting data refers to participants who were accused of falsifying findings. In the cases where this was mentioned, it does not *appear* that participants' opponents provided evidence to substantiate their claims. It is important to note again that I am not taking a position on whether or not there was a basis for these allegations or whether my participants' research was valid. My intention here is to highlight the silencing behaviours experienced and cited by participants, where there did not appear to be a substantiated case of research misconduct. Anthony Miller spoke about the allegations that followed his Canadian National Breast Screening Study's seven-year update.

So we went on to seven years and then we reported the initial failure to find any benefit of mammography in either age group in the Canadian Medical Association Journal in 1992, at which point the roof fell in. I was accused of deliberately designing a study that would not produce a benefit. I was accused of setting up mechanisms to harm women et cetera et cetera and this sort of

accusation has returned every time we've reported results... the mere fact that you make an accusation is sufficient.

Miller says he has provided his critics with explanations of his study design, randomisation and data analysis, including proof he did not manipulate the randomisation process to skew the results. He says he realises now that no amount of evidence will convince his opponents that the study was valid, as they are motivated to believe mammography is beyond criticism and nothing will change that.

Michael Kasumovic came to a similar realisation after trying for weeks to defend his data to no avail.

If you look at my PLoS One paper I have this computer scientist and this statistician from the University of Waterloo questioning my statistics. Bluntly they're wrong and mainly because they're kind of trying to find a problem. You know I've responded to them and said: 'No, my statistics are fine, this is the reason...' so on and so forth. And they've gone back and said 'No you're not right.' And I see that this is a witch hunt, or it's becoming a witch hunt, mainly because, prior to those comments on the website, of course, I've got emails from him directly in which he was very accusatory and the statements that he made were that he doesn't believe me so I clearly must be wrong. So of course the community doesn't see these kinds of things you kind of have these individuals who are trying to attack your integrity or your moral standpoint or your statistical or scientific ability or statistical nous or some other way because they don't want to come to grips with whatever the data is like. These kinds of things sometimes lag on for long periods of time so even three, four weeks later I was still having to deal with this one guy who feels that I'm just wrong because he doesn't like admitting some possibility of male behaviour being even moderated by someone's perception of themselves and who they're competing against.

Allegations of funding misappropriation refers to participants who were accused of funding misuse or fraud. Michael Kasumovic said some of his opponents called the Australian Research Council and his employer at University of New South Wales demanding to know how his study was funded.

None of it's really bothered me that much, except for the allegations of misrepresentation, ethics and misappropriation of funds. Those were really low blows which they had no reason to accuse me of, of course I did everything the way it was supposed to be... If they knew how hard it was to get research funding, they wouldn't be saying things like this.

This will be explored further in subsequent chapters, but it's important to note here Kasumovic's faith in the research process. He did 'everything the way it was supposed to be' and as such cannot understand this kind of relentless, unfounded accusations against him and his study. Research silencing appears to go beyond the 'legitimate' limits we acknowledge and expect as academics. This suggests there are *unspoken* or *invisible* 'rules' to academic freedom, beyond that which is considered 'scholarly conventions' such as peer review and funding applications.

Direct threats of violence refers to participants who received death threats or other threats of violence. Both Stanton Peele and Simon Chapman mentioned occasions where they encountered direct threats of violence. In response to his gun control position, Simon Chapman received numerous threatening letters from gun rights advocates. When I asked about negative responses to his work, Chapman said one threat he received was 'the worst thing that ever happened' in the broader patterns of research silencing he experienced.

I got... a signed letter, even with the person's address on it, which was a poem. And it was a bit of a cryptic poem, but it had enough in it to suggest this guy was making a death threat to me. And it was about guns, firearms, so I thought if someone's making a death threat and they're a shooter or shooter sympathizer, then this ought to be taken to the police. So the police went around and knocked on this guy's door, and his wife answered and said 'Oh my god has he been doing it again?' And it turned out the guy had mental health problems and was known to police, if you know what I mean.

Outside of my dataset, there are numerous accounts of scientists being threatened by individuals aggrieved by their research. Particularly noteworthy are the rise in violent threats against climate scientists (Luiggi, 2011; Mann, 2016).

Conflict of interest allegations refer to participants who were accused of representing or being funded by vested interests. As indicated by Table 1 and Figure 1, this was one of the most common responses experienced by participants. It is one of the first claims made by research opponents, as it seemingly requires less evidence than other allegations. Many participants said the mere suggestion they were funded by an interest they hadn't disclosed called both the validity of the study and their integrity into serious doubt. Jennie Brand-Miller and Alan Barclay were accused of being paid by the soft

drink or sugar industry to produce *The Australian Paradox*. As indicated earlier, Brand-Miller believes being limited in the ways she could respond to their primary antagonist's accusations meant these claims persisted much longer than was necessary.

But I think it would have been useful I think to sit down with [critic], perhaps with a mediator and just explain where we were coming from. Because I think he was quite convinced that I had a conflict of interest—that I was somehow being paid out by the sugar industry—that in some way there was some financial incentive for me to take this point of view. And I think he was probably surprised to find out in the end that there was absolutely nothing.

It's important to again note the tendency to justify attacks on research when there is a commitment to the 'greater good', while condemning these same behaviours when they are used to attack us. The participant I mentioned in the previous chapter who inhabits both 'victim' and 'perpetrator' roles in different research fields spoke at length about conflict of interest allegations. He argued that people who employ these kinds of ad hominem attacks without evidence are despicable. A few minutes later, he said that researchers who disagree with his stance on a particular debate are 'obviously being paid by the [redacted] industry' without providing any evidence of such a claim. Again, this is not to criticise this individual, but merely highlight how we come to use these kinds of silencing responses to dismiss ideas we don't like or agree with. When you have a strong sense of what constitutes 'bad' research, using the tactics of the 'other side' becomes much easier to rationalise than when 'they' are silencing us. These effects of polarisation will be drawn out in more depth in the following chapter, but it is worth acknowledging these dynamics in determining the conditions under which we do research and the positions we feel forced to take.

Disciplinary action from employer refers to participants who were demoted or punished in some way by their university. Only Paul Frijters and James Enstrom experienced this directly, though others said they were aware of the risk. Note that both Frijters and Enstrom initiated wrongful dismissal or fair work actions against their employers. Enstrom successfully argued his termination was unfair and was awarded a settlement and can retain access to UCLA resources (Maskara, 2015). As noted, Paul Frijters' Fair Work Commission inquiry found UQ breached their own procedures in disciplining Frijters, and as such the entire process would need to be undertaken again to determine

a just outcome (Foster, 2016). Frijters spoke about the financial and productivity costs of the experience.

It has cost me maybe 40 per cent of my productivity over the last two and a half years, in order to sort of fend off all the procedural shit and so that is time lost that would have been better spent on discovering what's important for Australia and other places. Now financially, I guess the case in total would have cost me a couple of hundred thousand dollars.

Gottfredson's work reinforces Frijters' experience. "The expense and uncertainty of pursuing legal recourse is one reason for the profession to prevent violations ever rising to the level of seriousness that would create strong legal cases" (Gottfredson, 2010, p274).

Research misconduct inquiry refers to participants who were forced to defend their work against claims of wrongdoing in an official investigation. Although participants who experienced this behaviour were ultimately cleared, they believe their reputations sustained damage throughout the process. Jennie Brand-Miller explained her anxiety around having the research misconduct inquiry, as she feared her reputation might be permanently smeared with unfounded accusations.

I was stunned when the Research—the Pro-Vice Chancellor of Research she made the decision, after a long time, I think it probably was December 2013, so we'd been now going almost two years. She made the decision that the only way to settle this was to institute an inquiry into research misconduct. And honestly the words 'research misconduct' were enough to make me feel sick, because you know, it would mean from there on in if someone, you know, got your name and just Googled it, it would be associated soon enough with something called 'research misconduct'. And you didn't have to read far to gain the impression that I'd done something wrong.

Termination refers to the University of California Los Angeles' sudden and unexpected decision to not renew James Enstrom's contract in 2010. While there is a difference between termination and non-renewal of contract, the latter was akin to the former, particularly as Enstrom refers to it as termination and was eventually successful in bringing a wrongful dismissal suit against UCLA. Initially UCLA gave several procedural or technical reasons for not renewing Enstrom's contract, generally pertaining to funding and contractual problems. Eventually, however, they admitted that Enstrom's

work was “not aligned with the department’s mission” (Snowdon, 2014). Enstrom says his work was considered unacceptable in a green-ideological state like California.

I think what happened is I uncovered the fact there really aren’t any epidemiologists like me in the state of California and that I really came out of the blue. In other words, no one expected this, especially from a university like UCLA. And the reaction within California was extremely negative, you know ultimately intolerable. They could not stand this. And so, ever since, my paper came out in the British Medical Journal in 2003, I’ve just been under a continual barrage. And it just got worse when I published my paper in 2005 on air pollution epidemiology and when I became much more visible on this subject, starting in 2008. And so actually I am not as pessimistic as certainly I was, especially during the period right after I started getting attacked in 2003 and right after I got really attacked and terminated in 2010. Those two periods were incredibly difficult... It’s been pretty damaging but they haven’t killed me off.

I will explore in more detail what underlies these behaviours in subsequent chapters, but it was important at this stage to provide a broad overview and examples of these responses, how they played out and how they impacted participants.

Distinction between responses from inside and outside academia

In this analysis, I have chosen to distinguish between responses initiated by those *inside* the academic or scientific community, and those *outside* the community, whether they are interest groups, media players or industry. In academic culture literature, there is a clear distinction between *internalist culture* and *externalist culture*. Barnett (2013) frames *internalist culture* this way:

Here, we may inquire into the meaning structures within the academy: what are their significant fault lines? Through which meanings do those within the academy relate to each other and differentiate themselves from each other? How tight are those meanings? To what extent do the various groupings within the academy inter-connect and through what over-arching mutual interests (if any)? And to what extent are there substantial lines of cleavage, separating collectives from each other, even within the space of the academy.

(Barnett, 2013, p8)

As I argue, these internal mutual interests and lines of cleavage are revealed when they are crossed. Within my data, recriminations arising within the academy against academics that crossed these lines were far more common than those from outside. Nonetheless, Barnett argues academic culture is also shaped by outside forces:

Here, the academy comes into a relationship with the cultural forms of that wider society, whether in an endorsing way or perhaps an antagonistic way. The culture of the university might be said to support the wider cultures of society or even run against them. After all, perhaps the internalist culture of the academy is or might be pitted against those wider cultures in society more generally.

(Barnett, 2013, p8)

For the purpose of this thesis, a distinction between insiders and outsiders is important for a couple of reasons.

Firstly, the behaviour may feel more or less damaging depending on who initiated it. An attack from a member of the public might be dismissed more easily as simply ignorant or ill informed. Opposition from an industry group who feel threatened by findings provides a clear motivation to suppress or condemn research. These external attacks may be just as devastating and limiting as any other, but the cause may be easier to understand or accept. However, if a peer within the academic community attacks your research, particularly outside of established peer review channels, it may be much more difficult to comprehend the backlash. This confusion may contribute to an already distressing atmosphere.

It is also important to separate these responses because it suggests academic training does not stop someone from perpetuating visceral, knee-jerk responses. The data indicates that these reactions occur just as often within academia as without, if not much more frequently. And it is this visceral, knee-jerk response I aim to understand in this thesis. These feelingful, 'gut' responses go beyond the limits we accept and expect in academia and have a profound impact on whether research is considered 'acceptable' or 'unacceptable'. It is critical to explore silencing responses to ideas that transgress boundaries, as they fundamentally curtail the lines of enquiry we are 'allowed' to pursue. These boundaries are not addressed in written academic freedom policies, and are only revealed once they've been crossed.

Chapter 4: Explanations for research silencing

In the previous chapter, I describe silencing behaviours, what they look like and how they play out. I will now explore reasons *why* people may be driven to respond in these ways. This chapter will give my participants' perspectives on why they and their research were attacked. While I cannot be sure of the extent to which these personal accounts represent the broader problems of research silencing, they remain valid for several reasons. First, some of my participants were deeply affected by these behaviours, so they have understandably devoted considerable thought to their opponent's motivations. Second, some of my participants have both experienced and studied the way research fields become constrained from an academic perspective, so their interpretation of this phenomenon is extremely valuable. Third, these accounts and explanations will provide another layer of evidence for the subsequent literature review and discussion chapters, in which I expand on my overarching theory: hidden boundaries are revealed when lines of enquiry elicit a moral disgust response. Those players in the fields threatened by boundary transgression will police boundaries and penalise 'rule-breakers' with silencing behaviours.

This chapter is divided into two sections. The first section draws on the experiences of participants who felt 'blindsided' or unprepared by the negative reaction to their research. In my participants' confusion and attempt to understand their experiences, they have formed their own accounts concerning why they were silenced. I have distilled these explanations into five broad categories: challenging orthodoxy; misinformation; vested interests and identity; polarisation; and systemic pressures. Several participants believed their work was attacked because they *threatened a normative position*—they posed a risk to the status quo and needed to be silenced. Other participants believed those leading the backlash against them were *misinformed* or ignorant of the subject matter and didn't understand the complexities of their research. Those I've interpreted as *vested interests and identity* believed their detractors felt the need to preserve an image of them that was being threatened by my participants' findings. In fields that were particularly fraught and divisive, attacks were seen as more

common and yet more vicious: ‘you’re either with us or against us’. *Systemic pressures* were to blame for participants who saw increasing bureaucratisation and ideological agendas creeping into university hierarchies, making them risk-averse and less willing to defend academic freedom.

The second part of the chapter draws on interpretations of participants who have both experienced forms of silencing behaviour and attempted to understand them from a theoretical, scholarly perspective. This provides a much more nuanced and abstract interpretation of why research might be attacked or constrained, particularly in polarised fields where most of these participants were drawn from. While these expert-participants were from diverse fields and at times used discipline-specific language, I was able to identify three distinct themes from the data: viscerality; tribalisation and winning; and dishonesty. Several participants who have both experienced and studied research silencing believed some lines of enquiry provoke such a visceral response, that they cannot even be considered analytically. Several others echoed the belief that in tribalised fields, ‘winning’ becomes much more important than empirical research—you must use any means necessary to shut down your opponent. While it was not immediately clear, one of the most important themes to emerge from these participants was the role of intellectual dishonesty in research silencing—without reflecting on our position and why we deem particular ideas ‘unacceptable’ we justify silencing behaviours, rather than acknowledging or addressing our root concerns.

The chapter concludes with a summary of these findings: When a line of enquiry threatens a boundary—whether that is research orthodoxy or vested interests—it provokes a visceral response from those threatened. Players in the field will act to silence and shut down, rather than critically engage with ideas that provoke moral disgust.

Participants explain research silencing

In this section I draw out the various explanations participants offered for the silencing behaviours they experienced. These participants were generally from what would be considered physical science backgrounds. They were not necessarily as aware of the social, cultural or political implications of their research as other participants in social

science areas, and as such were often surprised by the backlash they encountered. Some participants in this category were deeply affected by denunciation of their work and have lasting confusion and anxiety. This was discussed in the methodology chapter, but it warrants repeating here. Several participants, such as Jennie Brand-Miller and Alan Barclay, were reluctant to speak about their experiences with me, as they had been ‘trapped’ before. That the backlash against their work sometimes lasted several years gave them ample time and impetus to consider why. These individual accounts of silencing behaviours provide useful insights into this phenomenon. The participants included in this section attempted to make meaning out of the attacks on their work. As I will explore further, particularly in cases where participants’ opponents were from outside academia, providing explanations for their reactions helped to alleviate anxiety. These accounts can be categorised in related themes to the silencing behaviours presented in the previous chapter: challenging orthodoxy, misinformation, polarisation, vested interests and identity, and systemic pressures.

Challenging orthodoxy

The view that some research is silenced because it challenges a scientific orthodoxy or normative position was one of the most common explanations given by my participants for their experiences. Broadly speaking, participants who gave this particular rationalisation considered these kinds of responses ‘par for the course’ when you defy the status quo, even if the available evidence overwhelmingly supports your position. Several participants mentioned Thomas Kuhn’s work on the contested history of science and the ways some scientific ideas must go through rigorous and sometimes harsh debate before eventually leading to a ‘paradigm shift’ (Kuhn, 2012). So while these participants may have been caught unaware by the severity or extent of the attacks, they were not necessarily surprised there had been pushback.

Jennie Brand-Miller believes she and Alan Barclay were primarily attacked for putting forward an unorthodox view. Initially, Brand-Miller accepted the backlash as just part of science—those putting forward a view that contradicts the status quo will be challenged.

I also think that there is this phenomenon that is human, that if you're going to push the envelope on any subject, if you're going to come out with something that's right from left field, that you're going to be challenged, you're going to be questioned, simply because you're challenging the status quo.

She expected to encounter some backlash, but not a sustained campaign that lasted several years and culminated in a research misconduct inquiry. Brand-Miller says the narrative around sugar and its link to obesity is so obvious that, for many, it cannot be challenged. Brand-Miller argues that others in the nutrition space take such a link for granted and any dissent will be punished.

These days, I think the sugar-sweetened soft drink story is, it's... fundamental now that sugar-sweetened soft drinks have definitely played a role in making adults and children fat, that that's definitely proven. When it's far from proven... I've just got so many colleagues who are adamant that sugar-sweetened soft drinks are a threat to public health... that there is this element of toxicity—and I'm just incredulous... [but] I think I'm more reluctant and more of a coward now about speaking out, speaking a different point of view to the majority of my colleagues.

Likewise, Katherine Flegal believes that most public health-oriented obesity researchers are so determined to present a united front that they are no longer engaging in science. Flegal argues that her opponents went to extreme lengths to manipulate the data in order to make her findings invalid. She was punished because she did not follow the prescribed line on obesity, and this is seen as dangerous.

The message really was not so much: 'Here's a scientific disagreement', it was more 'this is something you should ignore completely'. [In science] you try to find why this is happening; you don't just say this must be wrong. 'Why is this happening? What am I seeing here?' Try to move forward somehow or figure something out. That should be the goal, not to stop it and denounce it and say this must be wrong... I think the point of the scrutiny; the message is 'This is so bad that we have to destroy it'.

James Enstrom offered two reasons for why he believed UCLA reacted so strongly to his work on second-hand smoking and fine particulate air pollution, challenging orthodoxy and systemic pressures, the latter of which I will discuss in a subsequent section. Enstrom's former explanation closely mirrored Brand-Miller and Flegal's argument—that he had dared to go against the normative position put forward by most second-hand smoking or air pollution epidemiologists. He says that despite many attempts to

stop his papers from being published, ultimately UCLA could not find fault with his data or conclusions, so they needed to punish him in another way.

And they're basically, as I said before, they're counter to the standard dogma or the dogma that's being pushed by the people that have control of these areas of public health. It was so bad with the British Medical Journal that it basically cost the editor his career... But my [second-hand smoking] paper was never supposed to get through the peer review system and certainly not wind up in the British Medical Journal. And basically in the same way with air pollution epidemiology I couldn't get it in a major journal, it got rejected from the New England Journal of Medicine, although it should have been published there. But it got published and again, very hard to dismiss because it involved data from the American Cancer Society which has been a very big player in air pollution epidemiology in the United States and again it came completely out of the blue. They had no idea that this could have possibly happened and so that's basically why the attempts were made on me. Because they knew this was not really attackable in the way they could go after other scientists. And basically get the findings dismissed.

I will draw this out in more depth in the following discussion chapter, but it is worth observing the kind of language Brand Miller, Flegal and Enstrom use here. Words like 'dogma', 'threat'; 'denounce', 'coward', 'wrong' 'attackable'; 'bad'; and 'destroy' are highly value-laden, moralistic and emotive. These are not the kinds of words one would associate with critical discussion of scientific findings. It connotes something genuinely threatening: ideas that are morally reprehensible, dangerous and must be obliterated. It is seemingly not possible to make meaning of these findings in any constructive way. The only available course of action is to *eradicate the 'bad' ideas* and those researchers propagating them.

Misinformation

The belief that participants were attacked because members of the public don't understand the complexities of science was another relatively frequent explanation. Participants who offered this reason typically believed it was due to a fundamental misunderstanding and if their opponents 'just understood the science better', they wouldn't respond this way. We know from decades of science communication literature that this 'deficit model' approach is insufficient and highly problematic in understanding people's engagement with science (Smallman, 2016; Irwin, 2014; Gilbert & Stockmayer, 2012; Sturgis & Allum, 2004). Facts alone cannot shift people against existing positions for which they are already invested and have myriad reasons for not

wanting to relinquish (Cortassa, 2016). We know that values, worldview and culture are far more influential on people's understanding and beliefs around science than knowing 'the right information' (Kahan, Jenkins-smith, & Braman, 2010). We know that people tend to reject information that conflicts with their worldview, and embellish or aggrandise any information that may support their worldview (Kahneman, 2011; Tversky & Kahneman, 1974). However, this explanation is still important, as it suggests that this 'deficit model' view is still pervasive and offers a convenient reason to dismiss attacks on you and your work. If your opponents 'clearly don't know what they're talking about', why should you take any of their criticisms seriously? It is undoubtedly much easier to shelve these traumatic experiences if you believe it was simply based on misinformation and misunderstanding.

One participant, Alan Barclay, believes *The Australian Paradox* was attacked because members of the public who didn't grasp the finer points of nutrition had overreacted based on misinformed conclusions.

Well it was meant for health professionals, because it's a journal article. I mean it wasn't a book for consumers, it was written for a very specific audience. It was in a journal called *Nutrients* and one assumes the readers are those who understand the data, its strengths and weaknesses and therefore you don't have to explain everything in great detail, but unfortunately consumers have got hold of it, don't understand the data and have jumped to some totally ridiculous conclusions shall we say?

Barclay argues that for a paper he was only tangentially involved with, it has taken up a disproportionate amount of his time and energy. He believes this is because he and Brand-Miller are dealing with someone with too much time and money on his hands.

