Mundane choices and everyday encounters; food labelling as an access point to the Australian food system.

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SUMMARY

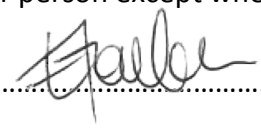
This research aimed to explore both how food labelling influences consumer trust in the Australian food system and the corresponding implications for food labelling governance. Social theories of trust were utilised to locate food labelling in the wider literature regarding trust in food, and theoretically explore the role of labelling as a communication medium between consumers and food system actors in globalised food systems. A systematic literature review was conducted to model the role of food labelling as it pertains to consumer trust in food systems. A qualitative in-depth interview study was then completed with 24 South Australian consumers (Study 1) to explore how consumers construct meaning through interaction with labelling, and how this influences their perceptions relating to trust and risk. A second qualitative in-depth interview study (Study 2) was then completed with 15 Australian and New Zealand food labelling policy, regulatory and enforcement actors to explore their response to the findings of Study 1, and determine their perceptions of the implications for food labelling governance in Australia. The research was informed by a social constructionist epistemological position, utilising the methodology of Adaptive Theory in Study 1, and Colebatch's social constructionist perspective on policy as a framework in Study 2.

The initial theoretical development and literature reviews suggested labelling plays a role in influencing consumer trust in food systems. They also highlighted a gap in that the majority of work completed in the area of food labelling and trust did not engage with social theory in the development of the key concept of trust. Findings from Study 1 showed a role for food labelling consistent with Giddens' conceptualisation of 'access points'; labelling acts as a surrogate for personal interaction in disembedded, globalised food systems, facilitating the formation of trust judgements about specific food system actors, and the broader food system. Consistent with Barber's conceptualisation of trust, consumer trust judgements appeared to be based on expectations of technical competence and goodwill from food system actors, and were found to be supported by complementary social control mechanisms. Labelling was primarily found to reduce trust in actors within the food system, undermining trust in the system as a whole. It was also found that consumer perceptions of food risk can be usefully conceptualised using Beck's distinction of 'traditional' and 'modern'

risk, and food labelling is used as both a symbol and a tool by consumers to manage uncertainty associated with these perceived risks. In Study 2 food governance actors reconstructed the role of labelling, the function(ing) of trust, the outcome measures for trust in the system, and both the philosophical approach underpinning, and the processes within, the regulatory environment to position the implications of Study 1 findings for the food governance system as either irrelevant or unworkable. Through this reconstruction of the key issues, the moral concerns expressed by Study 1 participants were perpetuated rather than addressed. This work demonstrates the benefits of incorporating social theory in public health research, and challenges the dominant framing of food labelling as simply a one-way technical information exchange between consumers and producers.

DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university, and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed 

Date.....14th June 2016.....

ACKNOWLEDGEMENTS

Scott, all of your nudges of encouragement, hugs of consolation and smiles of pride are bound up in the cover of this book. You make everything possible.

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To all the family (Mum, Dad, Bec, Katie, Andy, Stephie, Brian, Shaun, Charise), and friends (Mary, Dan, Katie W, Tiff, Dans and Steph especially) who have stuck this out with me, patiently listened to my self-doubt, celebrated my wins, were kind in the tough bits and most importantly showed some (or at the least a convincing façade of!) interest in my work, thank you.

Finally, I am grateful to all the staff that have supported me in many small and large ways throughout candidature at Flinders University and the many other organisations I have connected with through this work.

NOTE ON THE AUTHOR'S CONTRIBUTION

I, the candidate and author, fully contributed to the foundational ideas underpinning this research, while acknowledging the contributions made by supervisors Coveney and Webb in proposing it as a topic to be studied. The project proposal, literature reviews, ethics applications, data collection and analyses, and the writing of manuscripts, including theoretical directions and all content, for all manuscripts included as part of this thesis are wholly my own work.

Additionally, a statement of author contributions to each individual paper can be found in Appendix A.

This research project was approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number 6429).

PART 1. INTRODUCTION

Part 1 provides an introduction to the thesis. The thesis structure is outlined in the first section, followed by an overview of the content of each major part of the thesis and chapters therein. A brief background to the major themes of the thesis is then presented, culminating in an overview of the research this thesis reports on, and the thesis aims and objectives.

Thesis structure

This thesis is divided into four parts:

Part 1: an introduction,

Part 2: a review of theory and literature,

Part 3: the empirical investigations, and

Part 4: a discussion. The thesis structure is illustrated in Figure 1. Parts two and three are structured around 6 manuscripts and additional supporting material where required.

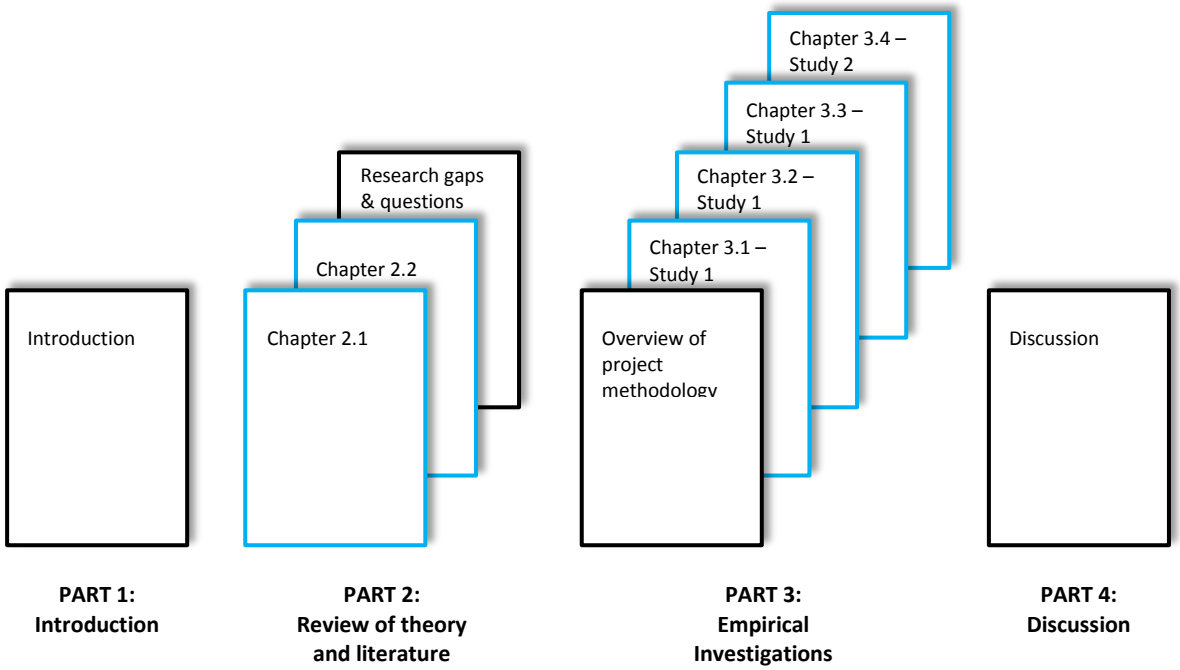

Figure 1. Illustration of thesis structure. Manuscripts are identified with blue borders and sections presenting supplemental material not in manuscript form are identified with black borders.

The manuscripts are referred to as Chapters in the thesis, and are identified by an introductory preface outlining their relevance to the broader thesis. Manuscripts referred to as published papers have been peer-reviewed and published and those referred to as peer-reviewed manuscripts have been peer-reviewed but not yet accepted for publication. The status of each manuscript is made explicit in its preface.

There are some additional points for readers to note brought about by the inclusion of manuscripts in this thesis. Flinders University requires that if a manuscript is to be included in a thesis, the content in the main body is to be included exactly as it was submitted to the journal, and must be formatted in keeping with the rest of the thesis. Given the requirement to adjust manuscripts to meet reviewers' preferences during peer-review, and the inclusion of multiple manuscripts here, there are some small stylistic inconsistencies within the thesis. In particular, 'institutional trust' is interchangeably referred to as 'systems trust', 'consumers' and 'participants' are also interchangeably used, participant characteristics tables can be found in both methods and results sections and the first person pronoun 'we' is used in manuscripts, while 'I' is used throughout the rest of the thesis. Consistency has been attended to in all other areas. To reduce reader burden, individual manuscript reference lists have been combined into one thesis reference list at the end of the thesis body and tables and figures have been numbered consecutively according to their appearance within the thesis.

Thesis overview

Part 1 provides a background for the research, broadly introducing the main concepts and locating it within the Australian context. An introduction to the social theoretical perspectives utilised throughout the thesis is also included. This section concludes with the research aims and objectives.

Part 2 reviews extant theoretical and empirical literature to ground the research. Chapter 2.1, the first manuscript, conceptually develops the research question through an exploration of social theories of trust as they relate to food labelling and forms the theoretical foundation of the thesis. This peer-reviewed manuscript outlines a model for the incorporation of social theory in public health nutrition research, and demonstrates the model using the thesis topic of food labelling and trust. Although not a major theme of this thesis, this manuscript also makes comment on the incorporation of social theory into public health nutrition practice. Chapter 2.2 is a published systematic review of empirical studies examining food labelling and trust, in which a theoretical model for conceptualising consumer trust in relation to food labelling is proposed and used to critique existing research. Finally, the specific research gaps, questions and orientating theoretical concepts used to drive the empirical investigations are detailed.

Part 3 reports on the two original research studies forming the empirical component of this thesis, referred to throughout as Study 1 and Study 2. Study 1 was a qualitative study with consumers, while Study 2 was a qualitative study with food governance actors. An overview of these two studies and supporting methodological material is provided in the initial section of Part 3, followed by four manuscripts. Chapters 3.1, 3.2 and 3.3 are peer-reviewed manuscript reports of Study 1, while Chapter 3.4 is the manuscript report of Study 2 (Figure 1, Thesis structure section).

Chapter 3.1 describes how consumers interpret and construct meaning from food labelling, and therefore *the process by which* trust related judgements are formed about the food system and its actors through food labelling. Chapter 3.2 reports *what* these trust judgements are, and the expectations these judgements are based on. Chapter 3.3 demonstrates how participants framed risk, and the different roles food labelling plays in enabling consumers to manage uncertainty regarding perceived food risks. Chapter 3.4

presents governance actor responses to the results of Study 1, including a discussion of the implications of the current food policy approach in the context of the findings of Study 1.

Part 4 provides a synthesis and discussion of the key findings. The discussion integrates thesis parts two and three, drawing together the main themes of the research and critiquing the strengths and limitations of the research process. Finally, the main conclusions of the research are drawn out, including the practical implications and those for future research.

Background

This background section presents a brief and broad overview of the concepts integral to the research, as detailed expansion of these concepts and the current literature surrounding them is provided in each of the subsequent manuscripts. The purpose of this section is to develop the aims and objectives of the research (Figure 2).

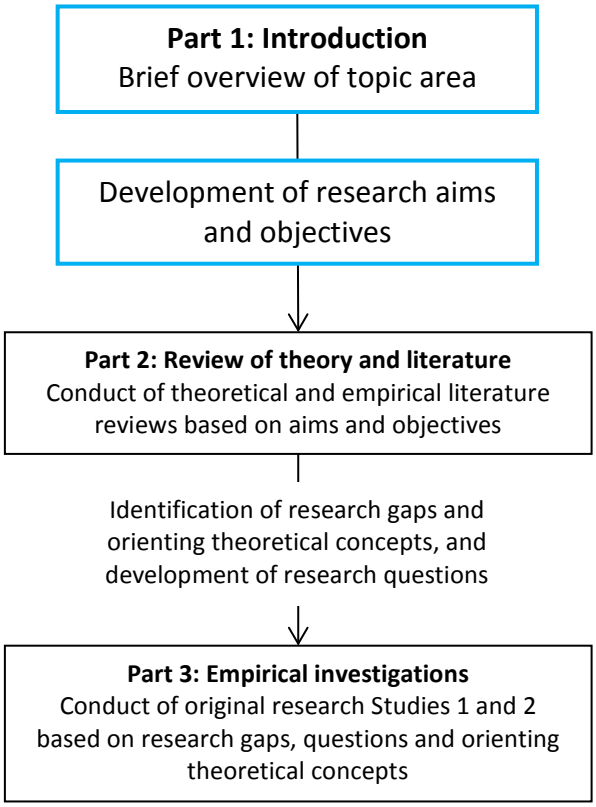

Figure 2. The process of the research, with the currently pertinent sections enlarged and outlined in blue.

This section narrates the motivation for the study, beginning with a justification for why trust in food is needed and a brief introduction to the theoretical position on trust being taken in the thesis. This is followed by an overview of the current state of knowledge regarding both trust in food and food labelling, and finally an outline of how food labelling is regulated and framed in Australia. A statement of the aims and objectives of the research conclude the section.

Why consumer trust in food is needed

Food production systems have grown increasingly complex through historical changes to societies and globalisation, and this has served to separate consumers and producers, temporally, geographically and rationally (Belliveau, 2005; Zwart, 2000). A key aspect of the development from agrarian civilisations to industrialised Western societies was the social division of labour, whereby previously self-sufficient individuals relinquished responsibility for aspects of daily life to others (Giddens, 1990). In relation to food this comprised the movement from local to global food production and the formation of longer supply chains involving countless agents (Dixon and Banwell, 2004; Meijboom *et al*, 2006). The twentieth-century revolution of food saw a host of changes to food production norms including in the distribution of the labour force, agricultural practices including animal rearing, food processing, technology use in food production, the logistics and management of supply chains for distribution, food marketing and changes in power and control of food markets (Lang, 2003). The immense knowledge generation and regulatory management of modern food production result in complexity and fragmentation (Poppe and Kjaernes, 2003; Kjærnes, 2012). Subsequently a decline in general consumer knowledge of and engagement with food production (Meyer *et al*, 2012) is occurring contemporaneously with the proliferation of new moral and ethical dilemmas generated by rapidly evolving food systems (Zwart, 2000). Recent demonstrations of economic efficiencies being placed ahead of consumer interests in the production of food (for example the Bovine Spongiform Encephalopathy crisis in the United Kingdom) (Lang, 2003; Brom, 2000), have led to increasingly divergent consumer and food system actor concerns, and growing contestation of the principles underpinning the production and governance of food (Zwart, 2000).

Food is a unique consumer product; it is incorporated into our bodies and builds our cells. Not only this, but food is an avenue for expressing our beliefs about social morality and thus contributes to the way we conceive who we are (for example vegan and kosher food) (Lupton, 1996; Fischler, 1988; Zwart, 2000). Given the emphasis on physical, emotional and social health in modern societies, food choice can cause feelings of anxiety about perceived risks associated with health and identity (Lupton, 1996). Consumer concerns relating to food have therefore been described as both safety and moral/ethical concerns (Brom, 2000; Kjærnes, 2012; Zwart, 2000). Moral concerns are further differentiated as those relating to

'the good life we want to live' and 'the good society (or world) we want to live in' (Brom, 2000, p. 130). Food risks therefore may be viewed as not only physical risks to safety and health, but risks to the way we see ourselves, society, and the world (Lupton, 1996). As such food products have 'come to materialize ideological and economical tensions' through their representation of globalised food production systems (Zwart, 2000, p. 124).

The power and knowledge imbalances generated by globalised food production have resulted in modern food systems being referred to as 'disembedded' systems (Dixon and Banwell, 2004). The distance between producers and consumers is now so large that for many Western consumers nearly all food is produced, processed and packaged by individuals unknown to them, and purchased in supermarkets (Brom, 2000; Belliveau, 2005; Kjærnes, 2012). Although access to information has undoubtedly increased through global communication systems such as the internet, this has primarily served to increase the complexity and anxiety of modern life (Giddens, 1990), and enhance ambivalence and uncertainty about the personal suitability of food products (Einsiedel, 2002; Kjærnes, 2012). For consumers there are limited avenues for managing the uncertainty and complexity of disembedded food systems. One approach is to take complete personal control of food production, however the infeasibility of this in Western societies is axiomatic (Bildtgard, 2008; Hansen *et al*, 2003). A second approach is to delegate this control to others through trust (Bildtgard, 2008; Luhmann, 1979). Therefore for consumers, trust becomes an important strategy in reducing the complexity and uncertainty associated with modern food systems (Bildtgard, 2008).

Consumer trust in food is not only essential for the psycho- and sociological security of consumers however. The principle of social license is integral to the regulation of the globalised food industry (Arnot, 2011). Social license is maintained as long as public trust is maintained, replaced with costly, inflexible and burdensome regulatory structure when public trust is violated (Arnot, 2011). As such, the globalised food market is dependent on consumer trust in a foundational sense, as well as the obvious importance for individual companies and brands. Governments too cannot overlook the importance of consumer trust in food. The Australian food industry employed 1.6 million persons (representing approximately 14% of all employed Australians) in 2012-13, with the value of farm and fisheries food production increasing to $42.8 billion, and the value of Australian net exports

contributing $20.2 billion to the Australian economy in that same time period (Department of Agriculture, 2014, p. 8-19). Thus ensuring public trust and support in this system is imperative for economic stability. Additionally, the disembedded nature of globalised food systems creates a situation of consumer dependence on governments who have power to regulate based on national, including consumer, interests (Zwart, 2000). With this responsibility comes an obligation to respond to the consumer trust placed in the system (Meijboom *et al*, 2006). Further, globalised food systems require extensive regulation and critical oversight, and consumer trust legitimises the authority of governments to conduct these activities (Wynne, 2002; Houghton *et al*, 2008). Therefore, the very nature of modern, globalised food systems makes consumer trust in food essential for consumers, industry and governments alike.

An introduction to trust theory

A knowledge deficit, such as that created by disembedded food systems, is suggested by Giddens (1990) to be a prerequisite condition for trust. Briefly, social theorists recognise two forms of trust: interpersonal and institutional trust (Misztal, 1996). Interpersonal trust describes expectations held by one individual about the actions of another, while institutional trust is trust in institutions and systems that provide rules, routines and structures (Mollering, 2006). Trust is needed where there is a knowledge gap; an interplay of knowledge and ignorance (Giddens, 1990). This knowledge gap results in vulnerability for the trustor, and uncertainty regarding future action. Trust bridges the knowledge gap, therefore managing uncertainties and preventing the possibility of future risk and complexity inhibiting action (Luhmann, 1979). Luhmann (1979) discusses trust as a legitimate solution to the increased complexity of modern life. However, the separation of consumers and producers is such that consumers cannot have interpersonal trust in food producers (Brom, 2000).

In pre-modern societies interpersonal trust was the predominant form of trust, built up and maintained through community, kinship and tradition (Giddens, 1990). Conversely, modern societies function on trust in abstract systems (Misztal, 1996; Giddens, 1990). Trust in the food system is a clear example of this change. Traditionally trust was formed through face-to-face interaction between producer and consumer, so trust relationships were founded on

emotional aspects such as belief in the integrity of the producer and shared norms, values and sense of community (Bildtgard, 2008; Giddens, 1990). However in modern, Western societies trust in food is no longer predominantly influenced by direct human interaction (Brom, 2000) thus it is no longer built up in this way. Bildtgard (2008) argues there are still occasions in modern societies where trust in food is founded on a sense of community, however these communities are not restricted by geographical location, but formed nationally or even globally based on shared values relating to moral and ethical aspects of food (Bildtgard, 2008), for example the fair trade movement. He cites food labelling as promoting certain community-based values and norms in food production and therefore fostering trust based on emotion (Bildtgard, 2008). Misztal (1996) similarly suggests personal trust is an important supplement to the dominant systems trust in modern societies. However, due to the unrelenting pace and scope of change in modern society (Giddens, 1990), systems must be relied upon to maintain stable social and environmental conditions rather than trust between individuals (Misztal, 1996). Therefore, I argue consumers engage in systems (Luhmann, 1979) or 'faceless' trust (Giddens, 1990, p. 88) to enable them to make food choice decisions (Einsiedel, 2002), and manage uncertainty about risk, and complexity relating to food.

Research on trust in food

In this thesis I adopt the theoretical position that there is an ever increasing need for trust as society, in particular food provisioning, becomes progressively more complex (Mollering, 2006). Another theoretical argument emphasises a reported society-wide crisis of trust, but there are mixed reports of whether consumer trust in food is at problematic levels, or even what this might look like. Internationally, there are examples of declining trust in food safety in Europe, with British consumers typically demonstrating the highest relative levels of trust in food safety, and German, Portuguese and Italian consumers the lowest (Poppe and Kjaernes, 2003). Russian consumers also express low trust in food safety, while Norwegians report relatively high levels (Berg *et al*, 2005). Trust in the actors responsible for food provisioning, food governance and reporting on food issues is said to be an important dimension determining trust in food safety (Kjærnes, 2010; Kjærnes *et al*, 2006). In the United States, reports suggest only moderate belief in the trustworthiness of institutional actors (for example farmers or regulatory actors) (Sapp *et al*, 2009), while this is reportedly

very high in Finland (Jokinen *et al*, 2012). While De Jonge *et al* (2010) found Dutch consumers' trust in institutional actors to be relatively stable over the period of 2003-2006, food scandals are often provided as explanatory factors in fluctuations in trust in food safety and institutional actors, within and between individuals, nations and regions (Coveney *et al*, 2012). For example, food safety scandals are blamed for recently declining trust in Taiwan (Chen, 2008; Chen, 2011), and among other factors such as social and institutional conditions, for varying levels of trust across Europe (Kjærnes *et al*, 2006; Poppe and Kjaernes, 2003). Australian research finds generally high trust in both the food supply and food governance (Henderson *et al*, 2012), although like elsewhere trust is impacted by media reporting of food scandals and exposure to food risks (Coveney, 2008). With regard to institutional actors, farmers are typically more trusted by Australian consumers than other food system actors (Henderson *et al*, 2011).

Clearly there has been much research investigating consumer trust in the safety of food, and who consumers trust to provide information about food safety (Baker and Mazzocco, 2005; Dannenberg *et al*, 2011; Frewer *et al*, 1999; Henderson *et al*, 2011; Liu *et al*, 2014), particularly in relation to food incidents and biotechnology. Of central importance however is the almost exclusive focus in this literature on trust in food *safety* or trust in food system actors to ensure *food safety*. However, consumer concerns extend beyond simply food safety, to the moral and ethical dimensions of food systems and production. Additionally, how routine aspects of food procurement, rather than notable food incidents or novel technologies, influence consumer trust in food systems has predominantly escaped research focus. Thus, while the majority of research regarding food and trust has focused on high-profile safety incidents and emerging ethical dilemmas associated with biotechnology in food (Frewer *et al*, 2011) this research will focus on just the opposite, the almost limitless mundane, everyday uncertainties faced in food procurement. One of the most mundane and everyday encounters with modern food systems is through food labelling (Kolodinsky, 2012; Bildtgard, 2008). As such, the role of consumers' regular interaction with labelling in influencing trust in food systems becomes worthy of research focus.

Food labelling and trust

The disembedded nature of modern food systems ensures food labelling is the frontline of communication between consumers and the food system broadly (Lang, 2003; Kolodinsky, 2012). Labelling is centrally important for the management of food ethics, and has been developed to inform the public about the moral identity of food products (Zwart, 2000). Here and throughout the term 'food labelling' is used to refer to all the information on a food package, including mandatory elements such as nutrition information, and also marketing, graphics and colouring. The most recent Food Standards Australia New Zealand (FSANZ) consumer attitudes survey found 73% of Australian respondents frequently refer to labelling information when making a first-time purchase (FSANZ, 2008). The information reportedly sought by respondents was diverse and represented both health and moral/ethical concerns (for details, please see Table 13 in FSANZ, 2008). These same respondents, when asked to name foods of specific food safety concern (unprompted), were most worried about fresh fruit and vegetables, fresh meats and fresh imported foods. The list of concerns was overwhelmingly dominated by fresh food types, and the few packaged items featuring on the list, tinned foods, packaged meat and 'other packaged foods', ranked very low down the list (FSANZ, 2008, p. 27). This may suggest that in some way food labelling has a role in reassuring consumers of the safety of food products, but how consumers construct this meaning from food labelling is yet to be explored.

There appears to be a generally accepted understanding amongst policy makers that food labelling does influence consumer trust in the food system (Einsiedel, 2002). Comments such as 'consumer knowledge of and trust in the food system is conveyed and reinforced by the food label' (Blewett *et al*, 2011, p. 20) are occasionally found within policy documents and reviews in Australia and Europe (Einsiedel, 2002), but there has been little empirical work to support this. As Chapter 2.2 demonstrates, there is a wealth of literature examining consumer trust in *the content of the message* being communicated by labelling, and the factors influencing this. However, the present research focus is how consumers construct meaning relating to trust judgements about *something other than* the literal label message. In doing so it raises the question: given its prominent role as a communication conduit between consumers and food system actors in globalised, disembedded food systems, how does food labelling influence trust in food systems?

Government framing of food labelling

In Australia food labelling is governed under regulation in both the Australia New Zealand Food Standards Code, and Australian Consumer Law (broad consumer protection laws enforced through the Australian Competition and Consumer Commission (ACCC)). This area of policy is a highly contested space, with the latest Australian and New Zealand Food Regulation Ministerial Council (ANZFRMC) commissioned review of food labelling law and policy (*Labelling Logic*) receiving almost 7,000 submissions from industry, government, non-government organisations, and private citizens, while over 550 stakeholders attended public consultations held in capital cities (ANZFRMC., 2011). Thus it is clear that food labelling is seen by many groups within the Australian general public as playing an important role in food systems, and governance of labelling is both complex and politicised. A host of organisations and collectives work alongside the government regulatory institutions listed above to influence food policy, forming the larger governance system. These include industry organisations, both independent companies and collectives such as the Australian Food and Grocery Council and groups advocating for consumer rights, for example CHOICE. Other associations and groups lobby for more specific interests, many endorsing third party certification labelling. These groups include health bodies such as the Public Health Association of Australia and organisations with environmental and animal protection agendas such as the Royal Society for the Protection and Care of Animals. While all these groups influence food labelling policy, the research within this thesis shall predominantly focus on the governance of food labelling by government.

In *Labelling Logic,* Blewett *et al* (2011) characterise the primary policy drivers for food labelling as consumers' need for information, industry's need for limited regulatory burden and flexibility in marketing, and government's public health agenda. In unifying these often competing interests to provide a framework for regulatory intervention in food labelling Blewett *et al* (2011) suggest an issues hierarchy incorporating, in descending order of importance, food safety, preventative health, new technologies and consumer values issues. This was further condensed by the ANZFRMC. (2011) in their response to the review to include food safety, preventative health and consumer values issues only. The final model defines food safety as 'direct, acute, immediate threats to health' and outlines mandatory, government intervention as the most appropriate course of action for these issues

(ANZFRMC., 2011, p. 12). Preventative health issues are defined as 'indirect, long-term impacts on individual and population health', requiring a mix of mandatory and self-regulatory approaches initiated by industry and government. Consumer values issues are defined as those 'reflecting consumer perceptions and ethical views', where 'the risks to human health are minimal or non-existent' (Blewett *et al*, 2011, p. 42) and typically to be addressed through industry initiated self-regulation—not for government regulatory intervention (ANZFRMC., 2011, p. 12). Complaints or issues relating to consumer values are to be addressed by the ACCC and state and territory protection agencies, however it is recognised that 'this necessarily takes place within a broader context of limited resources and competing priorities of consumer protection agencies' (ANZFRMC., 2011, p. 14).

It is clear from these definitions that the moral and ethical concerns inherent in food systems are relegated simply to 'consumer values issues' and bracketed out of regulatory focus, with an explicit commitment to action only in areas of actual or potential health risk. Both *Labelling Logic* and the ANZFRMC response therefore present the role of governance of food as solely the minimisation of health risk (albeit with recent shifts to consider chronic health as part of this), and that of food labelling as little more than a tool for health risk communication. Given that food labelling is considered 'the most public face of food policies, standards and laws' (Blewett *et al*, 2011, p. 139), and risk and consumer uncertainty associated with food consumption has a broader focus than health risk, how might this governance position impact consumer trust in the food system? Do consumers construct meaning from food labelling beyond this pure technical health risk communication role?

Research overview

Although there are multiple bases for trust (psychological, social) (Misztal, 1996) and levels on which trust in food may be conceptualised (for example food practices in the home or food knowledge within communities), this research will predominantly focus on macro-level trust, trust between individuals and social systems, rather than trust between individuals. Thus, the topic under examination in this thesis is the everyday encounter with food labelling on packaged foods in the supermarket and the interaction between an individual and the wider food system. This research will not address the area of social production of trust in food understood here to be the preparation and consumption of food with others, nor the home-based food handling practices (such as separating raw and cooked meat or washing fresh produce) that contribute to trust in food. Within these areas trust is interpersonal, and consumers have explicit control to manage perceived risks. Therefore these areas present a diversion from the focus of this thesis, being the production of food and management of uncertainty associated with consumers' lack of control over production processes. Thus, in this thesis, 'trust in food' refers to trust in the physical and social systems that produce packaged food for sale in the supermarket retail environment—the people and groups involved in that process and the abstract system of food production—not faith that the food products themselves are inherently good.

Similarly, there are many specific forms of food labelling that have been investigated in the empirical and theoretical literature (for example nutrition labelling, certification schemes, ethical labelling, front of pack labelling, mandatory labelling, health claims labelling). The topic of this study, however, will go beyond these investigations and will look at the complete picture of labelling, and how these individual elements, together and separately, may influence trust in food. This is based upon the argument that all forms of labelling serve as a tool for re-embedding the consumer in the food system (Giddens, 1990), and thus influence trusting relations.

This research is both basic and applied (Patton, 2002). It has the dual purpose of contributing to knowledge and theory in an effort to understand and explain the functioning of social systems in the field of sociology, but also explores and contributes insights to the problem of maintaining consumer trust in modern Australian food systems. Thus the research

contributes to both the theoretical discussions about trust that are generalisable across contexts, and also provides useful knowledge specific to the Australian context for use by governance actors.

Research aims and objectives

The aims of this research were to explore both how food labelling influences consumer trust in the Australian food system and the corresponding implications for food labelling governance. For the purposes of this research food labelling is defined as everything that appears on the food package (the text, colours, and images) as well as the packaging itself. The related objectives therefore were:

1. To describe and explain how consumers construct meaning in their interaction with food labelling
2. To describe and explain how food labelling influences trust in the Australian food system
3. To describe and explain how consumers use labelling in the management of uncertainty relating to food risk
4. To determine the implications of consumer perspectives on food labelling and trust for food system governance actors

PART 2. REVIEW OF THEORY AND LITERATURE

Part 2 was directed by the research aims and objectives developed in Part 1, as shown in the diagram of the process of the research in Figure 3 below. Part 2 theoretically grounds the research by engaging with existing theoretical and empirical literature relating to food, food labelling, and trust. It also presents the current gaps in knowledge in this literature, and therefore provides the justification for the research questions.

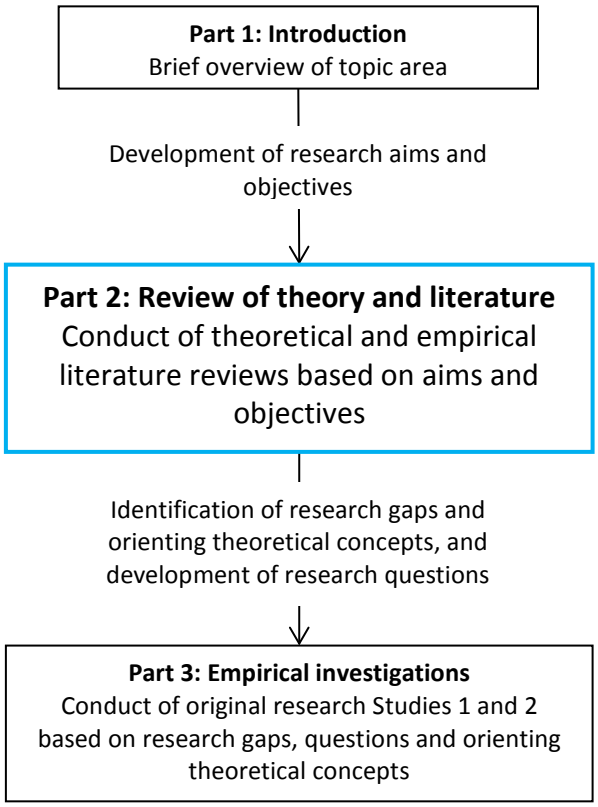

Figure 3. The process of the research, with the currently pertinent section enlarged and outlined in blue.

Part 2 comprises two manuscripts and a section providing supplemental material. A peer-reviewed conceptual development manuscript precedes a published systematic review. These manuscripts are followed by a section of supplemental material outlining the orientating theoretical concepts, research gaps and questions that form the basis of the empirical investigations presented in Part 3 of this thesis.

Chapter 2.1. Integrating social theory and public health – new perspectives, possibilities, questions and solutions

Preface

This peer-reviewed manuscript presents the background and theoretical development component of the thesis. Its first purpose as part of the broader thesis is to articulate the fundamental position of this research in relation to the use of social theory, and outline the process used in developing the thesis research questions through the presentation of a framework. Its second purpose for the thesis is to develop the orienting theoretical concepts required for an investigation of trust and food labelling using social theories of trust. The focus on public health nutrition within the manuscript provided an opportunity to make this work applicable to a group of practitioners and researchers beyond simply a general audience, but is however not a major theme of the broader thesis. This peer-reviewed manuscript is currently undergoing revisions for *Nutrition and Dietetics.*

Abstract

Aim

The aim of this paper is to assist public health nutrition practitioners to consider social theory to explore problems, and by doing so enable the provision of socially contextual solutions for policy and public health nutrition interventions.

Method

In this paper, a framework outlining a systematic approach to incorporating social theory in public health nutrition practice and research is outlined and demonstrated using the issue of consumer use of food labelling.

Results

Through the use of the framework it is evident that food labelling, and the social impact of consumer interaction with labelling, has been narrowly framed in nutrition research. Food labelling has become a surrogate for personal interaction between consumers and food system actors in modern, disembedded food systems where interpersonal trust is not feasible. Food labels are therefore 'access points' through which trust judgements are made.

Conclusions

This new perspective demands a shift in thinking about food labelling in public health nutrition research and policy, and demonstrates the need for practitioners and researchers to work in the overlapping space between social theory and public health nutrition to uncover perspectives and solutions undiscoverable through either approach alone. The example demonstrates that the framework is valuable for assisting both practitioners and researchers to use social theory to explore public health nutrition problems and by doing so provide socially contextual recommendations for policy and practice.

Introduction

Social context is fundamentally important in shaping the eating patterns of population groups, thus addressing social contextual factors in interventions aiming to change population eating patterns is essential (Amir, 2011; Travers, 1997). A more comprehensive understanding of social contexts can be obtained using social theory (Bryman, 2012; Willis *et al*, 2007). Thus to facilitate a true engagement with the social contexts underlying

population eating patterns, the knowledge base underpinning public health nutrition practice must be extended to incorporate contemporary social theory (Potvin *et al*, 2005).

Using social theories in planning, design and interpretation/evaluation of both research and programs is useful in locating public health nutrition problems in the social, cultural and structural contexts in which they exist (Davis *et al*, 2014). When this occurs we can begin to provide comprehensive and effective interventions for practice (Potvin *et al*, 2005; Davis *et al*, 2014), and suggestions for policy to bring about real change. In this paper social theory is viewed as any theoretical pursuits that link the behavioural/individual with the social/structural.

Authors in a range of areas have pointed to inadequate solutions provided for a range of public health problems due to limited attention to the social and structural contexts in which they are situated (Amir, 2011; Delormier *et al*, 2009; Pridemore, 2014; Guell *et al*, 2012; Osypuk, 2013; Rod *et al*, 2014; Potvin *et al*, 2005). Most common approaches to theory utilization in public health nutrition involve the use of theoretical models such as the health belief model (Rosenstock, 1974) or social cognitive theory (Bandura, 1986; Delormier *et al*, 2009). These models provide an organisational structure and are useful in drawing attention to the behavioural dimension of public health problems. But exclusive use of behaviourist frameworks limits our understanding of the broader social contexts in which public health nutrition problems are located (Delormier *et al*, 2009; Travers, 1997). In recent years there has been an increase in the utilisation of literature relating to the social determinants of health and disease. This move provides a useful and practical understanding of the contexts in which individuals make choices, and we can move to explore the structural factors that produce and sustain these contexts even further through a greater engagement with more abstract social theory. It is only through the knowledge generated from all approaches, behavioural and social, that we can begin to provide a complete problem frame upon which to base change (Delormier *et al*, 2009). Contemporary public health nutrition practice is increasingly moving towards both recognition of the importance of these social determinants, and strategies to address them, which creates a new need for practitioners to engage with and understand core social theoretical concepts (Potvin *et al*, 2005).

Drawing together practical problems and social theory enables broader extension of research findings, richer, deeper and more contextual understanding of problems, new implications for policy, testing of social theoretical ideas and a shifting of the theoretical research agenda to applied questions useful to current practice (Davis *et al*, 2014; Layder, 1998). Such an approach is therefore valuable. One way of achieving this is the blending of social theory throughout the entire research/program planning process – not just in the interpretation of the results (Layder, 1998; Davis *et al*, 2014; Meyer and Ward, 2014; Willis *et al*, 2007). Currently, research with this level of integration of social theory is typically published in specialist journals that demand extensive engagement and a theoretical motivation and research focus. This limits the accessibility of this information for many nutrition practitioners and researchers. This paper provides a framework for incorporating social theory into practice and research that is accessible to practitioners and researchers, and demonstrates the wide reaching benefit of using social theory as a tool for examining public health nutrition problems.

We begin by outlining a systematic approach for incorporating sociological ideas into public health nutrition research (referred to as 'the framework'). Following this, we demonstrate this approach, drawing on the case of consumer use of food labelling. Through the use of this case study we demonstrate the utility of this approach in identifying 'solutions' to public health nutrition problems that may have otherwise remained uncovered, as well as research agendas for future investigation. The conclusions highlight the new ideas and perspectives achieved through the use of the framework, drawing on the example provided, and therefore the benefits of incorporation of social theory in public health nutrition.

Methods and approach

Figure 4 proposes a simple approach to integrating sociological knowledge into public health nutrition practice and research. This framework was developed by synthesising and adapting the guidelines for conducting social research evinced by Bryman (2012) and Silverman (2013) into key stages. These key stages were elaborated in the context of public health nutrition to construct a practical framework which may be used as a reference for nutrition practitioners and researchers.

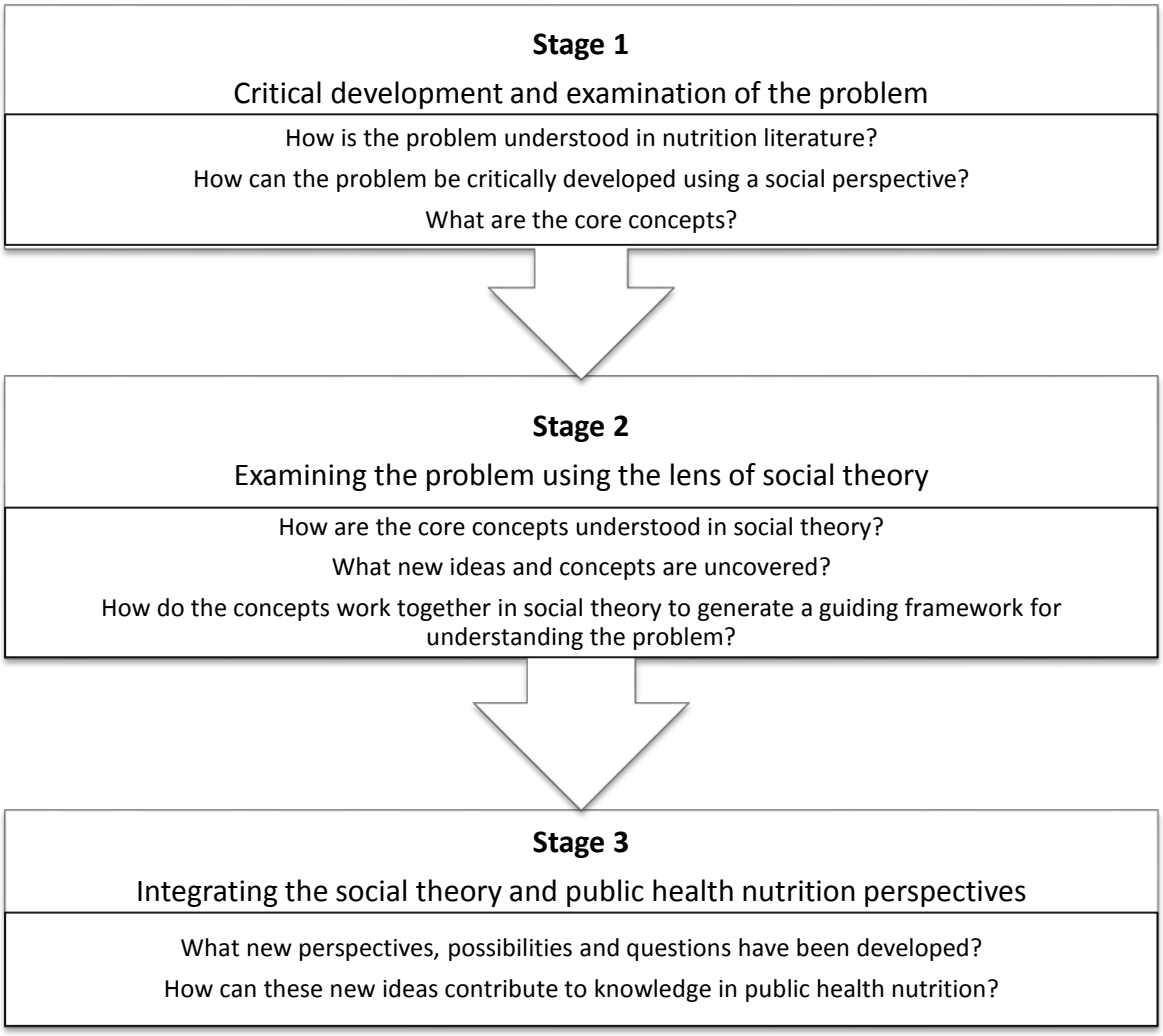

Figure 4. Framework for the integration of social theory in public health nutrition practice and research

All research and program planning begins with a focussed problem or question (Bryman, 2012), thus Stage 1 involves critical development and examination of the problem as suggested by Bryman (2012) and Silverman (2013). We are using the term 'problem' broadly and in the sense that it is used in research, to refer to an issue worthy of attention. All problems, whether in the natural or social sciences, involve concepts. Concepts are 'labels given to aspects of the social world that seem to have common features' (Bryman, 2012, p. 8). Thus Stage 1 of the framework guides users through explicitly defining the problem or question that is to be addressed in the intervention/program or research, examining it from the public health nutrition perspective and finally deconstructing it sociologically to reveal the main concepts.

Stage 2 involves exploring the problem through the lens of social theory, which again Bryman (2012) and Silverman (2013) outline as a key component of socially contextual research as 'otherwise there is a danger of taking the research problem at face value and of providing policy makers and practitioners with the answers they require, in *their* terms' (Silverman, 2013, p. 19) (emphasis in original). Concepts are embedded in theories which can move from the abstract to the particular, theories simply being a framework of connecting concepts (Bryman, 2012). As such, an integral step in Stage 2 is asking what concepts are connected to those identified in Stage 1, and so what previously unidentified ideas and concepts might be important. It is through examining how and where the core concepts identified in Stage 1 are situated in sociological theory that we can begin to see a more complete, socially and structurally located picture of the problem.

Stage 3 then returns attention to the original public health nutrition problem, but with the new ideas and perspectives identified through Stage 2, enabling a more complete and socially situated understanding of the problem and a framework for further research and practice reflecting the complexity of public health nutrition problems in modern societies.

The example of consumer use of food labelling

The following sections utilise the proposed framework (Figure 4) to examine the problem of consumer use of food labelling, elaborating on and demonstrating how it can be applied in the context of public health nutrition research. We begin by outlining the problem, locating it in existing literature and separating the core concepts. This is followed by an introduction to how these concepts are understood and synthesised sociologically, culminating in the revisiting of the original question in light of social theory.

Stage 1: Critical development and examination of the problem

> *How is the problem understood in public health nutrition literature, how can the problem be critically developed using a social perspective, and what are the core concepts?*

The problem we have chosen to demonstrate the framework is that of consumer use of food labelling. In Australia public health organisations have long utilised labelling as a method for attempting to influence the food choices of consumers, none more prominent than the Heart Foundation's 'Tick' program. Additionally, attention is paid in health promotion and

community nutrition practice to encouraging the use and facilitating the understanding of nutrition labels (Department of Health, 2015; Queensland Health, 2009; National Heart Foundation, 2016). National food labelling initiatives aim to effect change through adapting manufacturer and consumer behaviour to improve both the nutritional quality of the food supply and consumer food choices. Regarding consumer behaviour, one of the underlying assumptions of these programs is that communicating health risk information to consumers, predominantly although often not exclusively at point of purchase, will change purchase intentions and health behaviours (a 'knowledge fix' model) (Eden *et al*, 2008c; Coveney, 2008). However, research examining the use and understanding of food labelling and its impact on food choice is both conflicting and plagued with methodological limitations (FSANZ, 2008; Grunert *et al*, 2010; Grunert and Wills, 2007; Mhurchu and Gorton, 2007; Wills *et al*, 2012). Nevertheless, the Australian Government, public health and industry bodies have recently committed considerable resources to a new food labelling initiative, the Health Star Rating scheme.

In more sociologically positioned literature the 'knowledge fix' model of food risk communication has been challenged (Coveney, 2008; Eden *et al*, 2008c). Primarily, the critique of this model rests on the idea that consumers assess labelling 'in the context of myriad historical and contemporaneous factors connected with food, science, government and business, not in splendid isolation' (Eden *et al*, 2008c, p. 13). Additionally, consumers do not see nutrition labelling in isolation from all others aspects of the package, including the marketing information; consumers make sense of food labelling as a whole. A major social factor identified as important in relation to consumer use of food labelling messages has been trust (Eden *et al*, 2008c). It is easy to see how trust may impact consumer use of labelling information; if consumers do not trust labels, why would they change food behaviours based on the information they provide? As such, there has been recent research interest in food labelling and consumer trust (Tonkin *et al*, 2015). However, here again we find empirical examinations are limited to measurement of consumer trust in labelling messages (which find this to be inconsistent), with superficial consumer and labelling factors (like gender, age and label type) presented as the main determinants for the inconsistency (Tonkin *et al*, 2015). Overwhelmingly this research is conducted without engagement with social theory, and as such labelling has consistently been framed as a simple, static, one-way

communication medium between producers and consumers (Tonkin *et al*, 2015). Its position as a conduit of information between consumers and the food system, separated in both time and space, has been chronically under-explored (Eden, 2011; Tonkin *et al*, 2015). As such, it presents a valuable case study for the current demonstration. Therefore the original problem of consumer use of food labelling has been critically developed in this paper to focus on food labelling and consumer trust. The key concepts identified for further exploration are trust, food systems, and food labelling, the latter which we now define as everything on the food package, and think of as a communication medium between temporally and geographically separated actors.

Stage 2: Examining the problem using the lens of social theory

How is trust understood in social theory?

Trust has been extensively theorised and as such, there are many variations in the conceptualisation and definition of trust. Acknowledging this, our discussion will be limited to conceptualisations of trust from theorists most consistently cited in sociological food and trust literature (Bildtgard, 2008; Dixon and Banwell, 2004; Meyer *et al*, 2012; Poppe and Kjaernes, 2003). Trust is fundamental for the functioning of society (Gambetta, 1988) as it promotes social stability, action, cooperation and cohesion (Misztal, 1996) and reduces complexity (Luhmann, 1979). A definition of trust offered by Gambetta (1988) is 'a particular level of subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both *before* he can monitor such action…*and* in a context in which it affects *his own* action' (p. 217, emphasis in original). This definition outlines the elements required for a relationship to be described as one involving trust; prediction of future outcomes, trustor and trustee(s), action, vulnerability, a knowledge gap and, perhaps more contentiously, choice. Gambetta (1988) emphasises that trust is not a binary variable but may take any position between complete trust and complete distrust. The sociological literature provides discussion of trust being placed in other individuals, in collectives or in social systems (Misztal, 1996).

The literature suggests a number of ways of viewing alternatives to trust, labelled distrust, mistrust or lack of trust. Barbalet (2009) suggests that *mistrust* occurs when an individual forfeits a course of action rather than trusting, which undermines trusting relations. It is different to *distrust*; when trusting would not even be considered an option. Thus accepting

a food product with plain labelling may be thought of as trust, seeking out a similar product that has been certified by a third party such as Australian Certified Organic as mistrust and only eating home-grown versions of that product as distrust. Trusting is functional because it reduces complexity by sidestepping uncertainty; trusting is believing one's expectations will not be violated (Heimer, 2001). Mis/distrusting also reduces complexity by minimising vulnerability, by safeguarding one's own interests to the point that the intentions or competence of others are no longer as important (Heimer, 2001). Therefore trust, mistrust and distrust can all be functional.

An important insight is that trust is context specific; it is a three part relation (Gambetta, 1988; Barbalet, 2009; Hardin, 2001). 'A trusts B to achieve C' (Barbalet, 2009, p. 372); it is not simply A implicitly trusts B at all times for all things (Hardin, 2001). Therefore, in relation to trust in food safety we might suggest that different food products might be trusted differently, or at least we need to be mindful that trust judgements made about food may not always present in the same way. Food products perceived as intrinsically more of a risk to health, such as meat or dairy, may require a firmer basis for trust than a product perceived as relatively benign such as dry biscuits. There is also a complex web of interaction of influences on willingness to trust for the trustor (Meyer *et al*, 2008). Trust is conditional on macro-level cultural, regulatory and political aspects as shown by Poppe and Kjaernes (2003) in their study of trust in food in different European nations. Equally, social context is important; in more favourable social contexts an individual may feel empowered to trust, while when negatively impacted by social context less so (Misztal, 1996; Mollering, 2006). Socio-demographic characteristics such as social class, gender and age influence an individual's trust relations (Meyer *et al*, 2008; Holmberg *et al*, 2010) and there is empirical evidence of this within the context of trust in the food system (Meyer *et al*, 2012). Further to this, Giddens (1990) devotes much thought to the interaction between psychological bases of trust formed in infancy ('basic' and 'elementary') and social trust in adulthood. Thus there are further personal aspects influencing willingness to trust (Mollering, 2006), and some individuals might be thought of as generally more trusting or more distrusting.

How might the food system be understood using social theory?

A definition of systems particularly relevant to the food system is Giddens' conceptualisation of abstract systems. Giddens (1990) theorises that in modern societies social relations are

not always tied to a specific geographical location and point in time as they were in traditional societies. He terms the separation of social relations in time and space 'disembedding', and defines it as the '"lifting out" of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space' (Giddens, 1990, p. 21). Given the globalisation of conventional food systems in late-modern societies creating the separation of food production and consumption (Meijboom *et al*, 2006), we can draw parallels between the food system and Giddens' description of abstract systems.

Giddens describes two mechanisms by which disembedding occurs, the creation of symbolic tokens and establishment of expert systems. Symbolic tokens and expert systems provide 'guarantees' of expectations of social interactions occurring at different points in time and place (Giddens, 1990). Together, Giddens (1990) terms symbolic tokens and expert systems 'abstract systems'. Symbolic tokens are exchange media that provide a physical assurance of broader social expectations (Giddens, 1990), the classic example being money (Simmel, 1978). Expert systems are systems of professional knowledge that underpin all social environments (Giddens, 1990). Although expert systems are comprised of individuals, trust is placed in the system of knowledge that those individuals represent, for example, a dietitian represents nutritional science (Bildtgard, 2008). While professionals are consulted irregularly, the systems of expert knowledge influence society in a continuous way (Giddens, 1990). This is where the food system is distinct from other large systems such as the legal or medical systems however. While consumers may have direct interaction with those systems relatively infrequently over a lifetime, direct interaction with the food system occurs daily, if not more frequently. Nonetheless, it is demonstrated that the food system is an expert system that consumers have limited practical knowledge of (Meyer *et al*, 2012).

What related concepts/ideas are important?

Risk is a further concept raised in social theory in connection with trust. For Giddens (1990, p. 35) 'risk and trust intertwine, trust normally serving to reduce or minimise the dangers [*qua* risk] to which particular types of activity are subject.' Food is a uniquely risk-laden consumer commodity; it comprises the substrates that build, enhance or potentially damage the human body. Food is also a representation of beliefs about what is right in the world and thus contributes to the construction of social morality and concept of self (Lupton, 1996; Fischler, 1988). Hence, food choices have physiological importance and importance

associated with identity. Thus eating can be a source of great anxiety and risk (Lupton, 1996). As such, food risks centre on food safety, how aspects of food contribute to personal identity (Fischler, 1988) and ethics (Brom, 2000; Belliveau, 2005), broadly summed up as risks to safety and quality as defined by Verbeke (2005).

For the vast majority of Western consumers, the detailed knowledge required to anticipate with certainty which of the many safety, moral and ethical outcomes will occur from consumption of a food product is unattainable. As such there is always uncertainty, a knowledge gap, in the procurement of food for the consumer, and therefore the need for trust (Giddens, 1990). Everyday risks that we cannot remove or avoid, but that should not prevent action, are neutralized by trust (Luhmann, 1979). Without trust to bridge the knowledge gap, the complexity associated with future outcomes of food consumption cannot be reduced and a state of stasis occurs, where action is inhibited by crippling uncertainties (Luhmann, 1979). However there is an ambivalence to trust; it enables action in the face of risks (Lupton, 2013) without completely eliminating them. Trust makes life function, but does not render life problem free (Mollering, 2006). In relation to food, trust enables us to eat without reasoning and rationalising every mouthful, but it does not remove the threat that our expectations about the safety and quality of that food will be disappointed.

How do these concepts/ideas work together in social theory to help us understand the problem?

Due to the so-called 'disembeddedness' of the food system consumers have very little personal control over food risks created at production, procurement, regulation and distribution, and must delegate responsibility to the associated institutions and individuals (Meijboom *et al*, 2006); many of which they know little or nothing about. This results in the need for trust, or distrust – choosing (not) to consume certain items. It is thought that any large system or group of individuals can be given the position of 'trusted actor' as long as expectations and actions can be attributed to them meaningfully (Mollering, 2006; Gambetta, 1988). That is, as long as consumers have expectations about how food system actors conduct their work despite knowing little about it, we can say consumers are placing trust in the food system. Consumers have real expectations about the actions of those many individuals involved with the food system in relation to food safety and quality, and these

expectations influence consumers' actions. Thus the definition of 'food system' used in this case is similar to that used by Ekici (2004) and is defined as all those individuals and institutions involved with the production and regulation of the food supply. Government regulatory bodies, third party certifying bodies and industry, and the interplay between them together as the 'food system' more generally can be conceptualised as actors and a system in which consumers place trust (Poppe and Kjaernes, 2003; Ekici, 2004). Poppe and Kjaernes (2003) draw a distinction between trust formation in identifiable institutions associated with food (for example brands) and generalised trust in the wider system, however they describe both as relevant to how trust in food can be conceptualised. Therefore in framing the problem of trust and food labelling, we need to consider multiple levels of trust; both consumers' trust in identifiable actors and the system as a whole.

Giddens (1990) terms trust relations occurring between people in the same time and place as 'facework', and trust in large abstract systems as 'faceless'. Giddens' 'faceless' trust is similar to Luhmann's (1979) system trust, both stressing that with systems trust, we place trust in the wider system, not in the individuals within the system, and trust builds up through continuous positive experiences. Partially, systems trust is based on the fact that 'everybody else' trusts the system (Luhmann, 1979; Misztal, 1996; Mollering, 2006). But it is overly simplistic to draw a complete distinction between personal and systems trust because realistically they are interconnected (Giddens, 1990; Misztal, 1996). Our experiences with food actors on a personal, local level influence our trust in the abstract food system and vice versa (Misztal, 1996). Trust is held in the abstract system rather than the individuals within that system, but personal interactions occur between individuals and representatives of abstract systems, for example a doctor as a representative of the medical system (Giddens, 1990). Giddens (1990) describes these intersections as 'access points', with these being the representatives of the abstract system. The 're-embedding' of social relations occurs at the 'access points' of abstract systems, enabling trust in the abstract system to be developed and maintained (Giddens, 1990).

Giddens (1990) theorises that trust in the *proper functioning* of any system rests on faith in the moral integrity of the people working within that system, which Barber (1983) discusses as expectations of fiduciary obligation, while trust in *the system itself* rests on faith that the principles underpinning the system are essentially correct. Giddens (1990) emphasises the

ignorance of the general public in relation to these principles, highlighting that this knowledge gap is why trust is needed. Barber (1983) also discusses trust as expectations of technical competence, and so it might be said then that consumer trust in the food system is predicated on two things: belief in the integrity and competence of the main actors (those consumers identify as part of the food system), and the legitimacy of the underlying principles, broadly those of science and technology.

Stage 3: Integrating the social theory and public health nutrition perspectives

What new perspectives have been uncovered?

Returning our focus to the original problem, how do these insights gained by applying a theoretical lens help us to think differently about consumer use of food labelling? As previously mentioned, the food system is too large and complex for consumers to comprehend as with all abstract systems or institutions (Mollering, 2006). Thus it is impossible to make judgements about the integrity and competence of individuals involved with it, or the correctness of its underlying principles based on knowledge of the system. Therefore, consumer trust must be based on the 'visible controls' and insight provided by representatives of the system (Mollering, 2006). Food labelling is the tangible representative of the food system, and perhaps the only representative present in everyday interaction with food. Thus, food labelling may be conceptualised as an 'access point' or the gateway to the complex food system for consumers. In this way trust *in* food labelling, may also contribute to trust in the wider food system *through* food labelling, just as trust in a particular physician may increase confidence in medical science as a whole. Being the only connection between the consumer and food production, food labelling may be thought of as a 'hub around which trust in food is created' (Bildtgard, 2008, p. 117).

This suggests a different, and important, role for food labelling beyond that typically presented in public health nutrition literature. Food labelling is a tool of communication that represents and embodies the principles underpinning the food system, which can be thought of as an expert system. In this way food labelling becomes a representation of the food system and a surrogate for personal interaction. Going beyond thinking of food labelling as just a 'numbers' exchange between food system actors and consumers, labelling is an active communication, a performative tool involved in interaction with consumers and itself influencing the interaction – far from a passive, one-way, exchange medium. Food

labelling may then provide insight into the principles and intentions of actors and the system as a whole, and therefore influence consumer trust in both the collective and identifiable actors.

What new ideas are now visible?

The new possibilities for public health nutrition arising from this new perspective are numerous. Consistent with Giddens' conceptualisation of 'access points' which he conceptualises as points of 'vulnerability for abstract systems, but also junctions at which trust can be maintained or built up' (Giddens, 1990, p. 88), food labelling may allow consumers to reflect on the principles underpinning the system and their legitimacy. Modern food systems rely on the principles of technical knowledge and expertise which have origins in broader social institutions such as science and law (Bildtgard, 2008). Bildtgard (2008) proposes that in late modernity the legitimacy of the application of expert knowledge to food production is increasingly questioned due to awareness that scientific/expert knowledge can produce negative outcomes. This undermines trust as 'institutions cannot be effective bases for trust if they are not trusted themselves' (Mollering, 2006, p. 72). Concerns regarding food are now often moral questions, and science, for many reasons, is ill-equipped to provide satisfactory answers to moral dilemmas (Brom, 2000). Thus for a consumer with firm beliefs in the legitimacy of scientific application in food production, genetic modification labels may reinforce trust, while it destabilises trust in a consumer who disagrees with the use of gene technology in food production. The label itself acts as a trigger for the consumer to reflect on whether the principles underpinning the food system are consistent with their own.

Additionally, thinking of labelling as an active communication rather than a passive one-way information exchange, theory from Barber (1983) might suggest that consumers use labelling to make judgements about the competence and intentions of the food system and its actors. Discovering that information on a food label is disingenuous, such as use of the claim '99% fat free' to describe sweets (candy), might cause consumers to doubt the integrity of the labeller (Van Rijswijk and Frewer, 2012) and therefore undermine trust in the wider food system. This framing of an emotionally and critically engaged consumer is in stark contrast to that put forward by most nutrition research, which in relation to health and nutrient claims typically sees the consumer as vulnerable and uneducated, requiring

protection from 'misunderstanding' and 'errors in interpretation' (Mariotti *et al*, 2010). As such, food labelling may both reinforce *and* undermine trust in the food system with the personal, social and national context of both the consumer and the food label likely to influence trust judgements. If this is so, there may be implications for how health promotion and community nutrition practitioners discuss and educate the community with regard to food labelling; by warning consumers against 'untrustworthy' industry are we undermining trust in the food system as a whole? By tolerating meaningfully misleading but technically correct advertising on packaging are we undermining consumer trust that the system functions in their best interests?

What new questions are now important?