[This] guy is, well, fanatical, I suppose is the only way to describe it. From what we can gather, a multi-millionaire who only works part-time and spends most of his time obsessing over it... So to me it was a minor paper, which I happened to be slightly involved with but not greatly. So it's been blown greatly out of proportion and then having to try and rebut to a consumer who doesn't really understand... I think there is very much a sugar hysteria at the moment and it's easy to get swept up in that. So I think some people did, shall we say, believe the economist rather than the people that actually know the science, which is kind of sad from a professional perspective.

While the role of misinformation or misunderstanding is questionable, it is worth noting Barclay's description of his opponent as a 'fanatic' who is 'obsessing'. This suggests that people who attack science are not necessarily misinformed, but rather that they are highly motivated to disagree with the findings. I did not interview the individual who pursued an inquiry against Barclay and Brand-Miller, and it is beyond the scope of this thesis to assess or make judgements about his motivations. However, his initial email to Brand-Miller was a long and detailed document citing studies that disputed Brand-Miller and Barclay's findings. This does not seem like the actions of someone ill informed or poorly educated, but rather someone motivated by existing values or worldview, who feels compelled to defend this worldview with evidence. This would reflect the findings from both Kahan and Kahneman that it is not a lack of information or 'facts' but rather that how we order and make sense of information is determined by our values, experiences and worldview (Kahan et al., 2010; Kahneman, 2011). It is important to emphasise that, particularly in Flegal's case, it was fellow researchers engaging in the most vitriolic attacks she experienced. The participants who faced backlash from members of the public, or non-experts often pointed to this ignorance or lack of expertise as a factor. For instance, Michael Kasumovic, Alan Barclay and Jennie Brand-Miller all suggest their detractors were lacking some kind of scientific understanding, which meant they were unable to deal with the research in a 'rational' manner. Contrary to this belief, the majority of silencing behaviours my participants experienced were instigated by fellow researchers, sometimes even colleagues. These are not lay people, ignorant of the subject matter. Rather, many of my participants were attacked by fellow academics in similar or overlapping research fields. This would suggest academics and laypeople share this impulse to silence research that 'crosses the line'. It suggests that no matter if you are trained in the scientific method or not, the response to ideas deemed 'bad' or 'dangerous' is the same—suppression and silencing.

Vested interests and identity

Another common explanation for why my participants were silenced is the belief that vested interests and identity become inextricably tangled up in science. I have combined vested interests and identity for the purpose of this analysis, as vested interests does not necessarily mean financial or political interests, but personal or identity-bound vested interests. The participants who mentioned this often talked

about more personal motivations to shut down research, namely, that the attacker's sense of identity depended on a particular scientific conclusion. So while some participants may have been attacked because of vested interests in the more traditional sense—power, money and politics—the interests proffered by participants related more to a vested interest in maintaining a sense of identity. That is, 'this study threatens how I perceive myself and how others perceive me. It is obviously wrong and must be suppressed'.

Simon Chapman has been involved in numerous controversial and fraught research fields. He has encountered backlash from various individuals and groups—from the tobacco industry, anti-wind activists and gun rights supporters, among others. Chapman believes some of his opponents have a deeply personal, obsessive commitment to advancing their view on an issue.

Well I've done a lot of research about topics where there are strong vested interests—whether they be commercial interests or sometimes interest groups who are deeply, deeply committed to their issue. And some of the research I've done has been very critical of some of those groups' activities... And there are some topics where the people who want to engage with you, that is the apparently the only thing in their life, and they become, many of them are quite obsessed about it. They think that you should be as engaged with it as you are.

Chapman believes the people who send him abusive or threatening messages have shaped their sense of identity around a particular belief or idea, and take personally any findings that question or dispute that belief.

People have personal investments in some of them... So they just want to inhabit that definition of themselves and they want everyone to respect it. And anyone who's questioning it, they want to convert you, you know? And then other people who are advocates for particular causes... they identify individuals as a problem for their issue. And because of my prominence, many of them would identify me as somebody who ought to be stopped. And so that I presume is their motivation.

Likewise, Michael Kasumovic believes that gamers attacked him and his *Insights Into Sexism* study because they felt he was besmirching all male gamers as losers and misogynists, when that was not his intention. He felt that despite his attempt at a nuanced analysis and discussion, the media's coverage simplified and exaggerated the

study. As a result, people had an impulsive response to what they saw as persecution. Gamers could not allow their identity and reputation to be slandered.

So what I immediately received was massive amounts of knee-jerk reactions to: 'You're smearing all gamers like this and that's totally uncool and unfair.' Which, if anyone read the paper, I wasn't at all and the paper was actually showing there were some individuals who were actually quite positive and nice. I was showing a nuance to individual behaviour online. Not saying that all gamers are sexist, but of course this is how things kind of snowballed very quickly, especially when one kind of feels that they fall into the group that's being characterised. And feel that 'I'm not like that, so this guy must be wrong.'

Kasumovic argues that this kind of response it not aimed at building understanding or constructive critique, but shut it down entirely.

There's no point in engaging with these kinds of individuals because their goal is not to have a meaningful conversation or to understand your science or to understand the goal of your science. They want you to stop researching this idea because they don't agree with it for whatever reason... there's nothing more to it than that.

I will explore this in considerable depth in the upcoming chapters, but it is worth noting how closely this language reflects that of Brand-Miller, Enstrom and Flegal above. This is about *silencing and shutting down lines of enquiry*, rather than critical analysis of scientific work.

Polarisation

Several participants talked about the effects of polarisation on their ability to do meaningful research. These participants argued that once an issue becomes sufficiently fraught and tribalised, it becomes impossible to do research that doesn't follow one of the prescribed 'acceptable' positions. Research for research's sake becomes off-limits and any attempt to 'just understand what's going on' will be condemned. Participants who proffered this explanation believed that these scientific issues became inextricably tied to emotions, skewed risk perceptions and fear. These conditions narrow what is seen as acceptable enquiry and shuts down science.

Keith Nugent argues some issues get so mired in fear and skewed risk perceptions, they become too controversial to do any meaningful research on. He believes this reaction

against some ideas is inherently irrational, and not based on a balanced view of the evidence.

So I think that kind of closed-mindedness one way or the other—and the scientific community is no better than any other community on this front—is a serious issue. And it does impact what you can do... the other one that's coming from my background obviously is, historically from the nuclear industry as well. I mean that got shut down completely for very similar reasons. I mean, any rational estimate of the dangers of nuclear energy compared to the coal industry, when you look at global warming now as a—god knows how many thousands of people that will ultimately kill. But also coal mining and all the other sorts of dangers that go on with coal. If you look at it rationally, then the decision is actually quite clear.

Similarly, Wayne Hall argues that when issues become too heated or polarised, agendas become misrepresented and science gets lost in the fray. In his work on e-cigarettes, tobacco control colleagues question his stance, because he does not conform to their 'side'. He argues some people consider it unfathomable that others reach different conclusions from their own. The way these individuals resolve this confusion, Hall argues, is to attack the credibility and integrity of anyone who opposes their position.

And when there isn't a lot of evidence, and things are unclear, then people tend to resolve these uncertainties in a way that suits their pre-existing prejudices. And what also often happens is that from the point of view of people on both sides of the argument, the issue is as clear as crystal for them and they just can't comprehend why people on the other side of the debate don't share their views. So there's a tendency to resort to ad hominem attacks on the motives and bona fides of those with whom they disagree. So anyone who's not in favour of the ban on e-cigarettes is often accused of being in bed with the tobacco industry or being useful simpletons, or 'useful fools' as Lenin described—you know, people who are used by the revolutionaries to get policies through. People who oppose the ban assumed that their opponents hate smokers and want them to die. So all sorts of nasty accusations are being aired by people on either of the argument.

I will explore this in more detail in the following chapter, but it merits mentioning here that Hall says positions become seen as 'good' or 'bad' and 'right' or 'wrong'. This makes attacking the work much easier to rationalise —*if you ultimately believe that your position is morally good, it justifies attacking or condemning anyone promoting the 'wrong' position*. This will be a central part of the discussion in the following chapters.

Systemic pressures

Two participants blamed university hierarchies and ideology for silencing their research. These participants broadly argued that their work was seen as unacceptable to their respective universities because it threatened their reputation within the community. These participants questioned the reality of academic freedom if preserving the university's bottom line was more important than protecting their right to pursue lines of enquiry deemed important. This will be unpacked further in the following chapter.

As mentioned, another reason proffered by James Enstrom for the backlash against his work is the way the UCLA hierarchy has, he argues, been taken over by political activists. Enstrom argues UCLA's ability to carry out their agenda depends on their academics only doing research that will support this agenda, something Enstrom was unwilling and unable to do. As a result, he needed to be punished.

Really what's happened, especially here in California is the University of California has been taken over by—at least in the area of public health—has been taken over by environmental and regulatory activists. People that want to control as much as possible, the way people function in California, in basically all aspects of their life. So the regulatory policy for environmental factors, deals with factors like cigarette smoking or any activity they engage in that involves air pollution emissions. And that would include virtually all sectors of the economy—including trucking, bussing, manufacturing, agriculture, construction, so forth. Just down the line. So this is really an agenda that they want to advance, and they won't tolerate dissent. And they've gone out of their way to make that clear.

Likewise, Paul Frijters argues that UQ, and many other Australian university hierarchies, simply need academics to be a useful resource to promote their agenda, rather than pursue lines of enquiry they deem meaningful and important to society.

You know—why are you interested in that, you're not supposed to be interested in that, you're supposed to be interested in this, we're interested in you doing consulting for us at a low price and we'll set it for a high price. The mindset is not scholarly at all. It's more that academics are a noisy resource and they want to make them less noisy and more resourceful.

This will be covered extensively in the following chapter, but note Frijters how argues that procedures pertaining to 'scholarly responsibilities' so-called 'legitimate' limits to

academic freedom—are increasingly designed to make any genuinely useful or important research impossible.

And there are so many procedures before you can do any research, whereby you effectively have to prove that no one would care about any of the outcomes so no one will be offended. And so the whole system is now set up to prevent you from doing anything that might be interesting, in social science in particular.

While the degree to which university hierarchies will restrict or dictate what kinds of research are acceptable will differ, comments Enstrom and Frijters suggest that this could be a significant problem, at least at their respective universities. It is impossible to make a judgement on either of their cases, but it is important to note that both academics, from different institutions and from opposite ends of the world, came to strikingly similar conclusions. They ultimately believe that universities will silence any researcher not actively following their political or economic agenda. This will be explored in more depth in the following chapter.

Participant-experts interpret research silencing

This section draws on the explanations of participants who have both experienced and studied the phenomenon of polarisation and research silencing. These participants have research backgrounds in anthropology, sociology and history of science and have examined these kinds of responses to research from an academic position, while drawing on their own experiences. These participants provide a valuable contribution to understanding what motivates research-silencing attacks, as they have considered it both in specific contexts, and in regard to the broader implications for academia. These explanations can be broadly categorised into: viscerality, tribalisation and winning, and intellectual dishonesty.

Viscerality

The idea that some questions or answers are seen as so morally reprehensible they provoke a visceral response came up in several interviews, and will play a central role in the subsequent discussion chapters. Participant-experts who gave this explanation argued that some ideas seem to trigger a very feelingful, instinctive, and physical response. These responses lie outside a rational or critical response, though

interlocutors on both sides will claim the ‘rational’ position (Latour, 1998; Latour, 2004). But what is most interesting, Kirsten Bell argued, is that this response is often masked by scientific, or empirical-sounding objections.

Even though there are these often very visceral, kind of emotional reactions, people are always using an evidence frame to justify their position. So what’s very interesting is that both sides are actually making the same kinds of arguments, which is that ‘No *we’re* evidence-based and *they’re* the emotional ones. We’re the ones who are being rational and focusing on the evidence.’ I mean, I think that’s such an interesting phenomenon.

Bell has incorporated these questions around why some ideas provoke a visceral response in several of her university courses. She recounted when she first began comparing male and female circumcision to encourage students to reflect on their visceral responses.

I taught at the University of Northern Colorado... a course on gender, and in that course I would compare male and female circumcision. And the response from students was always incredibly angry actually and so there would be this sort of ‘how dare you compare male and female circumcision!’. The response was sort of so emotional, at the time I thought it was very interesting... Once I came to UBC, so that was in 2007, every year since then I’ve been doing a guest lecture in a medical anthropology course for a colleague on circumcision, that was sort of drawing on my original research in this area. And when male circumcision became endorsed as a HIV prevention tool, I started to incorporate that material into my lecture. And so, what I would do to begin the lecture was I would have this hypothetical – I would basically fake a newspaper article where instead of talking about a randomized controlled trial for male circumcision, I would change all the wording. So this article was the same, but it was talking about the potential for female circumcision as a HIV prevention tool and so then I would show that to the students after I’d told them about male circumcision as a HIV prevention tool. And I would get them to talk about the pros and cons for male circumcision and what the benefits and limitations might be and then I would show them this fake, admittedly fake, trial, although I’d pretend it was real and try to get their response. And of course my goal was to try and get them to think about why they would have reacted so differently to male circumcision and female circumcision. And so then I would admit that this was fake, the trial, and then I would talk about the fact that there’s no way in hell anyone would ever do a trial on this particular topic. And that was not to say there should be a trial done on that topic – clearly there are very good reasons for that not to happen, but again, all with the aim of trying to get them to think critically about their own gut responses to this.

Similarly, Helen Keane argues that while we like to think of academia as a place where any line of enquiry can be pursued, that nothing is 'off-limits', there are undoubtedly exceptions.

We can think analytically about some things but for other topics, even the idea that you might think analytically about them is seen as hugely offensive. Because they're supposed to be so bad, that even suggesting that they could be open to analysis is problematic.

This will be explored in much more detail in the discussion chapters, but it is worth noting here how similar these comments are to those offered by Brand-Miller, Flegal and Enstrom. The idea that some ideas are inherently 'bad' and cannot even be studied seems to come up time and again within the dataset. This suggests there are very powerful, unspoken bounds to what can and cannot be researched. These limits *may only be revealed once the boundary has been transgressed*.

Tribalisation and winning

The idea of 'winning' and 'losing' came up in several interviews. This argument suggests that in some particularly divisive fields of research, academics have picked a side and their main agenda is to win the argument. There is little interest in constructing knowledge, building understanding or the inherent worthiness of scholarship. It may be the case that attacking academics that pursue lines of enquiry contrary to normative orthodoxy is seen as a necessary part of winning. Wayne Hall summed it up with the adage 'truth is always the first casualty in war.'

One participant-expert, Michael Mair believed that particularly in the tobacco field, actors are more concerned with winning the argument than understanding how society works. He believes he was naïve to think existing actors in the field would acknowledge or take on board his contribution.

We had a real interest in people's practices, but [perhaps our] mistake, was to think [tobacco control researchers] would be interested in that and they're not. They're interested in winning. You know, they're not interested in contributing to a stock of knowledge about the way the world is, they want to win. And I think if you are interested in doing work in public health, they would sacrifice the success of a paper for tobacco to be banned. And that's the real point.

I will explore this further in the upcoming discussion chapter, but it warrants stating here how limiting these kinds of norms are in academia. We may like to think of fields of enquiry as open and unfettered, but it seems in some fields, it is far more important to be on the winning side. Many fields appear to have spoken and unspoken boundaries and 'sides' and *if you don't play by the rules, you will be penalised*.

Dishonesty

This argument was discussed by a couple of participants, though in different contexts and different ways. Indeed, it was not immediately possible to see the shared themes. But the meaning inherent to these explanations is that curbing what can and cannot be asked in a research field is only possible because actors are being dishonest about their core concerns.

For instance, Michael Mair argues that in some fields, science becomes merely a rhetorical tool to drive a political agenda. He says the problem is a classic example of 'is versus ought'—from David Hume's *Treatise of Human Nature*—that some people expect science to dictate what people *should* do, rather than simply describing the way the world *is*:

In every system of morality, which I have hitherto met with, I have always remark'd, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surpriz'd to find, that instead of the usual copulations of propositions, is, and is not, I meet with no proposition that is not connected with an ought, or an ought not. This change is imperceptible; but is, however, of the last consequence. For as this ought, or ought not, expresses some new relation or affirmation, 'tis necessary that it shou'd be observ'd and explain'd; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it. But as authors do not commonly use this precaution, I shall presume to recommend it to the readers; and am persuaded, that this small attention wou'd subvert all the vulgar systems of morality, and let us see, that the distinction of vice and virtue is not founded merely on the relations of objects, nor is perceiv'd by reason.

(Hume, 1896, p244)

Mair argues:

I think people always want facts to lead to normative understandings, whereas facts never lead to normative understandings. That's the gap. You know, and I think we're probably in a situation where that needs to be recognised a bit more.

Mair draws on his experience in the tobacco field to reason that if actors in these debates want to intervene in people's lives and compel them to behave in a certain way, they need to stop pretending they are merely 'stating the facts'. He says they need to be open about their political motivations, rather than expecting evidence to do their bidding.

And I think, you know, if the public health lobby are so secure in their arguments, they should really take them into democratic spaces and make them—you know, so a restriction on somebody's rights is a restriction on somebody's rights: you have to convince them that that restriction is justified. And I would say 'Make the case, don't pretend you can come up with some evidence that will make the case for you. You have to be persuasive' and all the rest of it. I think there's a danger of just saying 'Smoking's bad, therefore we must do this'. It's like 'No there is no "must" in politics, there's only what you can persuade people to do.' So I think that would be my view. And the notion of anti-politics, so what you want to always do is to deny that you're a political actor, while simultaneously forwarding a political agenda.

Likewise, Debbi Long argued that when she was working for the nurses' union in an industrial relations dispute, it helped to have an agreed-upon adversarial structure to bring conflicts out into the open. So while her work within that space was much more 'fraught' and 'vicious', it was useful to know where she stood and how she could work within the field.

I guess because the project was taking place in an acknowledged dispute framework, there were—I've never thought about it like this before, but there were rules of engagement... So there were negotiated rules for trust; there were negotiated rules for suspicion. The fact that people weren't all loved up with each other was absolutely out there on the table. And I guess that's what our legal system does: it says, 'Well, we've got conflict here, these are the rules that we're going to play by.' And the thing that I found really interesting in that is that when the rules are set out, you can actually do quite good research in a situation of conflict.

The importance of honesty in the context of the nurse roster dispute reveals some useful implications for academics working in similarly fraught or contested fields. Long argues that her experience in anthropology has taught her to never enter a field until she understands the environment and the implications her work might have for that community. Problems arise when researchers think they can enter a field as an 'objective' researcher and ignore the political, cultural, and social consequences their work may have.

We [anthropologists] see absolutely everything as positioned. Some things are less politicised, some things are less fraught, some things are less problematic than others. But everything is positioned. And if you're you know, thinking that you can be objective about anything that's got to do with any human phenomena, then you're actually not being aware of your own position in it... I'm going to be a pain in the ass and say well—one of the things, in anthropology, if we send a researcher out into the field, we demand they understand the context of the field they're working in.

Long argues that research in contested fields becomes even more difficult when participants do not reflect on their own position, and the sometimes adversarial nature of the field.

People argue passionately for things that they believe in. You know, and they will argue with a lot of integrity and a lot of really good intention. But if they're not reflexive about their own positionality in it, then it can make some conversations really difficult to have.

Similarly, Mark Largent highlighted intellectual dishonesty as a key problem in the vaccination debate. Interlocutors on both sides only engaged with the most extreme or outlandish aspects of their opponent's position, so they could avoid substantive debate and risk having their views genuinely challenged. Both sides continue to have the debate they're comfortable with, without being forthcoming about their root concerns to have a pragmatic conversation.

The scientists and the medical professionals were happy to keep the claim that people who were anxious about vaccines were just thinking that vaccines cause autism, because the scientists and medical professionals have a lot of evidence that they can bring to bear on that question. And parents didn't really have a good guide to articulate this myriad of real concerns that they had about the modern vaccine policy.

Largent argues that both sides in the vaccine debate resort to personal attacks and outright dismissal of their opponents' concerns because it allows them to circumvent a compromise or even mutual understanding.

And I think those kinds of *ad hominem* attacks are really preventing people from empathising with one another. Preventing people from actually dealing with one another's root concerns. And even the people who have those concerns because they respond with other *ad hominem* attacks, they don't have to admit whatever is root in *their* concerns. The vaccine stuff I saw a lot of people's real, deep-felt

concerns where they didn't trust the medical system. They didn't trust the companies who are selling vaccines. They didn't trust that the government was protecting them.

The observation that some people draw on ad hominem attacks and convenient proxy arguments instead of engaging with opponents in a constructive way is an important one (Dreger, 2015c). It once again suggests that these debates are not following the critical, 'rational' framework expected in scholarship and science. Rather, *visceral responses and the need to 'win' override any such commitment to building knowledge*. This reveals a level of *dishonesty and unspoken norms that appear to go unacknowledged and unchecked in academia*.

I will explore this in further depth in subsequent chapters, but note here how important these expert-participants consider honesty and reflection to research. This underscores what 'blindsided' participants said in the first section of the chapter about their naivety in pursuing a line of enquiry without being aware of the political consequences. If academics don't realise how hostile the field will be to someone not playing by the rules, they will be caught off-guard when they are penalised. This suggests that when academic norms remain unspoken or invisible, it is impossible to know they are there *until they have been crossed*.

Participants' explanations support overarching theory

This chapter provides an analysis of my participants' explanations for why they were attacked, to explore the broader context of research silencing. This informs the following chapters, in which I both draw on existing literature and offer an overarching theory to explain this problem and what it reveals about academic freedom.

The central themes that emerged from this analysis are that some research areas are considered 'bad' or 'dangerous'. This designation of lines of enquiry as unacceptable can be based on a range of things: the work disrupts a scientific orthodoxy or 'united front'; that the work suggests something negative about a particular group; or that the polarisation of a field splits researcher into 'goodies and baddies'. Once an idea is deemed bad or unacceptable, there is a deeply visceral, 'knee-jerk' response that aims to silence or shut it down. These ideas are considered so dangerous they cannot even be

considered analytically. As such, any researchers that defy these rules must be penalised. There are unspoken or unacknowledged limits to the lines of enquiry academics are 'allowed' to pursue. These boundaries may not be visible until they have already been crossed. These conflicts are exacerbated by a lack of intellectual honesty, further obscuring the rules of engagement and bounds that exist in some academic fields. This suggests that our understanding of academic freedom and what academics are *allowed* to pursue is inadequate in light of these visceral responses to 'bad' research.