Ordinarily food labelling may contribute to the repetition of experience with a food product and therefore enhance habitual trust, or play the role of a symbolic token and be a guarantee of expectations between food actors and consumers (Bildtgard, 2008). However with the new perspective of food labelling as an access point, while consumers may be predominantly unreflexive about food risk, labelling may be a trigger for reflexivity; there may be occasions when food labelling causes consumers to consider and re-evaluate their trust in the food system (Giddens, 1990) and therefore actively make a choice to (mis)trust. Creating knowledge regarding the ways in which food labelling influences reflexivity and therefore trust judgements would enable a deeper understanding of the implications of certain labelling practices, useful not only to labelling regulators, but industry and product marketers. If food labelling does trigger consumer reflexivity, how does it influence the trust judgements made about the system or its actors, which unavoidably includes third-party bodies and regulatory organisations involved in public health and nutrition? Could labelling be used to better support trust in the system or are current labelling practices undermining trust in the system? Does increasing third-party and regulatory presence on labelling assist in rebuilding trust, or simply damage trust in these identifiable organisations by making them guilty by association? Might this help explain the lack of success of public health nutrition related food labelling initiatives? Are consumers so distrustful from relentlessly seeing specious labelling claims that all labelling becomes distrusted, including public health nutrition initiatives? These are all important questions that have been identified through

using the framework, and could represent areas for further practice and policy-relevant nutrition research.

What are the implications for policy and practice?

Current labelling approaches to the problem of trust in food proposed in public health nutrition literature are to provide more information, information from third parties, better monitoring and enforcement and education for the public about how to use food labelling (Tonkin *et al*, 2015). It is clear from this examination of food labelling using sociological theory that while the above may be some useful strategies in addressing the problem of consumer trust in food, they present an inadequate and individualistic representation of the problem, which places the issue with consumers. Additionally, this analysis also suggests some of these strategies may do more harm than good. This novel understanding of the role of food labelling highlights the need for food labelling policy and health promotion practice to be conscious of the important role food labelling plays in food systems beyond simply a communication of product characteristics between consumers and food system actors. From this discussion we can also see that the factors influencing trust are manifold, especially with a communication system as complex as food labelling, and far from centred on the personal characteristics of consumers. As such, focussing research solely on consumer behaviour change will result in inadequate solutions and policy directions being proposed. The inclusion of wider, theoretically based perspectives is required in thinking about the role of food labelling in policy, practice and especially nutrition research. This would not have become clear through an analysis of this topic exclusively using a public health nutrition approach, but was made possible by the blending of perspectives from both public health nutrition and sociology.

Conclusions

In this paper we proposed a simple, systematic approach to breaking down and rebuilding public health nutrition problems to incorporate social theory to enable more socially and structurally situated research. As a demonstration, social theories of trust and empirical food labelling literature were integrated to develop a picture of how food labelling influences consumer trust in food systems. Through this we have shown that using social theory - as a tool to understand and explore nutrition problems - can lead to the development of valuable

new perspectives, ideas and questions that would not have been generated using the behaviouristic approach common to nutrition research. In addition, through the example used the paper provides an accessible introduction to sociological understandings of trust for practitioners and insight and direction for future empirical research relating to food labelling. The framework can be applied to any future public health nutrition research to meet the stated need of a merging of understandings from the social sciences and public health nutrition, where through working in the overlapping space we can uncover perspectives and solutions undiscoverable through either approach alone.

Chapter 2.2. Trust in and through labelling – a systematic review and critique

Preface

This published paper is a systematic review of empirical studies examining the influence of food labelling on consumer trust in food systems. The purpose of this published paper as part of the broader thesis is to outline current knowledge relating to, and develop a framework regarding, food labelling and trust to structure the empirical aspect of this thesis. This paper has been peer-reviewed and published with the citation,

Tonkin, E, Wilson, A.M, Coveney, J., Webb, T. & Meyer, S.B. (2015), 'Trust in and through labelling – a systematic review and critique', *British Food Journal,* vol. 117, no.1, pp. 318-338, DOI: 10.1108/BFJ-07-2014-0244

An additional appendix of study tables can be found in Appendix B.

Abstract

Purpose

Distrust of conventional food supply systems impacts consumer food choice. This in turn has implications for consumer nutrition outcomes and acceptance of expert advice regarding food and health. The research exploring consumer trust is found across a broad range of research streams, and is not cohesive in topic or approach. The present review aimed to synthesise the disparate literature exploring the interaction between food labelling and consumer trust to determine what is known, and gaps in knowledge regarding food labelling and consumer trust.

Approach

A systematic search of trust and food labelling literature was conducted, with study results synthesised and integrated. Studies were then critically analysed for the conceptualisation of the consumer, the label, and their interaction with a framework developed using social theories of trust.

Findings

Twenty-seven studies were identified. It was found that not only is the current literature predominantly atheoretical, but the conceptualisation of labelling has been limited.

Research Implications

Further empirical research is needed to enable a more comprehensive understanding of the role food labelling plays in influencing consumer trust in food systems.

Originality

This research develops a conceptualisation of the dual roles food labelling may play in influencing consumer trust in food systems. It distinguishes between trust *in* food labelling *itself*, and the trust consumers develop in the *food supply system through* food labelling. Our novel theoretical model and synthesis provide a foundation upon which future research may be conducted.

Introduction

Food labelling is positioned at the interface of the consumers' point of purchase and the regulation and functioning of the market (Kolodinsky, 2012). It is therefore a highly prized opportunity to impart information at the exact moment of food choice (Verbeke, 2005). The awareness of labelling as a direct line of communication with consumers has led to a proliferation of information on food labelling from retailers, producers, public health bodies, regulators and third-party certifiers. Food packages are crowded with labels, defined here as any information (including text, symbols, colours and images) printed on a food package. Examples of labels include marketing claims, nutrition information panels, allergen information boxes, date marking, use and storage information, nutrient content claims, health claims, country of origin labelling, and an ever-growing number of labels relating to ethical and moral production and consumption - fair-trade, organic, sustainably produced and carbon footprint labels (Sirieix *et al*, 2013). These last are, herein, collectively referred to as 'certification labels'. The roles played by labels are diverse, from encouraging sustainable production through harnessing consumer purchasing power and green consumerism (Sonderskov and Daugbjerg, 2011), to facilitating healthy food choices (Grunert and Wills, 2007) and product differentiation and marketing (Einsiedel, 2002). Thus in their interaction with labelling, consumers must interpret the many different messages labelling communicates concurrently, from numerous messengers with varying motivations. In addition to this, theoretical literature suggests that food labelling may play a more complex role in the interaction between food systems and consumers than what is suggested in current research, potentially as a symbol of shared values, norms and expectations (Bildtgard, 2008). Beyond communicating the literal messages of food labels, labelling may provide consumers with the opportunity to see into and make judgements about the system's actors and function.

Food labelling provides a channel for communication between the food system and consumers, in the absence of a face-to-face encounter. As such, there is increasing recognition of the potential for food labelling to address social policy issues, in particular distrust in food regulatory and supply systems (Blewett *et al*, 2011). Food labelling may support or undermine consumer expectations of technical competence and fiduciary responsibility from the actors and system behind labelling, and therefore influence trust

(Barber, 1983). That is, consumers expect that food systems function technically well and in their best interests, with food labelling providing the visual assurance, or otherwise, of this. Issues of consumer distrust are said to have come about through historical changes to food supply systems resulting in information asymmetry between consumers and producers (Eden *et al*, 2008a). Various food scares and scandals have also thrown doubt on the integrity of food supply systems.

This distrust has consequences for consumer decision making, having a direct impact on individual food choice and acceptance of expert advice (Williams *et al*, 2004; Coveney, 2008). Dietary intake patterns and therefore nutritional status are affected by the avoidance of foods considered to be unsafe or risky. When these foods are from core food groups essential nutrients can be marginalised, compromising health (Coveney 2008). Further, Ekici (2004) showed that consumers who were most distrustful of conventional food systems relied on alternative food supply markets, such as farmers markets and local produce. While of itself engagement with alternative food markets is not necessarily a problem, there can be unintended consequences. For example, the choice to consume unpasteurized milk, reportedly in some consumer groups related to distrust in conventional agriculture and governments, is known to result in occasional cases of food poisoning (Jay-Russell, 2010). A notable explicit case is distrust in tap water chlorination and fluoridation being identified as a contributing factor in the movement towards drinking bottled water. Although viewed as innocuous by consumers, it has been suggested to be contributing to rising childhood dental caries (Cochrane *et al*, 2006). Accordingly, the capacity of food labels to engender trust and confidence has been provided as rationale for a number of policy positions in Europe (Einsiedel, 2002) and Australia (Blewett *et al*, 2011). Therefore, developing an understanding of and evaluating the trust judgements formed by consumers through interaction with labelling is essential.

Policy relating to food labelling is fiercely contested and controversial; legislation is bargained and negotiated between the triumvirate of consumers, industry and government (Kolodinsky, 2012). Policy makers and regulators look to research to guide their policy decisions, however in this area are likely to find the literature ambiguous. Some research has explored consumer trust and food labelling; however this work has been disparate, cross-disciplinary (consumer studies, public understanding of science research, public health and

nutrition research and business and marketing studies), and non-cohesive in topic or approach. The understanding of the relationship between food labelling and trust is therefore far from complete. No review has been conducted investigating what is known about food labelling and consumer trust, nor has there been a thorough critique of the way this topic has been approached by researchers.

This review aims to integrate the work from diverse research streams to determine what is known, and gaps in knowledge regarding food labelling and consumer trust. The objectives are therefore:

1. to synthesise the peer-reviewed literature that has examined the interaction between consumers and food labelling in relation to trust, and
2. to conduct a critical analysis of how consumers and food labelling have been conceptualised in this literature to date.

As the central focus of this relationship is trust, social theories of trust can provide a firm basis from which to explore the role of food labelling in influencing consumer trust in the food system.

In the first section an entirely novel theoretical model for conceptualising consumer trust in relation to food labelling utilising social theories of trust is proposed. This theoretical model has two components, a conceptualisation of trust judgements made by consumers in interaction with food labelling, and an analytical framework for identifying the contextual factors influencing these judgements. This innovative theoretical model provides deep and unique insight into the dimensions of the trust judgements made by consumers in and through food labelling.

Herein we provide a description of the search and review methods employed and subsequently a summary of characteristics of included studies. Findings of included studies of relevance to this discussion are then synthesised, and the aforementioned theoretical model is used to provide a critical examination of the literature exploring consumer trust and food labelling. Finally, the implications of the findings for research and policy are discussed, demonstrating the importance of the novel insights provided by the theoretical model and providing a platform for future research.

Theoretical model

Social theory provides a framework for investigating specific aspects of everyday experiences and phenomena. Theories draw together a set of abstract concepts that can be operationalised to further understand the aspect of lived experience to be investigated (Punch, 2005). There is an extensive body of sociological literature devoted to the understanding of trust, how it is built and how it is maintained. Very broadly, this work distinguishes between trust among people (interpersonal or 'facework') and trust in societal institutions and systems (institutional or 'faceless') (Misztal, 1996). Niklas Luhmann and Anthony Giddens are key theorists in the area of institutional trust, making their work of particular relevance to the current discussion of trust and food systems. The following section separates the conceptualisation of trust in relation to food labelling into two parts. It begins with a conceptualisation of the trust judgements made by consumers through their interaction with labelling, followed by a discussion of the factors that influence these trust judgements. Through these discussions, the model for our critical analysis and review of the extant literature of trust in relation to food labelling emerges.

Conceptualisations of trust in relation to food labelling

Figure 5 graphically presents an interpretation of the different trust judgements made by consumers in relation to food labelling; it defines where trust is actually being placed. The theoretical basis for this figure is driven by the abstract trust theories of Giddens (1990) and Luhmann (1979), and extensions of their theories as related to food labelling by Bildtgard (2008). The central purpose of this figure is to delineate the different trust judgements made by consumers in their interaction with food labelling; that is, it identifies that consumers can place trust in labelling, but can also develop trust in the food system, system actors and system governance because of, or through, food labelling. This separation of how food labelling functions with respect to trust (in or through) is novel and timely, as international governments seek to enhance consumer trust in food systems with sparse resources; it provides a new means for research to inform policy makers regarding which areas to direct those resources for greatest efficacy.

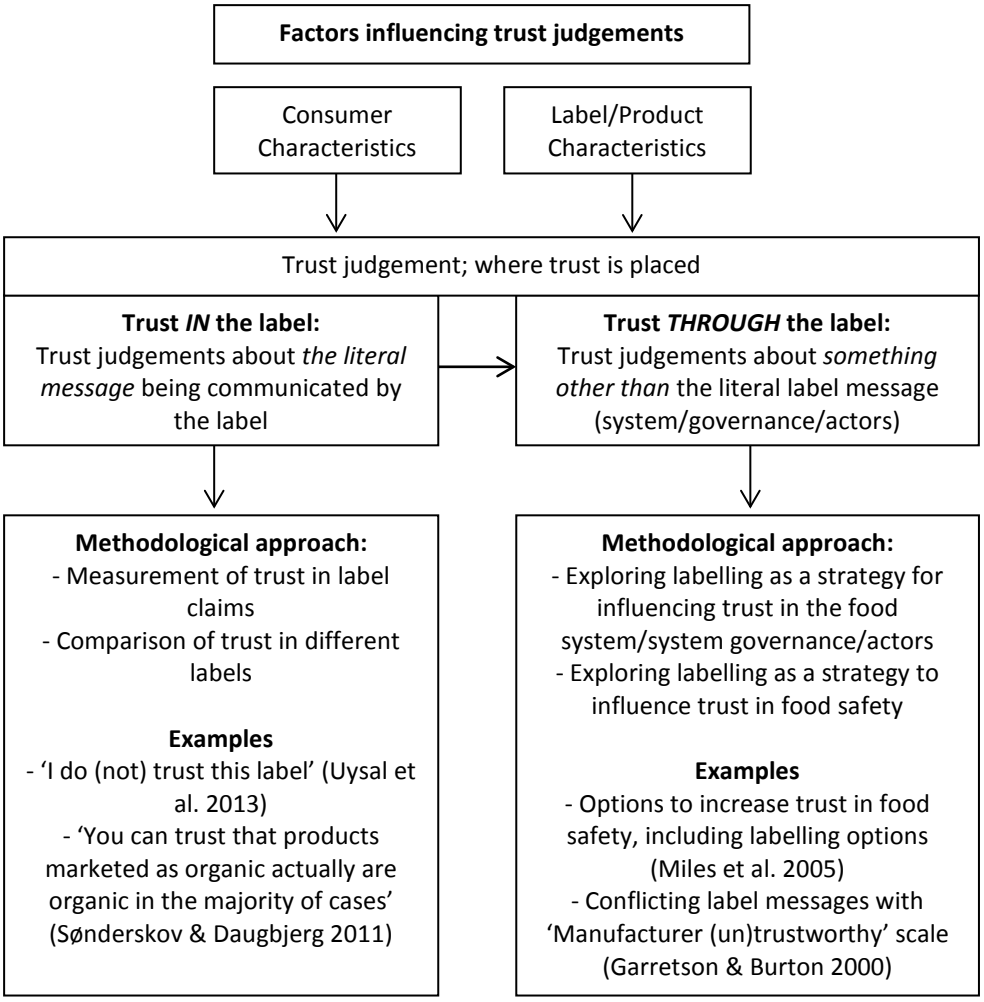

Figure 5. A conceptualisation of trust judgements made around food labelling

In Figure 5, the trust consumers place in the literal message of the label or logo is categorised as trust in the label/logo message. This type of trust judgement centres around the belief in the truth of the message as it relates to that product and is influenced by consumer and label/product characteristics (to be detailed further below). Importantly, trust in the label message is seen as possible only if the messenger is trusted with regard to this information, as trust is a three-part relation (Barbalet, 2009; Hardin, 2001). Here the messenger is conceptualised as a 'label characteristic'; for example the messenger being 'Tesco' is a characteristic of the UK 'Nurture Tesco' sustainability logo. Theoretically trust *in* the label is seen as similar to Giddens' (1990) facework trust.

We now turn to trust *through* labelling, where labels act as access points to a system. As food labelling is a point of communication between consumers and the food system, it may be thought of as a representative of the food system and therefore an access point

(Bildtgard 2008). Giddens (1990, p. 88) describes 'access points' as the intersection between facework and faceless (or systems) trust. For example, a label promoting the organic properties of a product speaks not only to the product ingredients but also represents the system of production, prudence and provenance that can be ascribed to the organic food industry. Thus as an access point, labelling may influence consumer belief in either the integrity of the main actors (for example industry), or the competence and function of regulatory processes, and as such influence trust in the system overall (Giddens 1990). Date marking ('use by', 'best before') is another example. Date marking may be seen by consumers as an indicator of regulatory management of the food system to prevent foodborne illness, and result in increased trust that the system functions to ensure a safe food supply, thus building trust in the wider food system. In these examples it is not so much the literal message being communicated by the date mark, but the fact that there is a date mark/label at all that builds trust; it is labelling acting in a symbolic role to influence trust (Bildtgard 2008). Therefore, trust in the food system, its actors and its governance is conceptualised here as being developed through interaction with labelling. Similarly, trust in the product with regards to safety and quality is also seen as being, in part, developed through labelling. This system of classification–trust *in* and *through*–was used to group studies for critical analysis.

Development of the study critical analysis framework

The framework for critical analysis follows the philosophy of Foucault (1981, p. 456); 'A critique does not consist in saying that things aren't good the way they are. It consists in seeing on what type of assumptions, of familiar notions, of established, unexamined ways of thinking the accepted practices are based'. Thus, in the present review, critical analysis focussed on how the consumer, the label and their interaction with regards to trust were framed.

Food labelling may be thought of as a policy representation and an instrument of policy, and therefore analysed using policy analysis frameworks (Coveney, 2010). The framework used here was developed by adapting that of Bacchi (2009) to suit a critical analysis of research (Table 1). For Bacchi, the aim of policy analysis is to identify 'problematizations'; to illuminate how an issue is represented and shaped as a particular object for examination (Bacchi, 2012). A key aspect of analysis therefore is to stand back from the issue in order to

uncover and shed light on the limitations of the current thinking around the 'problem' (Bacchi, 2012). The framework identifies a series of questions which uncover the assumptions and presuppositions, areas of light and shade and their effects on factors included, and not included, in the proposed policy (Bacchi, 2009; 2012). Using Bacchi's framework (2009) this is done by examining a policy's proposals; 'what we say we want to do about something indicates what we think needs to change and hence how we constitute the "problem"'(Bacchi, 2012, p. 4). In the same way, looking at the methods of investigation, the questions asked and variables measured in a research study can elucidate how the researchers are framing the consumer, the label, their interaction resulting in a trust judgement, and the assumptions underpinning these framings. Thus, studies were examined to uncover the assumptions underpinning their framings of the consumer, the label/s, and the interaction between the two resulting in a trust judgement, which will be abbreviated hereafter to 'consumer-label-trust interaction'.

The critical analysis framework outlines the contexts under which trust judgements formed around food labelling are made, and was developed prior to the literature search. Bacchi's method was used to separate the consumer-label-trust interaction into the main areas for critical analysis, those of consumer and label framings, and place them into a table illustrating how they interact to form a trust judgement. Table 1 was then nuanced by using social theories of trust to further separate each area into groups of factors known to influence trust judgements (Consumer 1, 2, 3 and Label 1, 2, 3). The included studies were then analysed using this framework. The analyses enabled the extension of the framework to include additional contextual influences such as those specific to labelling, one example being the addition of a potential interaction between labelling elements as described by Garretson and Burton (2000). In its application to the analysis of research studies, the framework critiques how consumer and label aspects are seen to influence trust judgements in the interaction between consumer and label.

In summary, Bacchi's framework was used to classify according to how each study framed food labelling as a problem to be investigated (Label 1, Label 2, Label 3 as described in Table 1), and the position of consumers as social actors was used to classify them in context (Consumer 1, Consumer 2, Consumer 3).

Table 1. Framework for critically analysing the consumer-label-trust interaction, and results of critical analysis

* Studies with results referring to trust *through* labelling

^ Beyond what they do represent, ie not the Soil Association's logo representing the standards of the Soil Association's certification process

	Consumer 1 Rational context	**Consumer 2** Personal context	**Consumer 3** Social context
Label 1 One explicit label message interpreted in isolation from other labelling elements	**Interaction 1.1** Product characteristics only influence trust judgements about explicit message - Mahe 2010 - Nayga 1999 - De Almeida 1997	**Interaction 1.2** Personal context influences trust judgements of explicit message - Gerrard 2013 - Uysal 2013 - Janssen 2012 - Janssen 2011 - Pieniak 2007 - Worsley 2003	**Interaction 1.3** Social context influences trust judgements of explicit message - Sonderskov 2011 - Koenigstorfer 2010 - Eden 2008 - Padel 2005
Label 2 Explicit label message interpreted though interaction of labelling/product elements	**Interaction 2.1** Product characteristics only influence trust judgements of label messages - Singer 2006	**Interaction 2.2** Personal contexts influence trust judgements of label messages - Sirieix 2013* - Rezai 2012 - Barnett 2011 - Wier 2008* - Cornelisse-Vermaat 2007	**Interaction 2.3** Social context influences trust judgements of label messages - Van Rijswijk 2012* - Essoussi 2009 - Soregaroli 2003
Label 3 Implicit messages - labels as symbols or representatives of something more^	**Interaction 3.1** Product characteristics only influence trust judgements about food system/governance/actors - No studies identified	**Interaction 3.2** Personal context influences trust judgements about food system/governance/actors - Batrinou 2008* - Poortinga 2004* - Garretson 2000*	**Interaction 3.3** Social context influences trust judgements about food system/governance/actors - Coveney 2008* - Miles 2005*

Using the analysis framework studies were placed in the category describing their framing of the label (Label 1, 2 or 3) and their consumer representation, where Consumer 1, 2 and 3 group studies with a rational, personal and social consumer representation respectively. Research indicates that trust is influenced by numerous factors that extend from the rational/cognitive (Rowe and Calnan, 2006) through to personal (socio-demographic characteristics, attitudes, beliefs) (Taylor *et al*, 2012; Poppe and Kjaernes, 2003; Meyer *et al*, 2012) and social/structural factors (Poppe and Kjaernes, 2003). For example, those studies only noting basic demographic characteristics of participants, Consumer 1, assume the consumer-label-trust interaction is only influenced by the label characteristics, with the consumer responding to these changes in a rational, predictable way. Studies exploring the internal attitudes, knowledge and beliefs of participants, Consumer 2, may be thought to be assuming these are aspects which influence trust judgements in the interaction between consumer and label. Studies placing consumers within the context of the wider food system, Consumer 3, may be said to be considering the external social and structural factors related to the consumer as influencing trust judgements built around labelling. Notably, these categories are not exclusive, but hierarchical, with studies placed in the highest possible category. Consequently, a study placed in Consumer 3 may also include characteristics of the categories Consumer 1 and 2.

It is clear that the categories for the framing of the label (Label 1, 2 and 3 in Table 1) are inextricably linked to the conceptualisation developed in Figure 5. Should a study frame labels as representatives of the food system, acknowledging their role beyond simply the communication of an explicit label message (Label 3), the results will consequently be discussing trust through labelling. Likewise, if labels are framed as an explicit message only (Label 1) results can only possibly discuss trust in labelling. In this way, the conceptualisation of trust judgements proposed in Figure 5 and constructed using theory is further broken down and nuanced to include the factors influencing these judgements, generating a picture of how this could be further investigated in empirical research (Table 1).

Review methods

Search method

Databases searched included Scopus, Web of Knowledge, Pub Med, PsychINFO and Sociological Abstracts. Searches were conducted up to the 27th of August 2013, with the earliest year covered by included databases being 1806. Four concepts were used to structure the search query including trust (keywords: trust*, confiden*, faith*, belief*, perce* [perception], expect* [expectations]), food (food*, food supply, food system*, food regul*), labelling (label*, certification, assurance) and consumer (consumer*, buyer*, purchaser*, layperson*, lay person*). Medical Subject Heading (MeSH) terms were used where necessary, complemented with keyword searching of the concept terms and synonyms. The common use of 'trust' has numerous synonyms, therefore existing empirical and theoretical literature was examined for terms used and these were included to ensure all relevant papers were captured. The included terms were chosen as they are MeSH terms and therefore commonly used as keywords. No limits were placed on year of publication or country, however only English language papers were included.

Data extraction

Studies were initially screened for relevance to the review topic. Inclusion criteria were that the study needed to be peer-reviewed, report original research and to discuss trust or its many synonyms in relation to food labelling in the results section. Confidence and other synonymous terms were included as they have been used interchangeably with trust in the extant literature; however there is some debate around their interchangeable use (Luhmann, 1988) that will not be specifically addressed here. No limits were placed on study design and how trust, food labelling and the consumer were investigated; this enabled a greater sense of the way trust and food labelling has been explored in the peer-reviewed literature. However, papers were excluded if A) they extrapolated their results from non-trust items to a discussion of trust (Bernues *et al*, 2003; Wang *et al*, 2013)—that is, trust was not an outcome explored in the study; or B) consumer trust was part of the premise of the research but again trust was not explored with participants (Gellynck *et al*, 2006; Verbeke and Viaene, 1999). To summarise findings, studies were grouped according to type of labelling investigated, and data were extracted into summary tables (Supplementary material [thesis Appendix B]).

Analysis and critique

Studies were grouped as trust in or through for analysis according to which trust judgement was presented in the results, using the categories in Figure 5. Critical analysis of included studies then followed, involving the application of the critical analysis framework (Table 1) to all studies to evaluate the framing of the consumer-label-trust interaction. Finally, each article was examined for incorporation and use of social theories of trust in either the justification for the study, study design, or in explanation and discussion of results.

Findings

Search Results

The results of the search and screening process are summarised in Figure 6. In total, 27 studies were included in this review. In all, 12 studies examined trust in relation to certification labels and these were published relatively recently (2005-2013). Five studies explored nutrition labelling or health claims (1999-2010), and six labelling in general (1997-2011). Four further studies examined trust in relation to genetic modification (GM) labelling (2003-2008). The included studies represent both qualitative and quantitative methods. Eight studies used a focus group method and six further used in-depth interviews to explore attitudes and perceptions relating to labelling and trust. In all, 16 studies utilised a survey method, with the majority of these measuring trust through the use of five to seven point scales of agreement with statements such as 'I do trust this label/logo' under varying experimental conditions (Supplementary material [thesis Appendix B]). Two studies combined focus groups with surveys (Gerrard *et al*, 2013; Uysal *et al*, 2013), and one interviews and focus groups (Coveney, 2008). Characteristics of included studies are summarised in the supplementary material.

Summary of Study Findings

Certification labelling studies

Of the 12 studies exploring certification labels, ten measured trust in certification labels or logos (Essoussi and Zahaf, 2009; Gerrard *et al*, 2013; Janssen and Hamm, 2012; Mahe, 2010; Sonderskov and Daugbjerg, 2011; Uysal *et al*, 2013; Eden *et al*, 2008c; Padel and Foster, 2005; Janssen and Hamm, 2011; Rezai *et al*, 2012), and two both trust in and through certification labels (Sirieix *et al*, 2013; Wier *et al*, 2008). A high level of trust or confidence in

certification labels was repeatedly found (Uysal *et al*, 2013; Sonderskov and Daugbjerg, 2011; Mahe, 2010), but often a small minority of respondents were defiantly distrustful – so much so they refused to read labels – or reported reduced confidence with increased scrutiny of the labelling (Eden *et al*, 2008c).

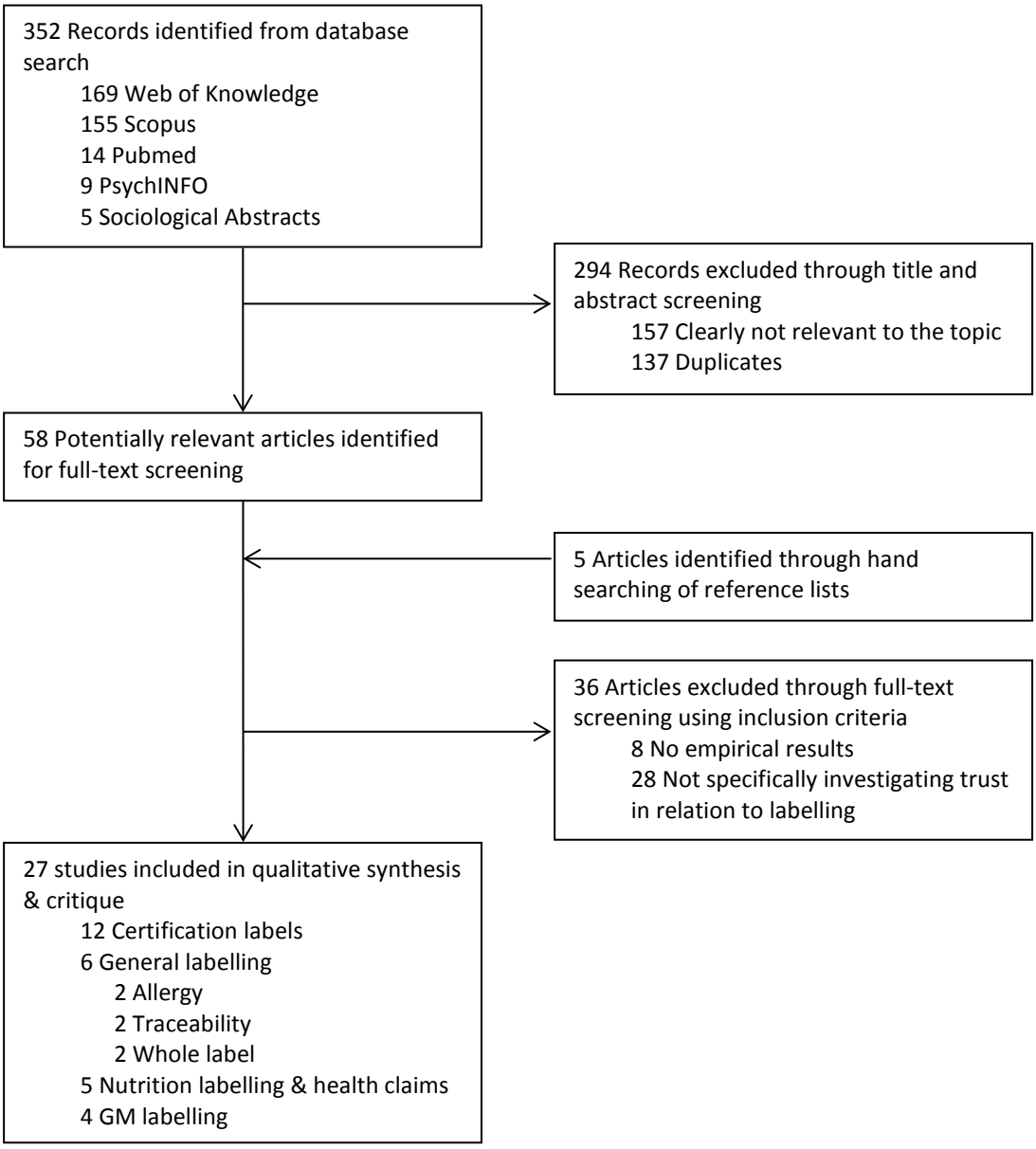

Figure 6. Search process and results

Familiarity with certification labels evoked trust in them (Sirieix *et al*, 2013), and in the products they are on (Janssen and Hamm, 2011). However 'good' labels could be distrusted through association with those perceived to be disingenuous, such as the UK 'Nurture Tesco' sustainability logo (Sirieix *et al*, 2013). It was repeatedly found that higher price premiums

were attracted for products with the most trusted labels (Gerrard *et al*, 2013; Janssen and Hamm, 2012; Mahe, 2010; Essoussi and Zahaf, 2009).