Chapter 5: What is academic freedom?

This thesis explores attacks on research and what they reveal about notions of academic freedom. A crucial aspect of this is exploring what academic freedom means in practice, whether there are— somewhat counter intuitively perhaps— limits to ‘freedom’, even well established limits, and what they might be. Is there a gap between what academic freedom means and its guarantees, and what we *think* it is? This chapter is broadly divided into two sections. The first explores what we mean when we talk about academic freedom. Where did it come from? How do institutions define it? The second section explores the ‘rules’ and conditions pertaining to academic freedom, as academics interpret and work within them. This second section scrutinises the tension between ‘rights and responsibilities’. Does academic freedom mean what we think it does? Or does our idea of it fall short, even when academics play by the rules? Academic freedom does indeed have limits, beyond what we would consider ‘legitimate’ or well understood, and these limits make themselves known and felt when researchers cross them. These crossings provoke responses – and sometimes recriminations. This chapter services my overall thesis by dissecting ‘academic freedom’ as it is promoted by universities and taken up by academics. This chapter argues that both the institutional ideal and everyday practice of academic freedom is inadequate in light of my findings around research silencing-. Visceral responses to lines of enquiry deemed ‘unacceptable’ reveal previously invisible limitations to what we are allowed to ask. This fundamentally undermines what we believe about academic freedom and what it guarantees.

Defining academic freedom

As part of the broader question of research silencing and what it tells us about academic freedom, this thesis dissects what we expect and believe about academic freedom and the spoken and unspoken limits that exist. Academic freedom is often characterised by universities as an unbounded idea —only by allowing researchers unfettered freedom to pursue lines of enquiry can learning and knowledge flourish (Department of Education University of Oxford, n.d.). According to Jackson (Jackson, 2005, 2006) a typical Australian university policy considers academic freedom ‘fundamental to the

proper conduct of teaching, research and scholarship. Academic and research staff should be guided by a commitment to freedom of inquiry' (Jackson, 2005, p110). Conversely, other scholars point to a dangerous erosion of academic freedom. Several argue that the modern university, particularly in the western liberal-democratic world, has created perverse incentives that orient researchers towards agendas set by politicians of the day, rather than lines of enquiry the *researcher* deems important (Edwards & Roy, 2016; Hayes, 2015; Henry, 2006; Kinnear, 2001). *Is there a gap between what we think academic freedom means, and what it actually is?*

Where did it come from?

Academic freedom in its modern form can be traced back to the German university model of the early nineteenth century (Hofstadter and Metzger, 1995). This notion first came from teaching, rather than research, as it was based on freedom to teach and freedom to learn (Bryden & Mittenzwei, 2013). 'Professors should have the right to perform teaching and research according to their interests, and students should have the right to choose what courses to follow' (Bryden & Mittenzwei, 2013, p314). According to Shils (1995, p7), the modern incarnation of academic freedom 'protects the moral and intellectual integrity of the teachers'. In other words, 'If the public cannot be sure whether a teacher is independent in presenting her work, then the teacher has lost her integrity and her work is of minor value' (Bryden & Mittenzwei, 2013, p314). As I outline below, academic freedom is still considered fundamental to good research as well as teaching, if universities are to produce meaningful findings and help inform debate.

University guidelines around academic freedom

This section explores academic freedom policies from a selection of the universities at which my participants or their detractors are employed. I've included these policies for several reasons.

First, these policies and their caveats serve as an example of how idiosyncratic and conditional notions of academic freedom are from a practical standpoint. These policies provide crucial data about how institutions define this 'good'. It is important to interrogate these policies to challenge our notions of freedom and how they are

practiced. Do written, institutional policies really provide and guarantee the freedoms we believe they do? These policies are as much about protecting freedom as they are about structuring the conditions for research. As I outline in the following section, immediately obvious in these policies is a tension between rights and responsibilities. That is, the university guarantees academics' rights to pursue lines of enquiry, *as long as* it is conducted in an appropriate and scholarly way. It is then left up to both the written conditions and often unspoken norms within academic communities to provide these conditions and limitations. It is clear these policies reflect the values of the day—'academic freedom' is contingent and constantly shifting. It is not a guaranteed, universal 'good'. It is inherently bounded and limited, in both spoken and unspoken ways. Interrogating these limits is part of the necessary reflexive work that must be done in order to examine the conditions under which our thinking and questioning is done. It is a lack of reflexivity that manifests in the problem I am investigating. Academics do not understand why their work is silenced. They believe they are doing the 'right' thing, and as such will be protected. Those doing the silencing may be dishonest about why they object so viscerally to some lines of enquiry. Lack of reflexivity allows boundaries to be obscured and these boundaries are only exposed once they are crossed.

From a more practical standpoint, these policies provide context for my participants' cases. For instance, James Enstrom and Paul Frijters both talked about the cowardice of their respective universities in prioritising politics and profit over academic freedom. Jennie Brand-Miller felt let down by her university, as they bent to money and influence from an outsider, rather than defending her right "to pursue knowledge for its own sake, wherever the pursuit might lead" (Senate and Academic Board of the University of Sydney, 2008). The highly contingent, subjective, grey areas inherent in these policies provide crucial perspective for why there is a gap between what my participants believed and expected of academic freedom, and the attacks upon their work.

The Australian National University

5. The University recognises the concept and practice of academic freedom as central to the proper conduct of teaching, research and scholarship.

6. Academic and general staff are expected to use this freedom in a manner that is consistent with a responsible and honest search for knowledge and its dissemination.

7. Academic freedom does not extend to behaviour that is harassing, disruptive and intimidating or that interferes with the academic or work performance or freedom of others.

(The Australian National University, 2015)

My own university, The Australian National University has several explicit caveats, such as the policy excluding harassment and intimidation of others, however it uses imprecise terms to express these caveats. The policy stresses that academic freedom is 'central' to the university, as long as it is exercised in a 'responsible and honest' way. Without a clear explication of what 'honesty' and 'responsibility' refers to, what this *actually* means is open to interpretation. It seems unlikely that any researcher embroiled in a controversy would readily admit they were deliberately peddling a falsehood or wanting to cause trouble. I will not attempt to define these terms here, as it would be near impossible and naïve to suggest there are universally acceptable meanings for either. That is my point. And how would someone prove they were or weren't acting maliciously? The term 'disruptive' is also ambiguous. Disruptive *could* mean troublemaking. However, if we take Thomas Kuhn's discussion of revolutionary ideas that lead to a paradigm shift, then disruption takes on new meaning (Kuhn, 2012).

Sydney University

The University of Sydney's policy espouses commitment to the highest ideals of freedom, and the importance of knowledge for its own sake.

The University of Sydney declares its commitment to free enquiry as necessary to the conduct of a democratic society and to the quest for intellectual, moral and material advance in the human condition. The University of Sydney affirms its institutional right and responsibility, and the rights and responsibilities of each of its individual scholars, to pursue knowledge for its own sake, wherever the pursuit might lead. The University further supports the responsible transmission of that knowledge so gained, openly within the academy and into the community at large, in conformity with the law and the policies and obligations of the University. The University of Sydney, consistent with the principles enunciated in its mission and policies, undertakes to promote and support: the free, and responsible pursuit of knowledge through research in accordance with the highest ethical, professional and legal standards the dissemination of the outcomes of research, in teaching, as publications and creative works, and in media discourse principled and informed discussion of all aspects of knowledge and culture.

(Senate and Academic Board of the University of Sydney, 2008)

I draw attention to the explicit mention of ‘the rights and responsibilities of each of its individual scholars, to pursue knowledge for its own sake, wherever the pursuit might lead.’ Note how this policy echoes excerpts from Katherine Flegel and Helen Keane’s interviews in the *patterns of silencing behaviour* chapter regarding the balance between pure and applied research. The University of Sydney seems to be making a theoretical commitment to pure or basic research here. They are making it clear they do not expect their academics to only do applied research, or research that serves the university. Implicit in this is the right for Sydney University academics to pursue research, regardless of the findings. That scholarship for its own sake is worthy, and will be protected by the university. The experience of Jennie Brand-Miller and Alan Barclay undermines this commitment. Brand-Miller was particularly disappointed with the lack of protection and support offered by University of Sydney administration and their willingness to give in to demands from her and Barclay’s primary detractor.

University of Queensland

Several of my participants are from the University of Queensland, so this policy provides a context for their experience and the ways it was described during interviews. The policy is lengthy, so only relevant sections have been included.

4. Policy Statement

The University of Queensland is committed to the protection and promotion of intellectual and academic freedom within the University. These freedoms will be scrupulously observed at The University of Queensland.

Intellectual freedom includes the rights of all staff, affiliates and volunteers to:
(b) pursue critical and open inquiry and (where appropriate) to teach, assess, develop curricula, publish and research; In the exercise of intellectual freedom, staff, affiliates and volunteers will observe the University Code of Conduct, act in a professional and ethical manner and will not harass, vilify, intimidate or defame the institution or its staff. Furthermore, in exercising their freedom to carry out research, academic staff have a responsibility to conduct it in accordance with the principles of intellectual rigour, scientific enquiry and research ethics without any interference or suppression.

(University of Queensland, 2012)

The implicit message of this policy is that if the university believes an employee has not met the requirements of intellectual rigour, scientific enquiry or research ethics, it is at

their discretion to suppress or interfere with the research. This final section of the policy is particularly relevant to Paul Frijters' account of why UQ attempted to suppress his racism study. Frijters argued that UQ used this call for 'a responsibility to conduct it in accordance with the principles of... research ethics without any interference or suppression' as a convenient excuse to silence the study. So although they claimed he and Mujcic had breached ethics protocols, Frijters believes the real reason is the UQ hierarchy didn't care about upholding academic freedom in the face of criticism from the Brisbane Council and bus company Translink.

Before moving on, it is important to clarify the differences in academic freedom policies between Australian and American universities. Unlike the United States, Australia has no explicit right to freedom of speech. The US' Bill of Rights guarantees free speech, which undoubtedly influences their interpretation and practice of overlapping notions of academic freedom.

University of California Los Angeles

UCLA's policy on academic freedom is unusual when compared with other policies in this review. It explicitly highlights the confusion and ambiguity around academic freedom and attempts to clear up any misconceptions.

Sometimes, in or around institutions of higher learning, academic freedom is abused. Such abuses take many forms. In examining numerous abuses and alleged abuses, the Committee on Academic Freedom found widespread confusion about academic freedom in both the University and the surrounding communities. To clarify the meaning of academic freedom for both and thus to help to reduce abuses and confusion, the Committee recommends to the Academic Senate and others the following as a concise general statement for reference:

Institutions of higher learning exist to serve society by discovering, creating, examining, transmitting, and preserving knowledge and by educating students. They can effectively maintain the integrity of these basic functions only if the principles of academic freedom are observed. Academic freedom is freedom from duress or sanction aimed at suppressing the intellectual independence, free investigation, and unfettered communication by the academic community — faculty, librarians, students, and guests of such institutions. Classified research, by its very nature, is inconsistent with academic freedom.

(UCLA Academic Senate Committee on Academic Freedom, 1984)

This policy is crucial in providing a context for James Enstrom's experience with UCLA policy and discipline. It merits stating here that UCLA stresses their policy protects 'intellectual independence, free investigation and unfettered communication by the academic community'. The idea that any research should be forbidden or suppressed is explicitly recognised as incompatible with academic freedom, and by extension, the *ideals of UCLA*. In the previous results chapters, I explored James Enstrom's explanation for UCLA'S unexpected non-renewal of his contract. UCLA eventually conceded they had not renewed Enstrom's contract because his work on fine particulate air pollution was "not aligned with the department's academic mission" (Perez, 2010). This suggests that when faced with a choice between commitment protecting academic freedom and the political 'mission' of the university, the latter takes precedence. While it's not clear what is meant by 'academic mission', Enstrom believed the decision was ideological in nature—his questioning environmental policies was not acceptable to UCLA.

Harvard University

Harvard University's academic freedom policy promotes the need to accept and embrace Harvard principles in order to be part of their community. This policy is not just about words on a page, but accepting and embracing an open and free culture.

The central functions of an academic community are learning, teaching, research and scholarship. By accepting membership in the University, an individual joins a community ideally characterized by free expression, free inquiry, intellectual honesty, respect for the dignity of others, and openness to constructive change. The rights and responsibilities exercised within the community must be compatible with these qualities.

The University places special emphasis, as well, upon certain values which are essential to its nature as an academic community. Among these are freedom of speech and academic freedom, freedom from personal force and violence, and freedom of movement. Interference with any of these freedoms must be regarded as a serious violation of the personal rights upon which the community is based.

(Office of the Provost, Harvard University 2002)

While none of my participants were from Harvard, Katherine Flegal's main detractors were, which suggests there is a tension within 'free inquiry, intellectual honesty, respect for the dignity of others, and openness to cultural change' that remains unresolved and unspoken among Harvard staff. Flegal argued that her critics from Harvard were no

longer engaged in scientific work or even critique, but rather sought to ‘destroy’ any research that conflicted with their position. This again begs the question: Is there a gap between what we think academic freedom means and what it is?

‘Legitimate’ limits to academic freedom

This section looks at established, ‘legitimate’ limits to academic freedom. These caveats to unfettered enquiry are typically talked about in academic freedom policies as ‘norms and standards of scholastic inquiry’ (NTEU, 2008). For the purposes of this review, these norms and standards can be considered congruent with references to ‘responsibility’ in the university policies cited above. These norms include peer review, funding application processes, ethical protocols and departmental oversight, among others. It is necessary to acknowledge these caveats for a few reasons. First, it’s important to reiterate what this thesis is *not* doing. It is not within the scope of this thesis to discuss academic work that has been rejected, dismissed or denounced because it failed to obtain ethics approval, funding or pass peer review on the basis of misconduct, fraud or flawed research design and execution. In my recruitment and data collection, I have deliberately tried to exclude any cases where there was demonstrable misconduct or wrongdoing. To the best of my knowledge, none of my participants’ cases involved fraud, misrepresentation or dishonesty. This thesis is not about academics who fabricated data, such as Diederik Stapel, or breached their university’s behavioural code of conduct. While I discussed *structural limitations* in Chapter 3, such as biased journal peer review described by Kirsten Bell; and restrictive funding priorities explored by Wayne Hall and Helen Keane, this was clearly contextualised and specific to the case at hand.

Second, this thesis is not aimed at assessing the merits, or lack thereof, of these norms and standards. However, it is necessary to briefly discuss these ‘legitimate’ constraints as they pertain to ensuring how academic work is conducted, disseminated and perceived. Peer review and its role, as a legitimate and well-entrenched convention within the academic system is important to this thesis, insofar as it provides an agreed-upon structure to academic critique and review. When academics pursue a line of enquiry they deem significant and scholastically valid, and attempt to publish that work in a journal, they anticipate a certain *kind* of response. According to established peer

review structures, they anticipate that they will need to defend their research methodology, their analysis and their conclusions (Mulligan, 2004). They expect their peers might point out an area of the literature they missed. If the issue is particularly contested, they might expect some pushback if the reviewer takes a different view to them. But there are guidelines around how this process should play out—that is, in a civil and constructive manner. What academics don't expect is to have their paper rejected point-blank for 'untenability of argument', with no mention of the research itself, as Kirsten Bell can attest. They are not prepared for personal attacks or for their integrity and agenda to be denounced in a public setting, as Katherine Flegal did. This section is intended to provide an understanding of what is expected in the peer review process. This provides a counterpoint to the constraints and silencing experienced by participants—and therefore what may be considered unexpected or uncalled for. Third, as I have explored throughout, there appears to be a disconnect between expectation and the way we talk about academic freedom and its limits, and what these mean in practice.

In the 1700s, peer review as we know it was formally established by the Royal Society (Spier, 2002, p357). Peer review allows experts in the field to assess a study's validity and importance.

Peer review is one of the gold standards of science. It's a process where scientists ("peers") evaluate the quality of other scientists' work. By doing this, they aim to ensure the work is rigorous, coherent, uses past research and adds to what we already knew.

(Spicer, 2014, para. 2)

It ensures experts in the field assess academic or scientific work to ensure standards are upheld. With a glut of information available, it provides a check and balance to filter out 'bad' ideas entering the public consciousness.

Peer-review has come a long way in the defence of its turf. In a world where knowledge is being made available at a rate of millions of pages per day, it is comforting to know that some subset of that knowledge or science has been critically examined so that, were we to use it in our thinking or for our work, we would be less likely to have wasted our time.

(Spier, 2002, p358)

I am not suggesting peer review is the only ‘legitimate’ way of critiquing or engaging with research, and there are certainly critics of this system (O’Gorman, 2008). Public engagement with science and non-experts appraising or assessing the merits of research is important. With increasing pressure on academics to be public intellectuals and ensure their work is socially relevant and useful (Fuller, 2015; Robin, 2016; Van Oort, 2014), it is inevitable that some research will be divisive or contested. But it’s important to establish what academics can *reasonably expect* to deal with when disseminating their work. As I’ve argued above, most academics are equipped to respond to questions about methodology, data analysis, their overall findings or the way the research is communicated. However, academics are typically not prepared for personal attacks or denouncements of their character and moral failings—behaviours described by participants in the previous two chapters. I argue these kinds of responses go beyond what an academic can reasonably expect when conducting and disseminating academic work. This gap between what academics *expect* from academic freedom and the limits that exist *in practice* is central to this thesis.

With rights come responsibilities

This section looks at the tension between so-called *rights* to academic freedom and the *responsibility* that academics must exhibit when conducting and disseminating research. This tension is explored throughout the thesis, but I will tease them apart more comprehensively in this section. As the adage goes, ‘with rights come responsibilities’ (Gottfredson, 2010, p277). This is true of all rights, but it explicitly comes up time and again in discussions around academic freedom. Does it matter if an academic does ‘all the right things’ in pursuing what might turn out to be a very dangerous line of enquiry? Should academic freedom protect research that could do harm? These are pertinent questions. However, as we have seen, there are ‘legitimate’ limits placed on academic freedom, such as ethics committees, institutional oversight and peer review. These all exist to provide some level of quality control and protection to those who might be affected, either directly or indirectly by ‘dangerous’ ideas. So do these limits go too far? Or is it necessary to be stricter—to balance the scales more towards responsibility than rights to freedom? This section draws on literature from Hunt (2010) and Gottfredson (2010) to elucidate some of the challenges and nuances around this tension between rights and responsibilities of academics. This section will question the extent to which

academic freedom is a given, and how it is employed or dismissed depending on what is expedient and who is likely to benefit.

As I have outlined, academic freedom is seen by many university policies as essential to democracy and unencumbered access to knowledge. According to the idealised definition, it should allow all concepts, no matter how problematic or discomfiting to be heard and discussed. Academics play an important role in speaking truth to power and holding those in powerful positions to account, whether by analysing policy, constructing diverse knowledge or exposing corruption. ‘At its best, academic freedom allows faculty experts to speak up, even if their message is seen as an inconvenient truth... or more likely, just inconvenient... in influential quarters’ (Hunt, 2010, p265). Hunt also points to a concern that I’ve explored throughout the thesis and particularly in Chapter 4—that of research that disrupts the orthodoxy. This problem of *challenging orthodoxy*, as I demonstrated in the previous chapter, appears to become even more predominant in fields that overlap with public health or which have socio-political implications.

When all the expert does is to pass on specialised information that is agreed upon by virtually the entire relevant scientific community, then there is no problem. Problems arise when the information is relevant to important social policy decisions and there is a substantial debate within the scientific community about the facts and, more frequently, the appropriate interpretation of those facts.

(Hunt, 2010, p264)

This quote from Hunt echoes statements from Katherine Flegal and Wayne Hall from the previous chapter. Both believed they were silenced because they interpreted and disseminated ‘inconvenient’ or ‘dangerous’ positions on key public health issues. The need for a ‘united front’ outweighs ‘the facts’. Likewise, Gottfredson (2010) highlights the problem with the commonly used call to ‘responsibility’ when proposing constraints on unpalatable or controversial research.

Another common retort to scholars who assert a right to investigate socially sensitive issues is that “with rights come responsibilities.” That is, one retains or deserves the right to speak freely only if one speaks “responsibly.” This hedge is usually asserted by university faculty and administrators because they are professionally obliged to pledge allegiance to the general principle of academic freedom. But being responsible is as much in the eye of the beholder as being dangerous.

(Gottfredson, 2010, p277)

As I have outlined earlier in this chapter, calls for ‘honest’, ‘trustworthy’, or ‘responsible’ research are so vague it may be deliberate. How can ‘responsibility’ be adequately defined or quantified in a written academic freedom policy? How can an academic prove they have acted responsibly when defending themselves against a breach of their freedom? Paul Frijters and James Enstrom spent several years and perhaps tens of thousands of dollars to defend themselves against what they saw as breaches against their academic freedom. While they were eventually vindicated in a mostly symbolic win, the onus was seemingly on them to *prove* they had acted responsibly, not their university to prove they had acted *irresponsibly*. Gottfredson argues that this expectation on academics to act ‘responsibly’ when working in sensitive fields serves to narrow the available, ‘acceptable’ lines of enquiry.

Demanding “responsible” scholarship on selected topics simultaneously invites and legitimates burdening that research, and it thereby selectively skews the menu of ideas available for public consideration. The appeal to responsibility is a common pretext for taxing supposedly sensitive research.

(Gottfredson, 2010, p277).

This impossibly fine line that academics must tread—the right to pursue lines of enquiry they deem important, *but* the responsibility to avoid being ‘disruptive’—cannot be underestimated. When ‘rights and responsibilities’ are not clearly explicated or defined, this line between what we *can do* and what we *should do* becomes even narrower. This emerged as a central theme in the previous chapters, where participants expressed confusion and frustration around the ever-diminishing fields of ‘acceptable’ enquiry.