Trust *in* certification labels was linked to the credibility of the overseeing organisation (Sirieix *et al*, 2013). Danish consumers were shown to have high confidence in organic labelling (Wier *et al*, 2008) even after controlling for generalised institutional and social trust (both themselves found to be important predictors of confidence in organic labelling) when compared to UK, Swedish and US residents (Sonderskov and Daugbjerg, 2011). As the Danish organic certification system incorporates high state involvement, the authors conclude that substantial state involvement, and visibility, increases consumer confidence in organic labels (Sonderskov and Daugbjerg, 2011). This was supported by Uysal et al.(2013) who found lower trust in private organic labels compared to government labels, however others found the opposite (Padel and Foster, 2005; Eden *et al*, 2008c).

The UK 'Organic Farmers and Growers' label (Sirieix *et al*, 2013), the JAKIM Halal logo (Rezai *et al*, 2012), certification logos generally (Koenigstorfer and Groeppel-Klein, 2010), and labelling of production location and methods (Wier *et al*, 2008) were found to add something trustworthy to, and enhance confidence in, organic/eco-friendly products. Additionally, trusting in certification was noted by some participants to be more important as organic distribution channels become larger (Essoussi and Zahaf, 2009). In the study by Sirieix et al. (2013, p. 147) one consumer discussed the symbolic role of labelling, stating that a particular label made them think 'of community as local group with good values. Trustworthy'.

GM labelling studies

The four studies exploring trust in relation to GM labelling predominantly examined trust in the products through food labels/logos (Batrinou *et al*, 2008; Miles *et al*, 2005; Poortinga and Pidgeon, 2004), with only Soregaroli et al. (2003) measuring trust in GM labelling. Having an 'EU approved' label on GM corn chips increased the number of respondents willing to eat them, suggesting that including authorising agency on the label resulted in greater trust in product safety (Batrinou *et al*, 2008). Similarly, the number of consumers reporting trust in a 'GMOs-free' label increased from 20 to 30 per cent with government certification, and confidence in the proper functioning of the food supply system was associated with higher

trust in these labels (Soregaroli *et al*, 2003). The labelling of all food containing GM products, even those similar to conventionally produced products, was selected as a way to increase confidence in GM food safety by Italian consumers (Miles *et al*, 2005) and is supported by similar findings from Poortinga and Pidgeon (2004) showing mandatory labelling to be a necessary measure for maintaining trust in governance of GM food.

Nutrition and Health Claims labelling studies

All of the studies exploring trust related to nutrition and health claims labelling measured trust *in* labelling (Garretson and Burton, 2000; Nayga, 1999; Singer *et al*, 2006; Worsley and Lea, 2003; Koenigstorfer and Groeppel-Klein, 2010) and one study also measured trust *through* labelling (Garretson and Burton, 2000). Nutrition labels were subject to consumer trust judgements (Koenigstorfer and Groeppel-Klein, 2010; Worsley and Lea, 2003), particularly front-of-pack labelling and health/nutrition content claims. In a study by Singer et al. (2006) of those participants who trusted in the truth of a health claim 42-52 per cent also thought it was 'just an advertising tool' compared to 60-85 per cent for those participants who did not trust the claim. Trust in nutrition content claims varied with the claim message, the socio-demographics of the consumer (Nayga, 1999), and whether the claim was consistent with the nutrition information/facts panel (Garretson and Burton, 2000). Incongruence between health claims and the nutrition information/facts panel showed a marginally statistically significant negative impact on perceived credibility of the manufacturer when measured as a composite variable though agreement with adjective scales 'trustworthy/untrustworthy', 'dependable/not dependable' and 'honest/dishonest' (Garretson and Burton, 2000). This was only found to be the case with fat however, and not fibre; the authors concluding the perceived diagnositicity of the nutrient impacts the trust judgement (Garretson and Burton, 2000).

General labelling studies

Of the six general labelling studies, two measured trust *in* allergy labelling (Barnett *et al*, 2011; Cornelisse-Vermaat *et al*, 2007), two trust *in* (Pieniak *et al*, 2007; Van Rijswijk and Frewer, 2012) and *through* (Van Rijswijk and Frewer, 2012) traceability labelling, and two trust *in* (de Almeida *et al*, 1997; Coveney, 2008) and *through* (Coveney, 2008) labels in general. Food packaging was found to be the third most trusted source of healthy eating information for European adults (de Almeida *et al*, 1997). Traceability labelling on fish

(Pieniak *et al*, 2007), and allergy information on labels were not always trusted (Cornelisse-Vermaat *et al*, 2007), but labelling of/by certain food companies was trusted over others, usually based on perceived safety and quality of that company's products (Barnett *et al*, 2011). As with the GM studies, many consumers sought to build trust in the food supply through government endorsements on food labels, but finding this lacking, distrusted food labelling as they felt it was often simply marketing information and therefore misleading (Coveney, 2008). A number of respondents said if they found labelling was counterfeited it would result in a loss of confidence in all information about authenticity, some directly implicating producers, others 'doubting everything' (Van Rijswijk and Frewer, 2012).

Overall, these results show trust judgements did vary depending on the messenger, however there were mixed findings regarding who is most trusted to deliver food labelling information. Trust in the message was clearly dependant on the messenger, and trust in the message was foundational for developing trust in something else through labelling (food supply system or food governance), although this was rarely examined.

Critical analysis of studies – The framing of the consumer-label-trust interaction

Here studies have been grouped according to whether they presented results exploring trust in or through labelling. Nineteen studies examined trust in labelling, and eight studies examined trust through labelling (see references for these studies in Table 1).

Studies discussing trust in labelling

When the critical analysis framework was applied to these 19 studies, none were classified above Label 2 for the framing of labels, with the vast majority classified as Label 1 (13 of 19) (Table 1). These 13 studies (de Almeida *et al*, 1997; Eden *et al*, 2008c; Gerrard *et al*, 2013; Janssen and Hamm, 2012; Janssen and Hamm, 2011; Koenigstorfer and Groeppel-Klein, 2010; Mahe, 2010; Nayga, 1999; Padel and Foster, 2005; Pieniak *et al*, 2007; Sonderskov and Daugbjerg, 2011; Uysal *et al*, 2013; Worsley and Lea, 2003). Put simply, these studies framed labels as explicit messages only, with many simply measuring the level of trust in the truth of the message, for example through Likert scale agreement statements such as 'I trust this logo'. A lack of incorporation of any other labelling elements in the study methods suggests the assumption that this one explicit message can be interpreted in isolation from the rest of the labelling. Six studies (Barnett *et al*, 2011; Cornelisse-Vermaat *et al*, 2007; Essoussi and

Zahaf, 2009; Rezai *et al*, 2012; Singer *et al*, 2006; Soregaroli *et al*, 2003) did however frame labels in accordance with Label 2 criteria, in the context of being on packaging which is sending multiple concurrent messages which influence trust judgements about the label. This typically incorporated only a few other labelling elements however, such as brand or nutrition information panel, and was still only linked back to trust in one explicit label message.

The consumer representation was spread across all consumer categories in these studies. Nine (Barnett *et al*, 2011; Cornelisse-Vermaat *et al*, 2007; Gerrard *et al*, 2013; Janssen and Hamm, 2012; Janssen and Hamm, 2011; Pieniak *et al*, 2007; Rezai *et al*, 2012; Uysal *et al*, 2013; Worsley and Lea, 2003) framed consumers in their personal context (Consumer 2), and six (Eden *et al*, 2008c; Essoussi and Zahaf, 2009; Koenigstorfer and Groeppel-Klein, 2010; Padel and Foster, 2005; Sonderskov and Daugbjerg, 2011; Soregaroli *et al*, 2003) also extended this to social context (Consumer 3). Four studies (de Almeida *et al*, 1997; Mahe, 2010; Nayga, 1999; Singer *et al*, 2006) failed to frame the consumer at all (Consumer 1). In these studies the trust judgement was presented as only influenced by product characteristics; here we can see links with the conceptualising of the consumer as a rational information processor, simply responding to changes in information provision. While a number of these studies recorded socio-demographic information; this was presented as influencing the trust interaction in a linear and predictable way. The nine Consumer 2 studies framed the consumer as bringing something personal to the interaction – beyond simply their gender and age. This was done in a range of ways, from measuring familiarity with logos, to knowledge of and attitudes towards standards underpinning the assurance schemes the logo represents. The six studies that placed the consumer in their social context conceptualised other prior beliefs about actors within the system, and the functioning of the system itself interacting with their interpretation of the label, thus influencing their confidence in the label message. With the exception of one study (Koenigstorfer and Groeppel-Klein, 2010), they all focussed on topics regarding food production processes, therefore topics that lend themselves to consumers viewing themselves as part of a wider system, such as GM, eco-labelling and traceability.

Overall, the label-consumer-trust interaction representation in these studies was typically limited to personal or social context influencing trust judgements of one explicit label

message, with few studies exploring the possibility for a number of labelling elements to influence the trust judgement. However in all studies the discussion was limited to trust in the literal message communicated. A good example of the typical framing of the consumer-label-trust interaction in these studies is the statement from de Almeida et al. (1997, p. 21) and later restated by Pieniak et al. (2007, p. 123) 'food labels may be of little use [for connecting with consumers], because lack of knowledge and inability to perform simple inference-making leads to failure in decoding the information', suggesting labels play no role other than explicit information communication, which often fails due to personal characteristics of the consumer.

Studies exploring trust through labelling

All studies presenting results exploring trust through labelling were categorised at or above Interaction 2.2 (Table 1). Of the five studies classified as Label 3 (Batrinou *et al*, 2008; Coveney, 2008; Miles *et al*, 2005; Poortinga and Pidgeon, 2004; Garretson and Burton, 2000), one study (Batrinou *et al*, 2008) framed labels as avenues for making judgements about products other than those explicitly expressed by the message, and four (Coveney, 2008; Garretson and Burton, 2000; Miles *et al*, 2005; Poortinga and Pidgeon, 2004) extended this to trust judgements about actors within the system and food supply governance. For example, Garretson and Burton (2000) hypothesised that incongruence between health claims and nutrition information on labelling would impact trust judgements about the manufacturer. Coveney (2008) framed government endorsement on labelling as an avenue for building trust in food system governance. In all eight studies food labelling was conceptualised as a complex entity, communicating both explicit and implicit messages concurrently. In the three Label 2 studies however (Sirieix *et al*, 2013; Van Rijswijk and Frewer, 2012; Wier *et al*, 2008), the possibility for labels to be representatives of something more than their literal message was only discussed by participants, and not followed up by the researchers with further discussion.

Five studies (Batrinou *et al*, 2008; Garretson and Burton, 2000; Poortinga and Pidgeon, 2004; Sirieix *et al*, 2013; Wier *et al*, 2008) explored the consumers knowledge, attitudes, beliefs and values in relation to their interpretation of the label, thus framed the consumer in their personal context (Consumer 2). Three studies (Coveney, 2008; Miles *et al*, 2005; Van Rijswijk and Frewer, 2012) were categorised as Consumer 3, framing the trust interaction with labels

as being influenced by the consumers perceptions and understanding of the system and their position within it. However, as with the studies discussed above, this was typically limited to a particular market area (GM) or issue (traceability).

The representation of the consumer-label-trust interaction was more sophisticated and contextual in these eight studies compared to those above. It was conceptualised as the personal and/or social context of the consumer influencing the trust judgements of either multiple labelling elements together, or aspects of the wider food system. Still, all but two studies either did not acknowledge the social context of the consumer, or the potential for labels to influence trust in something more than an explicit message.

Incorporation of social theories of trust

In total, 23 papers were completely absent of any use of social theories of trust, or any theory relevant to trust in either methodology or analysis (Batrinou *et al*, 2008; Essoussi and Zahaf, 2009; Gerrard *et al*, 2013; Janssen and Hamm, 2011; Mahe, 2010; Miles *et al*, 2005; Pieniak *et al*, 2007; Sirieix *et al*, 2013; Soregaroli *et al*, 2003; Van Rijswijk and Frewer, 2012; Wier *et al*, 2008; de Almeida *et al*, 1997; Barnett *et al*, 2011; Cornelisse-Vermaat *et al*, 2007; Eden *et al*, 2008c; Garretson and Burton, 2000; Janssen and Hamm, 2012; Koenigstorfer and Groeppel-Klein, 2010; Nayga, 1999; Padel and Foster, 2005; Singer *et al*, 2006; Uysal *et al*, 2013; Worsley and Lea, 2003). Two papers referenced some social theory in the justification for the study (Poortinga and Pidgeon, 2004; Rezai *et al*, 2012), however Rezai et al. (2012) only did so briefly. Two further papers utilised social theories of trust more extensively; Sonderskov and Daugbjerg (2011) using theory to inform selection of explanatory variables and explain results, and Coveney (2008) basing second order analysis of results on understandings of trust development from social theory. As overall these studies were so rarely connected with social theory, definitions of trust (if provided) were typically incongruent with the definitions provided by social theories of trust. In one study it was expressed that participants 'had no option but to trust the information' [provided on the package] due to their own lack of knowledge and agency compared to the massive food industry (Eden *et al*, 2008c). Theoretically this would not be described as trust as there is no option to remove oneself from the trusting situation (Gambetta, 1988), nor would it be described as confidence as the consumer is clearly aware of and has considered the risks of trusting (Luhmann, 1979; 1988), but would be better described as dependence, or hope

(Meyer and Ward, 2013; Gambetta, 1988). This difference has significant implications for food actors' perceptions of the vulnerability of consumers, and therefore the corresponding actions required to address the problem. Often 'credible' and 'sceptical' were used as synonyms for (dis)trust and confidence, despite the fact that they have a different meaning to trust in the theoretical literature. The use of these terms potentially takes the emphasis off the trustworthiness (or not) of the system and places the focus of the problem on individual characteristics of consumers.

A number of papers also confused the function of trust, indicating assurance from stricter certification schemes builds trust (Gerrard *et al*, 2013; Janssen and Hamm, 2011; Sirieix *et al*, 2013), an example being 'Trust is built by having audit and enforcement systems in place to ensure accuracy of the label' (Sirieix *et al*, 2013, p. 150). However, rather than enhance trust these actions reduce the need for trust. Gambetta (1988) discusses that with greater restriction of possible future behaviour through contracts and other forms of coercion, uncertainty is reduced, and therefore trust becomes less relevant. Having enforcement and regulation such that noncompliance results in prosecution makes compliance with expectations almost certain, therefore reducing to a minimum the uncertainty that trust bridges. The proposed actions are mechanisms of social control used when the level of trust has been shown to be no longer sufficient for system function (Barber, 1983).

Discussion

Consumer distrust in conventional food systems presents a problem for food industry and governments alike. Trust erosion undermines expert nutrition advice and supports an ever growing movement of consumers toward unorthodox and, at times, nutritionally risky food choices and consumption patterns (Coveney 2008). The role of food labelling in fostering trust is increasingly recognised as one of many important considerations for policy to help address consumer distrust. This renders an understanding of how food labelling influences trust pertinent and focuses attention squarely on research investigating food labelling and trust. This review aimed to synthesise and critically analyse this disparate literature to identify what is and is not known about food labelling and consumer trust. The findings indicate consumers are continuously forming trust judgements related to specific products, product markets, system actors and system function in their interaction with food. It is also

clear that food labelling is a key focal point for forming these judgements, as suggested by Bildtgard (2008). This literature does not however provide a comprehensive picture of how consumers form trust judgements around food labelling.

The findings in many cases provide support for the conceptualisation of consumer trust judgements formed around food labelling proposed in Figure 5. It was repeatedly shown that trust in the messenger (a label characteristic) is fundamental for trust in the message. There were also glimpses of labelling playing a larger role in enabling consumers to form trust judgements about food systems, the actors within them and how they are governed. This however was not explored comprehensively, but rather often discussed briefly and unprompted by participants, or with reference to only one market area. This demonstrates the need for theoretical considerations of trust in relation to food labelling, with this being a key area for further empirical investigation. Thus, the conceptualisation proposed in Figure 5 may be used in future empirical research to outline unambiguously where consumers are placing trust. This in turn will enable clearer identification of what the implications of the research are. This is crucially important as currently there is evidently widespread confusion about this, as this review demonstrates. The conceptualisation could, and should, be used in both designing empirical research studies to make explicit the trust judgement being investigated, and in interpreting the results of any such study.

To be applicable and useful, future research must reflect the complexities of the interaction between consumer and label. Much of this research confirms that label messages are not judged in isolation from the rest of the package – or, indeed, the system – but that labelling is a highly complex combination of messages, the meanings of which consumers interweave with their own knowledges and understandings to make sense of food labelling (Eden, 2011). While many of these studies were strengthened by their inclusion of attitudes, beliefs and values in their conceptualisation of the consumer, the examination of these was typically narrowed specifically on a particular market issue, such as GM labelling. Research positioning consumers within the context of the functioning of the wider system overall is needed to facilitate a more complete understanding of the role of food labelling in influencing trust and confidence in food regulatory and supply systems. The analytical framework (Table 1) used here to critique studies may be used to assess the dimensions of context considered in future research. When used in combination with the conceptualisation

in Figure 5, this presents a comprehensive theoretical model. This novel theoretical model should be used in designing and conducting empirical research as it enables research to adequately reflect the complexity of consumer trust judgements. This would be a considerable step forward from the research synthesised in this review, which was only able to allude to this complexity.

A crucial limitation of the literature reviewed is the lack of incorporation of the vast body of literature in social theory mapping how trust operates. This limits the richness of the interpretations of many of these studies in the sociological sense of understanding how the relationship between trust and labelling operates. There is much to benefit from incorporating social theory in empirical research; theory may be extended by having its assumptions and presuppositions challenged with empirical evidence, while sophisticated forms of analysis and explanation enhance the generalizability and applicability of social research (Layder, 1998). 'Theory, then, should be neither a status symbol nor an optional extra in a [social] research study' (Silverman, 2013, p. 118). A primary advantage of social research is its ability to utilize theoretical ideas to provide direction for research and comprehensive, useful analysis (Silverman, 2013). If social theories of trust had been consulted to inform study methods and variables of interest, as was the case in only one study, a far deeper and more transferrable understanding of why and how consumers form trust judgements around food labelling could have been achieved.

Indeed, utilising social theories of trust in the interpretation of results of the studies presented here would have enhanced the explanatory power of this research vastly. Use of theory in research can help make the leap from simple description to explanation, to understand the 'how and why' a phenomenon occurred as it did (Punch, 2005). This enriched analysis is what makes theoretically driven social research useful for policy; it facilitates more nuanced understanding and therefore the potential for a position of greater prediction and control (Punch, 2005). Many of these papers were more focussed on categorising who-(dis)trusts-what and how this relates to purchase intention and label use. While this is useful data for some purposes, this narrow focus limits the body of knowledge regarding why this is so or what broader implications this may have. To not only know what the current state of affairs is, but also how and why this is the case will improve the success of policy development and implementation, and enhance strategies used by industry to

support consumer trust. Theoretically driven research addressing social questions is relevant 'to grasping the likely consequences of whatever policies might be initiated in relation to them' (Giddens, 1996, p. 5). If the results were placed in the context of how trust works from social theory (as proposed in Figure 5), the implications for policy may be clearer. Economically speaking, as many of the questions addressed by public policy are sociological (Giddens, 1996), using social research to inform policy decisions is likely to help prevent inefficient resource use and ill-advised decisions (Landry *et al*, 2003). Certainly, in a time of increasing competition for scarce food labelling space, understanding the generation of systems trust through the label provides a new lens to critically assess these competing demands.

There may be a number of reasons for the lack of use of theory in this research. Layder (1998) cites the specialist and segregated nature of academic publication outlets as reinforcing the separation between theoretical and empirical social research. However, a more direct reason for both the lack of trust theory and limited framing of the consumer-label-trust interaction shown here is that just over half of the studies specifically aimed to explore trust or confidence, the remaining studies examining other aims (for example willingness-to-pay for certain labels). While the aims unrelated to trust reflect worthy questions and are useful in their own right, the focussed attention on other theoretical or empirical investigation means their results regarding trust are limited for the purposes of this review (developing a comprehensive conceptualisation of food labelling and trust). However, all studies still reported results relating to trust and labelling, and therefore contribute to the body of knowledge regarding the relationship. This justifies their inclusion in this review, and opens them to critique of their methods related to their framing of the label-consumer-trust interaction.

An issue in conducting the present review was found to be the interchangeable use of a number of words with trust, where authors seem to be referring to trust but using words that are not theoretically synonymous with trust, such as 'scepticism'. Thus structuring a search to enable complete confidence that every single paper with potential relevance is included is difficult at this time. Further to this, trust has been conceptualised here as thoroughly and inclusively as possible, however we acknowledge that it is only one way to examine it. Our inclusion and exclusion criteria reflect our conceptualisation of trust, and

therefore exclude studies with operationalisations of trust that fall outside our scope. However, we have been transparent about papers excluded based on inclusion/exclusion criteria in the methods section, and the scope of both the search and conceptualisation provides a solid basis upon which to draw the above conclusions regarding empirical gaps in this field of study. A final limitation of this review is the exclusion of non-English language reports. In particular there may be relevant data in the Swedish doctoral thesis presented by Bildtgard. Due to practical resource and time constraints inclusion of non-English reports was not possible.

Finally, very little of this work was conducted outside of Europe, with the majority in the United Kingdom. Differences in political environment and food supply system structure, food regulation, as well as food culture may be expected to influence the consumer-label-trust interaction, therefore results from Europe alone cannot necessarily be generalised worldwide. Additionally, controversial food technologies and upcoming markets dominated the type of food labels studied, with only one focussing on the label as it is received by the consumer – as a whole. Therefore the general, broad role of food labels in building trust, not in relation to any particular issue, remains unexplored.

Conclusions

It is commonly cited by policy makers and academics that food labelling reinforces confidence and trust in food regulatory and supply systems. Deep consideration of this statement suggests consumers may not only have trust *in* food labelling, but potentially develop trust in the wider food system *through* food labelling. This review makes clear that this relationship remains to be investigated empirically; current literature examining trust in relation to labelling predominantly exploring trust *in* labelling, with very little entertaining the possibility of trust *through* food labelling. This is because to date, few studies have comprehensively conceptualised labelling as anything other than a direct message communicated to consumers. Thus the potential role of food labelling in engendering trust in food systems through being a representative of them remains largely unexplored. Additionally, the vast majority of research investigating trust in relation to food labelling is atheoretical. As such, a very common conclusion and policy recommendation offered by these papers is to increase assurance through strict governance and enforcement of

labelling, as this builds consumer trust in food systems; however this confuses the role of trust. Trust is needed where there is no assurance, trust is the bridging of uncertainty and lack of knowledge; trust is vulnerability.

The fragmented and unfocussed nature of the findings of this literature exploring trust and food labelling widely opens the door to further empirical study. Future research must comprehensively conceptualise the consumer-label-trust interaction to provide a complete picture of how trust works in relation to labelling. Research must move past a narrow, literal view of food labelling, and explore the symbolic, representative role labels may have. Here we have provided a means to move forward with this research through the proposal of a novel and theoretically informed model.

Orienting theoretical concepts, research gaps and questions

The preceding reviews of the literature (Chapters 2.1 and 2.2) were used to identify gaps in current knowledge (Figure 7, below). Theoretical concepts important for further consideration in the empirical investigations of trust, although themselves not presenting research gaps (therefore referred to as orienting theoretical concepts), were also synthesised from the preceding literature reviews. The orienting theoretical concepts and research gaps subsequently drove the development of the research questions used to inform the empirical investigations presented in Part 3.

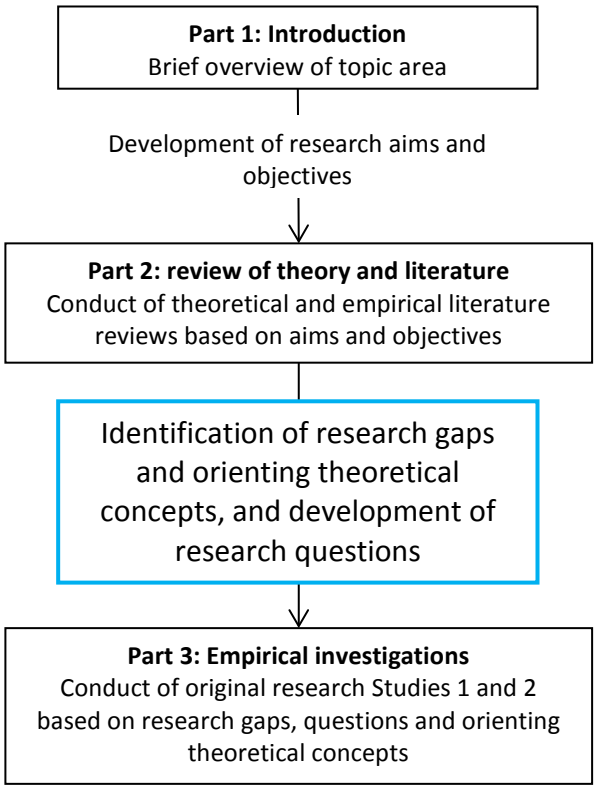

Figure 7. The process of the research, with the currently pertinent section enlarged and outlined in blue.

The research gaps and orienting theoretical concepts are presented below. This section, and therefore Part 2, then concludes with a presentation of the research questions.

Orienting theoretical concepts

Chapter 2.1 provided a synthesis of the following orienting theoretical concepts and ideas, demonstrating the utility of considering them in empirical investigations of trust. These ideas/concepts were used to theoretically orient the research questions and design of the empirical investigations presented in Part 3. They are as follows:

- 'Facework' (interpersonal) as distinct from 'faceless' (system/institutional) trust
- Consumer belief in the integrity of system actors leading to trust in the function of abstract systems
- Consumer belief in the legitimacy of wider systems of expert knowledge underpinning the system leading to trust in abstract systems
- Access points and symbolic tokens influencing faceless trust
- Access points embodying and representing the principles of abstract systems
- Access points as a surrogate for personal interaction in abstract systems
- The foci for trust; here trust *in* versus trust *through* labelling
- Reflexivity and its role in risk, uncertainty and trust
- Choice; active compared to habitual trust

Research gaps

Chapter 2.2 demonstrates that the literature examining labelling and trust has almost entirely focused on trust *in* labelling, with no research comprehensively and holistically examining trust *through* labelling. As such, limited empirical research has investigated how food labelling influences consumer trust in food systems; in particular, no research of this nature has been conducted in Australia. The limited empirical research that has been conducted is largely atheoretical, with the only studies utilising trust theory with regards to food labelling being focussed exclusively on certification schemes. Research positioning labelling as a whole in a theoretical framework of trust is absent.

Further research is also needed to clarify whether Australian consumers are reflexive about trusting in the food system, and how food labelling might influence this. Additionally, there is a paucity of literature exploring the role labelling plays in the interaction of perceived food risks, uncertainty and trust in food for consumers. While there has been research investigating the perceived integrity of and trust in actors associated with the food system from the perspective of Australian consumers, how food labelling influences this is yet to be studied. There has also been no study of how Australian food label elements, together and separately, might build, maintain or jeopardise trust in the Australian food system. Finally, here has been no research examining the response of regulators and policy makers to issues

around how labelling influences consumer trust in the food system. These research gaps provide an opening for the following research questions.

Research questions

1. How are consumer trust judgements formed around labelling?
    a. How do consumers construct meaning related to trust in their interaction with food labelling?
    b. What labelling elements are important in influencing trust construction?
        i. What combinations of these elements are supportive and destructive of trust?
    c. What consumer characteristics are important in influencing trust construction?

2. What are the trust judgements formed through labelling?
    a. How does food labelling influence trust judgements about:
        i. System actors?
        ii. System governance?
    b. What are the judgements formed?
    c. What expectations form the basis of these judgements for consumers?
        i. What do consumers understand from food labelling about these expectations?
        ii. What do consumers require in response to violated expectations?

3. How does food labelling enable consumers to manage uncertainty about food?
    a. How is food risk framed by consumers?
    b. What role does food labelling play for consumers regarding risk?
    c. How does food labelling enable consumers to deal with uncertainty about personally uncontrollable food risks?

4. What are the responses of those involved with labelling, labelling policy, labelling regulation, or consumer law enforcement to consumer perspectives on food labelling and trust?
    a. Do these actors see the findings as problematic?
    b. What do they see as the cause(s) of these issues?
        i. Is it possible to address these?
    c. What are the implications of the findings of this research for:
        i. The organisations
        ii. The food system more broadly

PART 3. EMPIRICAL INVESTIGATIONS

Part 3 is the empirical component of the thesis. This part reports on original research Studies 1 and 2, which were informed by the research gaps, questions and orienting theoretical concepts developed in Part 2 (Figure 8, below).