Another important area of the literature to draw upon here is *confirmation bias*—the human tendency towards accepting information that backs up our existing views and rejecting anything that contradicts it (Tversky & Kahneman, 1974). Echoing Mair’s discussion of ‘is versus ought’, Hunt argues that ‘facts’ are often used to advance a political agenda, rather than to substantially address problems or propose solutions.

Social activists then look for scientists who can provide relevant information. Sometimes this is done in the hopes that scientific knowledge will point the way towards a rational solution of a problem. Unfortunately, though, the activists often seek scientific opinions primarily to reinforce views that have already been decided upon. As the 19th century Scottish poet Andrew Lang observed, they use statistics like a drunken man uses a lamp post; for support rather than illumination.

(Hunt, 2010, p1)

Linda Gottfredson provides another key area of the literature for this review. Gottfredson outlines her own experience with academic freedom and its limits. As I argued above, academic freedom is a nebulous and oft-misunderstood concept. Many academics would not question its existence, and unless their academic freedom is violated, would have little reason to think about it too closely. Gottfredson agrees.

I learned these lessons only gradually, as immediate experience kept contradicting my tacit presumptions about what academic freedom is and how we possess it. As a novice scholar, I had thought of academic freedom as a talisman automatically bestowed with one's doctoral degree. Like most academics, I took for granted that the principle provided effective protection because I did not see academics being fired for their views.

(Gottfredson, 2010, p272)

In the late 1980s and early 1990s, Gottfredson and a fellow colleague encountered five overlapping, yet technically separate 'events'—including blocked promotions and withdrawal of funding—that highlighted the fraught and contested nature of academic freedom. She found that while her university paid lip service to its importance, their actions suggested otherwise. As a result, Gottfredson's work provides six 'lessons' about academic freedom.

Academic freedom, like free speech, (1) has maintenance costs, (2) is not self-enforcing, (3) is often invoked today to stifle unwelcome speech, (4) is often violated by academic institutions, (5) is not often defended by academics themselves, and (6) yet, requires no heroic efforts for collective enjoyment if scholars consistently contribute small acts of support to prevent incursions.

(Gottfredson, 2010, p273)

Gottfredson reinforces my argument above that written policies are insufficient in providing a practical guarantee for academic freedom.

A written body of professional and legal norms may be necessary for safeguarding freedom of inquiry and expression, but abstract paperbound rules are never sufficient. They have force only when the individuals and institutions to which they apply actually live by them. If someone is violating our rights, there is seldom any automatic mechanism to make them stop.

(Gottfredson, 2010, p274)

Most practically, Gottfredson provides a thought experiment that reflects my own and participants' questions around what university guidelines really mean. They appear so vague, contingent and context-dependent that they are almost meaningless.

As a thought experiment, readers might ask themselves to whom they would turn if they thought their institution had violated their academic freedom. Who inside or outside your institution has any authority or responsibility to investigate or take action? Does your university have any written policies that specify what academic freedom is, what constitutes a violation, what constitutes credible evidence that the violation occurred, who rules on the evidence, and whether the institution is required to act on that ruling? Do all parties interpret the written procedures in the same way and, if not, whose interpretation holds? What are your options if the designated authorities simply refuse to entertain formal complaints or they dismiss compelling evidence as irrelevant? What if the authorities are the perpetrators against whom you seek protection?

(Gottfredson, 2010, p274)

This ambiguity and confusion around what academic freedom guarantees in practice makes defending one's self immensely difficult, as the results chapters illustrate, particularly the cases of Enstrom, Frijters and Brand-Miller. Frijters and Enstrom both said their attempts at legal redress were symbolically important in ensuring they are "accusation-free", but financial and productivity costs were not recompensed. Meanwhile, Brand-Miller still harbours concern for her reputation. Gottfredson argues that only overt cases of academic freedom breach can be addressed, and even providing proof of violation is no guarantee of remedy.

Legal redress is available only after a violation has taken place and the scholar been harmed. Pursuing redress is arduous and costly, and the outcome is never certain. When after-the-fact enforcement is required, it is generally the victim who has to activate the enforcement machinery. Moreover, regaining academic freedom never guarantees that the victim will be "made whole" again, say, in fully regaining their reputation.

(Gottfredson, 2010, p276)

What does research silencing reveal about academic freedom?

This review of academic freedom literature set out the values of institutions at which 'academic freedom' is lodged, and the 'legitimate' constraints we accept around what we can and cannot research. In university policies, there are references to 'responsibilities', 'honesty' and 'scholarly requirements' which imply it is not an unlimited concept—it has rules that actors must adhere to. When we think of these rules, we typically think of ethics protocols, peer review and funding applications—the accepted 'rules of engagement'. But it's important to explore how these values and limits are understood by the actors who must make them manifest: academics. Is their understanding the same? I searched extensively for studies on academics' understanding and perception of their freedoms and whether their university would protect their rights, but to little avail. However, through my interviews, informal literature, conversations with colleagues and my own experience, the concept of academic freedom is taken for granted much of the time. From what I can see, academics assume their institution would support them if called upon following an attack against them or their work. And fortunately most will never need to test this. I have found that these invisible lines in certain fields only become visible as 'the rules' once they are breached. What's happening when we espouse the fundamental good-ness of academic freedom from an institutional standpoint, while unpalatable research that 'should' be protected by these written policies is silenced? Because research silencing reveals a line has been crossed. The hidden boundaries become visible only when a moral disgust response is triggered, and those threatened by the boundary crossing must punish the rule-breaker.

Chapter 6: What drives research silencing?

This chapter turns to the various explanations of attacks on research and academics by other scholars. This thesis is concerned with how and why research is silenced, particularly in cases where the objection is based on the moral implications of the research, rather than demonstrable cases of misconduct. It is important to make this distinction, as the notion of academic freedom largely promoted through institutional guidelines would suggest that as long as academic work follows codes of conduct, it should not be impinged upon. The purpose of this chapter is to explore existing explanations for attacks on academics, so that based on my analysis of participants' experiences, I can present an overarching theory for research silencing. Attacks on research reveal moral disgust has been provoked, a line has been crossed, and those 'rule breakers' must be punished. The recriminations for academics that transgress boundaries far exceed the written academic freedom policies both promoted by universities, and expected by academics.

It is this emotional, visceral reaction I aim to dissect. I want to know how it manifests and what it tells us about the nature of academic freedom and scholarship. I want to know how it arrays individuals in research fields. I want to know whether or not it draws lines around what we see as acceptable or unacceptable questions. I want to know if this is conditioning researchers to play safe, keep their heads down. I want to know the impact it has on my participants as people, as well as academics. Do they know what they did 'wrong'? Would they do it again? Would they advise other researchers, particular early-career researchers, to pursue these tricky subjects? Or is it 'just not worth it'? I want to pick apart why these particular cases made some people uncomfortable. Why do some lines of enquiry, even when meeting the spoken, 'legitimate' conditions of 'responsible' research provoke such recriminations? And what do these responses tell us about academic freedom and the *unspoken* limits that exist?

This problem has been discussed and understood in several different ways, from diverse disciplinary perspectives. For the purpose of this review, some explanations will

be discussed in more depth than others, though I will briefly highlight several accounts of research suppression and attacks on individual academics. It's worth acknowledging that my participants are outliers within academia. Most researchers appear able to carry out their work with little controversy or explicit constraints. So when an academic is attacked or attempts are made to silence their findings, it is easy to see why this would present an interesting line of enquiry for many fellow researchers. What drives research silencing, and what does it mean for our understanding of 'academic freedom'? Indeed, as I explained in the introduction and methodology chapters, this curiosity and need for understanding and vindication is what drew me to this problem. Other scholars provide pertinent insights for my approach to this problem, though as I outline below—my overarching theory goes beyond theirs. I argue that attacks on research are not cases of academic suppression or breaches against academic freedom, but that 'academic freedom' as we know it doesn't exist at all. Rather, what we are 'allowed' to ask is subject to visceral, moral disgust responses. Once a line of enquiry crosses a boundary and is deemed 'unacceptable', those threatened by the boundary crossing will act to stifle the rule breaker. Our written policies and widely accepted understanding of academic freedom mean nothing when these hidden boundaries are disobeyed.

In this section I discuss recriminations for academics that cross boundaries, either spoken or unspoken, and the varying explanations other scholars have offered for academic suppression. These can be overt, physical constraints, such as losing a position, not getting funding, rejections from conferences or journals, or research communities actively closing ranks against academics, as experienced by Enstrom, Brand-Miller and Frijters. This can also be more implicit or subtle. It may involve colleagues withdrawing or acting differently. It could be slights that are anonymous or difficult to prove, such as those experienced by Flegal and Barclay. To help interrogate the limits placed on academics, I draw on Brian Martin's literature around academic suppression, as well as Alice Dreger's work on the tension between activism and science, among others. How should we understand attacks on researchers? What are the strengths of these problematisations? What is left unexplained?

‘Suppression of dissent’

One of the most instructive explorations of this problem is provided by social scientist Brian Martin. Martin has discussed this problem in several books, chapters, journal articles and coverage in popular media for several decades (Martin, Baker, Manwell, Pugh, 1986; Martin, 2015a; Martin, 2002, 2014, 2015b, 2016; Thérèse & Martin, 2010). Martin broadly argues that attacks on researchers can be understood as examples of ‘suppression of dissent’ or ‘intellectual suppression’, which I will use interchangeably. He argues that in most cases where research is attacked, it is because powerful interests shut down what they see as inconvenient research. Martin highlights a key problem with trying to understand the nature and extent of this problem: namely, that the overt examples of attacks on researchers may be unrepresentative of the broader problem. Clear-cut examples help to obscure more insidious forms of this problem and the structures that enable and encourage intellectual suppression to happen.

Documented cases of suppression overemphasise the major and dramatic events, such as dismissals and cutting off of funding, and underemphasise problems such as blocking of publication and subtle harassment by collegial disapproval. Documented cases also overemphasise instances in which channels for formal redress are available.

(Martin, Baker, Manwell, Pugh, 1986, p5)

As I have discussed, I also encountered this conundrum. In trying to explore the problem, I realised that my methods for identifying potential participants necessarily meant I limited my sample to those whose cases were sufficiently overt to be documented publicly. Like Martin, I realise I have no way of knowing how prevalent more insidious or implicit forms of suppression may be.

Nonetheless, Martin et al (1986) identified the primary features of academic suppression in cases where suppression *is* evident:

- A threat to vested interests
- An attempt by a powerful individual or group to stop or penalise the person or activity found objectionable
- Lack of substantive reasons given for the action taken.

(Adapted from Martin et al 1986)

Martin defines *direct* intellectual suppression as ‘nonviolent restraint or inhibition of people or their activities: withdrawal of funds, jobs or publication outlets, damaging reputations, or harassment or social ostracism’ (Martin et al 1986, p3). These are examples where the suppression is easy to prove and trace. As I charted in the results chapters, several of my participants faced these very concrete, overt responses to their work, such as Frijters, Enstrom, Bran-Miller, Barclay and Flegal. Instances of what Martin dubs direct suppression can act as cautionary tales: ‘Look what happened to him, better be careful.’ But I argue that Martin’s discussion of *indirect* suppression is just as pertinent. Martin argues indirect suppression ‘occurs when people are inhibited from making public statements, doing research and the like because of the implied or overt threat of sanctions or because of a general climate of fear or pressures for conformity’ (Martin et al 1986, p2). Martin’s ‘indirect suppression’ echoes my *private silencing* grouping. I argue these more covert forms of silencing may be just as damaging to scholarship as overt or direct suppression, *because* it is more subtle and easier to dismiss. In the day-to-day life of an academic, they may not notice the culture changing around them, and their freedoms with it. And as I have previously argued, academic freedom is generally a concept we come to understand only in its absence or breach.

The case of Judy Wilyman

Martin has written several case studies of this phenomenon, though one stands out as particularly relevant to this review, and to my own experience. Martin has published several papers, popular media pieces and statements about his supervision of PhD candidate Judy Wilyman. Wilyman was awarded her PhD from the University of Wollongong in December 2015. Her thesis was a critical analysis of vaccination policy in Australia. Wilyman’s thesis questioned the ‘one-size-fits-all’ vaccination policy adopted by Australian policymakers. She also expressed concern for the role of pharmaceutical companies in dictating vaccine policy. According to Martin, throughout her candidature Wilyman had pro-vaccine campaigners calling her university, demanding Martin’s position and her candidature be terminated. I am not taking a position on Judy Wilyman’s thesis, or her personal and political views on vaccination. However, the attacks on Judy Wilyman were undoubtedly beyond what any PhD candidate could anticipate.

The result is a struggle involving knowledge and power, in which supporters of orthodoxy may deploy various techniques to silence and discredit dissidents. The reprisals, in many cases, fit the template of mobbing.

(Martin, 2015b, para. 3)

According to Brian Martin, in his defence of Wilyman, the media coverage critical of Wilyman used a few sentences, out of context to say the entire thesis was rubbish (Martin, 2015b). Martin condemns the attacks on Wilyman and argues they ignore the rights extended to academics to pursue lines of enquiry they deem meaningful. It is clear Martin is invoking the ideals of academic freedom in his defense of his student.

Her opponents attack her as a person, repeatedly express outrage over certain statements she has made while ignoring the central themes in her work, make no reference to academic freedom or standard practice in university procedures, and simply assume that she must be wrong.

(Martin, 2016, para. 19)

Martin goes on to argue that Wilyman's opponents have demonstrably violated any semblance of civility and decency. He sees their interference and suppression of her research as a patent infringement of her rights to academic freedom.

The [Stop the Australian Vaccination Network] has extended its attack on Judy to her PhD candidature. It is one thing to criticise public statements; it is another to try to pressure a university to stop a student's research. The campaign against Judy's PhD studies has included abusive comments on SAVN's Facebook page and on individual blogs by SAVNers, hostile stories in the mass media, and complaints to the university. SAVNers have attacked Judy's candidature, criticised me as her supervisor, and criticised the university for allowing her to undertake her studies. This is a clear and direct attack on academic freedom. I have studied issues of intellectual freedom for many years; never have I heard of a campaign against a research student more relentless and abusive than the one against Judy.

(Martin, 2016, para. 7)

Some of the most impassioned attacks on Judy Wilyman did not appear to substantiate their accusations against the thesis itself. In two blog posts by US surgeon David Gorski, known as Orac, one excerpt he included appeared to be a historical account of germ theory. In terms of controversial or disputed content, Orac spoke about these excerpts with contempt and scorn, as though the ridiculousness of Wilyman's claims were self-evident (Gorski, 2016a, 2016b). He did not provide any specific critiques or

explanations of why they were ridiculous, for a lay audience. For another excerpt, where it appears she explained the historical account accurately, he mocked her for thinking she was the first to make these connections. It appears that for Orac, that Wilyman could not win.

Another striking feature of Orac's 'take-down' of Wilyman and Martin was his admission that research questioning vaccine policy is where he draws the line for academic freedom. He quite openly states it. Orac invokes the need for any controversial research to be based in the "highest academic standards", again highlighting the tension between rights and responsibilities.

I understand that one of the key aspects of academic freedom is the freedom to explore controversial views. I also understand that the humanities are different from the sciences. However, respect for controversial views and the freedom to explore them as part of a PhD thesis does not absolve the thesis advisor or university of the obligation to its students and reputation to make sure that any thesis consisting of examining such views is based in the highest academic standards and rooted in evidence.

(Gorski, 2016)

Orac's blogs about Judy are dismissive of humanities, or any research that does not conform to his idea of "quality research". The idea that someone could write a thesis critical of vaccine policy rather than the efficacy of vaccines appears to be anathema to him.

I'm not sure if I can manage to force myself to power through it. However, what I've read so far reveals a level of ignorance and burning stupid [sic] so profoundly painful for anyone with even a rudimentary understanding of vaccine science and skepticism that it's hard for me to figure out how even a humanities department could let such a travesty pass for a PhD thesis. The University of Wollongong should be utterly ashamed, and should be shamed far and wide throughout the blogosphere.

(Gorski, 2016)

Orac's assessment of Wilyman's thesis is necessary to include in this review for a few reasons. It provides an example outside my dataset that reflects findings from my participants' experiences, as well as my own. While I was unable to interview Judy Wilyman, it seems our experiences overlap markedly. I am not suggesting that Orac's

condemnation of the thesis is incorrect or invalid. But it is worth remarking that in his several blog posts about Wilyman, loaded with slights and personal judgements, substantive analysis of her work was not evident. Second, that Orac was motivated to devote blog posts to a PhD candidate from the other side of the world suggests a degree of disproportionality. How dangerous is Wilyman's thesis? How much influence could a PhD thesis from the University of Wollongong have on global vaccination rates? This reflects the questions that first prompted my pursuit of this problem. Why did *The Australian* and anti-wind websites deem me so threatening to their cause that it was necessary to accuse me of wrongdoing, spread misinformation to their readers and attack my qualifications and credibility? I was a PhD student who hadn't yet conducted a single interview. Why did they deem me such a threat? Why was it worth the time and effort for them?

Another key aspect of Martin's work describing the attacks on Wilyman is the consequences for academia and society more broadly. Martin argues that when an academic is attacked or suppressed, they have two options: stop what they're doing, or keep going.

One option is to say nothing: if Judy had never participated in the public debate about vaccination, SAVNers probably would have paid no attention to her. Publishing only in academic journals is another possibility, though any position critical of vaccination might bring attention.

However, to suggest saying nothing is really to admit defeat: if a topic is so sensitive that research is not undertaken or comment not made, this means that a form of censorship has occurred. Indeed, this sort of chilling effect —the discouragement from doing research on particular topics because of the likelihood of reprisals —is found throughout the research system.

(Martin, 2015b)

This final point is critical to the problem this thesis explores. How is research silenced? Why does it happen? And what are the consequences for academic freedom? These are the central questions this thesis intends to explore.

Insights and limitations of Martin's 'suppression of dissent'

Broadly speaking, Martin's suppression of dissent is applicable to several of my participants' experiences, particularly Katherine Flegal, James Enstrom, Anthony Miller, and Paul Frijters. It is clear there are cases, both within and outside the dataset, in

which powerful or vested interests are motivated to stifle what is seen as troublesome or threatening research. The characteristics of the suppression and mobbing he identified are present in several of my case studies and this goes a long way to explain why this happens. However, I have identified some possible gaps or limitations of this approach. For instance, some participants' experiences did not reflect Martin's theory. While the attacks they encountered follow similar patterns in the tactics used against Wilyman and described by Martin elsewhere (spreading misinformation in blogs, online media and mass media, accusations of causing harm, sustained harassment), the motivations do not seem as clearly defined. These are cases where there doesn't appear to be a financial or political interest at stake, such as those of Kasumovic, Chapman, Bell and Brand-Miller and Barclay. So while his theory is reflected in some cases, such as Frijters, Enstrom and Miller, it does not go all the way to explaining this problem. It is necessary to draw on other areas of the literature to provide a more comprehensive account for how and why my participants' research was silenced.

Identity, science and justice

Science historian Alice Dreger's work around academic freedom, science and justice is pertinent for this review. In her book *Galileo's Middle Finger* (2015) and blog posts (2015), Dreger chronicles her experience navigating the tension between activism and science in fields relating to sex and identity. Dreger's book provided in-depth case studies of academics and scientists whose work provoked an extreme backlash. Many of the cases involved research into sexual behaviour and identity, such as transgender and potential biological bases for sexual coercion. She argues that attacks on researchers are due to science becoming inextricably linked to personal feelings and sense of identity. Particularly in research on sexuality and sex differences, science is relegated in favour of activism and advocacy. She recounts when she realised there was a bigger problem at play—a realisation familiar to me. Rather than a few isolated cases, Dreger says there were patterns of researchers getting into trouble for pursuing lines of enquiry deemed unpalatable by individuals or groups.

I had accidentally stumbled onto something much more surreal—a whole fraternity of beleaguered and bandaged academics who had produced scholarship offensive to one identity group or another and who had consequently been the subject of various forms of shut-downs.

(Dreger, 2015, p108)

In her pursuit of a number of case studies, Dreger begins to question some of the ideas I have already outlined in this review, particularly notions of academic freedom and whether it's 'right' that some areas of research are considered off-limits, and whether we should stop being afraid of dangerous ideas.

Is there anything too dangerous to study? Should there be any limits? What if, in order to prove how important truth seeking is, we made a point out of studying the most dangerous ideas imaginable? What if we became unafraid of all questions? Unbridled in our support of the investigation of 'dangerous' ideas?

(Dreger, 2015, p133)

Dreger argues that society needs fearless academics—academics willing to confront information that conflicts with what they believe. Her beliefs around academic freedom reflect the ideals set out in university academic freedom policies: that only by allowing unfettered freedom to pursue lines of enquiry can society learn, grow and progress.

We scholars had to put the search for evidence before everything else, even when the evidence pointed to facts we didn't want to see. The world needed that of us, to maintain—by our example, by our very existence—a world that would keep learning and questioning, that would remain free in thought, inquiry, and word.

(Dreger, 2015, p137)

Particularly significant for Enstrom's and Frijters' cases, Dreger discusses the shift towards bureaucratised, commercially driven universities. She argues that academics need to reject these pressures and commit only to truth and justice—that personal feelings, ego and beliefs must be set aside.

To scholars I want to say more; our fellow human beings can't afford to have us act like cattle in an industrialised farming system. If we take seriously the importance of truth to justice and recognise the many forces now acting against the pursuit of knowledge—if we really get why our role in democracy is like no other—then we really ought to feel that we must do more to protect each other from misinformation and disinformation. Doing so means taking on more responsibility to police ourselves and everybody else for accuracy and greater objectivity—taking on with renewed vigour the pursuit of accurate knowledge and putting ourselves second to that pursuit.

(Dreger, 2015, p262)

Dreger's work is instructive to this thesis in a few ways. First, her discussion of academic freedom and how it plays out in reality lends insight to this often-misunderstood concept. Second, she was able to establish whether reactions against her interview subjects were based on 'legitimate' critique of the work, or a more personal, visceral reaction. This reinforces analysis of my own dataset in the previous results chapters. While it was beyond the scope of my research to prove the validity or not of my participants' research, accusations of wrongdoing were largely unsubstantiated. The attacks on their work seemed to be based on a moral objection to a 'bad' or 'dangerous' idea, rather than demonstrable misconduct. Third, her own experience with censorship highlights that whether or not a university chooses to defend its academics is largely contingent on whether or not it benefits their reputation. This reflects my own assessment of the inadequacy of written policies in protecting academic freedom, as well as bolstering the accounts offered by Brand-Miller, Enstrom and Frijters—that protecting their right to academic freedom was secondary to their university's reputation and financial interests.

Dreger's own encounter with a breach against 'academic freedom'

Dreger herself has recently left academia in protest of her academic freedom being breached (Stone, 2015a, 2015b). In 2014, Dreger edited an issue of Northwestern University's bioethics journal *Atrium*, titled 'Bad Girls'. A peer-reviewed article by Bill Peace in the issue detailed a consensual sex act between he and a nurse when he was in a paralysis ward as a young man. Soon after the journal was released online, the new Dean of Northwestern's Medical School, Eric Neilson gave the order to censor both the online and print editions of the issue (Klugman, 2015). Dreger attempted to get the article restored and a firm guarantee that the university would not censor academic work again. The administration at Northwestern continued to evade responsibility and refused to make any such guarantees, so Dreger resigned.

I cannot continue to work in such circumstances and in such an institution. Vague statements of commitment to the principle of academic freedom mean little when the institution's apparent understanding of academic freedom in concrete circumstances means so little. Hence, my resignation... I no longer work at a university that fearlessly defends academic freedom in the face of criticism, controversy, and calls for censorship. Now, I work at a university at which *my own dean* thinks he has the authority to censor my work. An institution in which the faculty are afraid to offend the dean is not an

institution where I can in good conscience do my work. Such an institution is not a “university,” in the truest sense of that word.

(Dreger, 2015, paras. 13 & 15)

In her open letter of resignation, Dreger reinforces the ideal of academic freedom and the noble role of universities within society. She argues that any university who would prioritise reputation and avoiding controversy over freedom and justice is not a university. It no longer has the right claim a commitment to academic freedom or scholarship.

Insights and limitations from Dreger’s identity, science and justice

Dreger’s research is instructive to this thesis, though like with Martin, I do something slightly different here. Dreger is an accomplished and fastidious science historian. In each of her case studies, she delves deep into her participants’ research to ascertain whether their work or the attacks on them were valid. It was important for her to see whether the researcher had done something demonstrably wrong or incorrect that may justify the attacks upon them. When she could find no valid scientific justification, she could confidently determine these reactions were personal, impulsive, and emotional. Her findings are reflected in some of my case studies, where it is clear that personal experience or personal identity have become tied up with peoples’ perception of research, such as Michael Kasumovic’s, Anthony Miller’s and Simon Chapman’s cases. According to these participants, some individuals feel that if findings suggest something about an aspect of their identity or a group they belong to, the research is attacking them or making assumptions about them, which they consider untrue or unfair. Dreger’s assessment of her case studies is comprehensive and based on an objective critique of the evidence. Judging the validity of my participants’ research or the claims made against them is not within the scope of my research. I am not nearly as qualified as Dreger to make these judgements, and nor is it the purpose of my study. For me it is not about assessing whether research was right or wrong, good or bad, but how the actors in these situations behaved, responded to and justified attacks that did not *appear* to be based on substantive critique, in order to interrogate the underlying ‘rules’ of academic freedom. Dreger holds universities and their commitment to academic freedom to a high standard. Conversely, the purpose of *this* thesis is to challenge these standards and call the reality of academic freedom into question entirely. I believe there

is a gap between what we *think* academic freedom means and what its limits are, and what it actually is. I do not subscribe to the view that academic freedom is inherent or guaranteed. It is a necessarily bordered concept, with some legitimate, spoken limits and more subtle, unacknowledged boundaries that I tease out throughout this thesis.

Further explanation for research silencing

There are a few other ways of thinking about intellectual suppression or research silencing. While these are not central to this review or thesis, I briefly acknowledge them here. Echoing some arguments from Martin, this could be a case of vested and conflicting interests. For instance, that particular industries or interest groups are too influential and powerful in some fields to allow research that conflicts with their beliefs or profits. The works of Ben Goldacre (2008) and Marc Rodwin (2011) are instructive here. It is undoubtedly the case that pharmaceutical and other therapeutic industries play a major role in influencing medical research. It is clear there are problems with taking money from powerful interests who may ultimately determine what research is and is not conducted, and how the findings from these studies are disseminated and taken up by policymakers. As I've argued, the role of vested interests is reflected in some of my case studies, namely Frijters, Miller, Flegal and Gard, but not all. While certainly relevant in some fields, in the context of my dataset, this explanation is too narrow to explain the cases where financial interests are not present. Another relevant perspective overlapping with the "rights and responsibilities" thesis from Gottfredson, is that of ethical views around science governance. Increasingly, it is the responsibility of all researchers to do no harm and ensure there is informed consent from anyone who may be affected. We can see this at the micro level, with ethics protocols determining what research is allowed and providing guidelines for responsible and ethical research. But we can also look at it from a macro level—to what extent should academic work reflect the needs of society rather than the whim of 'boffins'? Is it *right* that academics should be allowed to pursue research that may cause social harm, just because they technically have the right to do so? Shouldn't people be able to suppress or attack research that may be dangerous, or whose risks outweigh its benefits? Again, this perspective is relevant for some participants working in areas of public health, such as Flegal, Miller, Brand Miller and Barclay, but is not comprehensive. I have explored some elements of this perspective where relevant to above participants, but its applicability is

limited, particularly as many of my participants' antagonists were from within the academic community, rather than members of the public. The aim of this review is to highlight that while numerous studies have explored vested interests, ethical perspectives and the mechanics of academic suppression, little analytical attention has been paid to the emotional, visceral landscape in which these conflicts occur, and the wider implications for academia.

Building overarching theory

In the subsequent discussion chapter, I bring these various threads together and propose an overarching theory. It manifests itself slightly differently in every one of my case studies, but the shared themes and discourses are too obvious to ignore. Namely, at no point is debate requested, or negotiated understandings attempted. It is 'I don't like what you're saying and you need to shut up.' It is full of feeling. It is that almost un-nameable protest that you feel in your gut. It's a feeling of disgust. Of wrongness that is not to be tolerated.

After my own experience, my overwhelming sense was that this seemed to be a very emotional, visceral terrain. I hadn't recruited a single interview participant and yet the response from anti-wind groups was swift and unforgiving. It got me thinking: do other researchers encounter similar reactions to their work? Can we see a visceral or emotional response in all cases, or is it more like what Martin and Dreger have described? In Martin's case, is it powerful interests shutting down inconvenient research? Maybe for some, but not all. In Dreger's case, is this science getting inextricably tied up with identity? Again, maybe for some cases, but not all. So what else is going on here? From a preliminary reading of my participants' cases prior to conducting interviews, the responses to their research didn't seem to be based on critique, or furthering understanding, or quality control. They seemed to be experiencing a visceral reaction to an unpalatable or 'dangerous' idea.

The discourses around these controversies are complex and often contradictory. As I have explored, my participants' most vocal simultaneously argue the research is 'rubbish and not worth paying attention to', while vocally and actively working to discredit it. They question the integrity and qualifications of my participants while

engaging in what appears to my participants as sometimes vicious, and often, harassing behavior. For those on the receiving end, this is often baffling and deeply hurtful. From an outsider's perspective, this may appear confused and nonsensical. But for those involved, it likely makes perfect sense. They hear about a paper that conflicts with what they believe. Immediately, they feel an angry twist in their stomach. *This isn't right. I know this isn't right. They must be wrong. Their data collection must be flawed in some way. They must have been paid by some powerful industry.* When they suspiciously look through the paper, there might be a couple of semantic errors, but nothing that explains the flawed conclusion. They look deeper. They can't find any connection between Big *Insert Industry Here*. *This doesn't make sense. Why would they be saying this? Even if it is true, it's dangerous. It's irresponsible. They could be doing real damage to real peoples' lives. I have to do something.* They look online to see if it's being spoken about anywhere. They see the academic has written a pop science article about their research. *I can't believe they are doing this. I'll post it to my Facebook and Twitter pages and see if other people agree with me.* They build up a group of people who are just as incensed as they are. Someone suggests writing a blog condemning the article. Everyone else likes this idea. One person doesn't think it goes far enough though. *They can write the blog if they want, good on them. And I'll share it. But this person needs to know they can't get away with this. I'm calling their university. I'm demanding they get disciplined. Or fired.*

My participants are outliers. Most academic work fits within the bounds of 'acceptable' research and as such does not disturb the academic freedom ideal. As long as you are fulfilling minimum core requirements—adhering to ethics protocols, satisfying peer review—you should be fine. But there is a caveat to this. It is, above all else, when you make people feel discomfort or distaste, like my participants appeared to. This could be for any number of reasons. You might have strayed from the status quo, like Jennie Brand-Miller and Alan Barclay. You might have disrupted the 'established wisdom' like Katherine Flegal. You might have blurred the lines between research and identity, like Michael Kasumovic or Simon Chapman. You might have inadvertently threatened an industry or someone's livelihood, like Anthony Miller or Katherine Flegal. You might have waded into a fraught and polarised terrain and been caught in the crossfire, like me, Kristen Bell or Mark Largent. What unites all my participants' experiences is this slippery *something* that makes some research areas off-limits, or unacceptable. Many of

the criticisms against participants and me followed similar themes: scientific-*sounding* claims; conflict of interest accusations or questions around the ethics of raising such dangerous or irresponsible questions. But uniting all these cases is that this line of enquiry is unacceptable and must be shut down. A boundary has been crossed, provoking a moral disgust response. Those who feel this response must penalise the rule breaker.

Chapter 7: Discussion and overarching theory

In this chapter, I present an overarching theory to explain research silencing and what it reveals about academic freedom. This will involve drawing together my own experience; the patterns of silencing behaviour I've identified; explanations for research silencing; and several seemingly disparate areas of the literature. In the results chapters I presented evidence of shared themes and patterns amongst academics that point to a broader problem of research silencing. Participants offered their accounts and explanations for why their work was deemed unacceptable; despite believing they had 'done all the right things'. In the literature review chapters, I presented institutional notions of academic freedom, how they are perceived and taken up by academics, and how attacks on researchers can be understood.

This chapter is broadly separated into three overlapping, theoretically distinct sections, using examples from my participants' experiences to bolster these theories. While these sections are drawn from different disciplines, I will argue that we can bring them together in a way that provides a comprehensive explanation of research silencing. I draw this chapter to a close by presenting my own theory on why researchers and their work are attacked and silenced. I posit that people have visceral responses to ideas they find morally reprehensible in similar ways to physically disgusting stimuli. These visceral responses reveal a boundary has been transgressed. Those threatened by these 'unpalatable' or 'bad' ideas will penalise those not playing by the 'rules'. This section will also contextualise the broader problem of research silencing, situate my thesis within the existing literature and explore why a new way of thinking about academic freedom and its limits is necessary.

The first section presents the literature around moral disgust from cognitive psychology studies. This research suggests that we respond to ideas we find morally reprehensible in similar ways to physically disgusting stimuli. The response is visceral, rather than rational, and may override our ability to respond critically to ideas we find unpalatable.

I will reiterate examples from the dataset to demonstrate that this response is both present and significant in explaining responses to my participants and their work.

The second section draws on literature around the usefulness of disgust in revealing unrecognised boundaries. The work of Mary Douglas will be used to demonstrate that extreme, visceral reactions expose where people delineate what is acceptable and what is unacceptable. This theoretical underpinning will be instrumental in arguing that the reactions to unpalatable or morally inexcusable enquiry reveal unspoken or invisible limits to academic freedom. I will recap cases from the dataset to illustrate that it is not until a boundary has been transgressed do we realise there *was* a boundary. It is this visceral response to unpalatable ideas that exposes unacknowledged bounds in the field.

The third section uses literature around field theory and polarisation from Pierre Bourdieu and Michael Gard. I will explore what these theories say about how fields are arrayed, policed and defended. This will be useful in explicating how players within a research field set the rules of engagement and penalise those who break the rules. It is clear from the dataset that there are instances of research communities closing ranks against those who defy norms. It is also clear that once lines have been drawn and teams picked, the field is no longer as open as it seems. In some cases, it is more important to defend existing boundaries and ‘win’, than it is to build knowledge or shared understandings.

I conclude the chapter by drawing all these concepts together to present one overarching explanation for research silencing and what it tells us about the reality of academic freedom.

Moral disgust

The broader academic literature on disgust is vast and complex and as such it will be impossible to cover it all here. However, this section will draw on the comparatively recent literature on *moral* disgust from cognitive psychology studies. The most important study for the purposes of this discussion is the 2013 study by Hanah Chapman and Adam Anderson, though other studies were also reviewed (Moline, 1971;

Vitrano, 2012). Chapman and Anderson (2013) conducted a systematic review and synthesis of moral disgust. While this remains a fairly small and underdeveloped area of literature, their review concluded that responses to moral disgust physiologically, psychologically and semantically resemble responses to physical disgust.

Following Chapman and Anderson's example, for this discussion, I will "refer to disgust elicited by abstract sociomoral transgressions as moral disgust" (Chapman & Anderson, 2013, p301).

Chapman and Anderson (2013) argue that moral disgust, like physical disgust, is based on an innate, impulsive, visceral response. "These findings converge to support the conclusion that moral transgressions can in fact elicit disgust, suggesting that moral cognition may draw upon a primitive rejection response" (p300) and that this "would also have important consequences for our view of moral cognition. In particular, it would provide strong support for the idea that the human moral sense draws upon evolutionarily ancient precursors, at least to some extent, rather than relying exclusively on more recently evolved higher cognitive functions" (Chapman & Anderson, 2013, p301).

Chapman and Anderson's study asks several questions of the moral disgust literature that are highly useful for this discussion.

To examine the causal role of disgust, we then pose the reverse question: Does inducing disgust have an impact on moral judgments? Last, we ask whether individual differences in the tendency to experience physical disgust are associated with variation in moral cognitive processes. We argue that the answer to each of these questions is yes. Taken together, these studies provide converging empirical support for the expansion of disgust into the social and moral realm.

(Chapman & Anderson, 2013, p301)

Chapman and Anderson ask why moral disgust should exist at all. "[M]oral transgressions should elicit little or no disgust. After all, why should an emotion rooted in disease avoidance be triggered by a moral transgression?" (p304).

Chapman and Anderson also acknowledge the tendency to dismiss moral disgust by some theorists as just an extension of physical disgust—that it is only discussion of physically disgusting like bodily fluids or disease that people find repulsive, rather than *morally* wrong in itself.

A key question in the following sections will be whether disgust is reserved for moral transgressions that contain reminders of physical disgust; that is, those that violate moral codes related to purity or divinity, which forbid behavior that is polluting, filthy, inhuman, or profane... Examples of purity violations from the literature include engaging in consensual incest, receiving a blood transfusion from a child molester, and eating rotten meat. It is not surprising that people find such scenarios to be disgusting, given that they describe classic physical disgust stimuli. However, because physical disgust and immorality are confounded, it is not clear whether any of this disgust can be attributed to the immoral nature of the actions described. In what follows, we are more interested in whether transgressions that do not reference physical disgust stimuli can elicit signs of disgust experience. We refer to such transgressions as “pure” transgression stimuli.

(Chapman & Anderson, 2013, p304)

They found that these physiological responses in some studies to morally reprehensible ideas—like cheating or some instance of injustice—are subtly different from physically disgusting ideas, like discussion of incest or excrement.

Overall, a pattern is beginning to emerge in which participants who are exposed to moral transgressions show signs of disgust in many modalities, from self-report, to facial expression, to overt behavior and implicit priming. Moral disgust does not seem to be restricted to transgressions that reference physical disgust and also cannot be easily explained away as metaphorical communication.

Chapman & Anderson, 2013, p311)

This suggests that moral disgust is a related, but separate set of responses to physical disgust. Applying this finding to my own dataset, a rather nuanced picture starts to emerge. Some of my participants were working in fields that may have evoked a physical disgust response, such as obesity, circumcision and pollution—whether of the air or bodies through smoke and sugar. So the response to these participants’ work may be a physical disgust response—these researchers were seen as promoting or encouraging physically disgusting *or* morally reprehensible behavior or a combination of both. While other participants were working in fields that Chapman and Anderson might call more ‘pure’ transgressions that evoked a sense of injustice, unfairness or

some other form of *wrongness*, such as Michael Kasumovic's findings about gamers; or Simon Chapman's work on wind farms and gun control.

In terms of exploring how people cognitively deal with disgusting stimuli, Chapman and Anderson propose different models of appraisal theory.

Note that appraisals can range from relatively simple and automatic to complex and effortful and that they may take place at different levels of the nervous system (Scherer, Schorr, & Johnstone, 2001). Importantly, we do not believe that appraisals must necessarily be "cognitive," in the sense that they need not require conscious thought or high-level processing.

(Chapman & Anderson, 2013, p319)

This suggests that responses are not necessarily critical or rational—they do not need to be consciously thought about. In light of my dataset, this strikes me as significant. In hearing my participants' experiences, I was often surprised by how quickly and ferociously their work was attacked. Were they really that 'dangerous'? It also reflects my own experience. Why was I seen as such a threat to the anti-wind community? Me, a lowly PhD researcher? It seemed that, had the many opponents of research within my dataset stopped to think about it, they would realise that this kind of response is unnecessary and unwarranted. For their part, Chapman and Anderson propose that this response may be primitive and serve a particular function.

In all three models, we propose that some kind of evaluation or appraisal lies between the "raw" perception of a stimulus and the emotion that is eventually elicited. These appraisals can vary in complexity, and some may be quite primitive. We also assume that distaste, physical disgust, and moral disgust are each functional; that is, each serves a useful purpose in the behavioral repertoire by organizing an adaptive response to a challenge. Accordingly, the role of appraisals in each of the models is to determine whether a given stimulus calls for a disgust response.

(Chapman & Anderson, 2013, p319)

Chapman and Anderson argue that the way an individual 'appraises' a particular stimulus as morally disgusting, will determine their moral judgement of that idea, and how to deal with it.

[We] believe that appraisals are required for moral judgment, much as they are required for emotions. Accordingly, moral judgment is represented in our

models as a distinct, independent output, consisting of a decision that something is morally right or wrong. Note that moral judgment is not an appraisal; rather, it is the consequence of appraisals.

(Chapman & Anderson, 2013, p321)

This reflection by Chapman and Anderson mirrors findings from other areas of the cognitive psychology literature, particularly Daniel Kahneman whom I briefly discussed in the methodology chapter. Nobel Memorial Prize winner and psychologist Daniel Kahneman describes human thought patterns as a tension between ‘fast and slow’ thinking. Kahneman (2011) argues we like to see ourselves as critical, rational thinkers, in which we carefully and slowly consider new information. Rather, we mostly judge new information immediately. We very quickly *feel* whether something is right or wrong, good or bad, and whether it is worth paying attention to (Kahneman, 2011). Kahneman’s work is highly useful when applying it to the ways people respond to new research. The tendency for humans to make immediate *judgements*, rather than critically *think* about new information, means we tend to order information according to existing worldview and value systems. We reject ideas that conflict with the way we already see the world (Ellerton, 2016). Our psyche is ‘hardwired’ from early adulthood to protect us from painful or uncomfortable cognitive processes. So if research is seen to disrupt these structures, I argue our psyche is inclined to dismiss or attack the offending information so that it no longer causes discomfort.

It is important at this stage to again turn to my dataset. Katherine Flegal characterized the response to her work as “the message, really was not so much: ‘Here’s a scientific disagreement’, it was more ‘this is something you should ignore completely’”. One of Flegal’s main detractors said her study was “A pile of rubbish and no one should waste their time reading it” (Hughes, 2013). This same individual organised not one but two symposia about Flegal’s work in 2005 and 2013, in which every speaker attacked the studies. For someone who thought the paper was rubbish, he seemed to go to extraordinary lengths to discredit it. Again, Flegal says the message is “This is so bad that we have to destroy it”. Wayne Hall was explicitly told to shut up. In their words, Jennie Brand-Miller and Alan Barclay were pursued relentlessly for over two years for what amounted to a couple of misprints. Anthony Miller was accused of deliberately causing women harm to get the result he wanted. Kirsten Bell was told her position was

“morally untenable”. Simon Chapman and Stanton Peele were threatened with bodily harm. James Enstrom’s contract was not renewed because his research was not “aligned with the department’s mission.” Mark Largent was told he was validating dangerous ideas and indirectly killing people.

While analysing these responses, a thought occurred to me: when some people disagree with a line of enquiry or a study’s findings, it is evidently not possible to allow it to go unchecked. It must be destroyed entirely. This instinct towards shutting down lines of enquiry you don’t like, tearing something down with all the means at your disposal strikes me as distinctly *unscholarly*. Flegal notes this in the following excerpt from our interview.

You try to find why this is happening; you don’t just say this must be wrong. ‘Why is this happening? What am I seeing here?’ Try to move forward somehow or figure something out. That should be the goal, not to stop it and denounce it and say this must be wrong.

Gottfredson too noticed this tendency to destroy the offending idea, echoing Helen Keane’s view that some ideas are so bad even entertaining them through research is morally unacceptable.

The most unsettling ideas make the most tempting targets for suppression. Labeling an idea dangerous makes it a target, and the label simultaneously provides moral justification for suppressing it. Thus does suppression claim the moral high ground: danger and evil require such suppression in the name of the greater good. The more horrific the allusions to evil, the greater the alarm and revulsion evoked, and the greater the urge in bystanders to endorse all possible means of destroying the evil.