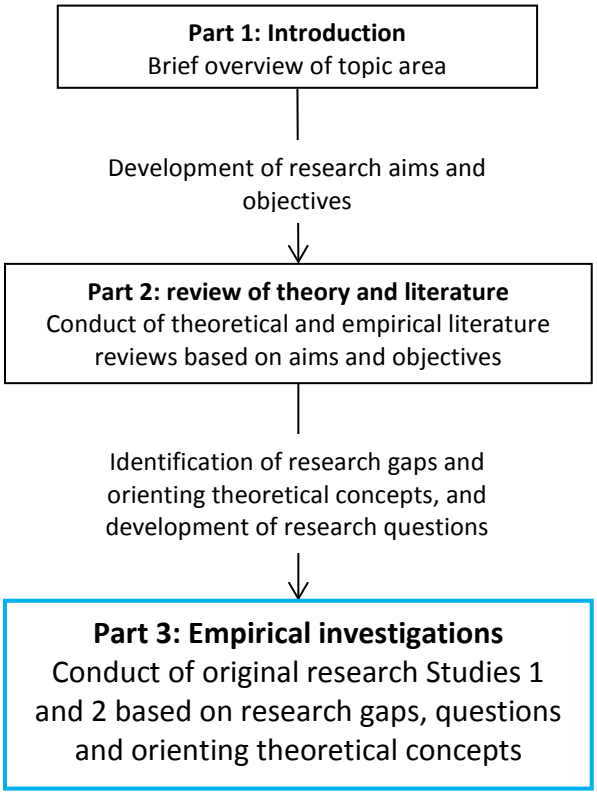

Figure 8. The process of the research, with the currently pertinent section enlarged and outlined in blue.

Part 3 comprises four manuscripts with an additional section of supporting material. The first section presents the supplemental material providing an overview of the methodological foundations of Studies 1 and 2. This section describes and justifies the overall epistemological and methodological approaches, and details methods not reported in the subsequent manuscripts because they relate to the study overall, rather than specific analyses. The section concludes with an illustration of how the subsequent manuscripts are conceptually connected. Chapters 3.1, 3.2 and 3.3 report the background, methods, findings and discussion of Study 1 (the study with consumers), while Chapter 3.4 reports the background, methods, findings and discussion of Study 2 (the study with food governance actors).

Overview of project methodology

Epistemological position

In this research I adopted a social constructionist epistemological position. Social constructionism was introduced when the sociologists Berger and Luckmann (1966) published their landmark text *The Social Construction of Reality: a treatise in the sociology of knowledge* in 1966. Berger and Luckmann (1966) acknowledge the foundational insights provided by the 19th and 20th century philosopher-sociologists Weber, Schultz and Durkheim in the systematic account of the role of knowledge in society presented in their cornerstone text. *The Social Construction of Reality* was written, and social constructionism was therefore proposed, in response to perceived inadequacies in purely functionalist and structuralist approaches to sociological enquiry. It therefore provides 'a systematic accounting of the dialectical relation between the structural realities and the human enterprise of constructing realities' (Berger and Luckmann, 1966, p. 208); that is, an account emphasising internal reality as the union of the subjective and the objective (Gergen, 1985; Crotty, 1998). As such, constructionism moves beyond classical debates between empiricism and rationalism to highlight the construction of knowledge and reality through social interchange (Gergen, 1985). It positions knowledge and the meaning of what is real as 'an internal representation of the state of nature' (Gergen, 1985, p. 271). Here meaningful construction of reality is thought of as the way reality is seen and reacted to (Crotty, 1998). Social constructionism assumes that all reality, understood through its meaning, is constructed and sustained by human interaction in and out of the world, and this occurs through and is sustained by social context (Crotty, 1998; Patton, 2002; Bryman, 2012; Gergen, 1985). The assumption here is that all reality is understood by its meaning to us; in other words, things cannot have reality without having a meaning. Thus social constructionism posits that there is no one truth to be discovered, but a multiplicity of knowledges and interpretations of reality possible that are equally valid, although not equally useful (Crotty, 1998; Patton, 2002).

Social constructionism is an appropriate epistemological position for this research as the thesis topic centralises the idea of multiple meaningful realities that are constructed through interaction of the subjective and objective. Here the participants are the subjects and either food labelling and the food system (Study 1), or the findings presented to them (Study 2), are seen as objects. The interaction between participants and their respective objects are of

central research focus, both seen to influence the construction of meaning, and therefore displaying a union of the subjective and objective such as that defined in both Berger and Luckmann's (1966) original, and Crotty's later description of constructionism (1998). Additionally, social constructionism provides the foundation for the conduct of the research, the researcher as 'subject' and interactions investigated as 'object'. In this way I, as the researcher, influenced the meaning generated from the research, and the knowledge it generated, as the outcomes of the research are meaningful constructions of reality (Nicholls, 2009a). This interpretation was shaped by my position as a consumer, a trained dietitian and researcher with knowledge of social theories of trust. This interpretation is valuable and useful as often members of social groups fail to recognise the dominant constructions that shape the knowledges of these groups, and therefore these discourses and constructions remain unchallenged (Meghani and Kuzma, 2011).

Methodological approach

Adaptive theory (Layder 1998) was the methodological approach used for this research. Adaptive theory has been previously used in research extensively utilising social theoretical insights (Gross, 2007; Scott and Carr, 2003; Bessant and Francis, 2005), research explicitly seeking to examine both agentic and structural outcome influencers (Hewege and Perera, 2013), and also research working broadly within a social constructionist perspective (Emlet *et al*, 2011; Gordon *et al*, 2012). While having origins in critical realism (Thomas and James, 2006), as adaptive theory is used here it remains consistent with the underlying epistemology of the research, social constructionism, from a number of viewpoints.

First, from the perspective of the approach to research from the researcher, adaptive theory acknowledges that what the researcher brings to the research is not a clean slate but rather a way of seeing the data coloured by previous experiences (Layder, 1998). For example in my case, my approach to project planning and analysis of emerging data was influenced by knowledge developed though reviewing literature on social theories of trust. In adaptive theory this is not to be rejected but embraced as a way of thoroughly connecting the work with specific and more general theoretical discussions (Bessant and Francis, 2005). At the same time, adaptive theory requires the researcher to give equal consideration to unanticipated findings and also fresh theoretical insights that emerge from the data (Layder,

1998). Therefore the knowledge and meaning constructed from the data in the form of new theory was generated through interaction between researcher (subject) and what I brought to the interaction subjectively, and the data (object). As adaptive theory embraces both objectivism and subjectivism (Hewege and Perera, 2013; Layder, 1998), and this union is right at the heart of social constructionism (Crotty 1998) in this way it is consistent with a social constructionist epistemology.

Second, the approach to issues of agency and structure of adaptive theory acknowledges that consumers construct meaning in relation to labelling in and out of interaction with social reality (Layder, 1998). While it may be seen that any focus on structure as a generative mechanism is positivistic, here social structures are not conceptualised as essential phenomena simply exerting an influence on consumers, but institutions, cultures and practices created and sustained through social interaction, as consistent with social constructionism (Hewege and Perera, 2013; Van Gramberg, 2006; Gergen, 1985). The primary reasons for the choice of adaptive theory are outlined below.

Adaptive theory blends extant theory and empirical data

The chief aim of adaptive theory is to combine the use of pre-existing theory and empirical data to generate new or extend existing theory that is both grounded in and relevant to current bodies of theory (both general and substantive) and empirical findings (Layder, 1998). A constant communication between existing and novel theory is achieved by conducting reviews of the relevant literature and theory prior to beginning empirical work to generate a 'soft skeletal framework' of orientating ideas and sensitising concepts (Bessant and Francis, 2005) and then continuing to examine emerging data in the light of these concepts, but also examining extant theory in the light of empirical data (Layder, 1998). In this way potentially useful explanatory theory is not ignored but adapted in the light of new empirical findings. The benefit of this approach is that emerging theory is not cut off from the ongoing established body of theoretical concepts and ideas, but firmly applicable and locatable in current knowledge bases. In this way, analysis combines both inductive and deductive techniques (Hewege and Perera, 2013; Layder, 1998).

This approach was useful for the current research as a large body of sociological theory is devoted to an understanding of trust, with trust being a heavily conceptualised social

phenomenon. However, little of this work is grounded in empirical data, and few theoretical or empirical studies have explored trust in relation to food labelling. Thus, while it was beneficial to utilise existing theory to orient research regarding trust and food labelling, and to connect analysis with concepts from theory, to generate useful novel theory it was also important to remain open to empirical areas not delineated by existing theory also. This becomes possible through the use of adaptive theory.

Adaptive theory acknowledges elements of both structure and agency

Adaptive theory aims to bring to the fore the connections between both agency and structure in social research; giving neither predominance but recognising that social structures (themselves created and sustained by society) and personal meanings contribute to the layered and contextual nature of social reality (Van Gramberg, 2006; Hewege and Perera, 2013). In this way, adaptive theory emphasises the exploration of generative elements associated with both structure and agency (Hewege and Perera, 2013). While Layder's method has been criticised for at times not giving enough weight to considerations of agency, the current research struck a balance between these by using in-depth interviewing in combination with adaptive theory. Elements of agency and structure have previously been outlined as important generative mechanisms for trust in food systems (Bildtgard, 2008), thus it was important to give equal weight to both in this empirical exploration of trust and food labelling.

Adaptive theory emphasises flexibility with data collection

A crucial element to the adaptive theory approach is the flexibility with which data collection is to be conducted (Layder, 1998). Layder (1998, p. 43) explicitly specifies that it is essential that the research should 'respond quickly and flexibly – in terms of changing conceptual framework in relation to unanticipated data and changing ideas.' This enables an unfolding study design, with changes to methods used and conduct of methods likely to be essential to collect pertinent data for novel theory generation (Scott and Carr, 2003). This approach is particularly relevant to the research at hand as the topic for investigation, trust *through* food labelling, has remained largely unexplored and consequently appropriate methods for obtaining data on the topic are uncertain.

Methods

Two studies were conducted to address the research questions presented in Part 2. The manuscripts contain details of the methods of each study, but these shall be briefly outlined here to provide context. Study 1 was a consumer focussed study addressing research questions 1-3 and is reported in Chapters 3.1, 3.2 and 3.3. Study 2 explores governance actors' responses to the consumer perspectives presented in the findings of Study 1 (research question 4), and therefore included participants involved in food labelling regulation, policy or enforcement roles in Australia and New Zealand. Study 2 is reported in Chapter 3.4.

Both Study 1 and 2 used in-depth interviewing as the primary data collection method. This approach was chosen as the purpose of both studies is to understand and explain constructions of meaning, and interviewing enables the researcher to appreciate the participant's perspective and understand the meanings they attach to the world as they see it, which is not possible through other methods that might be employed here, for example participant observation (Patton, 2002; Silverman, 2013; Minichiello *et al*, 2008). In-depth interviewing is consistent with the underlying epistemological position of social constructionism as it assumes the participant's perspective is meaningful and knowable (Patton, 2002; Crotty, 1998; Minichiello *et al*, 2008). In Study 1, participants' interactions with real food packages that were used as interview prompts were also observed and noted as part of data collection. Detailed methods for each study are reported in the following chapters.

Study 1 set out to address research objectives 1-3

- To describe and explain how consumers construct meaning in their interaction with food labelling
- To describe and explain how food labelling influences trust in the Australian food system
- To describe and explain how consumers use labelling in the management of uncertainty relating to food risk

Study 2 set out to address research objective 4

- To determine the implications of consumer perspectives on food labelling and trust for food system governance actors

Rigour

What constitutes quality in qualitative research and the language used to reflect research rigour is by no means uncontested (Fade, 2003; Morse *et al*, 2002; Nicholls, 2009b; Denzin and Lincoln, 2011). Acknowledging these ongoing debates, here the dimensions of credibility, transferability, dependability, confirmability and authenticity were used as key indicators of research quality (Nicholls, 2009b). The strategies used throughout the research process to ensure these quality outcomes were met were those adapted from Morse *et al* (2002) and outlined by Nicholls (2009b): methodological coherence, concurrent collection and analysis of data, theoretical thinking and theory development, investigator responsiveness (reflective practice), sampling sufficiency, and verification strategies. The strategies for methodological coherence have been demonstrated in the above discussion of the epistemological and methodological approach. Concurrent collection and analysis of data, theoretical thinking and theory development strategies are demonstrated in the section describing the study analysis, and are underpinned by the choice of methodological approach. In addition to the measures taken to meet the remaining strategies that are reported in each manuscript, measures that apply to the research overall are outlined below.

Investigator responsiveness

Investigator responsiveness is described as the ability of the researcher to 'remain open, use sensitivity, creativity and insight and be willing to relinquish any ideas that are poorly supported' (Morse *et al*, 2002, p. 18). This is similar to the concept of reflexivity in research (Denzin and Lincoln, 2011). This concept is also a central tenet of adaptive theory (Layder, 1998) and social constructionism. As such, investigator responsiveness was considered paramount during all stages of the research process in both studies. Additionally, acknowledging and being reflexively aware of my own position as a consumer and therefore the perspective that I bring to the research as both a consumer, and a trained dietitian was important during both data collection and analysis. Examples of investigator responsiveness,

where research protocols were flexibly adapted and changed throughout the data collection process to ensure the analytic goals of the research were met, are presented below.

Interview structure

The pilot of the interview schedule for Study 2 was a very valuable learning experience. Participants struggled much more than I had anticipated to grasp the interview content, and I radically rephrased the information presented to them and the interview schedule based on this experience. Nevertheless, I found in the early interviews that some Study 2 participants were confronted by the interview content, which set up an adversarial/defensive tone for the interviews. Utilising advice and the experience of my supervisors, I restructured the interview schedule again to begin the interview with questions regarding how consistent the content drawn from consumer interviews was with governance actors' experiences, and asking them if they had any questions about the content. This gave participants the opportunity to openly express their opinions and allowed me to address their concerns, enabling a much more collaborative environment and relationship with the participants, positively influencing the depth and authenticity of the data collected (Nicholls, 2009c).

Definition of 'Labelling'

Quickly I learned that I was constructing Study 1 interviews around my personal definition of 'food labelling', which was not necessarily congruent with that of the consumer. Thus it was important to explore early on in the interview how consumers defined food labelling. This was incorporated as a direct question, usually to begin the interview (the interview guide used to loosely structure the interviews can be found in Appendix C). Knowledge of their definition of labelling provided a starting point for the interview, and prevented misunderstandings relating to how broad or specific their comments relating to 'food labelling' were intended to be (for example, specifically related to nutritional information, or related to the entire package).

Language used

It became apparent that a number of the terms I was using during interviews for Study 1, such as 'regulation', were too technical for many participants and therefore producing a barrier to clear communication and understanding in both directions. Not only did this halt

conversation flow and result in off-topic answers from participants, it also created a clear knowledge distinction between interviewer and interviewee which caused participants to be less confident in their responses and opinions, and defer more to me for what they saw as the 'answers' with comments like 'you could probably tell me'. I consciously sought to adapt the language used during Study 1 interviews to a more accessible level and use the language used by the participants themselves.

Sampling sufficiency

In addition to the information provided in the papers regarding sampling saturation, a recruitment grid was constructed for Study 1, and is attached as Appendix D. This grid was developed to delineate the theoretically determined areas to be focussed on in recruitment, ensuring all potential perspectives would be represented, including potentially negative cases (Morse *et al*, 2002; Nicholls, 2009c; Nicholls, 2009b). It is important to note that in the manuscripts reporting Study 1, the multiple dimensions of the sampling strategy are differently emphasised to reflect the manuscript topic. In keeping with the principle of investigator responsiveness, and the methodological approach of adaptive theory, this sampling strategy remained flexible during recruitment, with different groups being targeted in light of new developments in data analysis, which progressed in tandem with data collection (Morse *et al*, 2002; Layder, 1998). This same principle was applied in Study 2, with a preliminary list of organisations to be recruited from (which is not available here due to issues of anonymity) adapted and updated during data collection to ensure participants with the most knowledge and expertise, and therefore those who could provide the most relevant data, were interviewed.

Verification strategies

The verification strategy (often referred to as member checking) utilised in this research follows that outlined by Morse et al (2002) and the original description of member checks as described by Guba and Lincoln (1981). Here, member checks are incorporated throughout the data collection rather than providing participants with the research outputs at the end. Therefore I consciously summarised participants' responses during interviews, sometimes switching to more theoretical language to ensure my interpretation was how the participant had meant their comment to be understood, and the application of it was appropriate. An example of how this was done was a statement prefaced with 'So just to make sure I have

understood you correctly, you are saying that…' I also clarified participants' meaning through posing hypothetical scenarios to participants, an example of this being the question 'so you mean that if the lollies had the "99% fat free" claim this would bother you, but it wouldn't if it was on milk for example?' On occasion misunderstandings had occurred and were corrected through the use of these checking processes. Additionally, extensive theoretical memos incorporating data analysis, theoretical literature and adaptions to the research process were kept in hard-copy research journals throughout the entire research process (Nicholls, 2009b).

Analysis

While individual details of the analysis process are reported in each of the following manuscripts, the overall approach to analysis and reporting of Study 1 needs further explication here as it is reported across multiple manuscripts, and is elaborated in Figure 9, below.

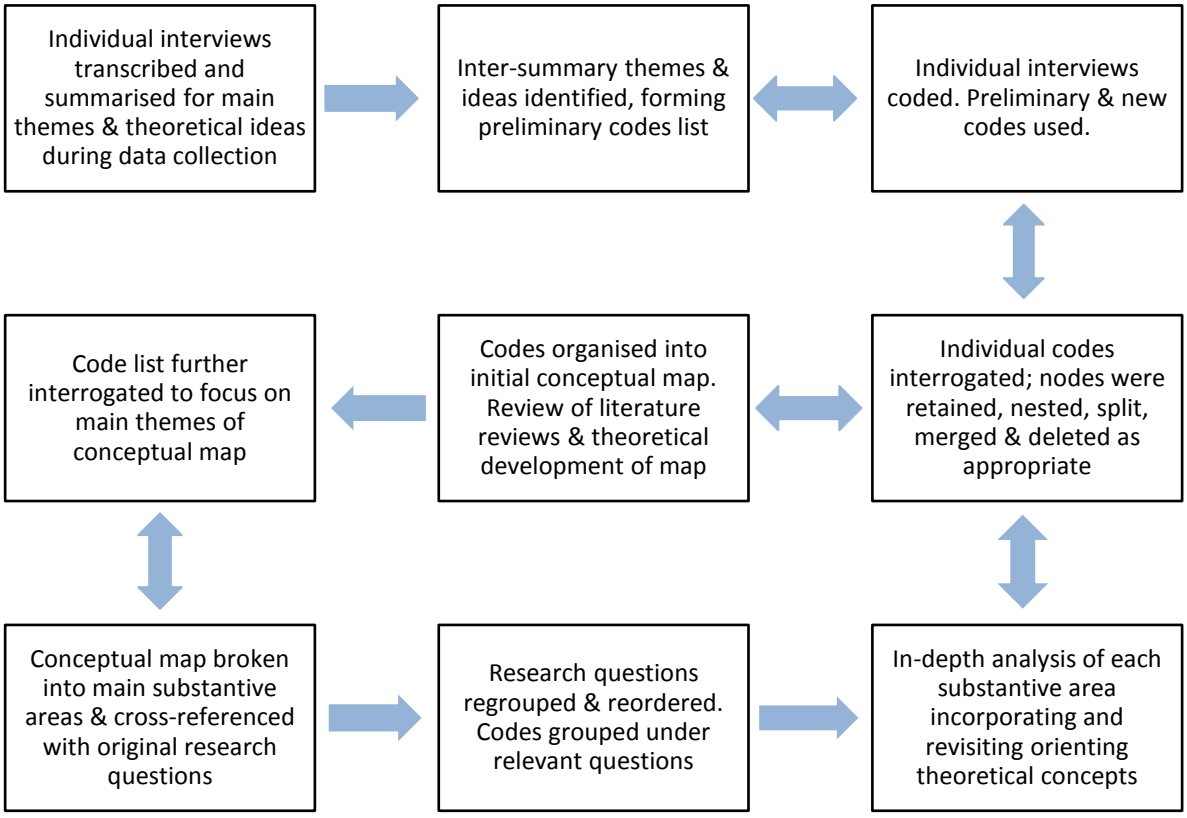

Figure 9. Analysis pathway for Study 1

Analysis followed that outlined in adaptive theory (Layder, 1998), importantly with data collection and analysis occurring in tandem and in constant connection with the orienting theoretical concepts outlined in Part 2. I, alone, completed all transcription and coding of the interviews following the guiding principles of Layder (1998) and Saldana (2013), and discussed coding decisions with my supervision team. Once the codes list had been finalised, codes were grouped into the main linked areas, resulting in a preliminary conceptual map linking the concepts identified by participants together (Figure 10). Three main, related themes emerged, forming the basis for the three manuscripts. Theme 1 concerns the process by which consumers interact with food labelling. Theme 2 extends the first theme, focusing on the outcomes of the process of interaction as they relate to the formation of trust judgements. Theme 3 centred on how participants perceived food risks, and the role of labelling in enabling them to manage these risks.

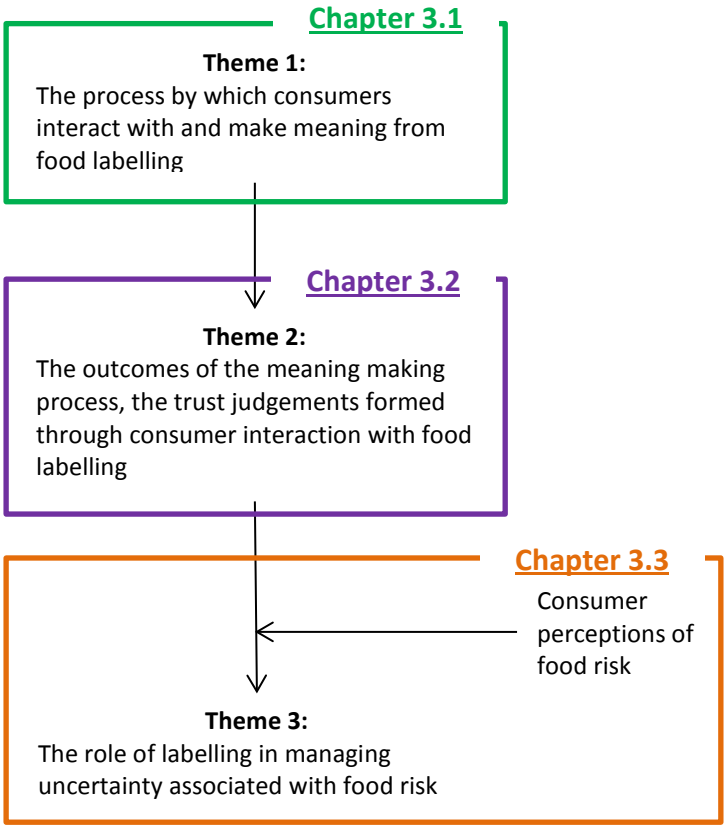

Figure 10. Early conceptual map used to structure Study 1 analysis

These related areas were then cross-referenced with the original research questions and orienting theoretical concepts. The research questions were therefore reordered and regrouped to reflect both theory and the themes in the data. Codes were then grouped

under the relevant questions, and as such three substantive areas for detailed analysis were uncovered. These are identified on Figure 10 using coloured lines. Detailed analysis of each substantive area was then carried out as described in the manuscripts.

Figure 10 demonstrates the links between the analyses reported in Chapters 3.1 (manuscript 1), 3.2 (manuscript 2) and 3.3 (manuscript 3); that is, all three manuscripts discuss aspects of the same overall process, but focus of different parts as indicated by the coloured boxes. Chapter 3.1 examines the *process* of consumer interaction with, and the formation of trust related judgements through, labelling. Consistent with a focus on the *process* of interaction, in Chapter 3.1 the findings are analysed in the context of previous literature examining the cognitive and emotional foundations of trust. In Chapter 3.2 the focus is on the outcomes of the process explored in 3.1; therefore this manuscript is an extension of the ideas developed in the preceding chapter. As such Chapter 3.2 deconstructs the broad trust judgements introduced in 3.1 to its component parts, examining participants' judgements about the trustworthiness of the separate actors they identify as part of the food system. In Chapter 3.2 the findings are discussed in the context of literature exploring potential indicators of trustworthiness, those found to be most relevant in this context being competence and goodwill. While Chapter 3.3 predominantly focusses on participants' perceptions of food risks and how labelling is used in the management of uncertainty associated with these, trust in industry, government and the food system is an undercurrent of this discussion, and will be further illuminated in the thesis discussion in Part 4.

Chapter 3.1. The process of making trust related judgements through interaction with food labelling – a consumer study

Preface

This published manuscript represents Study 1 findings related to research question 1, and all sub-questions, these being:

1. How are trust judgements formed around labelling?
    a. How do consumers construct meaning related to trust in their interaction with food labelling?
    b. What labelling elements are important in influencing trust construction?
        i. What combinations of these elements are supportive and destructive of trust?
    c. What consumer characteristics are important in influencing trust construction?

The manuscript discussion explores the implications of the findings for industry, public health bodies and government. This paper has been peer-reviewed and recently accepted for publication with the citation,

Tonkin, E, Meyer, SB, Coveney, J, Webb, T & Wilson, AM (2016), The process of making trust related judgements through interaction with food labelling – a consumer study, *Food Policy* vol. 63, pp. 1-11, DOI:10.1016/j.foodpol.2016.06.007

Abstract

There is both empirical and theoretical research supporting the idea that consumers' interaction with food labelling impacts on their trust in the food system and its actors. This paper explores *the process by which* consumers' interpretation of, and interaction with, labelling results in the formation of trust related judgements. In-depth, semi-structured interviews with 24 Australian consumers were conducted. Theoretical sampling was used to gather a wide range of consumer perspectives. Real food packages were used as prompts for discussion in interviews, with one interview section requiring participants to examine particular products while thinking aloud. Process and thematic coding were used in transcript analysis. Labelling was seen by participants as a direct and active communication with 'labellers'. The messages communicated by individual label elements were interpreted more broadly than their regulatory definitions and were integrated during the process of making sense of labelling. This enabled participants to form trust related judgements through interaction with labelling. Finally, product and consumer characteristics varied participants' judgements about the same or similar label elements and products. Divergence in consumer and regulatory interpretations of labelling creates a situation where labelling may be both fully compliant with all relevant legislation and regulation, and still be perceived as misleading by consumers. This suggests that the rational frameworks that policy seeks to overlay on consumers when considering food labelling regulation may be hindering consumer belief in the trustworthiness of labellers. Policy must recognise the different, yet equally legitimate, ways of interpreting labelling if it is to foster, and not undermine, consumer trust in the food system generally.

Introduction

For consumers in many industrialised countries, personal encounters with food producers and regulators are a rarity. The operation of the food system is so far from everyday thought that the vast majority of consumers are unable to even name the bodies responsible for its regulation (FSANZ, 2008). Yet the entire cycle of food production and consumption is a high risk endeavour (Speybroeck *et al*, 2015). Food consumption involves both high vulnerability to, and uncertainty regarding, food risks for consumers (Ward *et al*, 2012; Verbeke *et al*, 2007). Thus with very little relative personal control to manage perceived risks in practical terms (Dixon and Banwell, 2004), trust in the food system is essential. Food labelling is one

of the primary methods of contact with the food system for most consumers (FSANZ, 2008) (see Figure 11 for relevant examples of definitions), with industry and government primarily seen as 'labellers', or the face of the food system (Tonkin *et al*, 2016b). Thus gaining an understanding of *how* food labelling influences trust in food system actors is important. This paper reports an exploratory, qualitative study investigating *the process by which* consumer interaction with food labelling influences their trust related judgements about labellers.

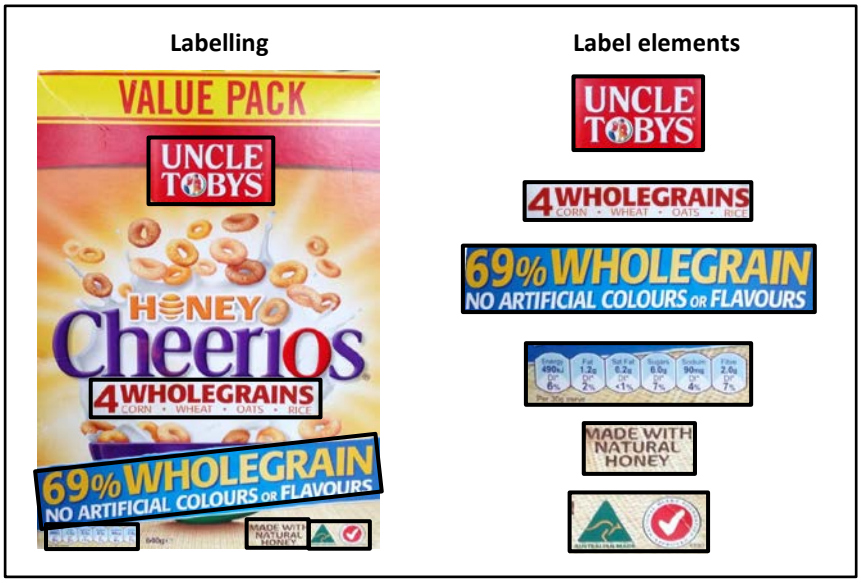

Figure 11. Examples demonstrating the usage of the terms labelling and label element within this paper

That consumers interpret labelling information in an effort to come to a purchasing decision is axiomatic. Consumers seek and utilise factual information relating to product characteristics, for example ingredients lists, in making food choices. However a further role of labelling, unrelated to food choice, has been suggested; one made possible by locating food labelling at the interface of consumers and the food system. Einsiedel (2002) proposes that food labelling is an avenue for building and restoring consumer confidence in food systems. Similarly, in a Government commissioned report on food labelling in Australia Blewett *et al* (2011) explicitly state that food labelling reinforces consumer knowledge of, and trust in, the food system. As such, this paper explores the dimension of labelling interpretation that does not relate directly to consumer attitudes or purchasing decisions. Herein we take a novel perspective and examine *the process by which* the interaction consumers have with labelling influences their trust related judgements about labellers. We use 'interpret' to define occasions where consumers read and generate a simple message

from a label element. 'Interaction' refers to the much larger meaning making process, where other factors influence the meaning consumers make from this interpretation.

In conceptualising trust this paper predominantly utilises the perspective of Lewis and Weigert (1985). Lewis and Weigert (1985) emphasise that trust is a social concept, and not a purely psychological construct as presented in much psychometric research aiming to measure trust. Therefore in its social context, it is often too simplistic to frame trust as a dichotomy of 'trust' and 'distrust', but rather trust is a generalised social reality that can be strengthened or weakened through social interaction (Lewis and Weigert, 1985). As such, trust is not a variable but a multidimensional and complex process that is reflexively worked on in the maintenance of social relations (Khodyakov, 2007).