(Gottfredson, 2010, p276)

In light of Chapman and Anderson’s findings and what they may mean for my dataset, I believe this is at least a worthwhile and instructive *part* of explaining the problem. I am not suggesting this was definitively the cause of responses to my participants’ research. However, these moral disgust studies establish a theoretical framework to suggest that when something is considered morally unpalatable or ‘disgusting’, people may respond in a visceral way, rather than in a critical or rational way. Several of my participants were told their work was ‘dangerous’ and that for the ‘greater good’ they should shut

up. While this area of the literature is underdeveloped, it suggests a new way of thinking about this problem—morally reprehensible ideas are perceived as dangerous and worthy of a disgust response—stop, shut down, destroy. We saw this in the previous chapter—that some ideas are ‘so bad’ they cannot even be studied. We saw the ways these responses were described as ‘visceral’, ‘knee-jerk’, and ‘emotional’. We saw that the behavioral response was to silence and close lines of enquiry. My hunch at the outset of this study was that these responses seemed disproportionate—based on a very primal, emotional ‘gut feeling’ that some ideas are just unacceptable. Chapman and Anderson’s synthesis of the, albeit fledgling, moral disgust literature adds a cognitive psychology lens to this hunch.

Disgust reveals boundaries

This section draws on the work of anthropologist Mary Douglas in exploring responses to research deemed morally reprehensible, as well as the overlapping work of Michael Smithson around ignorance and uncertainty, particularly as it relates to taboos.

Douglas’ symbolic analysis of disgust and what it reveals about the perception of danger and boundaries will be most instructive for this section of the discussion. While Douglas’s focus on the body and bodily functions may seem an unrelated or tenuous link, I will draw together these disparate threads into a workable overarching theory. For instance, if we tentatively accept Chapman and Anderson’s work on moral disgust, we can see the ways these very visceral responses from research opponents may be driven by a feeling that a boundary has been crossed. We can see this language in the dataset—that particular research is so morally bad it can’t be entertained, or that the work may be dangerous or promote risky or unacceptable behaviour. As in the previous section, while it’s not impossible to definitively *prove* this, it raises the possibility that a perceived line has been crossed, which compels these visceral, impulsive responses.

Mary Douglas focused on beliefs about pollution and hygiene, as these beliefs are expressed in religion (1966). Douglas argues that universal patterns of symbols of purity and pollution are all based on reference to the human body. She took the idea that ambiguous things are dangerous and applied them to the human body. She argued that all margins are dangerous—that it would be a mistake to see bodily margins in

isolation from other kinds of margins. Everything symbolises the body and the body symbolises everything (Douglas, 1966).

There is no reason to assume any primacy for the individual's attitude to his own bodily and emotional experience, any more than for his cultural and social experience. This is the clue which explains the unevenness with which different aspects of the body are treated in the rituals of the world.

(Douglas, 1966, p121)

In particular, Douglas argued, things that cross boundaries are dangerous and worrying. She distinguishes four kinds of social pollution. While all four are interesting and potentially important, for the purposes of this discussion I will focus primarily on what she saw as the second danger—danger from transgressing the internal lines of the system. Douglas argues that morality and pollution overlap at times but are by no means always congruent. Some behaviours “may be judged wrong and yet not provoke pollution beliefs, while others not very reprehensible are held to be polluting and dangerous” (Douglas, 1966, p130).

It is my belief that people really do think of their own social environment as consisting of other people joined or separated by lines which must be respected. Some of the lines are protected by firm physical sanctions.

(Douglas, 1966, p138)

Douglas contended that ‘pollution’, reinforces ethical and moral boundaries, by allowing us to determine what is acceptable and what is unacceptable. It is this classification system into ‘good’ and ‘bad’ that provides societies with their moral or ethical order. From here, people can develop rituals to make sure they stay both physically and morally pure. Doing this enforces the symbolic system and ensures that order is maintained (Douglas, 1966). Again, while this may seem a tenuous link when discussing attacks on research, I suggest that silencing responses are an attempt to reinforce boundaries around what is acceptable and what is not, as well as to ‘cleanse’ those who do not want to be associated with the ‘unacceptable’ idea. It is as much about drawing a line to keep ‘bad’ ideas out, as it is to say ‘I’m not with him.’ By condemning some research as bad, or a waste of time, or dangerous to society, it also further justifies, validates and protects that research which *is* acceptable—something academics are structurally and continually forced to do for their own survival. For instance, participants working in critical tobacco research encountered the mainstream tobacco

control communities “closing ranks” against them. It was important to belittle and minimise the importance of this research. ‘Who cares about understanding why some smokers continue to smoke when we have dedicated years and billions of dollars in compelling them to stop? We’re the ones saving lives, what you’re doing is either pointless or dangerous or both.’ This reinforced a clear demarcation between what is ‘good’ research, and what is ‘bad’. Ensuring boundaries are maintained and order is restored is paramount.

Another important aspect of Douglas’s work is her exploration of things that cross borders generating disgust. This is what Douglas calls ‘matter out of place’. Often, disgusting things are so because they don’t belong where they are found (Douglas, 1966). We can see elements of this within the dataset described in the previous chapters. James Enstrom said his research wasn’t ‘supposed’ to make it into such a reputable journal—that the response to his work was so fierce because it was published in the British Medical Journal, based on data from the American Cancer Society. In other words, quality data should not have been published in a highly reputable journal for such vile purposes. It just wasn’t right. It didn’t belong. Likewise, the response to government scientist Katherine Flegal’s study, published in the Journal of the American Medical Association, based on a meta-analysis of 97 studies, seemed to be so extreme *because* of how strong her case was. Her public health opponents from Harvard felt that her study was dangerous because it was published in a reputable journal and it was seen as a government-sanctioned finding, when they felt it was “rubbish and [that] no one should waste their time reading it” (Hughes, 2013).

Douglas’s ideas about purity and pollution are reflected by findings within my dataset. Disgust reveals a threat to the predictable order of things. Disgust at matter out of place protects our capacity to organise our own places, structures and lives. From the previous chapter, we saw that the primary reason proffered by participants to explain why they were silenced was because they had ‘disrupted the status quo’ or ‘challenged orthodoxy’ and that it needed to be punished. Those interested in protecting the public health consensus on an issue, for example, need to ensure that anyone transgressing those boundaries is punished and that everyone else in the field understands what is ‘acceptable’ and what is not, for the greater good. This lets everyone know where the

boundaries are and what will happen if they are transgressed. As well as validating 'good' research, it also condemns 'bad' research and the "useful fools" Wayne Hall described, who pedal it to the obscure backwater they belong—the backwater Flegal would have been relegated to had she been a junior researcher.

In his introduction to *Ignorance and Uncertainty*, Michael Smithson (1989) draws on the work of Douglas to explore 'taboo' as a form of 'socially enforced irrelevance' (p8).

Smithson argues:

Taboo matters are literally what people must not know about or even enquire about. Taboos function as guardians of purity and safety through socially sanctioned rules of (ir)relevance. This concept is particularly rich in its explanatory power for how we deal with anomalous or cognitively threatening material, and Douglas places her concerns with taboos in the centre of any explanation concerning how we deal with disorder.

(Smithson, 1989, p8)

Douglas' and Smithson's work is reflected in my participants' experiences. Several felt their work had been deemed 'bad' and 'unacceptable'—that even asking the questions they dared to should not be 'allowed'. We see that in the behavioural responses to these lines of enquiry, the overwhelming drive was to stifle the work, not to critique or engage with the ideas presented intellectually. It was a shutting down, silencing response. It is clear my participants' research was considered taboo—that it had crossed a boundary—and restoring order was paramount.

Boundary transgression will be penalised

How can we explain attacks on researchers and lines of enquiry that go beyond what a reasonable academic could expect? One way to explain it, based on the responses in the previous chapter is as a group enforcing the rules. Someone has crossed a boundary and been admonished. In this way, perhaps academic culture is no different from any other culture—those with capital compete to enforce the rules. So why do we think academia is 'special'? Why do we talk about academic freedom as this great and noble ideal, when the reality is so very contingent and conditional? Perhaps then, the notion of academic freedom is not what we think it is. Perhaps, this visceral, impulsive response overrides written policies and widely understood conceptions of what is protected by 'academic

freedom.’ This section covers the various ways researchers are positioned, arrayed or constrained by fields deemed unpalatable to a particular community. I primarily draw on literature around Bourdieu’s field theory to draw out the various ways researchers are positioned in a research field, who the players are and what the ever-changing rules mean for them and the questions they ask. I will also draw on Gard’s discussion of ‘strange bedfellows’ and the ways polarisation arrays and constrains researchers. These areas of the literature reinforce the importance of maintaining boundaries and ‘winning’ in research fields, contrary to high-minded notions of scholarship and freedom to pursue and construct knowledge. This literature is supported by my participants’ experiences. These experiences suggest my participants felt pressure to form alliances, choose sides and follow existing lines of enquiry, rather than forge new ones, based on what they deemed important. This is particularly evident in fields that may control the kinds of questions or lines of enquiry that can be pursued. This can be seen in fields that have become highly polarised, where a researcher feels as if they must ‘pick a side’. This section is critical to my overarching theory, because it is clear that the constraints on researchers, and the positions they feel forced to take severely undermines our ideas around academic freedom.

Bourdieu’s field theory

Bourdieu argues that actors compete for capital to establish rules of engagement and cultural or institutional norms.

The monopoly on the dominant cultural legitimacy is always the object of competition between institutions or agents. It follows from this that the imposition of a cultural orthodoxy corresponds to a particular form of the structure of the field of competition...

(Bourdieu & Passerson, 1990).

Bourdieu asserts that when norms are breached, actors will police these transgressions and punish the rule breaker (Bourdieu, 1986). This reflects the dataset remarkably—most participants felt they were playing by the rules—what with their academic training, satisfying ethics approval, funding applications and submitting to journals for peer-review. These participants were shocked by the response to the work. They thought they had ‘done all the right things’. But what if there were invisible boundaries on the field they didn’t realise were there? That they didn’t realise they’d crossed? What

if it was only when they were punished that these boundaries were see-able as ‘the rules’?

If we use Bourdieu’s field theory and apply it to the contested or controversial research areas within my dataset, we can see the way ‘players’ are arrayed and their actions influenced. Bourdieu believed a combination of habitus—a system of embodied dispositions, tendencies that organize the ways in which individuals perceive the social world around them and react to it—and doxa—that which is taken for granted or self-evident—arrays and embodies players in a field (Bourdieu, 1986; Bourdieu & Passeron, 1990) . So turning to research fields, as we saw in the literature review chapter, we like to think academic freedom is a given, that research fields are open to critique and new evidence. We like to believe that everyone is playing by the same rules; that the rules are fair; and everyone has agreed to them. This is largely the image of science—that the best evidence wins. In many research fields this is probably the case. However, in these issues where new evidence or disruptive lines of enquiry are perceived to be unpalatable or unacceptable, the field becomes closed. New players are constrained by players with the most capital. Existing players close ranks. If most players are committed to maintaining the status quo, then emerging players attempting to use their capital to change the rules of the game will be penalised. The field is therefore not open or fair. Those players refusing to ‘play ball’ will not be tolerated. We saw this in Michael Mair’s explanation of the tobacco field.

In terms of academics, the communities of researchers, the field is obviously very divided. On the one hand you’ve got the tobacco lobby as such, and then you’ve got the public health lobby. And those two basically form opposing poles and tend to be quite antagonistic towards each other. And then there’s another group who don’t really align themselves with either... [who] engage in non-aligned studies which don’t have a normative position in that respect.

Mair believes this polarisation makes it very difficult for those non-aligned researchers like himself, Kirsten Bell and Helen Keane to be published in mainstream journals or be taken seriously by the bigger players in the fields. Mair believes the message from tobacco control advocates seems to be: ‘what’s the point of finding out about why people smoke and how they feel about themselves when you could be yelling at them and snapping their cigarettes in half? We’re saving lives here.’

Likewise, Wayne Hall felt that his attempt to occupy the ‘middle ground’ in the cannabis field was met with skepticism, incredulity and sometimes-outright hostility.

They never bother to read what I write, including papers in which I’ve made a case for reconsidering the current prohibition while acknowledging there are harms associated with cannabis use. So it’s very hard in that sort of framing to avoid being pigeonholed. If you claim to be neutral, people don’t believe you. You’re seen as either a closet supporter and if you’re not wholeheartedly in favour of or sympathetic to the view of the person you are interviewing then clearly you’re a closet supporter of the opposition view.

Michael Kasumovic even used Bourdieu’s terminology to describe his interactions on Twitter with his critics.

But it’s interesting—if you try to do it to them, they respond quite aggressively and they know the little word games that they can play online. And as a result, it’s extremely important not to venture into their field, into their home field advantage, mainly because they know how to use the system much better than I do, for example, to get the result they want. So if you kind of keep it to the science and leave it at that there’s nothing much they can do because they’re not attempting to understand the science.

Helen Keane also used similar language when describing the way polarised or controversial research erodes the idea of disinterested scholarship. It makes it difficult for existing players to imagine:

That... you’re just interested in exploring these issues. And I think this is the problem with these kinds of issues where there’s goodies and baddies, basically. And so if you’re not on this side, you must be on this side.

It seems clear that in many of the cases described in my dataset, players with the most capital work to reinforce boundaries. They do this by clearly arraying themselves and other players in ways that provide order and maintain that which is seemingly ‘self-evident’. For instance, smoking is bad, obesity is bad, sugar is bad, gamers are good, vaccines are good, mammograms are good. Anyone who says otherwise will be penalised.

Gard's 'strange bedfellows'

Michael Gard's notion of 'strange bedfellows' is pertinent here. Gard is both a participant and expert when it comes to polarised fields and how they array players. Gard argues that when issues become polarised, opposing sides are not only pushed further apart, but they draw in unlikely alliances. Though these allies can seem unlikely or be difficult to comprehend in many ways, Gard found their interests converge in one way or another, no matter how tenuous or minor this convergence may appear (Gard, 2011). Drawing on my own experience in the wind farm debate, anti-wind groups appear to have an extensive list of complaints—environmental impacts, aesthetic impacts, poor economic record, rare bird endangerment, community upheaval, along with support from some climate change deniers. So groups that might otherwise be completely opposed to each other's values and lifestyles might agree wind farms are a 'bad' idea. From the dataset, Kirsten Bell found that in the circumcision in HIV prevention area, the anti-circumcision side was made up of a broad coalition of men's rights activists, anti-Semites, and a few scientists bold enough to question the efficacy of the practice. This reinforces the experience that in some fields, researchers are positioned and constrained. They may be forced to pick sides, leaving them on the side of someone with whom they don't want to be associated. Again, this means that academic work is taken up in sometimes unexpected or unwanted ways, obscuring and manipulating its original meaning or intention. Gard's critique of what he saw as the public health community's reliance on poor or inconclusive studies to prove the dangers of the 'obesity epidemic' meant he found himself being endorsed by pro-gun lobbies, anti-socialist groups and 'fat movement' activists alike. He could scarcely see why they all loved his first book, as their interests seemed to be highly divergent. Nonetheless, the polarisation of the 'obesity epidemic' debate meant these seemingly disparate groups found common ground in Gard's work. Gard said these groups were all reading a different version of his book, carefully cherry-picking anything that may help their cause, and ignoring or dismissing anything that did not. Likewise, those against his work interpreted anything problematic to their case as worthy of condemnation and attack. This suggests that it is a visceral appraisal of the work, rather than a critical assessment. It's an impulsive, knee-jerk, gut feeling—'this is wrong' *or* 'this guy is one of us'.

It's really interesting, we got taken up by people in from the rifle associations in America. They loved our book. And the people who thought we would help them to beat the socialists... I was amazed by that, I didn't mention that to you before, but yes that was one of the reactions we were amazed by. But also, we could see they would read the book, but people in the fat movement and the rifle associations would have nothing in common, but they both loved the book, at least when it first came out.

As Michael Mair argued, interlocutors in these intensely polarised debates become primarily concerned with 'winning' rather than opening up lines of enquiry. This undermines the ideal of academic freedom—that academics should be free to pursue research for research sake, without interference or influence from outsiders. There are unacknowledged rules of engagement that academics must follow, lest they be punished. Academic freedom is not what we think it is.

Overarching thesis

The intention of this chapter was to find out if the hunch I had in the beginning bears any fruit. All my participants' cases—whether they follow Martin's 'vested interests' or Dreger's entwining of science and identity—share similar patterns and themes. The responses lie outside established peer-review channels, beyond what an academic can reasonably expect to deal with. These responses do not appear to be based on critical or rational critique. Rather, these are impulsive, knee-jerk, visceral responses aimed at shutting down, denouncing or silencing unpalatable or discomfiting research. We see communities closing ranks and penalising those who cross boundaries or refuse to play by the rules.

Is academic freedom really what we think it is? Does it live up to the ideal? It would seem that once research crosses a boundary –and as such is deemed unacceptable—unspoken and invisible boundaries are revealed, drawing a clear line between 'good' research and 'bad' research. 'That' kind of research doesn't count. I have argued that it is only once a boundary has been crossed that silencing behaviours reveal its presence. The responses I outlined in *Chapter 3: Patterns of silencing behaviours* establish what it looks like when researchers are punished for transgressing boundaries.

So what drives attacks on research when no substantive misconduct or wrongdoing is present? A visceral, knee-jerk response. One aimed at shutting down lines of enquiry, and reprimanding those not playing by the rules. Hidden limits are revealed in a close examination of the relations of disgust. These limits are particularly apparent in lines of enquiry that threaten the public health field, in and through my interrogation of the actors who have experienced silencing of their work. Moral disgust literature suggests people may 'primitively' appraise ideas they find morally disgusting, rather than cognitively processing them. This response may override critical, conscious thought. As I've argued, most academics may never encounter this response, and will continue to take the ideals espoused by universities for granted. It is only those cases in which a researcher pushes a previously unseen boundary that we see this disgust response, exposing the fragility of the academic freedom ideal. My participants' stories demonstrate that when academic work crosses boundaries, individuals or groups will wield whatever power at their disposal to shut down the offender. There is no attempt to engage critically or review the work in question. It is simply to silence, to stop, to shut down.

Conclusion

This thesis has challenged the notion of academic freedom as we know it. I have argued that attempts to silence research are based on a visceral, impulsive response to morally unacceptable ideas, which expose unspoken boundaries to the lines of enquiry academics are 'allowed' to pursue. When these invisible boundaries are crossed, those with academic capital will act to reinforce and defend boundaries, and penalise those who cross them. I have argued that as described by my participants, opponents of research tend to react to ideas they find morally reprehensible in similar ways to physical disgust—a visceral response to ideas deemed 'unacceptable'—by employing silencing behaviours. Though opponents of research may use scientific-sounding critiques or arguments, underlying this is 'I don't like what you're saying and you need to shut up.' Academic freedom, as we like to imagine it, does not exist. In university policies, it is an idealistic, yet hollow commitment to an antiquated ideal of academia that is not reflected in the lived experiences of suppressed and silenced participants. The reason we believe in this ideal is that most academics will not cross boundaries, so they never need to test whether academic freedom lives up to their own conception of it. Only when academics cross these boundaries do they realise they were there.

This concluding chapter is broadly separated into three sections. The first section reiterates my major findings and central theory. It provides a synthesis of silencing behaviours; what they look like and what drives them. It restates my overarching explanation of why research is deemed unacceptable, and how players in a field will use any capital they possess to reinforce and defend boundaries. This section provides perspectives from participants—both pessimistic and optimistic—about the future of academia. It places these views within a broader environment, contextualising what these responses reveal about academic freedom, what academics are 'allowed' to pursue, and future of academia within society.

The second section acknowledges the limitations of this thesis. The dataset is narrow in size, character and geographical setting, meaning its ability to provide a comprehensive exploration of research silencing is limited. The nature of recruiting academics whose

work was openly attacked meant I necessarily restricted my sample to those who acknowledged they had crossed a boundary and had been penalised for it. It is impossible to know how many academics police themselves away from unpalatable lines of enquiry. How many subtle, hard-to-pin-down constraints do academics feel every day that go unspoken or unacknowledged? My participants were also primarily from Australia, with around a third from the United States, Canada and the UK. The extent and prevalence of research silencing in other areas of the world may be greater or lesser, and this dataset cannot provide adequate conclusions about this. In limiting my study to academics from Western, English speaking countries, with overt cases of research silencing, it is also possible there are cases of research silencing that do not fit my overarching theory. The nature of qualitative research in such a wide-ranging area means there are stories I missed. This research is a starting point for much larger research projects, and more profound questions.

The third section summarises and generalises the findings beyond the confines of the thesis. This thesis fundamentally challenges our understanding of academic freedom and calls into questions the taken-for-granted, 'just there' ideal. The rules that dictate what research is considered acceptable go far beyond the 'legitimate' constraints we expect to curtail scholarly enquiry. Within the broader literature, this thesis goes beyond the tendency to see attacks on research as a breach against academic freedom. Rather this thesis finds that academic freedom as we know it doesn't exist. Research silencing reveals a demarcation between 'good' and 'bad' research, when a boundary is crossed. For academic communities, this thesis means it is necessary to adopt a more reflective, honest examination of what we are allowed to pursue, rather than expecting written policies to protect unfettered enquiry as long as we 'do all the right things'.

Overview of argument

Throughout this thesis, I have reflected on my own experience with research silencing and what it meant to have my original PhD project interfered with to such an extent that it was no longer possible to pursue. I have considered carefully how these experiences shaped my approach to the problem and allowed me to understand my participants both through an analytical focus, and through shared experiences. That my integrity, professionalism and credibility were publicly called into question allowed me to

embody empathy in a way that built trust and rapport with my participants, giving me access to data that would not have been possible otherwise. Reflexivity also allowed me to see my role within the polarised wind farm and health area through a lens that was not possible when I was still a player in the field.

A review of the literature concerning academic freedom policies and the lived experience of academics revealed a gap between what we believe academic freedom means and guarantees, and what it actually is. Vague, motherhood university policies around academic freedom suggest their highest priority is a commitment to unfettered pursuit of knowledge. While we like to believe this commitment is upheld in practice, spoken and unspoken limits exist—academic freedom is a necessarily bordered concept. Academics who otherwise meet the requirements of ‘legitimate’ limits such as ethical clearance and peer review are still attacked when their research is deemed ‘unacceptable’ or inconvenient. I argued that various theories from Brian Martin, Alice Dreger and Linda Gottfredson around research suppression yield important insights, though there are unexplained impulses that drive these attacks.

I found that within my dataset, researchers have been attacked and suppressed through 42 distinct *silencing behaviours*. In order to show that, I tabulated feelingful experiences into empirical data to demonstrate these are not a few isolated cases, but patterns and trends seen in different countries, disciplines and levels of seniority within the dataset. These behaviours ranged from private silencing—covert or subtle behaviours that quietly discouraged academics from pursuing lines of enquiry likely to draw condemnation or pressure, to the most overt examples of discipline. This chapter presented examples from participants to define and illustrate each type of behaviour and the implications of this response on individual researchers. This chapter looked at how the kinds of reactions experienced by participants undermine what we believe about academic enquiry. It contrasts the ideal of academic freedom in the university policies outlined in the literature review with the silencing behaviours experienced by academics. Several of my participants were told they were ‘confusing people’ or that there was ‘already enough evidence’, and further research was unnecessary. These kinds of discourse reveal unacknowledged cracks in the foundations of academic freedom and scholarship. That these reactions often come from fellow academics, not

members of the public; suggest several problems are at play. The emphasis on a 'united front' has bled into numerous research areas and act to close down lines of enquiry that contradict orthodoxy.

In the discussion chapter, I drew on a range of theoretical frameworks and literature to support my findings, particularly from Mary Douglas, Pierre Bourdieu and various cognitive psychology theories. This literature has allowed me to draw together a clearer picture of what my data means. I have argued that these responses are intended to silence and shut down unacceptable or dangerous ideas. I used cognitive psychology literature to demonstrate that people respond to ideas they find morally reprehensible in similar ways to physical disgust. I argue this visceral response overrides an ability to think critically or rationally with ideas you find confronting. I complemented this argument with Mary Douglas's work on disgust and boundaries. I argued disgust responses signify that a boundary has been crossed. This is reinforced by Bourdieu's field theory. I assert that those with capital will use any means necessary to police and defend boundaries and dictate the rules of engagement.

Contextualising findings

We live in dark times—of unbridled power, tyranny, domination and manipulation. In such a world, the academic community is needed more than ever for it offers, as we may put it, a culture of justified revelation. It is a culture that reveals the world to us in new ways, but in ways that are attested, and contested; its judgements emerge out of a critical and unworldly pedantry. Its judgements are doubly justified! With some hesitancy, we can legitimately therefore speak of not just a culture of the academic community but, indeed, the culture of the academic community.

(Barnett, 2013, p18)

This thesis provides a practical understanding of the reality of academic freedom and the role of the university within society. I argue we need to acknowledge our complicity in the timidity and colour-by-numbers work we do as academics, work that is less confronting and less challenging rather than asking uncomfortable or unpalatable questions. I argue that every mechanism and structure within academia can be wielded to inhibit and discourage scholarship. Ethics committees, funding bodies, journal peer review systems, and university guidelines have all contributed in part to a culture of

fear and of toeing the line, of sticking to something safe. This chilling effect creeps into every stage of the research process. My participants were told they should have known better; they're on their own; what did they expect? That their findings were in conflict with the values of their university.

This emotional, visceral terrain is reinforced through silencing behaviours, which can and have devastated the researchers who confront them. My findings suggest the impacts can be extremely debilitating. The researchers themselves are often traumatised, their confidence in their own abilities shattered. Their reputations are sometimes damaged beyond repair. But more concerning still is the wider implications on academia and on science. As discussed in previous chapters, the explicit and implicit suppression of academics, coupled with the ways researchers are constrained or arrayed can have a very real chilling effect on academia. Unsurprisingly, several of my participants had bleak outlooks about the future of academia, both on the individual and more broadly.

Helen Keane spoke about the impact on the individual: the pain of being misinterpreted and attacked for your ideas.

It also hurts, personally, right, to be misunderstood... On another more personal level, it is actually personally hurtful. And it produces feelings of lack of self-worth and—to be misunderstood and to have people misread your work and respond to it in a hostile way. And to say things about you and your work that aren't true, is hurtful, there's no doubt about it. And I think it can take a toll, personally on people. Especially if it happens repeatedly and if you're not getting enough support and endorsement from your colleagues who are working in a similar approach.

Michael Gard spoke about the colour-by-numbers approach to academia that many now take. He often felt, while presenting his challenging work on obesity that he needn't have bothered—no one cared.

And I think in loads and loads of fields, people are just going to their work, being told what to do, told what to think about, and they're not really thinking about the issue—whatever they're studying—thinking about why they're thinking about this? They're just going to work, and being told what to do everyday. I gave some seminars and thought, why am I even saying this? They've just switched off, do you know what I mean? That's not what they're thinking. They

go home and they do whatever. Sometimes I had some experiences with seminars and lectures and things like this and I just thought, people had just switched off.

Even more bleak is Paul Frijters' perspective. Frijters argues that academic freedom, particularly in the western, English-speaking world means nothing, that scholarship for its own sake is dead.

[Academic freedom] means nothing. It is a relic from a bygone era. And the university couldn't give a flying fuck about it. Neither does the union care *at all* about it. And most academics have now been turned into sheep. And look, the hierarchies have won. And they've won a long time ago. What you are by and large seeing is almost the last spasms of academia in this country. You're talking about the spasms of a corpse that long ago lost the ability to fight.

Some participants, however, see themselves as necessary casualties in a bigger fight their side will eventually win. They argue in various ways that the truth will eventually win out. James Enstrom takes the view that he and others who subscribe to his views on pollution epidemiology will eventually be vindicated.

I think that a number of the people that are involved in my area of air pollution epidemiology are eventually going to lose the prestige they have because they cannot counter the truthful findings that people like myself have come up with. They just simply ignore these findings and present only selected findings that support their hypothesis but that's not the way science is done. At least not the way honest science is done. So in my view I have got a certain amount of optimism but it's going to require the continual effort of those of us that are on the side of honest scientists to work as hard as we can to get this situation turned around.

Likewise, Wayne Hall argues that in the long run, something close to the truth will come out:

I think the view that science arrives at the truth is very much a long-range view. And there are plenty of occasions where this is not the case. This is especially so where there's a lot at stake... So people get engaged in a fairly passionate way and the sort of psychology we've been talking about comes into play. And it can take, you know, at worst, I mean if, as I said earlier, if people's views are strongly-held and it becomes very difficult to gather evidence that's contrary to the consensus view, then you can get prolongation of these debates. But I think over the longer-haul, something like the truth does come out. And it might well be twenty or thirty years down the track, when the issue is revisited by people who don't have the same investments as the central participants who can look at

it, often in a sense of amazement: 'Did people really argue like that? Did they disagree on these sorts of issues?' It's often much easier in retrospect to see what the issues were, and where people went wrong, on both sides of the argument.

Though Michael Gard sees some academics as merely going through the motions, he believes people can change their minds over time, once the heat is taken out of polarised issues. He argues that as long as people are focusing on doing their own job well and staying away from too much conflict, the net result will be progress.

Yeah I think there are people that have had that [negative] reaction and two or three years later come to me and said 'I thought about it again, and I've changed my mind on some things.' I mean, it doesn't happen overnight and some people don't change of course, but I think in some ways, the world will inch forward, inch forward gradually... sometimes people don't have all the right ideas, but at least they're doing one thing well. And so put all the people together, doing their work every day, in some ways you've changed the world slightly.

Whether optimistic or pessimistic, these perspectives offer some insight into the future role of academics within society. The tension between what we see our role to be and what society expects from us may never be resolved. But dishonesty in our position or our agenda only exacerbates this tension. Without acknowledging our tendency towards impulsive, visceral responses to ideas we don't like, these responses will continue to challenge notions of academic freedom.

To sum up this chapter, this thesis has argued that research silencing is driven by moral disgust based on boundary transgression. Researchers are attacked because they have encountered first-hand the gap between what we think academic freedom is and what it means in practice. While there are limitations for the extent to which my findings can be generalised, I have provided evidence that research silencing curtails and influences what we are 'allowed' to enquire about.

Limitations and scope

As I've stated previously in this thesis, the nature of this research meant I relied on a sample of the more extreme cases of research silencing. In recruiting academics and researchers whose work had been publicly attacked or at the very least contested

enough to draw my attention, I likely missed more subtle or insidious cases. This means it's difficult to know how widespread this problem is. The full scale of research silencing, from private silencing, through to disciplinary action is difficult to comprehensively account for. However, the data I gathered from my research participants provides a broad account of what silencing behaviours look like, the various forms they take and why participants believed their work was deemed unacceptable.

Another limitation of my sample was their disproportionate geographical representation. Most participants were from Australia, with around a third from the United States, Canada or the United Kingdom. This means that there are academics from other parts of the world whose stories I missed. It's possible my findings and conclusions are more or less prevalent in other countries. For instance, European countries such as Finland, Slovenia, Czech Republic, Hungary and Spain measure highly on five indicators of academic freedom, including academic tenure and legislative protection (Karran, 2007). Conversely, countries like the United Arab Emirates, China and Singapore are more overtly restrictive than the four countries I drew participants from (Kinser, 2015). My dataset was overwhelmingly English speaking, western, and liberal-democratic in character.

This thesis was never intended to assess the validity of my participants' research. Unlike Alice Dreger, I was not concerned with proving through comprehensive research and analysis that my participants were justified in their research. I was also not concerned with describing attacks on research and the structures that enable them, like Brian Martin. I was not concerned with discussing examples where researchers had demonstrably breached codes of ethics or manipulated data. My sole focus was on exploring research silencing, understanding why it happens and its implications for academic freedom.

Implications

This thesis has argued that research silencing is driven by moral disgust based on boundary transgression. Researchers are attacked because they have encountered first-

hand the gap between what we think academic freedom is and what it means in practice.

This thesis has implications for several facets of academia, both practically and to the broader literature around contested research.

Implications for ‘academic freedom’

This thesis fundamentally challenges the concept of ‘academic freedom’. It is not a given, without limits or borders. While we may acknowledge more ‘legitimate’ constraints to this concept, such as peer review and ethics protocols, there are unspoken, insidious ‘rules’ that severely curtail and silence particular research, in ways that go beyond written policies. This means that academics’ own understanding of their rights and responsibilities is inadequate, as they expect to be protected so long as they ‘play by the rules’. I have argued that we should not take academic freedom policies for granted, as the silencing behaviours I’ve documented here reveal that boundary transgressions can be harshly penalised, despite academics believing they were doing ‘all the right things’. This thesis calls for a more reflective, honest examination of the ways research silencing sets the conditions for scholarly thinking and enquiry, rather than accepting the ‘just there’ ideal of academic freedom.

Implications for literature

This thesis has significant implications for the broader literature around contested research and academic freedom. In some ways, it reinforces respective findings from Martin, Dreger and Gottfredson that vested interests, identity and controversy can influence and curtail what research is seen as ‘acceptable’ and ‘unacceptable’. While previous work in this field provides pertinent insights into the problem of research silencing and its implications for academic freedom, this thesis goes further. I argue that it is not that academic freedom policies are being flouted, or ignored, or breached in cases of research silencing—but that academic freedom as we know it *doesn’t exist at all*. Rather, the boundaries between ‘good’ and ‘bad’ research are only see-able once they’ve been crossed. These boundary crossings override any ‘legitimate’ rules, which creates confusion and a sense of injustice for those academics penalised—‘I thought I was doing the right thing.’

Implications for players in the field

My research findings have significant implications for players in academic fields, including universities, research communities and individual academics. University policies pertaining to academic freedom promote an inadequate and dishonest ideal, suggesting unfettered enquiry is fundamental to their role within society. While some policies stress that researchers must meet scholarly requirements, these more legitimate and widely accepted rules ultimately mean nothing if a line of enquiry crosses a boundary and is deemed 'bad' or 'dangerous'. It will not matter that academics 'fulfilled scholarly responsibilities' to those threatened by a boundary transgression, whether they are university administration, fellow scholars, industry groups or members of the public.

For research communities, this thesis argues for a more reflective approach to the work we do, and whether it is necessary or helpful to silence dissenting enquiry. If we continue to allow lines of enquiry to be curtailed, narrowed or shut down altogether, then all research becomes conditional and subject to research silencing.

This thesis concludes that individual academics need to recognise that although they may satisfy scholarly requirements, their work may still cross a boundary and as such provoke research silencing. Calls to defend academic freedom in light of attacks on academic work mean nothing when our understanding of 'academic freedom' itself is so lacking.

Final thoughts

Think back to Dr. Michael Seto's statement in the introduction, about the importance of research into the efficacy of child-sized sex dolls in reducing pedophilic offences. Ask yourself these questions:

Would a university give ethical approval for a study that investigated the use of child-like sex dolls for assuaging pedophilic urges?

Consider the fallout from Paul Frijters work into everyday racism on metropolitan buses in Brisbane. Consider that ethics committees must carefully balance the benefits

and risks of research, and are increasingly reluctant to approve of research that may cause controversy or damage the university's reputation.

Would such a study receive financial support from a government research funding body?

Consider what Helen Keane said about the ways some questions are 'so bad' they can't be thought about analytically. Consider the ways research priorities are increasingly skewed towards questions we already know the answer to, rather than those questions that remain taboo.

If, in the unlikely event the study was approved and funded, how would major journals, or the wider public receive this kind of research? Consider the response to Kirsten Bell's circumcision in HIV prevention paper, rejected over a dozen times, at one stage deemed 'untenable'. Consider that Jennie Brand-Miller, Alan Barclay and Katherine Flegal were pursued and decried for years for challenging our views on sugar and obesity respectively. Where does pedophilia rank in terms of controversy and public risk, when compared with nutrition?

Would it be 'worth the trouble' for a research team to continue with this line of enquiry, no matter how *important* they may believe it to be? Consider what Katherine Flegal said about the temptation to quit, to shift to something safer in the face of constant, adrenaline-rush attacks on her work. Consider the words of warning offered to Kirsten Bell and Jennie Brand Miller: 'This will be bad for your career.'

Academic freedom as we know it doesn't exist. The lines of enquiry we are 'allowed' to pursue are subject to boundaries we don't speak about or acknowledge in idealistic, written policies. Only when we're punished for crossing them do we realise they were there all along.

References

- Akerman, P. (2014, January 10). Abbott backs review of wind farms. *The Australian*, p. 1.
- Barclay, A., & Brand-Miller, J. (2011). The Australian Paradox: A Substantial Decline in Sugars Intake over the Same Timeframe that overweight and Obesity Have Increased. *Nutrients*, 3, 491–504. <http://doi.org/10.3390/nu3080734>
- Barnett, R. (2013). The very idea of academic culture: What academy? What culture? *Human Affairs*, 24(1), 7–19. <http://doi.org/10.2478/s13374-014-0202-4>
- Bell, K. (2013). Whither Tobacco Studies? *Sociology Compass*, 7(1), 34–44. <http://doi.org/10.1111/soc4.12009>
- Bell, K. (2014). HIV prevention : Making male circumcision the “right” tool for the job. *Global Public Health*, 1692(January), 1–21. <http://doi.org/10.1080/17441692.2014.903428>
- Bourdieu, P. (1986). The force of law: Toward a sociology of the juridical field. *Hastings LJ*, 38, 805–853.
- Bourdieu, P., & Passerson, J.-C. (1990). *Reproduction in Education, Society and Culture*. London: Sage Publications.
- Bourke, L. (2014, May 2). Joe Hockey says wind turbines “utterly offensive”, flags budget cuts to clean energy schemes. *ABC News*. Retrieved from <http://www.abc.net.au/news/2014-05-02/joe-hockey-wind-turbines-utterly-offensive/5425804>
- Bryden, J., & Mittenzwei, K. (2013). Academic freedom, democracy and the public policy process. *Special Issue: Sociology, Knowledge and Evidence in Rural Policy Making.*, 53(3), 311–330. <http://doi.org/10.1111/soru.12012>
- Chapman, H. a, & Anderson, A. K. (2013). Things rank and gross in nature: a review and synthesis of moral disgust. *Psychological Bulletin*, 139(2), 300–27. <http://doi.org/10.1037/a0030964>
- Chapman, S. (1993). Unravelling Gossamer With Boxing Gloves: Problems In Explaining The Decline In Smoking. *British Medical Journal*, 307(6901), 429–432. Retrieved from <http://www.jstor.org/stable/29720722>
- Chapman, S. (2006). Australia’s 1996 gun law reforms: faster falls in firearm deaths, firearm suicides, and a decade without mass shootings. *Injury Prevention*, 12, 365–372. <http://doi.org/10.1136/ip.2006.013714>
- Chapman, S. (2014). E-cigarettes: the best and the worst case scenarios for public health — an essay by Simon Chapman. *The British Medical Journal*, 5512(September), 1–4. <http://doi.org/10.1136/bmj.g5512>

- Chapman, S. St. George. A. Waller. K. and Vince. C. (2013). The Pattern of Complaints about Australian Wind Farms Does Not Match the Establishment and Distribution of Turbines: Support for the Psychogenic, “Communicated Disease” Hypothesis. *PLOS ONE*, 8(10), 1–9.
- Cortassa, C. (2016). In science communication, why does the idea of a public deficit always return? The eternal recurrence of the public deficit. *Public Understanding of Science*, 25(4), 447–459. <http://doi.org/10.1177/0963662516629745>
- Delaney, C. (1991). *The Seed and the Soil: Gender and Cosmology in Turkish Village Society* (Reprint). University of California Press.
- Department of Education University of Oxford. (n.d.). *Academic freedom and values*. Retrieved from <http://www.education.ox.ac.uk/about-us/academic-freedom-and-values/>
- Department of Health. (2012). *The social and economic impact of rural wind farms*. Retrieved from [http://www.health.gov.au/internet/main/publishing.nsf/Content/36DB83157C4BE82FCA257BF0001B7544/\\$File/Wind Farm Response.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/36DB83157C4BE82FCA257BF0001B7544/$File/Wind Farm Response.pdf)
- Douglas, M. (1966). *Purity and Danger*. London: Routledge & Kegan Paul.
- Dreger, A. (2015a). Alice Dreger’s Letter of Resignation at Northwestern. Retrieved from <http://academeblog.org/2015/08/25/alice-dreger-letter-of-resignation-at-northwestern/>
- Dreger, A. (2015b). *Galileo’s Middle Finger*. New York: Penguin Press.
- Dreger, A. (2015c, June). What if not all parents who question vaccines are foolish and anti-science? *New Statesmen*, (June). Retrieved from <http://www.newstatesman.com/2015/05/heretic-academy>
- Edwards, M. A., & Roy, S. (2016). Academic Research in the 21st Century: Maintaining Scientific Integrity in a Climate of Perverse Incentives and Hypercompetition, 0(0), 1–11. <http://doi.org/10.1089/ees.2016.0223>
- Ellerton, P. (2016). We can’t trust common sense but we can trust science. Retrieved February 4, 2016, from <https://theconversation.com/we-cant-trust-common-sense-but-we-can-trust-science>
- Engels-Schwarzpaul, A; Peters, M. (2013). *Of Other Thoughts: Non-Traditional Ways to the Doctorate : A Guidebook for Candidates and Supervisors*. (M. Engels-Schwarzpaul, A; Peters, Ed.). Rotterdam, NLD: SensePublishers.
- Enstrom, J. E. (2005). Fine Particulate Air Pollution and Total Mortality Among Elderly Californians, 1973 – 2002. *Inhalation Toxicology*, 17(14), 803–816. <http://doi.org/10.1080/08958370500240413>

- Fanelli, D. (2011). Negative results are disappearing from most disciplines and countries. *Scientometrics*, 891–904. <http://doi.org/10.1007/s11192-011-0494-7>
- Flegal, K. M., Graubard, B. I., Williamson, D. F., & Gail, M. H. (2005). Excess Deaths Associated With Underweight, Overweight, and Obesity. *Journal of the American Medical Association*, 293(15), 1861–1867.
- Flegal, K. M., Kit, B. K., & Orpana, H. (2013). Association of All-Cause Mortality. *Journal of the American Medical Association*, 309(1), 71–82.
- Foster, G. (2016, June 10). The public should be concerned when academics must battle bureaucrats for academic freedom. *The Conversation*.
- Frazer, C. (2003). *Bridging the gap between the science of childhood immunisation and parents*. The Australian National University.
- Fuller, S. (2015). The Public Intellectual as Agent of Justice: In Search of a Regime. *Philosophy and Rhetoric*, 39(2), 147–156. <http://doi.org/10.1353/par.2006.0013>
- Gard, M. (2011). Truth, belief and the cultural politics of obesity scholarship and public health policy. *Critical Public Health*, 21(1), 37–48. <http://doi.org/10.1080/09581596.2010.529421>
- Gard, M., & Wright, J. (2005). *The obesity epidemic: science, morality, and ideology*. New York: Routledge.
- Gartner, C. E., Hall, W. D., & Borland, R. (2012). How should we regulate smokeless tobacco products and e-cigarettes?, 197 (December), 611–612. <http://doi.org/10.5694/mja12.10940>
- Gilbert, J. K. Stockmayer. S. M. (2012). *Communication and Engagement with Science and Technology*. London: Taylor and Francis. Retrieved from <http://ebookcentral.proquest.com.virtual.anu.edu.au/lib/anu/detail.action?docID=1092837>
- Glenday, J. (2015, June 18). Tony Abbott launches another attack on “ugly”, “noisy” wind turbines. *ABC News*, pp. 0–1. Retrieved from <http://www.abc.net.au/news/2015-06-12/tony-abbott-launches-another-attack-against-wind-farms/6541952>
- Gorski, D. (2016a). Brian Martin again: Criticizing Judy Wilyman’s antivaccine thesis is suppression of dissent. Retrieved January 20, 2016, from <http://scienceblogs.com/insolence/2016/01/20/brian-martin-again-criticizing-judy-wilymans-antivaccine-thesis-is-suppression-of-dissent/#comment-427672>
- Gorski, D. (2016b). The University of Wollongong issues a PhD in antivaccine pseudoscience. Retrieved January 13, 2016, from <http://scienceblogs.com/insolence/2016/01/13/the-university-of-wollongong-issues-a-phd-in-antivaccine-pseudoscience/#comment-427668>
- Gottfredson, L. S. (2010). Lessons in academic freedom as lived experience. *Personality*