In this conceptualisation, trust is seen as having multiple bases; 'It has distinct cognitive, emotional and behavioural dimensions which are merged into a unitary social experience' (Lewis and Weigert, 1985). The cognitive base for trust can be thought of as our choice to trust and our reasons for doing so—our 'evidence' of trustworthiness. Complementary to the cognitive base of trust is the emotional base; this affective foundation for trust is the emotional bond between the trustor and the person, group or system in whom they place trust (Lewis and Weigert, 1985). The delineation of the affective and cognitive dimensions is not meant to suggest however that the affective aspect is not cognitive; affective states can be founded on cognitive components (Jones, 1996). The cognitive and emotional bases of trust are interconnecting and reciprocally supporting (Mollering, 2006), but individually more or less relied upon in different social situations (Lewis and Weigert, 1985). As such, we might suggest trust in the food system is more reliant on the cognitive bases of trust given its relatively impersonal nature. However we can see that the emotional base is also foundational for trust in the food system through the outcome of its violation – the emotional indignation, often resulting in outrage, with which the public responds to perceived breaches of trust in food systems. An example of this is that supermarket and grocery stores consistently rank in the top 10 industries for consumer complaints to the Australian Competition and Consumer Commission (ACCC) [1] (Australian Competition and

[1] The ACCC is responsible for enforcing the Competition and Consumer Act 2010, which promotes fair trade in markets to protect consumers and businesses. Complaints and inquiries may relate to unfair trading or unsafe products. Misleading and deceptive conduct in food labelling is addressed by the ACCC.

Consumer Commission, 2015). 'Trust in everyday life is a *mix* of feeling and rational thinking, and so to exclude one or the other from the analysis of trust leads only to misconceptions that conflate trust with faith or prediction' (Lewis and Weigert, 1985, p. 972, emphasis in original).

While not wholly explaining trusting behaviour, indicators of perceived trustworthiness influence these bases for trust and therefore are important in the formation and maintenance of trusting relations (Barber, 1983; Mollering, 2006). Mollering (2006, p. 48) suggests a trustworthy actor is someone who 'is *able* and *willing* and *consistent* in not exploiting the trustor's vulnerability' (emphasis in original). Similarly, Poppe and Kjaernes (2003, p. 89) state that 'without much doubt, truth-telling is a valid trust dimension'. Perceived abuses of trust, such as manipulation or deception of trustees, influence how trustworthy a social actor is seen to be (Khodyakov, 2007; Lewis and Weigert, 1985). Therefore here, we encompass consumer judgements of credibility, truthfulness, honesty and willingness to be trustworthy (or absence of this in the form of deception and manipulation) with the phrase 'trust related judgements', and identify these as judgements which impact assessments of the trustworthiness of social actors (herein labellers). While we can never completely know whether the trusted party is indeed trustworthy, and as such trusting always requires a leap of faith (Giddens, 1990; Luhmann, 1979; Simmel, 1978), trust is dynamic and trust related judgements can be updated and reflexively considered when new information is presented, for example through social interaction (Mollering, 2006). Importantly, this may not always take the form of analytical and systematic consideration, with affective responses that 'occur rapidly and automatically' an important and useful pathway for decision making (Slovic *et al*, 2004, p. 312). As consumer encounters with food labelling may be thought of as social interactions, here we focus on *the process by which* they influence consumer judgements related to trust, and the consumer and labelling factors that influence this.

An essential starting point for this exploration is explicitly defining the foci for trust judgements made around labelling. We previously distinguished between trust *in* and *through* labelling (Tonkin *et al*, 2015). When trusting *in* labelling consumers place trust in the truth of the message. For example, consumers' judgements of a Fairtrade logo as believable, true and reliable might be framed as their trust *in* that label element. Conversely, Garretson

and Burton (2000) provide a good example of trust *through* labelling in their study showing perceptions of manufacturer credibility (a composite measure that included a (un)trustworthy component) is reduced when front-of-pack nutrition claims are inconsistent with the detailed nutrition information on the back. In this way label elements communicating technical information are used to form trust related judgements about something other than that technical message; trust in the manufacturer is influenced *through interaction* with the communication medium of labelling. In the case of Garretson and Burton's (2000) study the focus of the trust related judgement was the manufacturer, but other studies have shown trust judgements about food safety (Batrinou *et al*, 2008), food governance (Poortinga and Pidgeon, 2004) and specific food actors and the food supply in general (Coveney, 2008; Van Rijswijk and Frewer, 2012) can be formed *through* labelling. Thus, while acknowledging the importance of trust *in* labelling, this paper wholly focusses on the process of trust *through* labelling.

There is both theoretical (Tonkin *et al. forthcoming*, (Bildtgard, 2008), and some empirical evidence that consumers' interaction with food labelling influences their trust in the food system (Batrinou *et al*, 2008; Garretson and Burton, 2000; Poortinga and Pidgeon, 2004). However, the literature examining *how* the interaction influences trust, the process of forming trust related judgements through labelling, is sparse and disconnected. For example, Eden (2011) provides evidence that consumer factors such as personal typologies of 'good' and 'bad' foods actively contribute to the process of meaning-making, but this examination is focussed on organic and functional food labels. The work from Garretson and Burton (2000) suggests the interaction between multiple label elements is important in influencing trust, however this research focussed solely on nutrition information. There has been no comprehensive exploration of the labelling information that is used, and the underlying processes and factors contributing to the formation of trust related judgements from labelling in general. As such there is little explanation of why some labelling builds or reinforces trust in the food system, while other labelling breaks or undermines it. This paper seeks to address this gap by determining:

1. *The process by which* consumers' interpretation of, and interaction with, labelling results in the formation of judgements related to trust in labellers; and

2. The consumer and product characteristics that are important in influencing this interpretation.

The following section provides an overview of the project methods used to achieve these research aims.

Methods

Recruitment and sampling

We wanted to seek information about participants' interpretation of their lived experience, therefore in-depth, semi-structured interviewing was used for data collection (Minichiello *et al*, 2008). Theoretical sampling (Layder, 1998) of participants was conducted with the aim of eliciting a wide range of perspectives and levels of attention to food labelling, rather than have a sample representative of the Australian population. Theoretical sampling was informed by literature indicating that different demographic characteristics influence labelling engagement (FSANZ, 2008) and trust in food, including primary shopping location (supermarket, farmers' market) (Ekici, 2004), presence of specific dietary requirements (allergy), rurality (Meyer *et al*, 2012), gender, age, education background and income group. Recruitment methods were targeted to achieve theoretical sampling dimensions. Initially, participants with food allergies were recruited through advertising with Allergy and Anaphylaxis South Australia and farmers' market shoppers though advertising with Slow Food SA. Once these groups had been adequately represented, participants were recruited using posters in locations chosen to reflect theoretical sampling dimensions not yet represented. Specifically, posters were placed in the male change rooms of a University gym to recruit younger, male participants, and on the notice boards in supermarkets of two suburbs with low Relative Socio-economic Disadvantage scores (based on the Index provided by the Australian Bureau of Statistics) to recruit supermarket shoppers with relatively lower incomes. The data regarding consumers' interaction with labelling were found to be saturated at 24 participants, and all theoretical sampling dimensions had also been adequately represented by this stage (Mason, 2010). Participant characteristics are summarised in Table 2. Participants were reimbursed $30 for expenses associated with taking part in the research. Ethics approval was granted by the Flinders University Social and Behavioural Research Ethics Committee (project number 6429).

Table 2. Participant Characteristics

	Gender	Age group	Shopping location	Place of birth	Food risk level [a]	Shops for children
Colin	M	25-34	Supermarket	OA[a], English language	Low	No
Lucy	F	25-34	Supermarket	Australia	High	Yes
Ruth	F	45-54	Alternative	OA, English language	Moderate	Yes
Isla	F	25-34	Supermarket	Australia	High	Yes
Ruby	F	18-24	Supermarket	Australia	High	No
Paula	F	35-44	Supermarket	Australia	High	Yes
Grace	F	25-34	Alternative	Australia	High	Yes
Thomas	M	55-64	Alternative	OA, English language	Low	No
Oliver	M	35-44	Supermarket	Australia	Low	No
Jack	M	>65	Alternative	OA, English language	Low	No
Hannah	F	>65	Alternative	OA, English language	Low	No
May	F	>65	Supermarket	OA, Non-English	Low	No
Margaret	F	>65	Supermarket	Australia	Low	No
Anne	F	>65	Supermarket	Australia	Moderate	No
Abbey	F	35-44	Supermarket	Australia	Low	Yes
Isaac	M	55-64	Local only	Australia	Low	No
Leo	M	18-24	Supermarket	OA, Non-English	Low	No
Fran	F	25-34	Supermarket	Australia	Moderate	Yes
Bruce	M	45-54	Local only	Australia	Low	No
Henry	M	45-54	Alternative	Australia	Low	No
Chloe	F	18-24	Supermarket	OA, English language	Low	No
Amelia	F	45-54	Supermarket	OA, Non-English	Low	Yes
Liz	F	55-64	Supermarket	Australia	Moderate	Yes
Lewis	M	18-24	Local only	Australia	High	No

[a] high=food allergy, moderate=intolerance/chronic disease involving dietary management, low=no medical dietary considerations

Data collection

Semi-structured interviews were conducted by the primary author between May and July 2014. Hour-long interviews covered the broad areas of definition and use of food labelling, participants' considerations relating to food, comparing unlabelled and labelled foods, participants' thoughts on specific packaging prompts (using a modified thinking aloud method described below), and finally trust in the food system. These major themes were used as a guide to direct the interview, with specific questions used being unique to each interview to enable the proper elicitation of, and natural context for, participant responses. As such, no strict interview schedule beyond the major themes outlined above was adhered to in the interview process. The data for this article are primarily drawn from the sections on the definition and use of food labelling, and the thinking aloud questions detailed below (Fox *et al*, 2011), while other data are reported elsewhere (Tonkin *et al*, 2016b). The interview protocol, which included the main themes to be covered and the thinking aloud questions, was piloted twice prior to data collection.

Three images of real food labelling and 12 packages were used as prompts for discussion (Table 3). This approach was used to facilitate accessibility of interview content for participants. The type and number of packaging prompts were chosen to address a number of theoretical dimensions, with a view to maximise range without providing an overwhelming number. Both 'core' (milk, bagged carrots) and 'noncore' foods (chocolates, lollies) (Bell *et al*, 2005) were included as it has been shown that consumers' underlying attitudes regarding foods influences their response to labelling information (Eden *et al*, 2008a). The majority of the packaged items shown were core shopping items as perceptions of the everyday encounter with food labelling were sought. Poppe and Kjaernes (2003) cite that some foods are perceived by consumers to hold more inherent health risks and therefore a range of foods from low (packaged tea) through to high risk (fresh meat) were also included. Additionally, Table 3 illustrates the variety in types of advertising achieved through selection; some prompts contained health or nutrition claims, cartoon characters, third-party certification and extensive nutritional information, while others were relatively simply packaged. In the only structured questions during the interview, participants were presented with items 7, 9 and 12 and asked the question 'Can you tell me out loud your thoughts as you look at these'. This process was repeated with items 2 and 6, and items 5 and 10.

Table 3. Packaging prompts used in interviews

Core shopping items

Item 1

Item 2

Item 3

Item 4

Item 5

Item 6

Item 7

Item 8

Noncore items

Item 9

Item 10

Item 11

Item 12

Item 13

Items marketed to children

Item 14

Item 15

Analysis

Each interview was audio-recorded and transcribed by the primary author, read at a minimum three times and summarised. Interview summaries were compared and contrasted to find common broad themes, those relevant to this analysis being: the process of interpreting labelling, interpreting intent from labelling and outside influencers of labelling interpretation. These themes were used to code interview transcripts, along with new codes for important data features. Transcript sections relating to the process of interpreting labelling were then re-coded using process coding, the isolating of sections of text relating to actions (Saldana, 2013). The synthesis of this analysis is presented in Figure 12. This resulted in a number of new codes such as questioning labelling, moving from examining the macro (labelling as a whole) to the micro (label elements), comparing label messages with existing knowledge and opening dialogue with labellers. These codes were then conceptually positioned with the other broad themes and restructured into the two main areas presented in the findings of this paper: the process of interpreting labelling and the label and consumer factors that influence this. The analysis framework from (Tonkin *et al*, 2015) was used to organise the consumer factors into rational (demographic characteristics), personal and social factors. This framework outlines the different factors seen to influence the interaction between consumers and food labelling, and categorises them into rational, personal and social contexts. However, this study predominantly focussed on the personal and social influences, and therefore the 'rational' factors heading has been omitted here. Negative cases were sought from the data to enable depth and nuance of understanding. Analyst triangulation was achieved as the developing analysis was presented to the wider research group at each stage in visual, verbal and written forms, enabling critique of process and outcome and ensuring robustness of data and analysis (Fade, 2003). Additionally, peer-debriefing was conducted through the presentation of the findings to a group of researchers, regulators and policy makers to ensure research credibility (Fade, 2003).

Results

Twenty-four South Australian consumers were interviewed. Figure 12 outlines the process of forming a trust response through interaction with labelling demonstrated by the participants in this study, and is discussed in detail below. This discussion is followed by a presentation of

the product and consumer characteristics identified as influencing participant responses to labelling.

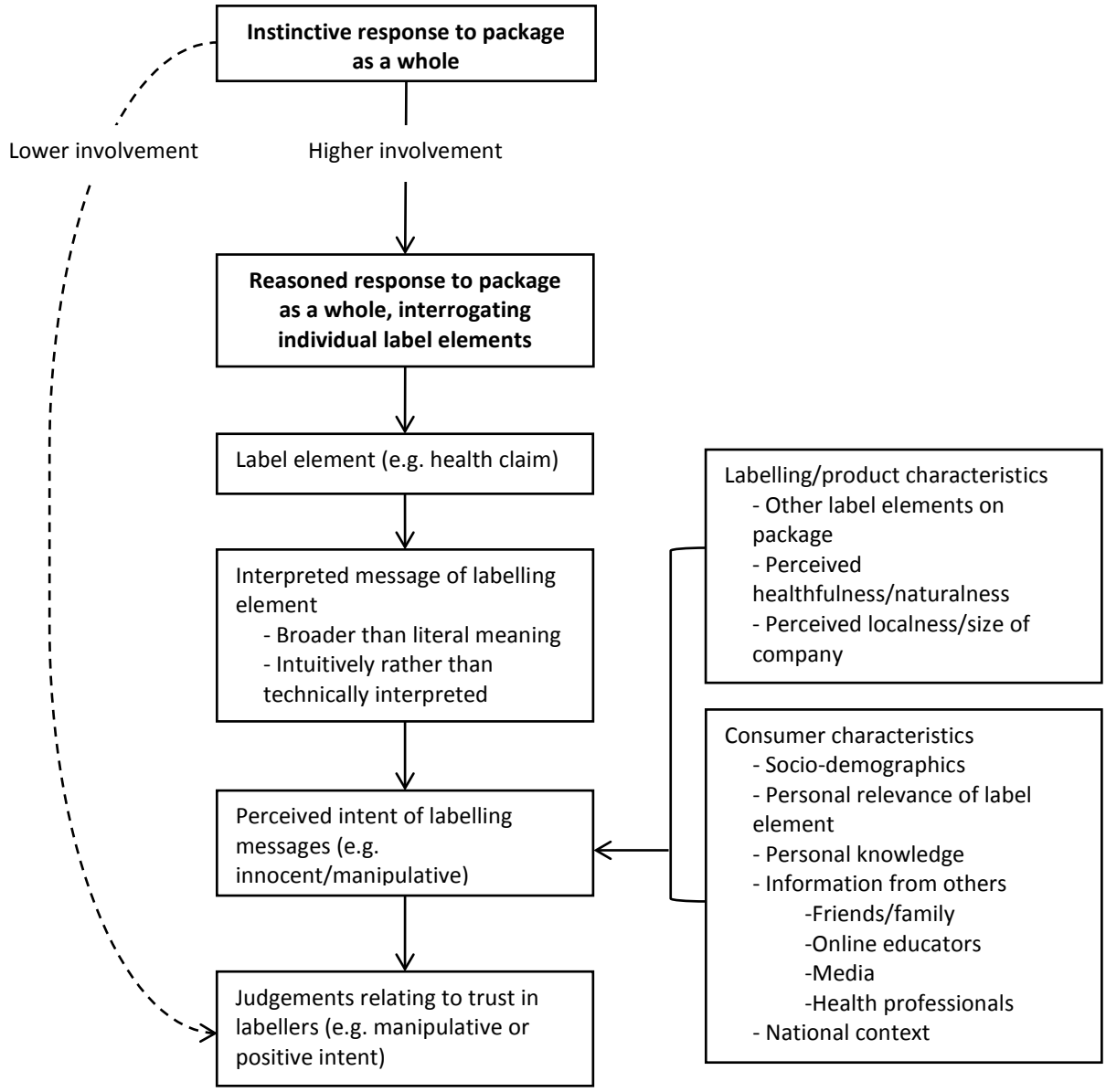

Figure 12. The process of forming a trust response through interaction with labelling. This figure was produced through the synthesis of all participants' responses to the thinking aloud questions, which were analysed using process coding.

Interpreting labelling

The process of interpreting labelling as a whole

When presented with packaging prompts participants demonstrated two distinct phases of response; an instinctive, more emotional reaction followed by a more cognitively reasoned judgement. The first instinctive response was to the product as a whole. Participants'

described a first impression regarding what they variously described as trustworthiness, reliability, credibility, and competence; however it was difficult for them to articulate how this impression was developed,

> 'Interviewer: So you said that some look untrustworthy, what makes one look untrustworthy?
> … Yeah it's hard to explain I think…it…I think it's more of an instinct rather than something I can explain. I don't think I can define it. It would be more like, I would pick it up and be like "ahh, don't really feel comfortable"' (Ruby)

If there was little motivation to reason further, this was where the process ended, indicated by the 'lower involvement' pathway in Figure 12. The second more cognitively reasoned judgement followed an examination of individual label elements and how they come together to form a whole ('higher involvement' pathway in Figure 12). Here participants scrutinised, interpreted and responded to individual label elements they perceived as relevant to them. Typically they began with the front (name, advertising and certification labels) and progressed to the back/side labelling (nutrition information, ingredients, country of origin and allergy warning statements). No participants discussed the storage information or manufacturer's contact details. So while different label elements were considered individually during the process, trust related judgements appeared to be based on the labelling as a whole.

Participants appeared to be aware of the differing reasons for including different label elements on a package. Regardless, the multiple messages of label elements were integrated during the process of interpreting labelling, '…the manufacturer's information[2] gives more detail. The advertisers don't give that much information. We have to see both the informations *[sic]*, then only we can get to a conclusion…' (Amelia). A good example of different label elements interacting to form an overall response was Bruce's examination of the tuna can (item 2, Table 3). Here Bruce has a negative initial reaction to a product, but this more affective response is tempered through the cognitive consideration of a different label element,

[2] Here Amelia is referring to the information she perceived as coming from the manufacturer, that is, the ingredients list and nutrition information.

> '"SAFCOL tuna, responsibly fished". Yeah okay, well immediately I look at that and think okay well I am… I find it humorous (laughing). Okay they say "[caught by] pole and line", I understand that, so then I think it's not so humorous, it's quite fair' (Bruce)

As such, all the separate messages communicated by different label elements formed one overall response regarding that package, 'I take the whole sort of package into account and say the way a product is… I don't know… Packaged to appeal to customers as well as the information on it to really tell customers what it's about' (Chloe). In this way participants judged labelling as a whole, despite being aware of the different purposes of labelling and label elements.

Participants used language to suggest the interpretation of labelling was an active communication between themselves and labellers. A quarter of participants even spoke directly to labellers '"is that really real or are you just writing that on there?"' (Ruby). The majority of participants saw the food industry, identified as the manufacturer, producer, company or marketing team, as solely responsible for all labelling and therefore the main labeller. Despite this, almost all made a distinction between advertising and 'proper' information, with back/side labelling seen as information reliable enough to base a purchasing decision on, in contrast to front labelling. While front information was not considered to be 'reliable' information, it appeared to form the basis of the initial, affective response to a package. Third party organisations responsible for certification were also identified as labellers by a minority of participants. In summary, participants were able to form trust related judgements because labelling was seen as a direct communication with food system actors; it involved the examination of individual label elements in the context of the whole package, and appeared to be both cognitively and affectively based.

Interpreting individual label elements

Individual label elements, similar to labelling as a whole, were interpreted intuitively; quickly and without a reasoning process. Importantly, label elements were not interpreted in their literal sense, but rather the messages communicated by label elements were generalised to what participants described as their implied meaning. A common example was nutrient content claims being interpreted as claims of healthfulness, '…you know, them saying that something is fat free but then it's full of sugar; like it's…they're saying it's healthy but when

you actually look at the breakdown it's not' (Lewis). Country-of-origin labels were another example discussed in over half of the interviews,

> 'I mean just the fact that they get away with marketing as Australian when a considerable proportion of the product could be, could be actually manufactured overseas, you know? That whole, putting something into a package value adds quite a bit and that's not, that's not what "Made in Australia" is meant to be' (Oliver).

By contrast however, third-party certification labels (for example the Soil Association organic logo) were universally interpreted technically; certification labels were read as an endorsement from a particular organisation regarding the set of principles they represent. Therefore, the messages interpreted from most label elements were broader than that communicated by their technical definition.

Participants were conscious of these differences in 'common sense' interpretation and technical definition and therefore had described having learned to be wary of accepting label messages at face value; '…there's not necessarily any guarantee with that….Like with some stuff that says "light" - it's actually not low in fat, it could be light in colour; it could be light in taste, without being light in calories or fats' (Paula). As such, participants routinely displayed a sceptical and questioning approach to interpreting all label elements, '…they highlight this is 7% [recommended dietary intake of fibre], well what is that? You know? What's that really mean?' (Grace). Label messages contrary to their own knowledge were particularly scrutinised and the perceived meaning doubted, '"High quality protein"...I know soy beans are high in protein, but I don't know that they're high quality' (Colin). Participants also described a learned approach to questioning product characteristics other than those a specific label element referred to, 'this "99% fat free" thing which is, you've got to say "well how much sugar's in it" and all these sorts of things' (Hannah). This was particularly so for claims suggesting a food product had been modified from the original in some way, as with the Heart Active milk [Item 6], *'*I start thinking "okay so what have they done to that?"' (Ruth).

Similarly, some labelling resulted in participants questioning the food system more broadly, as with one participant who saw 'made in Australia from imported ingredients' and

questioned whether any 'made in Australia' label could be trusted, 'I try to buy maybe Australian made but these days you can't even trust that anymore because you know it tells you it's made from imported… And you think to yourself "Hmm okay"' (May). With additional thought and scrutiny even mandatory labelling which had previously been relied upon was doubted,

> 'But, but here's a question for you. We make an assumption that that information is correct, okay? Energy so much, so much per kilojoule all that stuff. Now the question I'm now posing and I hadn't really thought about this, who produces those figures and how accurate are those figures? I mean we're taking those as being 100% correct. Now does Farmers Union have a little laboratory somewhere where they get 100 mLs and they measure it out? I mean maybe some of those tests are quite scientific? Maybe they're expensive to do? I don't know…I don't know the answer' (Jack).

Only one participant, who had recently moved to Australia, had very strong confidence in government and therefore did not approach labelling sceptically, 'And I do trust food labelling because if they are not approved [by government] they wouldn't be able to put it on the package' (Leo). As such, the majority of participants brought a position of learned scepticism to the process of forming trust related judgements through interaction with labelling.

Interpreting intent and trust related judgements from labelling

All participants talked about interpreting meaning beyond that relating to product attributes from labelling, *'*So you have to be quite savvy when you're looking at the label [element] as to what it actually is. *Interviewer: So there's the stated message and…* …and then there's the actual message' (Lewis). Participants described actively seeking to 'uncover' meaning, 'I try to look beyond the obvious' (Thomas). As previously mentioned, labelling was seen as a direct communication. As such, participants made judgements about the intent behind different label elements in enabling them to find the 'truth' about a product, 'And I know that, well it's not lying, it's 60% less [sugar] but it doesn't actually tell you… And this one's not… So neither of them are *lying*, it's whether you believe what they…It's not the whole story' (Liz). When participants perceived that the intent of a label element, and therefore the labeller, was to deceive or manipulate them, they said that this impacted their trust

judgement, 'Yeah, look, to an extent I kind of, I know what they're playing at, you know? I'm judging my lack of, my lack of trust in, in [the company] based on the fact that they're trying to flog me something' (Colin).

While no participant expressed that the technical/literal message was the only message communicated by label elements, the depth of meaning and intent read into them varied between participants. Two participants were willing to accept labelling at face value, while others read labeller intent very deeply,

> 'I'm sure that that [indicating to Item 6] is 100% compliant with everything that it has to comply with but it's kind of…"heart active" is very big and very bright and very red and it's misleading because people are thinking that they're helping themselves by having that and not changing the rest of their world, so that's pretty cynical in my book' (Henry).

Participants overall were clear that they felt labellers knew about, and capitalised on, the incongruence between consumer and technical interpretations, for example

> '…it's kind of a sleight of hand; I think that's what happens with food…it might be good food but they're creating a bit of an illusion around the surface…It's a negative. So when I see that in the shop I tend to think "yep here we go again"' (Bruce).

While all participants expressed a desire to see regulatory change to prevent what they saw as misleading labelling, for example:

> '…when a consumer goes to the shops and they see a product making a certain claim that has a fairly clear meaning to any kind of rational person, that person doesn't have to then go and research that to actually work out whether that's actually true or not' (Oliver),

a minority felt that it was 'out of ["big brother's"] control' (Fran), that is, the government have little power to change industry practices. Therefore, participants made meaning relating to the intentions of the labeller in interaction with labelling, forming the basis of a trust response (Figure 12).

Factors influencing participants' interpretation of labelling

Labelling/product characteristics

A number of label element and product factors were shown to influence whether and how participants made trust related judgements. As previously mentioned, label elements were interrogated for meaning in the context of all labelling on the package. Additionally, label elements were understood in broad, 'common sense' terms. This meant that often participants perceived individual label messages on the same package to be in conflict. For example when the perceived meaning of a country-of-origin label was contradicted by branding information, 'When the sign says Australian made and it's a brand like Uncle Toby's or Nestle or something like that, that doesn't mean anything to me…I bet that money's going somewhere else' (Colin). As many participants interpreted content claims like 'X% less sugar' as claims of health rather than strictly nutrient content, it was common for these messages to be perceived to be in conflict with the nutrition information,

> 'But once upon a time I would have just looked straight at the 60% less sugar and thought "Oh that can't be bad" or the little tub of yoghurt you know, "I want to lose weight, I'll get the fat free yoghurt" and there's about a kilo and a half of sugar in it' (Thomas).

These conflicts ultimately resulted in a negative response to labelling overall,

> 'Interviewer: How would you define food labelling?
> Um…as a crock, really. Can I say that? I don't, I just, I don't believe that what businesses are putting on the front of their packaging necessarily reflects what's on the labelling itself as far as the ingredients go' (Lucy).

As participants believed these conflicts to be intentional, generally they perceived them to indicate labellers are trying to manipulate them. This resulted in negative perceptions of the intent of the label message, and consequently, of the labeller (see Figure 12).

However, third-party certification labels/logos were an exception in that external endorsement of products rendered all the labelling on a package more truthful and positively intended. This was even the case with one participant who mistakenly thought the product name was a third-party endorsement,

> 'I suppose if they're gonna say it reduces cholesterol…'cause I say "alright, alright. They must have reduced the cholesterol otherwise they wouldn't be approved by The Heart…" or Active Heart or Heart Foundation or whatever…they have the heart sign on there' (May).

For a minority of participants however, third-party certification from particular organisations worked in the opposite way, enhancing scepticism,

> 'And even people like the RSPCA appear to be in cahoots with the industry to avoid telling the, telling the truth. If the Heart Foundation says there's something right now I actually start to look…it triggers me to do further research because they've put a tick on it where I wouldn't bother even doing any more research if there wasn't a Heart Foundation tick! ...It is part of that process that gives you just that little degree of scepticism in terms of overall' (Isaac).

Therefore third-party certification provided an air of truthfulness to all the labelling, even if other label elements on the package were considered problematic. However, this was only if the external organisation endorsing a product were themselves trusted.

The type of label element was also a factor which influenced participants' belief in the labeller's truthfulness. In discussions of advertising, participants seemed conscious of not appearing to be naïve, 'See that's the first thing I know is that you don't believe what's written on the front of the box' (Lucy). Therefore advertising information was approached more sceptically than the ingredients list and nutrition information, even though these label elements were not recognised as mandatory information;

> 'Interviewer: What makes that [nutrition information and ingredients] more reliable?
> These? [pause] I spose they're pretty much the same! I don't know. Well the nutrition ingredients lists, I've never thought about that being reliable, I've never even distrusted it! I've just thought that what they have in the ingredients must be true' (Bruce).

However, when ingredients lists and nutrition information were perceived to be manipulated this was objected to more strongly than the 'expected' manipulation from advertising,

> 'Again annoyed because I think that the ingredients should be quite easy to read and they shouldn't be allowed to…like they shouldn't be able to cloud it with other enticements. It should just be factual what it is so that you can make an informed decision without being swayed' (Lucy).

A quarter of participants described the apparent enforceability of these label types as justification for their reliability. Additionally, how 'testable' the messages were influenced how truthful participants believed the label element to be, regardless of label type,

> 'So this sort of stuff ["99% fat free"] is, is readily defined and easily measurable. So my assumption is that if there's misleading information here it opens the company up to a risk that they'll get on top of reasonably quickly. So yeah because it's clearly defined…It's not open to interpretation' (Oliver).

However while this idea was important, it still could not overcome the deception perceived to underlay apparent incongruence between the technical meaning and the 'common sense' meaning of a label element,

> 'I think just it being fact and not really being able to manipulate it [the nutrition information] much. Like yeah with the fat free thing, you can't really say, obviously like sometimes when they add sugar to compensate for, you can't tell. Whereas with the table you will be able to see the fat, the sugars, the carbs, the everything. Yeah so you have to, you just sort of see the facts and interpret it for yourself' (Chloe).

Therefore both the type of label element and the phrasing used influenced participants' expectations regarding truthfulness, and therefore the trust response.

Perceived product attributes were also important. Participants used concepts like 'industrialised', 'natural', 'local', 'healthy' and 'processed' to classify products, typically during the initial, affective reaction to a product. During the more conscious, cognitive consideration, label elements were judged for consistency with these broad attributes, for example, 'so "[fish caught by] pole and line" in theory is better but I'm struggling to see…I'm

struggling to believe that they can catch enough fish to produce an industrialised product using sticks basically. So, so that has a credibility gap' (Henry). Furthermore, the meaning read into the same label element, for example '99% fat free', was seen as reasonable on some products and not others due to the perceived consistency with a product attribute, like 'naturalness', 'I'm probably more likely to trust the milk as opposed to the party mix as it looks, you know it just strikes me as refined. Whereas the milk you know there's only so much they can do right?' (Colin). Labelling on 'local' products was given the benefit of the doubt, while 'overseas' products were judged harshly, like Hannah with this affective response to item 12 in Table 3, 'You see I would never even look at that; looks like [a] Chinese [product]'. As such, participants' existing assumptions and perceptions regarding the food product as a whole influenced their interpretation of the intent behind the labelling, and therefore trust related judgements.