- and Individual Differences*, 49(4), 272–280.
<http://doi.org/10.1016/j.jpaid.2010.01.001>
- Gregory, R. S. P. and F. J. (1996). Risk Perceptions, Stigma and Health Policy. *Health & Place*, 2(4), 213–220.
- Gross, L. (2009). A Broken Trust: Lessons from the Autism-Vaccine Wars. *PLoS Biology*, 7(5).
- Guillermet, E. (2008). Reflexivity—A tool for the anthropologist. An example: the fieldwork of a French PhD student. *Antropoweb*, 16–21.
- Hall, N., Ashworth, P., & Devine-Wright, P. (2013). Societal acceptance of wind farms: analysis of four common themes across Australian case studies. *Energy Policy*, 58, 200–208.
- Hall, W., & Degenhardt, L. (2011). Cannabis and the increased incidence and persistence. *The British Medical Journal*, 342(7796), 1–2. <http://doi.org/10.1136/bmj.d719>
- Hall, W., & Degenhardt, L. (2015). High potency cannabis, 1205(March), 1–2.
<http://doi.org/10.1136/bmj.h1205>
- Hayes, D. (2015). New ranking exposes curbs on university freedom of speech. Retrieved February 3, 2016, from <http://www.afaf.org.uk/new-ranking-exposes-curbs-university-freedom-speech/#more-110>
- Henry, A. (2006). Academic Freedom Under Fire: The Case for Critical Pedagogy. *College Literature*, 33(4), 1–42.
- Hoepner, J., & Grant, W. J. (2015, January 22). Wind turbine studies: how to sort the good, the bad, and the ugly. *The Conversation*. Retrieved from <https://theconversation.com/wind-turbine-studies-how-to-sort-the-good-the-bad-and-the-ugly-36548>
- Hughes, V. (2013). The big fat truth. *Nature*, 497(7450), 428–430.
<http://doi.org/10.1038/497428a>
- Hume, D. (1896). A Treatise of Human Nature, Book III: Of Morals, Part I, Section I, 244–245.
- Hunt, E. (2010). The rights and responsibilities implied by academic freedom. *Personality and Individual Differences*, 49(4), 264–271.
<http://doi.org/10.1016/j.jpaid.2010.01.011>
- Irwin, A. (2014). From deficit to democracy (re-visited). *Public Understanding of Science*, 23(1), 71–76. <http://doi.org/10.1177/0963662513510646>
- Jackson, J. (2005). Express Rights to Academic Freedom in Australian Public University

- Employment. *Southern Cross University Law Review*, 9, 107–146.
- Jackson, J. (2006). Implied Contractual Rights to Academic Freedom in Australian Universities. *Southern Cross University Law Review*, 10(2005), 139–200.
- Jogalekar, A. S. (2015). Social Media, Peer Review, and Responsible Conduct of Research (RCR) in Chemistry: Trends, Pitfalls, and Promises. *Accountability in Research*, 22, 402–430. <http://doi.org/10.1080/08989621.2015.1047705>
- Kahan, D. M., Jenkins-smith, H., & Braman, D. (2010). Cultural cognition of scientific consensus, 1–28. <http://doi.org/10.1080/13669877.2010.511246>
- Kahneman, D. (2011). *Thinking, Fast and Slow* (1st ed.). London: Penguin.
- Karran, T. (2007). Academic Freedom in Europe: A Preliminary Comparative Analysis. *Higher Education Policy*, 20, 289–313. <http://doi.org/10.1057/palgrave.hep.8300159>
- Kasumovic, M. M., & Kuznekoff, J. H. (2015). Insights into Sexism: Male Status and Performance Moderates Female-Directed Hostile and Amicable Behaviour. *PLoS ONE*, 10(7), 1–15. <http://doi.org/10.1371/journal.pone.0131613>
- Keane, H. (2009). Intoxication, harm and pleasure: an analysis of the Australian National Alcohol Strategy. *Critical Public Health*, 19(2), 135–142. <http://doi.org/10.1080/09581590802350957>
- Keane, H. (2011). The politics of visibility: Drug users and the spaces of drug use. *International Journal of Drug Policy*, 22, 407–409. <http://doi.org/10.1016/j.drugpo.2011.09.006>
- Keane, H. (2016). Denormalisation, public space and smoking identities. *Nordic Studies on Alcohol and Drugs*, 33(4), 335–337.
- Keane, H., Weier, M., Fraser, D., Gartner, C., Keane, H., Weier, M. (2016). “Anytime, anywhere”: vaping as social practice. *Critical Public Health*, 1596(March), 1–12. <http://doi.org/10.1080/09581596.2016.1250867>
- Kempner, J. (2008). The Chilling Effect : How Do Researchers React to Controversy ? *PLoS Med*, 5(11). <http://doi.org/10.1371/journal.pmed.0050222>
- Kinnear, P. (2001). Academic Freedom and Commercialisation of Australian Universities Perceptions and experiences of social scientists, *The Australia Institute*, Discussion Paper 37.
- Kinser, K. (2015, October 16). On global campuses, academic freedom has its limits. *The Conversation*. Retrieved from <https://theconversation.com/on-global-campuses-academic-freedom-has-its-limits-46920>
- Klugman, C. (2015). The Price of Academic Freedom. Retrieved August 26, 2015, from <http://www.bioethics.net/2015/08/the-price-of-academic-freedom/>

- Kuhn, T. (2012). *The Structure of Scientific Revolutions* (4th ed.). Chicago, USA.: The University of Chicago Press.
- Ladenson, R. F. (1986). Is Academic Freedom Necessary? *Law and Philosophy*, 5(1), 59–87.
- Largent, M. (2012). *Vaccine: The Debate in Modern America*. Johns Hopkins University Press.
- Latour, B. (1998). Essays on Science and Society: From the World of Science to the World of Research? *Science*, 280(5361), 208–209.
<http://doi.org/10.1126/science.280.5361.208>
- Latour, B. (2004). Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern. *Critical Inquiry*, 30(Winter 2004), 225–248.
<http://doi.org/10.1086/421123>
- Lloyd, G. (2015a, January 21). Turbines may well blow an ill wind over locals, “first” study shows. *The Australian*.
- Lloyd, G. (2015b, February 23). In response to the Media Watch report about The Australian ’ s coverage of wind farms. *The Australian*. Retrieved from <http://www.theaustralian.com.au/business/media/in-response-to-the-media-watch-report-about-the-australians-coverage-of-wind-farms/news-story/ea7e13660d70930785876c412a97917c>
- Long, D., Hunter, C., & Geest, S. Van Der. (2008). When the field is a ward or a clinic: Hospital ethnography. *Anthropology & Medicine*, 15(2), 71–78.
<http://doi.org/10.1080/13648470802121844>
- Luigi, C. (2011, June 7). Australian climate scientists threatened with death. *The Scientist*. Retrieved from <http://www.the-scientist.com/?articles.view/articleNo/30617/title/Australian-climate-scientists-threatened-with-death/>
- Mair, M., & Kierans, C. (2007). Critical reflections on the field of tobacco research: The role of tobacco control in defining the tobacco research agenda. *Critical Public Health*, 17(2), 103–112. <http://doi.org/10.1080/09581590601045204>
- Mann, M. E. (2016, December 16). I’m a scientist who has gotten death threats. I fear what may happen under Trump. *The Washington Post*. Retrieved from https://www.washingtonpost.com/opinions/this-is-what-the-coming-attack-on-climate-science-could-look-like/2016/12/16/e015cc24-bd8c-11e6-94ac-3d324840106c_story.html?utm_term=.f437ab7cb963
- Martin, B; Baker, C.M.A; Manwell, C; Pugh, C. (1986). *Intellectual Suppression*. (C. Martin, Brian; Baker, C.M. Ann; Manwell, Clyde; Pugh, Ed.). Australia: Angus & Robertson Publishers.

- Martin, B. (2002). Dilemmas of Defending Dissent: The Dismissal of Ted Steele from the University of Wollongong. *Australian Universities' Review*, 45(2), 7–17.
- Martin, B. (2014). *Controversy Manual*. Sparsnas, Sweden: Irene Publishing.
- Martin, B. (2015 [1]). Censorship and free speech in scientific controversies. *Science and Public Policy*, 42(3), 377–386. <http://doi.org/10.1093/scipol/scu061>
- Martin, B. (2015 [2]). Mobbing of a PhD student: lessons and responsibilities, (November). Retrieved from <http://www.bmartin.cc/pubs/16mobbing.html>
- Martin, B. (2016). Judy Wilyman, PhD: how to understand attacks on a research student. Retrieved from <http://www.bmartin.cc/pubs/16jw.html>
- Maskara, S. (2015, March 5). Former UCLA researcher James Enstrom reaches settlement with UC. *Daily Bruin*. Retrieved from <https://dailybruin.com/2015/03/05/former-ucla-researcher-james-enstrom-reaches-settlement-with-uc/>
- McQuarrie, F. (2015a). Blogging, Academia and Diversity. Retrieved March 17, 2016, from <https://allaboutwork.org/2015/08/18/blogging-academia-and-diversity/>
- McQuarrie, F. (2015b). Why Academic Freedom is Important to Everyone (Not Just Academics). *All About Work*, Retrieved from <https://allaboutwork.org/2015/08/25/why-academic-freedom-is-important-for-everyone-not-just-academics/>
- Miller, A. B, Wall, C, Baines, C. J, Sun, P, To, T, & Narod, S. A. (2014). Twenty five year follow-up for breast cancer incidence and mortality of the Canadian National Breast Screening Study : randomised screening trial. *The British Medical Journal*, 366(February), 1–10. <http://doi.org/10.1136/bmj.g366>
- Moline, J. (1971). The Nature of Moral Judgment. *Philosophy & Rhetoric*, 4(1), 61–62. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=ufh&AN=16173311&site=ehost-live>
- Morin, R. O. C. (2016). Can Child Dolls Keep Pedophiles from Offending ? Retrieved November 24, 2016, from <http://www.theatlantic.com/health/archive/2016/01/can-child-dolls-keep-pedophiles-from-offending/423324/>
- Mujcic, R., & Frijters, P. (2013). Still Not Allowed on the Bus: Still Not Allowed on the Bus: It Matters If You're Black or White! *IZA*, (7300).
- Mulligan, A. (2004). Is peer review in crisis? *Elsevier*, (2). Retrieved from https://www.elsevier.com/__data/assets/pdf_file/0003/93675/PerspPubl2.pdf
- Nazaruk, M. (2011). Reflexivity in anthropological discourse analysis. *Anthropological*

- Notebooks*, 17(1), 73–83.
- NHMRC. (2015). *NHMRC Statement and Information Paper: Evidence on Wind Farms and Human Health*. Retrieved from <https://www.nhmrc.gov.au/health-topics/wind-farms-and-human-health>
- O’Gorman, L. (2008). The (frustrating) state of peer review. *International Association for Pattern Recognition Newsletter*, 30(1), 3–5.
- Office of the Provost University-Wide Statement on Rights and Responsibilities School-Related and Government Policies. (n.d.).
- Peele, S. (1998). All wet. *The Sciences*, 38(2), 17–21.
- Peele, S. (2012). AA and abstinence as prevention techniques AA and abstinence as prevention techniques. *Drugs: Education, Prevention and Policy*, 19(4). <http://doi.org/10.3109/09687637.2012.671861>
- Perez, E. (2010, September 7). Researcher files whistle-blower retaliation complaint against UCLA. *California Watch*. Retrieved from <http://californiawatch.org/dailyreport/researcher-files-whistle-blower-retaliation-complaint-against-ucla-4474>
- Robin, B. C. (2016). How Intellectuals Create a Public. *The Chronicle of Higher Education*, *The Chroni*. Retrieved from http://chronicle.com/article/How-Intellectuals-Create-a/234984?cid=rc_right
- Rodwin, Marc A., (2011) *Conflicts of Interest and the Future of Medicine: The United States, France, and Japan*, Oxford University Press, 2011.
- Senate and Academic Board of the University of Sydney. (2008). Charter of Academic Freedom, (May), 2008.
- Shils, E. (1995) Academic freedom and permanent tenure. *Minerva* 33 pp. 5–17
- Shwed, U., & Bearman, P. S. (2010). The Temporal Structure of Scientific Consensus Formation. *American Sociological Review*, 75(6), 817–840. <http://doi.org/10.1177/0003122410388488>
- Silver, M. (2014). First Person: Why a “Vast” Mammogram Study May Do Harm.pdf. Retrieved February 18, 2014, from <http://news.nationalgeographic.com/news/2014/02/140218-mammogram-breast-cancer-study/>
- Smallman, M. (2016). Public Understanding of Science in turbulent times III: Deficit to dialogue, champions to critics. *Public Understanding of Science*, 25(2). <http://doi.org/10.1177/0963662514549141>
- Smithson, M. (1989). *Ignorance and Uncertainty*. New York, USA: Springer-Verlag.

- Snowdon, C. (2014, August 27). Groupthink attack on scientists has a long history. *The Australian*.
- Spicer, A. (2014, June 19). Explainer: what is peer review? *The Conversation*. Retrieved from <https://theconversation.com/explainer-what-is-peer-review-27797>
- Spier, R. (2002). The History of the Peer-Review Process. *Trends in Biotechnology*, 20(8), 357–358. [http://doi.org/10.1016/s0167-7799\(02\)01985-6](http://doi.org/10.1016/s0167-7799(02)01985-6)
- Stone, G. (2015a). Academic Freedom and the Meaning of Courage. Retrieved August 25, 2015, from http://www.huffingtonpost.com/geoffrey-r-stone/academic-freedom-and-the_b_8039542.html
- Stone, G. (2015b). Academic Freedom Under Siege. Retrieved June 1, 2015, from http://www.huffingtonpost.com/geoffrey-r-stone/academic-freedom-under-si_b_7481620.html
- Stop These Things. (2013). *Cape Bridgewater: Sonia*. Australia: YouTube. Retrieved from <https://www.youtube.com/watch?v=lx1rRxMUwvc&list=PLAktpgushkOMxKByCxZ5ZvwxfALpC3v1x&index=4>
- Stop These Things. (2015). Simon Chapman, Will Grant & Jacqui Hoepner: the Wind Industry's Health "Expert" Great Pretenders. Retrieved March 16, 2015, from <https://stopthesethings.com/2015/03/16/simon-chapman-will-grant-jacqui-hoepner-the-wind-industrys-health-expert-great-pretenders/>
- Sturgis, P., & Allum, N. (2004). Science in society: re-evaluating the deficit model of public attitudes. *Public Understanding of Science*, 13, 55–74. <http://doi.org/10.1177/0963662504042690>
- The Australian National University. (2015). Policy: Code of conduct.
- The Select Committee on Wind Farms. (2015). *Wind Turbines*. Retrieved from http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Wind_Turbines/Wind_Turbines
- Thérèse, S., & Martin, B. (2010). Shame, scientist! Degradation rituals in science. *Prometheus*, 28(2), 97–110. <http://doi.org/10.1080/08109028.2010.494866>
- Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty : Heuristics and Biases. *Sciences*, 185(4157), 1124–1131.
- Tyrell, K. A. (2016, December 13). From public outreach to peer review, scientists find value in social media. *Phys.org*. Retrieved from <https://phys.org/news/2016-12-outreach-peer-scientists-social-media.html>
- UCLA Academic Senate Committee on Academic Freedom. (1984). Statement on Academic Freedom.

University of Queensland. The University of Queensland UQ Policy and Procedures
Library Primary links Intellectual Freedom —Policy 3 . Policy Scope / Coverage
(2012).

Van Oort, M. (2014). The Work of Public Work. Retrieved from
<https://www.jacobinmag.com/2014/02/the-work-of-public-work/>

Vitrano, C. (2012). Yuck! The Nature and Moral Significance of Disgust. *Philosophical Psychology*, 121(October 2012), 1–4.
<http://doi.org/10.1080/09515089.2012.696329>

Appendix A: Original letter to the editor of The Australian

To: ☐ letters@theaustralian.com.au;

I'm a PhD researcher at the Australian National University, investigating opposition to wind farms based on health claims.

Recently, reporters from this newspaper have questioned my qualifications, research agenda and motivation.

I'd like the opportunity to set the record straight.

It's important to hear from those who feel their health is affected by nearby wind turbines, but an existing lack of balanced research or respect for genuine health concerns means many rural residents feel apprehensive about speaking with academics.

I'm not a journalist, "pro-turbine" or a "hand selected [advocate] for the wind industry", as claimed in *The Australian* on Monday. I've never received financial support from the wind industry. Where appropriate, I've challenged seemingly counterproductive actions by individuals or groups in this debate, including wind companies.

While I acknowledge the communication environment is important, I don't advocate the 'nocebo hypothesis'. Having researched this highly complex issue for several years, I've learned any attempt to reduce it to one cause is pointless and potentially harmful.

My only agenda is to investigate what factors contribute to symptoms experienced by people living near wind farms- in a way that is sensitive, open-minded and appropriate to my qualifications.

If you feel your health is at risk from nearby turbines and want your voice heard, I'd love to hear from you.

Jacqui Hoepner, Australian National University, Canberra.

Appendix B: Recruitment email template

Dear,

I am Jacqui Hoepner, a PhD researcher from the Centre for the Public Awareness of Science at the Australian National University.

I am conducting a study entitled '*With us or against us: Using the wind turbine syndrome case study to examine implications of contested enquiry on individual researchers*'.

As part of this study, I am hoping to interview researchers who have conducted research in a contentious or polarised field and subsequently faced criticism from peers or members of the public.

Through my own research, consultation with my supervisory panel and crowdsourcing possible researchers that may be eligible for my study, your name was suggested.

Please let me know if you would like to be interviewed via email as soon as possible.

If you would like to participate, please read the information sheet provided carefully. If you choose to participate, I will obtain your formal written consent prior to the interview.

Kind regards,

Jacqui Hoepner

Appendix C: Participant information sheet



Participant Information Sheet

Researcher:

Research will be conducted by Jacqui Hoepner, a postgraduate researcher (PhD) from the Australian National Centre for the Public Awareness of Science, College of Physical and Mathematical Sciences at the Australian National University.

Project Title: *'You need to shut up': Research silencing and what it reveals about academic freedom.*

Outline of the Project:

- **Description and methodology:** This project aims to investigate the role of disgust in response to lines of enquiry deemed repugnant by groups both inside and outside academia. These responses may help reveal the boundaries to academic freedom and how we determine what is 'acceptable' enquiry.
- **Participants:** The interviews will take place at the participant's convenience. I am hoping to speak with 20 participants. The information gathered from interviews will inform the findings of my PhD thesis.
- **Use of data and feedback:** Data will be used and presented in my thesis. Following this, findings will be published in academic journals and various media sources, such as *The Conversation*. The results will also be made available for all participants at the conclusion of the study, upon request.

Participant Involvement:

- **Voluntary participation & withdrawal:** This project is entirely **voluntary**. You may, without negative consequences, decline to take part or withdraw from the research at any time until the work is prepared for publication without providing an explanation, or refuse to answer a question. Should participants wish to withdraw, they should contact the primary investigator by phone or email at their earliest convenience. If you withdraw from the study, I will destroy the data provided prior to withdrawal. However, should participants wish to withdraw and allow me to use the data I have already collected, this will be possible on an opt-in basis.
- **What will participants have to do?** You will be asked to undertake an interview. These interviews will be recorded for transcription and analysis

purposes. The recording of interviews will only be done with consent. I will provide a research summary on OneDrive [ql.anu.edu.au/g11q] for all participants and a full transcript of the interview for participants' perusal before its inclusion in the study, upon request.

- **Location and duration:** I will travel to your preferred location and conduct interviews in person, or via telephone or Skype. I would like to undertake one interview with each participant, with the option of follow up interviews if necessary. Interviews will take approximately an hour, but may take more or less time, depending on the individual participant. You should not expect to commit to more than one hour for the duration of the study.
- **Risks:** Given that the interview will involve discussing your experience working in a controversial field or facing harsh criticism, it is possible that interviews will cause some participants discomfort or psychological distress. You can refuse to answer questions and can withdraw at any time, should you wish to. If you do become distressed during the study, you should call the relevant crisis help line listed below.

Confidentiality:

- **Confidentiality:** Prior to publication, only my supervisory team and I will have access to the material provided during the interviews, as interview transcripts and/or recordings will be stored on a password-protected computer. **Any data extracted from interviews will use your full name**, as identification of your research history and identity is relevant and necessary. Any attempt at obscuring identity will impact the quality of the research and its findings.

Data Storage:

- **Where:** Data will be stored at the Australian National Centre for the Public Awareness of Science at the Australian National University, on a password-protected computer. Results will be published in my final thesis. Results may also be published in academic journals and media coverage.
- **How long:** Data will be stored for a period of at least five years from publication.

Queries and Concerns:

- **Contact details for more information:**
- If participants have any questions or queries regarding the study, please contact: Jacqui Hoepner—Primary Investigator

0423206599

Jacqueline.hoepner@anu.edu.au

Dr. Will J Grant—Supervisor

02 6125 0241

will.grant@anu.edu.au

- **Contact details if in distress:** If any of the questions are distressing or participants wish to seek help or advice, please call:
Australia: Lifeline 13 11 14
USA: Lifeline 1-800-273-TALK (8255)
Canada: Lifeline 1-800-273-TALK (8255)
UK: 01708 765200
New Zealand: 0800 543 354

Ethics Committee Clearance:

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee (Protocol 2015/402). If you have any concerns or complaints about how this research has been conducted, please contact:

Ethics Manager
The ANU Human Research Ethics Committee
The Australian National University
Telephone: +61 2 6125 3427
Email: Human.Ethics.Officer@anu.edu.au

Appendix D: Interviews—example of indicative questions

List of indicative questions—Paul Frijters

1. Could you tell me about your research history more broadly and then how the 2013 implicit racism study came about?
2. What were some of the initial responses to your research?
3. From your point of view, what was it about your study that provoked this kind of response from UQ and Brisbane City Council?
4. What effect did the demotion and inquiry have on you, personally and professionally?
5. What, if anything does your experience tell you about academic freedom?
6. Do you think it's possible to conduct research in areas that might be unpalatable or cause discomfort?