Consumer Characteristics

Consumer characteristics also influenced the participants' trust related judgements that were developed through interaction with labelling. Cases where participants responded differently to the same label element or product were used to understand the consumer factors causing variations in participants' trust related judgements to labelling.

Personal context

Personal knowledge and experience were found to be factors repeatedly shown to be influencing labelling interpretation. Participants drew on nutrition, agriculture, health and business knowledge, and previous work and life experiences to make meaning from labelling. Label elements related to nutrition or production practices participants had personal knowledge about were scrutinised more deeply, while others were more likely to be accepted at face value. One participant believed a '99% fat free' claim on a milk carton (Item 6, Table 3) but not a sweet packet (Item 11, Table 3),

> '… that's probably more because I would know more about how that sort of fat free and sugar thing works compared to knowing more about the milk' (Lucy).

When a perceived label message was inconsistent with a participant's knowledge, it was typically seen as being included on the package by the labeller for a manipulative purpose,

> 'My understanding is, there is an association with cholesterol but there is no evidence to show that cholesterol causes any heart issues. So it's, it's, it's, it's continuing to drive… It continues to badly educate the public and fill them up with… Misinforming the public which I find criminally bad' (Isaac).

However, knowledge could positively or negatively influence interpretation, as when labelling was consistent with personal knowledge belief in the truthfulness of the message, and labeller, was reinforced. Personal knowledge or experience appeared to explain much of the variation in the trust related judgements brought about through participants' interaction with different products and label elements.

A variety of other personal characteristics influenced the way participants interpreted intent in labelling. Participants shopping for young children appeared to be sensitised to perceived manipulation from labelling in general, '…it would be nice to know, and a lot of parents would like to know, what's in this stuff and the companies have become very clever with their wording' (Ruth). This was also the case for participants who managed dietary conditions like food allergy or intolerance, who reported reading labelling conscientiously. Finally, all three participants born in non-English speaking countries demonstrated a less sceptical, and more trusting approach to labelling interpretation, 'Yeah [labelling is] educational and informative also, yeah it's very good' (Amelia).

Social context

Information from personal friends and associates was a factor that strongly influenced the way label elements were interacted with, and therefore the meaning that was interpreted from them. Family, formal and informal networks, particularly those through social media, reportedly influenced the way participants interacted with and trusted particular label elements. This was especially the case for participants managing food allergy, many of whom reported hearing stories about 'not so good practices' through online support communities 'Like I will hear stories, like mum will say, mum will let me know of people that have reacted to stuff that it wasn't in the ingredients' (Ruby). Health professionals also influenced what labelling information was sought, and how it was then interpreted, 'I've been coached by a dietitian to you know, just to watch certain elements. For instance looking at yoghurt, if it says zero fat doesn't necessarily mean no sugar, you know what I mean?' (Colin).

The internet and online educators were primary or additional sources of information for half those interviewed, and participants reported being sensitised to manipulation from particular label elements through these avenues. The majority of these participants reported being unaware of the 'minefield' prior to engagement and consequently had developed a more sceptical approach to labelling interpretation since, '…and then she [online blogger] said "you know sometimes they start to repackage words and say that certain ways" so I normally always go for the ingredients list' (Abbey). Information from non-government organisations like Greenpeace and the consumer group Choice was also important in shaping labelling interaction for a minority of participants, 'It was Choice were doing a 5 star rating, and out of the 100 products or whatever, only 2 got the 5 and then the rest you know… And I just, yeah don't like just how misleading things are' (Abbey). Three participants had become dependent on these organisations to provide advice upon what labelling could be considered reliable,

> 'I tend to, unless they've been, I've been exposed to the particular labels [elements] through a source that I trust I tend to take them with a grain of salt… So certainly Choice, Greenpeace, I mean even…ah… I was going to say the government but…' (Oliver).

While almost all participants discussed the media as influencing their approach to labelling interpretation, only one reported that this positively influenced trust, 'Well because the media talks through some of the labels [elements] and I've learnt from the media in Australia… Because I do trust it because the media reports that' (Leo). News coverage highlighted things to look for on labelling and fostered the sceptical approach to label element interpretation, '…with the Victoria Honey has *[sic]* been exposed[3], that maybe you shouldn't just assume because it's honey, it's honey.' (Isaac). Participants reported *The Checkout*[4] and similar programmes as useful resources for helping them discover manipulation and deception in labelling, 'So they [*The Checkout*] did a thing on serving sizes; I thought "oh another thing they're being deceitful about with us"' (Abbey). One participant expressed this concern related to more sensationalist early evening programmes,

[3] Isaac is referring to the notices of infringement issued to Basfoods (Aust) Pty Ltd by the ACCC in 2014 due to their product named 'Victoria Honey' being neither honey, nor from the Australian state of Victoria.

[4] *The Checkout* is an Australian consumer affairs programme often including segments relating to the marketing of food and beverages.

> 'I think they're diabolical programmes. They're probably feeding a sense of distrust or mistrust or whatever amongst consumers in a quite different way than the one I've been referring to throughout' (Thomas).

Therefore the social context that participants were positioned in impacted their attention to, personal knowledge relating to, scepticism towards and consequently the trust related judgements developed through interaction with label elements and products.

Discussion

The findings demonstrate *how* – that is, the processes by which – consumers come to make trust related judgements about labellers through food labelling. They suggest that participants seeing labelling as a direct communication with labellers, and interpreting labelling as a whole, are what made this possible. Further, participants interpreted labelling elements more broadly than their technical definition. Participants perceived that labellers intended for them to be misled by this broader interpretation. Finally, product and consumer characteristics help to explain the varied judgements brought about through participants' interaction with labelling.

The findings suggest that consumers interpret label elements technically, but broadly and intuitively also; the perceived 'common sense' meaning of label elements ranges beyond their strict definition. This finding extends previous literature discussing the reported halo-effect identified by Roe *et al* (1999) to suggest consumer 'overgeneralisation' of label elements is not limited to health or nutrition claims. Similar to findings from Eden (2011), participants here described the meaning of organic claims, but also country-of-origin labelling and many other label elements, as broader than the definition used by regulators and industry. However, the broader meaning interpreted from label elements did not typically mislead participants, but rather it elicited a response relating to perceived 'manipulative intent' (Campbell, 1995) of the labeller. Our findings align with and provide an important extension to those of a recent study aiming to address the previously inconsistent findings regarding the halo-effect by Orquin and Scholderer (2015). Orquin and Scholderer (2015) demonstrated that consumers were not misled by nutrition and health claims, and in fact the presence of claims negatively impacted purchase intentions. We argue that a potential explanation for the reduction in purchase intention is the perception of

manipulative intent created by label elements, as described by our participants. Our findings suggest that negative trust related judgements are likely *especially* when consumers are not misled by a label element, and few appear to be misled. That is, consumers perceive that labellers use overly general phrasing with the explicit intention of misleading them, resulting in negative trust related judgements about labellers.

As it is reasonable to expect that perceived manipulative intent and therefore reduced trust in labellers may impact purchase decision (Campbell, 1995), there are obvious implications for marketers and retailers. It is also important to note that because the interaction presented is relational, it is logical to assume that negative trust related judgements produced through interaction with labelling may result in labelling itself being less trusted in the future (Dörnyei and Gyulavári, 2016). The finding of learned scepticism described by these participants may support this assertion, and is consistent with other research finding consumer scepticism related to health claims (Chan *et al*, 2005; Tan and Tan, 2007) and sustainability labelling (Eden *et al*, 2008b; Sirieix *et al*, 2013). This too has clear implications for any food labeller, especially those attempting to communicate public health messages through labelling initiatives.

The implications of the above finding extend more broadly however. The difference in consumer and technical interpretations of labelling creates a situation where labelling may be both fully compliant with all relevant legislation and regulation, and still be perceived as misleading by consumers. Aside from the implications this has for trust in the broader food system as described further in another paper arising from this study (Tonkin *et al*, 2016b), it raises the question of whether applying rational frameworks to the monitoring and enforcement of misleading and deceptive conduct in labelling is succeeding in its goal of consumer protection. To suggest this is a simple case of consumer misunderstanding requiring yet more consumer education as the solution ignores the core problem; that currently there is a lack of recognition of different, yet equally legitimate, ways of interpreting labelling. Given that food labelling in Australia is 'the most public face of food policies, standards and laws' (Blewett *et al*, 2011, p. 3), that this is negatively impacting consumer judgements relating to food-system-actor trustworthiness should be of concern to industry and governments alike.

A further finding of this research suggests additional areas for action to address this issue. While consumers see some label elements as more reliable than others, they integrate label elements when forming judgements related to trust through labelling; the combination of label elements on a package is important in influencing trust related judgements. This is a novel finding, with extant literature investigating food labelling and trust predominantly focussed on how individual and discrete label elements are trusted or influence trust, with a few exceptions (Batrinou *et al*, 2008; Garretson and Burton, 2000). While this interaction between label elements often resulted in a negative response, in one example endorsement from a trusted organisation appeared to neutralise some of the negative impact of other problematic label elements. It may be possible that over time this could reduce consumers' extreme, and often unwarranted, negative response to specific label elements, for example health claims. When combined with findings from Frewer *et al* (1996) and Frewer *et al* (1999) outlining the characteristics of information sources that foster trust in food risk information, this finding suggests an opportunity to rebuild belief in truthfulness, or at least inhibit damaging trust, through using the combination of labelling elements on a package to foster a positive trust related response. One example is potentially the increased presence of trusted endorsement bodies on labelling, such as the Health Star Rating Scheme recently introduced in Australia.

Utilising a qualitative approach to study this topic brings advantages, but also introduces some limitations. To what extent trust related judgements made though labelling are routinized and automatic, rather than actively and cognitively considered, is unclear ('low' compared with 'high' involvement pathway in Figure 12). It could be that asking participants to explain their response using an interview method turns an affective, subconscious response into a cognitive/reasoned phenomenon. Dodds *et al* (2008) discussed a similar limitation regarding their use of a focus group method to examine British consumers' use of scientific knowledge in evaluating advertising. Use of experimental research methods, such as rigorous thinking aloud experiments (Fox *et al*, 2011; Ericsson and Simon, 1980), may provide insight into the relative mix of central and peripheral processing of labelling information when making judgements related to trust through labelling (Verbeke, 2005; Petty *et al*, 1983). However, that our qualitative findings generally reflect those determined through the experimental methods of Orquin and Scholderer (2015) enhances the validity of

both sets of findings. Even if the cognitively reasoned process for interpreting indicators of trustworthiness is simply a post-hoc justification for an otherwise intuitive, emotional response, in relation to these findings, does it matter? The bases for trust are both cognitive and emotional (Lewis and Weigert, 1985). So while we are unable to identify how frequently or consistently these considerations are consciously held by consumers, if participants were providing a cognitive justification for a typically emotional response (which may involve many of the same considerations, albeit in a more liminal form) the issues presented are no less important.

The qualitative approach permits a depth of understanding regarding consumer interaction with labelling and how it influences judgements related to trust that has not previously been achieved. Additionally, the variety of perspectives gathered through the participant sampling and recruitment strategy enabled multiple negative cases to be drawn out, and therefore the analysis nuanced and refined, reflecting the complexity of the consumer environment. However, participant recruitment included elements of self-selection, and therefore participants may potentially represent the more motivated members of the community. Linked to this, while the sample size was appropriate for this exploratory study, it limits the ability to reliably compare responses by participant characteristics. Given the influence of these aspects on both attentiveness to labelling and trust, we could expect them to impact judgements related to trust developed through labelling also. Finally, the social context of consumers was shown to be important in influencing their interaction with labelling, and labelling regulation varies internationally. Due to these issues with reliability and generalisability, it is essential to confirm these exploratory findings using quantitative, population representative surveys both in Australia and internationally. However, this approach should be managed with caution so as to not minimise differences in responses created through a lifetime of personal experiences to simple demographic variables.

It is clear that while regulators examine labelling from a technical, rational standpoint, consumers interpret labelling intuitively and broadly. Where regulators and researchers separate labelling into separate units of label elements for interpretation, consumers make meaning from labelling as a whole. It is thus not surprising then that food system actors become frustrated with 'consumer misunderstanding' of labelling, while consumers feel manipulated by industry and unheard by governments. The findings presented here provide

deep insight into how consumers' interaction with labelling results in the formation of judgements relating to the trustworthiness of food system actors. They suggest that some acknowledgement of the multiplicity of ways of interpreting labelling from both regulatory and enforcement bodies will be required to support consumer belief in the trustworthiness of food system actors. The importance of these findings should not be overlooked given the fragility of trust in the food system, both locally and globally.

Chapter 3.2. Consumer trust in the Australian food system – the everyday erosive impact of food labelling

Preface

This published paper presents Study 1 findings related to research question 2, and all sub-questions:

2. What are the trust judgements formed through labelling?
    a. How does food labelling influence trust judgements about:
        i. System actors?
        ii. System governance?
    b. What are the judgements formed?
    c. What expectations form the basis of these judgements for consumers?
        i. What do consumers understand from food labelling about these expectations?
        ii. What do consumers require in response to violated expectations?

Implications for food system actors, particularly food governance actors, of the types of expectations underpinning consumer trust judgements are explored in the discussion. This paper has been peer-reviewed and published with the citation,

Tonkin, E, Webb, T, Coveney, J, Meyer, SB & Wilson, AM (2016), Consumer trust in the Australian food system – the everyday erosive impact of food labelling, *Appetite,* vol. 103, pp. 118-127, DOI: 10.1016/j.appet.2016.04.004

Abstract

Consumer trust in food system actors is foundational for ensuring consumer confidence in food safety. As food labelling is a direct communication between consumers and food system actors, it may influence consumer perceptions of actor trustworthiness. This study explores the judgements formed about the trustworthiness of the food system and its actors through labelling, and the expectations these judgements are based on. In-depth, semi-structured interviews with 24 Australian consumers were conducted. Theoretical sampling focussed on shopping location, dietary requirements, rurality, gender, age and educational background. The methodological approach used (adaptive theory) enabled emerging data to be examined through the lens of a set of guiding theoretical concepts, and theory reconsidered in light of emerging data. Food labelling acted as a surrogate for personal interaction with industry and government for participants. Judgements about the trustworthiness of these actors and the broader food system were formed through interaction with food labelling and were based on expectations of both competence and goodwill. Interaction with labelling primarily reduced trust in actors within the food system, undermining trust in the system as a whole. Labelling has a role as an access point to the food system. Access points are points of vulnerability for systems, where trust can be developed, reinforced or broken down. For the participants in this study, in general labelling demonstrates food system actors lack goodwill and violate their fiduciary responsibility. This paper provides crucial insights for industry and policy actors to use this access point to build, rather than undermine, trust in food systems.

Introduction

Consumer trust in the food system is essential to ensure a cooperative and functioning market for system actors (Gambetta, 1988) and to manage complexity and uncertainty for consumers (Luhmann, 1979). Much research has framed the problem of trust in food as primarily an issue of appropriate food risk communication. However, following an analysis of trust in food in Europe, Kjærnes (2006) argues that to focus on risk perception and communication for the problem of trust represents an overly cognitively based and inadequate picture of trust in food. As such, the idea of the 'knowledge fix' as a means to enhance trust in food has been contested (Eden *et al*, 2008c; Kjærnes, 2006). Trust as a social phenomenon is far more complex than the rational assessment of risk; trust being

founded on *both* cognitive and emotional bases (Lewis and Weigert, 1985). Empirical studies have shown consumer trust in food and food safety to be strongly predicted by trust in food system actors (de Jonge *et al*, 2007; Berg *et al*, 2005; Sapp *et al*, 2009). Thus the problem of trust is refocussed to consider consumer perceptions of the trustworthiness of food system actors, rather than consumer willingness to trust based on rational risk information (Sapp *et al*, 2009; Meijboom *et al*, 2006).

As stated by Luhmann (1979, p. 26), 'trust always extrapolates from the available evidence'. That is to say, trust judgements are never fully complete and thus can be reflexively considered in the light of new information, particularly indicators of trustworthiness gleaned through social interaction (Mollering, 2006). Direct and personal evidence pertaining to the trustworthiness of food system actors is limited by the physical and rational separation of consumers and system actors because of the complexity of globalised food chains (Belliveau, 2005; Brom, 2000). Well-publicised food scandals provide opportunities for the public to scrutinise actions of those within the agri-food sector. However these occasions are relatively rare. By contrast, food labelling provides an everyday encounter with the food system through its positioning at the interface of consumers and the market. As such, food labelling may provide an avenue for consumers to assess the trustworthiness of food system actors.

Previous research exploring food labelling and trust has focused on trust in labelling (Tonkin *et al*, 2015). From this perspective, trust in the labeller is repeatedly shown to influence trust in the label message (Batrinou *et al*, 2008; Eden *et al*, 2008c; Janssen and Hamm, 2012; Sirieix *et al*, 2013; Sonderskov and Daugbjerg, 2011; Soregaroli *et al*, 2003; Van Rijswijk and Frewer, 2012). However, there are some suggestions in this literature that the reverse may also be true—trust in labelling leads to trust in labellers. That is to say, consumers may use the messages provided by labelling to foster trust in the manufacturer. This statement examines trust *through* labelling, therefore switching the focus to perceptions of food system trustworthiness that result from consumer interaction with labelling. For example, Garretson and Burton (2000) showed that inconsistencies in labelling information can result in a decline in perceived trustworthiness of the manufacturer. Similarly, Van Rijswijk and Frewer (2012) found fraudulent labelling information would result in a loss of consumer confidence in the producer of that product. While these findings provide suggestions of

consumers interpreting manufacturer trustworthiness from labelling, they are far from a complete picture of how labelling may influence trust in the food system. This paper contributes novel findings regarding the trust judgements formed through consumer interaction with food labelling. In doing so, we also determine who consumers make trust judgements about (which food actors within the system), and what expectations these judgements are based on (what do consumers use as indicators of trustworthiness).

Theoretical framework

Extant literature in the form of social theories of trust (Barber, 1983; Giddens, 1990; Giddens, 1994; Luhmann, 1979; Mollering, 2006) can be used to develop a set of guiding concepts for the exploration of the foci for and foundations of trust judgements. First, sociological accounts of trust distinguish between trust in individuals (for example between spouses), groups of individuals (for example a company) and systems (for example the system of government) (Mollering, 2006). Other theorists dispute trust in 'systems' as not trust itself but, rather, confidence, with trust being associated with action and generalised trust in institutions and systems as simply an attitude of acceptance (Barbalet, 2009). This provides useful distinctions between active trust and passive confidence. Giddens (1990) and Luhmann (1979) also posit that trust at these different social levels is not isolated, but interconnected. Trust in the individual can influence trust in the group and vice versa. Through applying this idea to consumer trust and food labelling it becomes possible to examine if food labelling enables consumers to identify different social levels within the food chain, and specifically locate the potentially different foci for consumer trust in food. It is also important for understanding how these different focal points for trust may influence each other.

Second, social theory provides insights into what might form the foundational expectations of trusting relations; that is, the types of information individuals base trust judgements on. Mollering (2006) terms these foundational expectations 'indicators of trustworthiness'. One prominent conceptualisation is that of Barber (1983), who theorises that the two primary expectations trustors hold of trustees comprise technical competence and the fulfilment of fiduciary obligation. For Barber (1983) fiduciary obligation recognises that trustworthiness involves an element beyond competent performance, to address the ethical and moral dimensions of social interactions. Metlay (1999) terms this dimension the 'affective'

element, representing perceived openness, reliability, integrity, credibility, fairness, and caring of trustees. However, empirically there remains some contention regarding whether there are dimensions beyond these two, and what these dimensions encompass. Previous research has aimed to classify the underlying dimensions of trust in food (de Jonge *et al*, 2007; de Jonge *et al*, 2008; Frewer *et al*, 1996; Sapp *et al*, 2009). Contrary to Metlay (1999) and Barber (1983), Poortinga and Pidgeon (2003) and Frewer *et al* (1996) found the two main dimensions of trust included one that conflates competence and fiduciary responsibility, and another representing a scepticism or vested interest factor. Thus it remains open as to which indicators of trustworthiness may be important here.

The above social theories of trust provide theoretical insights regarding the dynamics of trust in different social levels, and the foundational expectations that form trust judgements. These theoretical ideas can be used as a provisional set of guiding concepts for exploring the research questions of what trust judgements consumers form through interaction with labelling, and which indicators of trustworthiness are important in making these judgements.

Methods

Methodological approach

Adaptive theory (Layder, 1998) was the methodological approach chosen for this research. In this approach empirical data are examined through the lens of provisional theoretical conceptual frameworks, and extant theory is reconsidered in the light of emerging data (Bessant and Francis, 2005). In this way new theory is grounded in both existing substantive theory and empirical findings (Bessant and Francis, 2005; Hewege and Perera, 2013). Following adaptive theory, theoretical literature was utilised to develop the provisional set of guiding concepts described in the 'Theoretical framework' section. This engagement with literature began before qualitative data collection, and continued throughout the research process to guide study design. During data analysis and development of the theoretical model these orienting ideas were used as sensitising concepts for identifying macro themes in the data (Bessant and Francis, 2005). The use of adaptive theory therefore centralised the emerging data while acknowledging and incorporating when useful existing theory in the development of the emergent theoretical model (Layder, 1998).

Data collection

In-depth, semi-structured, face-to-face interviews of about one hour duration with 24 South Australian consumers were conducted solely by the primary author (ET). The interview schedule was structured around broad themes including participant expectations and concerns about food in Australia, their definition and use of food labelling, their thoughts about labelled and unlabelled food (for example from a farmers' market), and their thoughts on specific packaging prompts. Major themes were used as a guide to direct the interview, with specific questions used and the order of topics being unique to each interview to allow a natural conversational manner. Examples of types of questions used are 'When I say "food labelling" not everyone thinks of the same thing. Can you describe what you think of when I say "food labelling"?' and 'Who is responsible for the information on food packages?' As such, no strict interview schedule beyond the major themes outlined above was adhered to in the interview process, but consistency was achieved as all participants were interviewed by the same researcher. Twelve real product packages and three images were provided for participants to demonstrate their ideas if they wished, however they were not referred to directly by the interviewer during the interview sections drawn on in this analysis. Images of these are available as supplementary online material. Here the term 'food labelling' is used to refer to all product packaging, while the term 'label element' refers to individual label components (for example a health claim). As only broad themes were used to structure interviews, discussions of labelling reflected consumer perspectives and focussed on the label elements they interact with in their everyday experience. Attention was paid to ensuring no research documents or discussions of the research with participants stated or alluded to the topic of trust, or were leading to participants in any other way. Trust was only discussed explicitly if a participant raised it, preserving the language and context provided by the participant (Henwood *et al*, 2008). Only when a participant never raised the issue of trust did the interviewer do so as trust was a vital concept to the study. If necessary, this was done in the final interview question.

Recruitment and sampling

Theoretical sampling of participants, as advanced by Layder (1998), was conducted. As the present analysis explores how food labelling influences trust in the food system and its actors, the following sampling criteria were chosen as they are factors identified in previous

literature to influence either trust in food or consumer interaction with food labelling. Participants were recruited from a range of food markets as literature suggests an association between food shopping practices and trust in the food system (Ekici, 2004): supermarket, alternative food store (for example organic stores), and farmers' market or strictly local produce shoppers. As previous research has shown trust in the food system varies between consumers living in rural and metropolitan areas (Meyer *et al*, 2012), rural participants were actively sought to ensure both rural and metropolitan residents were sampled. Additionally, recruitment aimed to capture both genders, a range of ages, income groups and educational backgrounds, and consumers with different dietary requirements (for example food allergy) as these sociodemographic characteristics are known to impact both trust in food actors (Henderson *et al*, 2011) and attention to food labelling (FSANZ, 2008). Recruitment and interviewing occurred during May – July 2014 and utilised a range of strategies including use of advertising with specific organisations (for example Slow Food SA), and placing posters in supermarkets, gyms and malls. The data regarding trust were found to be saturated at 24 participants, and theoretical sampling dimensions had also been adequately represented by this stage (Mason, 2010). Participants were reimbursed $30 for expenses associated with taking part in the research. Ethics approval was granted by the Flinders University Social and Behavioural Research Ethics Committee (project number 6429).

Analysis

Each interview was transcribed in whole, read multiple times and summarised by the primary researcher (ET). Summaries included links made with the set of guiding concepts (see 'Theoretical framework' section). Major themes present in the summaries and relevant to this analysis were trust, which food system actors participants saw as present in labelling, participant interpretation of labeller motives, and mechanisms for controlling industry. These major themes were condensed into a preliminary set of one word codes. Each interview transcript was then coded with NVivo 10 (QSR International, Doncaster) using both this preliminary set, and new codes created for new ideas and important features of data (Layder, 1998). The code list was refined through interrogating each individual code for uniqueness, and retaining, nesting, merging or deleting codes as appropriate (Saldana, 2013). Transcript sections pertaining to the large theme of trust were separated into the foci

of the trust judgements (what/who participants were (dis)trusting), and the common expectations discussed in connection with trust judgements. This was done in tandem with revisiting the set of guiding concepts. Therefore, consistent with adaptive theory, data analysis was both inductive and deductive (Hewege and Perera, 2013; Layder, 1998), and the outcome of this integration of theory with empirical data (Figure 13) is presented in the results. In this way participants' main themes were used to structure the results. Analyst triangulation was carried out through presentation of each analysis stage to the broader research team, enabling examination, refinement, and at times alternative interpretations of data (Fade, 2003). Further peer-debriefing was conducted through the presentation of the findings to a group of researchers, regulators and policy makers to ensure research credibility (Fade, 2003).

Results

The results are presented as follows: first we describe the role labelling played for participants as a mode of social interaction, and who participants saw as actors in this. Second, we explore the foundational expectations participants approached this social interaction with, and how these were assessed as fulfilled or violated in labelling. Finally, an explanation of how the fulfilment or disappointment of these expectations resulted in trust judgements made through labelling is provided. The characteristics of the 24 participants interviewed are presented in Table 4.

Labelling as a social interaction

Participants freely moved between discussing labelling as a collection of specific label elements, and food labelling at a higher level of abstraction; that is, labelling as a general concept. Participants led any discussions of specific label elements. Overall these were limited to advertising, certification, country of origin labels, ingredients lists, date marks and nutrition information panels. Only one participant identified other mandatory elements[5] specifically, however they were clear that these aspects were not those he was attentive to,

[5] In Australia food labelling must comply with the standards set out in the Australia New Zealand Food Standards Code. The Code stipulates a number of label elements must be included on all packaged foods including: ingredient lists, nutrition information panels, name and address of supplier, country of origin labelling, and where relevant warning and advisory statements and date marking (use-by and best before).

'What else are there *[sic]…* the manufacturer, or like the address of where they are but I don't care about that' (Leo).

Table 4. Participant Characteristics

Pseudonym	Gender	Age group	Shopping location	Locality	Highest educational attainment	Food considerations
Colin	M	25-34	Supermarket	Metro	Higher degree	None
Lucy	F	25-34	Supermarket	Metro	Diploma/vocational	Food allergy
Ruth	F	45-54	Alternative	Metro	Diploma/vocational	Chronic disease
Isla	F	25-34	Supermarket	Metro	Higher degree	Food allergy
Ruby	F	18-24	Supermarket	Metro	Secondary school	Food allergy
Paula	F	35-44	Supermarket	Rural	Bachelor's degree	Food allergy
Grace	F	25-34	Alternative	Metro	Bachelor's degree	Food allergy
Thomas	M	55-64	Alternative	Metro	Higher degree	None
Oliver	M	35-44	Supermarket	Metro	Bachelor's degree	None
Jack	M	>65	Alternative	Metro	Bachelor's degree	None
Hannah	F	>65	Alternative	Metro	-	None
May	F	>65	Supermarket	Rural	Year 10 or below	None
Margaret	F	>65	Supermarket	Rural	Diploma/vocational	None
Anne	F	>65	Supermarket	Rural	Year 10 or below	Chronic disease
Abbey	F	35-44	Supermarket	Metro	Diploma/vocational	None
Isaac	M	55-64	Local only	Metro	Higher degree	None
Leo	M	18-24	Supermarket	Metro	Bachelor's degree	None
Fran	F	25-34	Supermarket	Metro	Diploma/vocational	Chronic disease
Bruce	M	45-54	Local only	Rural	Higher degree	None
Henry	M	45-54	Alternative	Metro	Bachelor's degree	None
Chloe	F	18-24	Supermarket	Metro	Secondary school	None
Amelia	F	45-54	Supermarket	Metro	Higher degree	None
Liz	F	55-64	Supermarket	Metro	Bachelor's degree	Chronic disease
Lewis	M	18-24	Local only	Metro	Diploma/vocational	Food allergy

Participants described their use of food labelling as functionally equivalent to an interaction with a person knowledgeable about that product; one participant explained that to find a fair trade product he would seek 'Certification on it, or if I'm buying it from a market obviously you can see the people and talk to them' (Lewis). In this way labelling acted as a surrogate for personal interaction with food system actors. Hence while labelling was used to find facts to inform product choice, participants also expressed that labelling was more than simply a passive information exchange, 'and it's reading the messages, but it's reading not what they say, but interpret *[sic]* what that then means' (Isaac). As such, food labelling was discussed by participants as a form of social interaction, 'Labelling on…it's a communication between us and the manufacturers' (Amelia).

Labelling communicators

All participants identified industry as the main actor communicating with them through labelling. There was a lack of clarity around exactly who this was however, with the terms

'brand', 'labeller', 'company', 'producer', 'maker', 'manufacturer' and 'industry' used interchangeably by participants. Some participants particularly specified the marketers/advertisers as separate to producers/manufacturers, 'I think this main, the front bit is advertisers and the side one is manufacturers' (Amelia). Over half the participants also identified third-party organisations, such as the Australian Heart Foundation, as periphery actors in the social interaction.

While the majority expressed an understanding of a governing body also present in labelling, participants were similarly unclear about who this was specifically, simply using 'government' for most references. Rather than seeing them as direct communicators, participants appeared to hold the 'government' ultimately responsible for what was, and was not, found on labelling, 'But it, it has been kind of approved [by government] otherwise this label [element] wouldn't be allowed to be on the packet' (Leo). As such labelling communicated information about regulatory bodies to participants, for example Liz commented on a large multinational company using the Australian Made logo,

> *'Interviewer: So who do you sort of hold responsible for that? Is it Uncle Toby's or…'*
> 'Oh no, the company is entitled to do what they like. I think Australian….whoever makes the rules and regulations when it comes to products…they're the ones who should make the stipulation' (Liz).

Therefore participants were clear that for them food labelling in general was a direct social interaction with industry, and an indirect representation of the priorities and principles of government.

Participant expectations of food system actors

As labelling was seen as a form of social interaction with industry (and indirectly government), it provided an avenue for participants to measure these actors against their general expectations of social actors in a position of power. Two clear themes emerged regarding the expectations participants held, and these were present as an undercurrent in all interviews: expectations of technical competence and a component that encompassed the moral quality, honesty, fiduciary responsibility and sincerity displayed by industry and government. Herein this component will be encapsulated by the term 'goodwill' (Meijboom,

2007). Importantly, participants were clear that they did not anticipate actually finding these qualities fulfilled, but thought they *should* be demonstrated by food system actors. An example is Thomas implying his expectations around truth telling, although explicitly stating that he doesn't anticipate to be told the truth, when discussing his use of labelling, 'In some ways it's a little bit like politics, you don't expect to be told the truth. So what's that, *caveat emptor* ["let the buyer beware"]?' (Thomas).

The competence of actors was discussed by participants typically only when they had had an experience showing a food system actor to be incompetent. An example was Henry having seen incorrectly labelled products and consequently questioning the competence of many system actors,

> 'I don't think it's generally purposeful, I think it's generally incompetence… Incompetence in different levels… Like you know, some of it's quite complicated to find out what should be on a label. So, it's incompetence but it's not really incompetence because they're competent people it's just too hard to work it out. Which is a government incompetence, not a producer incompetence, if you like' (Henry).

For other participants competence was assessed only at the level of specific products, and typically in contrast to the goodwill component, as Ruby demonstrates,

> 'It's kind of like that balance of going…you know there's those really like professionally packaged stuff that is gonna have all that information and like pushing, which is then you know you kind of associate with they're professional so they're reliable, despite them being super pushy, compared to like homebrand that probably aren't as much but then look a little bit dodgier[6], so there's like that lacking trust, but they're nicer and they're not as pushy...' (Ruby).

Competence was most reflexively considered by participants with relatively high vulnerability to food risk (such as those with allergies) and thus was discussed related to specific risks;

[6] Australian slang for lower quality

> 'I'd probably agree with that [the food system is trustworthy] more than not, but then there's always error, you know there's always room for error; people make mistakes, forget to put something on… So yeah I think they're probably trying more to help than hinder but yeah there's always room for error' (Grace).

Expectations of goodwill and their violation or fulfilment were a major theme of most interviews, far more dominant than considerations of competence. Goodwill was discussed in its most basic form as what motivated actors to label in a certain way, or the intent behind particular label elements. Participants commented on whether companies were 'genuine' or 'care' about consumers in response to specific label elements, '[it is] just a marketing tactic. Not so much "we care about you and we're gonna let you know that this is good for you", it's more just like "we want you to buy this"' (Ruby). There appeared to be a clear process surrounding the interpretation of intent (Figure 13).

Participants interpreted the meaning and intent of a label element, and in the context of wider labelling and personal factors (for more information about these factors see (Tonkin *et al*, 2016a)), also inferred actor goodwill. All participants displayed or expressed these considerations;

> 'I don't know whether they think "let's put it [extensive nutrition information] on there so it's too much so they give up and buy it anyway"...so whether they're tricking people, or whether they think they're doing the better thing by putting it on there and letting people know, it's hard to know, you know? No, I'm a bit sceptical.' (Grace)

Overall, while indicators of competence were only reflexively considered when something was noticeably wrong, indicators of goodwill were routinely considered in interaction with labelling, by all participants.

Trust in the food system and specific actors through labelling

Competence and goodwill were seen as indicators of trustworthiness and as such formed the foundation for trust judgements made through food labelling (Figure 13). Thus, the violation or fulfilment of expectations resulted in an overall judgement about the trustworthiness of specific actors *through* interaction with labelling. Additionally,

participants also spoke about actively considering trust in the overall outcome of the interaction between these actors. This focal point for trust was at a higher level, involving all the actors, and as such is labelled here the 'food system'.

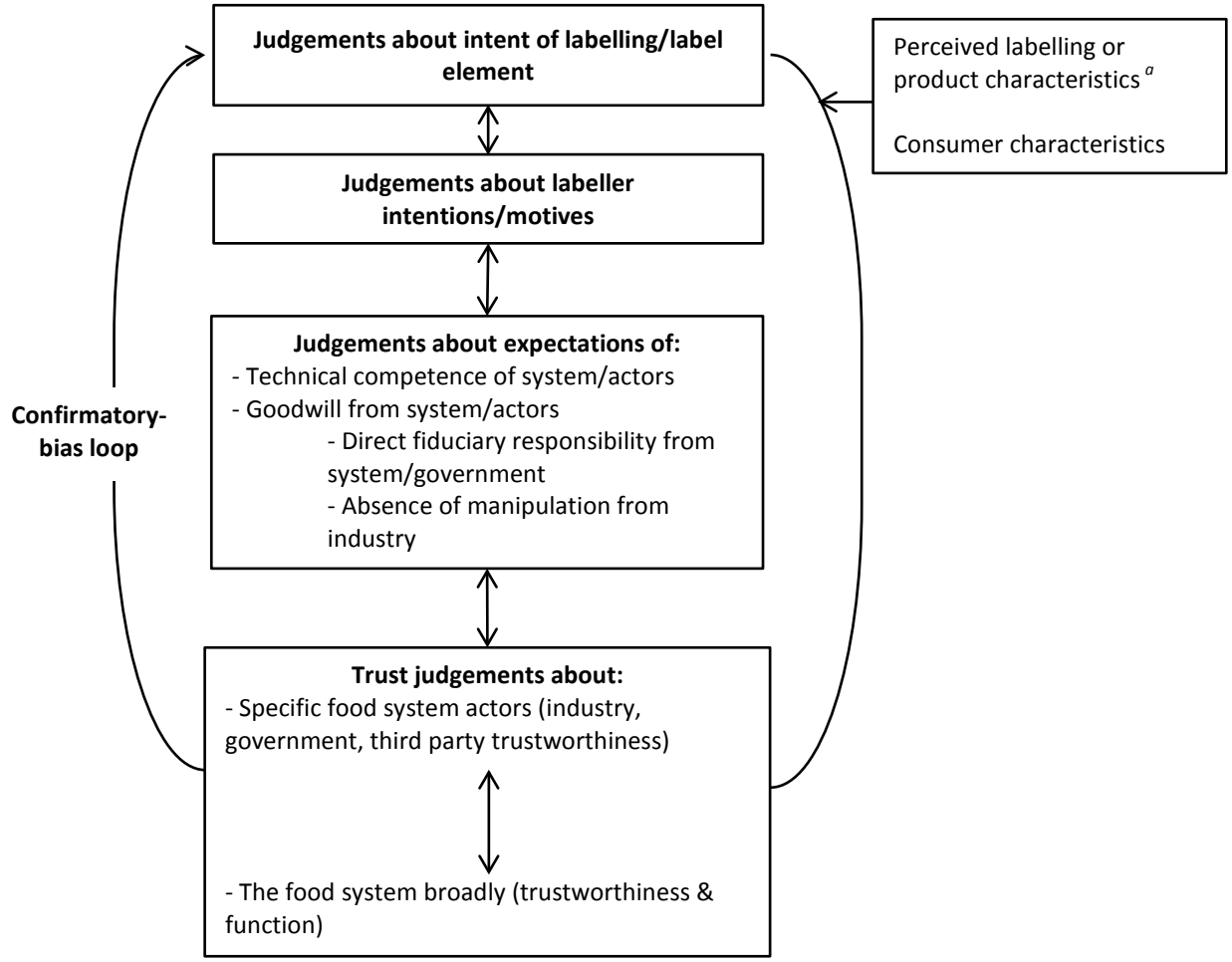

Figure 13. The stages of interpreting trustworthiness from labelling.
The model derived from the study analysis conceptualising how food labelling influences consumer trust judgements. This figure is presented to illustrate the broad stages participants appeared to demonstrate in interviews, but it should not be interpreted as a concrete cognitive pathway. This linear and stepwise presentation of the findings must be used only as a conceptual base from which to add the 'messiness' of the reality described in the text of the results.
[a] Labelling/product and consumer characteristics are described in detail in (Tonkin *et al*, 2016a).

Participants most commonly did not use this term and often struggled to find the language to describe their idea. They variously referred to the 'market system', trust in 'food in Australia' or 'labelling' in general, 'the system' or most simply 'it'. For example, while discussing what she saw as misleading uses of the term organic, Isla said 'It suggests the

system doesn't work to support the things that consumers want/need to know'. As such, participants also discussed making judgements about the trustworthiness of the food system *through* labelling.

Trustworthiness of industry

When participants interpreted negative intentions in labelling it appeared to violate expectations of goodwill and participants explicitly expressed mistrust in industry. Here Colin is responding to the serving size information provided by the manufacturer on a carton of drink; the 600 mL carton said to contain 2.4 serves,

> 'Yeah, it makes me not probably trust them [manufacturer] as much. I understand what they're trying to do is, is try to flog you food that may not be beneficial to you, nutrient wise or otherwise. And they probably are thinking "look we can probably get away with this, you know, this follows the rules, we're writing this down, what they don't realise is that actually they're drinking 10 of these" but … Yeah' (Colin).

This created a type of confirmatory bias loop (Figure 13) where previous negative judgements about the intentions and trustworthiness of industry resulted in labelling being interpreted more negatively on future occasions,

> '*Interviewer: Does this stuff [indicates to the labelling prompts] sort of feed that perception of industry, or did you already have that idea and so you look at this with those eyes…?*
> Lucy: No I think this feeds it. And I think it's because with more and more products coming out it's only getting worse' (Lucy).

The level of risk relevant to the food issue addressed by a label element created important exceptions to this however. For example, allergy statements were identified as something industry would 'take very seriously' while nutrient content claims 'they might play around with' (Thomas). As such while participants did not think industry would intentionally cause direct physical harm, they perceived labelling in general demonstrated a lack of goodwill.

A primary example participants provided of violated expectations of goodwill were when labelling elements themselves were not technically misleading, but did not create a fair representation of a product, '…I find this sort of thing misleading [indicates to 99% fat free

on a confectionary packet], but it's not untrue. How do you legislate, or compel people, without I suppose being so prescriptive that it becomes onerous?' (Thomas). This was also discussed in a more abstract sense than any single label element or product, as Abbey demonstrates with the comment,

> 'Well it's the marketers that don't have a social conscience is…what I feel is that look, I know they're in it to make money, but when something is obviously not good for you that's one thing, but when you start to now market like what they did last night, you think you're putting healthy snacks in your children's lunchboxes because you haven't had time to make stuff and then you think because it says "organic" or it's "light" or it's "whole thing" or whatever, then if you actually just flicked to the ingredients and educate yourself it's actually not a good choice. And yes so that I feel really, yeah quite deceived to be honest' (Abbey).

Perceived violations of goodwill were sometimes attributed to marketers/advertisers rather than the producer/brand, 'The marketing department. Yep. Not, not the actual brand itself, that wants to do the best for the consumer' (Lucy).

Labelling practices participants identified as contributing to perceived violations of goodwill from industry were 'marketing tactics', 'pushy' labelling, 'marketing ploy[s]', 'tricking', 'hiding', 'misleading', and 'underhand' labelling. One participant with a background in economics expressed it as labelling

> '…should address that information imbalance and not seek to amplify that. So I think a lot of product labelling does muddy the waters. So yeah I guess you're aware that there is a lot of research that goes into how they are packaging their products and I don't think it's all for providing genuine and useful information to the consumer' (Oliver).

A quarter of participants additionally articulated that the awareness of these perceived negative intentions had grown with shopping experience,

> 'I probably wouldn't have had the opinions first I don't think. Like it's probably something that's been there [on labelling], noticed and talked about that then has formed the opinion. I mean because like if you go to something first and

> objectively, you'd probably just be like, "well this is someone who's giving me a product" - you would trust that. But then as soon as they're like chucking those extra things on, you're kind of like "why are they doing that?" and then you're thinking about, then you're forming an opinion' (Ruby).

A lack of clarity in communication, whether practical or in expression and language used, was perceived by participants as evasive. For example, the size of lettering and location of key label elements were both practical aspects highlighted by participants, 'I think they put them [nutrition information panels] in really hard to find places' (Lewis). Perceived language issues like using technical names for ingredients or indirect language were also perceived to be purposefully ambiguous, '…"and research shows that it *may* or *can*" - that's what they say, it *may* or this one says *can* lower cholesterol' (Hannah). Conversely, positive intentions were interpreted when labelling was '…nice and clear. There's none of this I've got to take my glasses off to have a look, I can actually read the whole lot' (Liz). Enhancing the visibility of certain ingredients and not others in the ingredients list or detailed nutrition information panel however was seen as deliberately misleading. But this did not hold true for all participants. One participant who was closer to the food chain (married into a farming family) saw it differently, 'Oh I think they're being genuine. They're highlighting what they think is most important for what they're promising…So I think, me, they're actually just highlighting what the product is supposedly about' (Liz).

Some label elements were universally interpreted as demonstrating a lack of goodwill. Nutrient content claims were very rarely seen as positively intended when on most packaged food. 'Them-versus-us' language was often elicited,

> '… it's not about caring for the person and selling a product that's actually good for them and labelling the things that they care about. I guess that comes back to that "may contain traces…" It's more about them rather than us' (Ruby).

Incongruence between the label image and the product inside the packet, or the size of the packet and the volume of product inside, were frequently perceived as purposefully misleading. Advertising was not the only type of labelling raised as problematic however. Negative intentions were interpreted if the 'common sense' meaning of a label element

varied from the technical meaning, '… for a long time we thought "made in Australia" was [completely Australian] but it's not. So that's very tricky. And I think that's underhand' (Margaret). A good example of the confirmatory bias loop in action was participants' response to allergy labelling. Due to 'may contain'[7] statements being voluntary, it was seen not as a method of helping consumers to avoid allergenic products, but 'they just kind of put it on there to save their butt' (Ruby) by all but one of the allergic participants. This reinforced their perception that companies do not care about consumer needs as many reported feeling as though they either had to avoid many products they thought would not actually be a problem, or ignore the labelling and feel insecure. Importantly, one label element being interpreted negatively was at times enough to create scepticism about all the labelling, 'Because when you see a phoney message or a message that you know that it's not necessarily good…like "99% fat free" then you suddenly say "well I've got to look for what is the hidden message about something else"' (Isaac). This was also true in a more broad sense; participants described feeling more negative about labelling in general after seeing a disingenuous product. In this way distrust *in* labelling fostered distrust in industry *through* labelling.

However, labelling not only reduced trust in industry, but provided opportunities for enhanced trust. Plainly and simply packaged products without a lot of advertising information enhanced perceived trustworthiness of the product manufacturer,

> 'I'm giving somewhat kudos *[sic]* because that's [tea in a clear bag with mandatory labelling only], it doesn't appear to be excessively packaged…the vibe I get from this is they're less keen on deceiving me than these people are [boxed tea with some advertising]' (Oliver).

Additionally, fulfilled expectations of competence occasionally enhanced trust despite violated expectations of goodwill,

> '…yeah like there's obviously elements that you go like the professionalism makes me trust them more but, you know, the pushy advertising makes me

[7] 'May contain' statements are voluntary label elements identifying the potential for cross-contamination of common allergens. These statements are distinct from mandatory allergen advisory statements which must be present on food labelling in Australia when a product contains peanuts, tree nuts, milk, eggs, sesame seeds, fish, shellfish, soy or wheat.

> trust them less, or experience makes me trust them more because I know I don't react to it or, you know, just writing "may contain" for the sake of it makes me trust them less, you know? There's just that whole mixture like I don't think I can… So many elements…' (Ruby).

So while participants generally described that their interaction with labelling resulted in violation of expectations of goodwill and therefore mis/distrust in industry, labelling could also foster trust through perceived demonstrations of competence and goodwill.

Trustworthiness of government

While regulatory bodies were not seen to be direct labelling communicators, most participants' perception that they are ultimately responsible for labelling meant expectations of government competence and goodwill were judged through labelling, 'yes, it's [labelling is] extremely deliberately misleading. And we've got governments that don't want to change it because they get lobbied heavily' (Isaac). The perceived lack of government presence on labelling, accompanied by what participants saw as disingenuous labelling from industry, was seen as demonstration of government failure in fiduciary obligation and competence, *'*Oh pretty disappointed too. That they're allowed to get away, that they allow businesses to get away with that… Yeah again it's, it's another way that the government's letting people down I guess' (Lucy). Many participants felt government involvement in more values-driven aspects of consumer protection could enhance belief in government's fulfilment of their fiduciary responsibility, building trust, 'What I think probably [regulatory agency] and labelling kind of regulation falls down on is the stuff they allow not to be labelled and the stuff that is not officially labelled. So you know, stuff that's "natural"…' (Oliver). More than half the participants expressed that they felt the labelling environment did not support the best interests and health of the community, and the hesitancy of government to intervene cast doubt on their fulfilment of fiduciary responsibility,

> 'I think there is a responsibility that consumers should be protected because the bottom line is money and if they're making millions and millions of dollars by putting us all into an early grave it has to be a social responsibility and consciousness. So yes I do believe that there has to be more than just me deciding whether to go to that shop or to buy off the shelf.

Interviewer: So you do see a role for the government in this stuff?

Abbey: Absolutely'

Therefore the perceived unwillingness of government to take action to prevent the lack of goodwill of industry resulted in participants feeling that government placed industry interests ahead of consumer interests, violating their fiduciary responsibility and/or competence, and fostering mis/distrust in government.

Trustworthiness of the broader food system

As labelling appeared to be a surrogate for personal interaction with food system actors, for the majority of participants, perceiving these actors to be untrustworthy undermined trust in the food system as a whole. One participant articulated the combination of violation of expectations of goodwill from industry and competence from government around consumer concerns as,

> '…it's just ambiguous all the time. So you don't have any, any say in your choice. You, you really… I think they have a responsibility if they're going to provide food. In terms of the market system, the market system should engage and have respect for the consumer; the consumer would like to make specific choices and they don't do that. And I think the people that are the authorities and the governments and whatever, I think they've been absolutely hopeless' (Bruce)

This resulted in uncertainty about the trustworthiness of the system and mistrust for some participants,

> 'And I will now just go in and just say "it's all marketing and they're just trying to deceive me" so now it's a very negative thing. …so you start thinking "well who [in general, not a specific company] can I trust so that I can make an informed decision and that I'm not being manipulated or deceived?"' (Abbey)

In others it resulted in active distrust, '*Interviewer: …they seem to think that labelling suggests positive things about the food system…?* Isla: No. For me it's almost total distrust'.

Most participants felt the only source of security were social control mechanisms associated with labelling, like reputation, motivating labellers to do the right thing, 'You know if you prove somebody big to be wrong then everybody gets to hear about it which is bad for

business, so they care. Not because they care, they care because it's bad for business' (Henry). Participants directly contrasted this with the motivation of it being 'a good thing for the Australian [public], or for people generally' (Bruce). Additional social control mechanisms participants expressed relying on were regulatory activities like laws, monitoring and prosecution for misconduct, 'Yeah stuff like that [the detailed nutrition information]. So yes I think that has helped and makes me feel like "okay at least that's regulated"' (Abbey). Although this strategy was only possible for participants who knew these label elements were regulated.

However, almost all participants concurrently described labelling fostering trust in the system regarding other risks, through being a visible representative of a technically competent, and therefore hygienically safe, system. Here participants cited standardised nutrition information and ingredients lists as indications of a well-regulated system. Still, judgements regarding trust in the system were complex, often involving all the aspects (expectations of competence and goodwill, and additional social controls) at once,

> 'I guess, it [labelling] does and it doesn't [foster trust] for me, you know I… They're putting it out there, they're going "this has blah blah blah inside of it" and I guess I go, "I trust that". I guess it's some sort of government body that says you know, "how have you tested that? You know, how have you weighed up your ingredients?"... I guess, you know, I imagine this body… that they're actually watching this, and that if they play, if they played up—so saying the quality control study guy went awry that they'd get fined; do a recall. So I guess that that's, in that sense it [labelling] does make me feel better about the food, and it does build my trust with it. There're certain elements that don't build my trust. I don't for instance, you know the 99% fat free that seems to be the catch phrase, "99%, 99%"…so…Yeah, in that sense it doesn't' (Colin).

On an everyday, practical level, the strategies participants utilised to manage these interpreted indicators of lack of trustworthiness and conflicting feelings were numerous:

> 'You think "Oh maybe I'll just leave it"' (Liz),
> 'I'd probably just not read a lot of it' (Chloe),

> 'I tend to buy the same brands and same things' (Margaret),
>
> 'I'm buying less of the processed stuff because I just don't really know what I can rely upon' (Thomas),
>
> 'I'm attempting to learn to cook everything that I enjoy myself' (Lewis),
>
> 'So basically I like to have that direct link [with producers]…I trust what I trust' (Bruce).

Seeking government presence on labelling, shopping around the supermarket edges and shopping in particular stores were further strategies expressed. However, it was clear that mistrust and increased sensitivity to negative intentions were residual implications for participants of repeatedly seeing their expectations of goodwill violated through labelling.

Discussion

The findings presented suggest that food labelling acts as a surrogate for personal interaction with food system actors. This enables trust judgements about industry and government, and the broader food system to be formed by consumers through labelling. For these participants, in a general sense, labelling undermined belief in the goodwill and fulfilment of fiduciary responsibility of system actors, eroding trust in the system as a whole. Continued engagement with the conventional food system was made possible through labelling being a visible indication of actor competence, along with social control mechanisms complementary to trust, such as reputation and prosecution for misconduct.

The role of food labelling as described by these participants is consistent with Giddens' (1990) conceptualisation of an 'access point' to a system. Experiences at access points are likely to strongly influence attitudes of trust towards specific systems (Giddens, 1990). Importantly, Giddens is clear that access points are places where trust in the system can be enhanced *or* undermined. Here labelling afforded opportunities for both the building and eroding of trust in specific actors and the system as a whole; labelling was an access point for 'faceless' trust in the food system (Giddens, 1990, p. 88). This supports theoretical claims that trust can be actively placed in systems, and provides empirical support for Giddens' conceptualisation of 'access points'. Thus food labelling can be an opportunity to foster and even potentially build trust in food systems, provided it is sending positive messages about their trustworthiness.

The elements of trustworthiness these participants expressed assessing through labelling are similar to the dimensions of trust in systems identified by others: a competence component and an affective component here termed goodwill (Poortinga and Pidgeon, 2003; Sapp *et al*, 2009; Barber, 1983; Metlay, 1999). Specific to the food system, in a large US survey Sapp *et al* (2009, p. 541) found that factors representing perceived competence and fiduciary responsibility of institutional actors accounted for >96% of the variance in trust in food. They found the effects of fiduciary responsibility on trust were more important than that of competence, by a substantial way (average 3 to 1) (Sapp *et al*, 2009, p. 537). de Jonge *et al* (2008) also found that 'care' was the most important trust dimension in building consumer confidence in food safety. Both suggest that rather than focussing risk communication on competence aspects such as skills and expertise, consumer trust may be better fostered through emphasising the fiduciary responsibility and care of system actors (Sapp *et al*, 2009; de Jonge *et al*, 2008). Our results indicate that while food labelling enhances consumer belief in industry and government competence (for example through the presence of standardised nutrition information), it damages perceptions of their goodwill; quite the reverse of the situation proposed as ideal for fostering trust in food by Sapp *et al* (2009) and de Jonge *et al* (2008). The assertion from Sapp *et al* (2009) that 'actions rather than words are needed to promote public confidence in fiduciary responsibility' results in our findings being even more problematic for these actors. While the everyday visible representative of the food system, food labelling, is perceived to demonstrate a lack of goodwill from industry and government, verbal pontifications to the contrary are likely to fall on deaf public ears.

At the core of judgements regarding goodwill was the assessment of labeller intent displayed by these participants. This concept is similar to what is described in the advertising literature as 'manipulative intent', Campbell (1995) defines it as 'consumer inferences that the advertiser is attempting to persuade by inappropriate, unfair or manipulative means' (p. 228). That consumers interpret manipulative intent from labelling is supported by Abrams *et al* (2015) who also found marketing tactics, such as celebrity endorsement, are instead used as a defence heuristic by parents shopping for children. However in the study presented here the assessment of manipulative intent was not limited to the advertising information, but all labelling. Mandatory aspects of the label were also at times perceived to be manipulative. This may be in part due to participants not clearly distinguishing between

mandatory and voluntary label elements, but simply seeing all labelling as a direct communication from industry.

That so much manipulative intent is interpreted from such a wide variety of labelling elements may be partially due to participants' pre-existing biases or ideas about the goodwill of industry. We have suggested this is present as a confirmatory-bias loop in the process of interpreting trustworthiness from labelling, as indicated in Figure 13. The confirmatory bias hypothesis (White *et al*, 2003) would suggest participants who have a high degree of pessimism and perceive industry as lacking goodwill interpret labelling in such a way as to support those same views. Exemplifying the suggested confirmatory bias is the finding that language used to communicate uncertainty, and therefore protect consumers, such as 'can' or 'may' in health claims was perceived by participants as deliberately evasive and manipulative. Previous research examining trust in food safety and regulation has provided similar support for the confirmatory bias hypothesis (Poortinga and Pidgeon, 2004). In quantitative studies this has been described as an issue of attributing causality (de Jonge *et al*, 2008); that is, does perceiving manipulation in labelling lead to distrust of actors, or does distrust of actors lead to interpretation of manipulation in labelling? We argue that in complex social conditions such as these, attributing causality is less important than recognising that the effects are likely reciprocally supporting, hence presenting this as a loop in Figure 13. Consumers interpret labelling through the lens of a life history of previous interactions with labelling and other experiences that form general attitudes of trust towards food system actors. Policy makers and industry must be mindful of not framing consumers as separate from this social context when reviewing and planning labelling regulations and initiatives.

Participants explicitly stated that currently interaction with food labelling damages their trust in industry, with flow on effects for trust in government. Consistent with social theory (Barber, 1983; Gambetta, 1988), participants describe relying more heavily upon other forms of social control like indirect management of the market through media and prosecution for misconduct to manage food-related uncertainty. Consumers placing greater emphasis on organisations responsible for monitoring and enforcement, and therefore prosecution for misconduct, should be of concern to policy makers. In Australia and globally these organisations are typically over-burdened and resource poor, working to risk-based

frameworks that can be unreflective of the issues important to many consumer groups. Trust is a far more efficient solution, and thus critically examining current labelling practices to encourage the fostering, rather than destruction, of trust may be the most economical option with wide spread benefits for the overall food regulatory system. Petty (2015) provides an interesting analysis of the policy implications of the numerous consumer class action lawsuits in the US over the use of the term 'natural' in food advertising, which could be seen as a response to many of the issues identified by the participants in this study. A focus on risk and food safety emphasises competence, but the exclusion of other issues relevant to consumers, the 'consumers values issues' (Blewett *et al*, 2011), does nothing to foster goodwill. The existence of multiple dimensions to trustworthiness does not infer an either/or situation – *both* competence and goodwill must be displayed for trust to be built and maintained (Meijboom, 2007; Frewer *et al*, 1996).

This is a qualitative study and as such cannot make claims to population representativeness, limiting the generalisability of the findings beyond this participant group. However, that the findings were so consistently shown by a majority of participants theoretically sampled for variance in trust instils confidence in the conclusions drawn. Similarly, that these findings are so congruous with other larger, quantitative studies and extant theory provides further assurance of the validity of the central messages. While the depth of understanding achieved in this study would be unattainable in a large, population representative study, this work may be used as a platform for quantitative studies targeting specific parts of the findings presented here.

Conclusions

This research presents a novel perspective in discussions of food and trust, it has focussed on trust *through* labelling; previous research having exclusively examined consumer trustingness, trust *in* labelling. It shows food labelling acts as an access point for trust in disembedded, globalised food systems. The explicit voicing of distrust developed through interaction with food labelling presented by these participants demands attention from both food industry groups and regulatory bodies alike.

The research reported in this paper provides crucial insights into how labelling may damage consumer belief in the trustworthiness of food system actors. The results have implications

for policy makers, and for primary and retail food industries. These actors must move away from an exclusive focus on demonstrating competence to also consider how policy decisions and labelling choices will impact upon consumer perceptions of actor goodwill. Furthermore, this research can be used as a platform for future research exploring how industry and policy makers can craft labelling that fosters consumer belief in food system actors' goodwill. Rather than being merely a conduit for information about manufacture and contents, this would potentially enable labelling to be used as a tool to rebuild and maintain, rather than undermine, consumer trust in food systems.

Chapter 3.3. Managing uncertainty about food risks – consumer use of food labelling

Preface

This peer-reviewed manuscript presents Study 1 findings related to research question 3, and all sub-questions:

3. How does food labelling enable consumers to manage uncertainty about food?
    a. How is food risk framed by consumers?
    b. What role does food labelling play for consumers regarding risk?
    c. How does food labelling enable consumers to deal with uncertainty about personally uncontrollable food risks?

In the manuscript discussion the findings are placed in the context of labelling governance, and the implications for consumer engagement in policy making are explored. This paper has been peer-reviewed and published with the citation,

Tonkin, E, Coveney, J, Meyer, SB, Wilson, AM & Webb, T (2016) Managing uncertainty about food risks - consumer use of food labelling, *Appetite*, vol. 107, pp. 242-252

Abstract

General consumer knowledge of and engagement with the production of food has declined resulting in increasing consumer uncertainty about, and sensitivity to, food risks. Emphasis is therefore placed on providing information for consumers to reduce information asymmetry regarding food risks, particularly through food labelling. This study examines the role of food labelling in influencing consumer perceptions of food risks. In-depth, one-hour interviews were conducted with 24 Australian consumers. Participants were recruited based on an *a priori* defined food safety risk scale, and to achieve a diversity of demographic characteristics. The methodological approach used, adaptive theory, was chosen to enable a constant interweaving of theoretical understandings and empirical data throughout the study. Participants discussed perceiving both traditional (food spoilage/microbial contamination) and modern (social issues, pesticide and 'chemical' contamination) risks as present in the food system. Food labelling was a symbol of the food system having managed traditional risks, and a tool for consumers to personally manage perceived modern risks. However, labelling also raised awareness of modern risks not previously considered. The consumer framing of risk presented demonstrates the need for more meaningful consumer engagement in policy decision making to ensure risk communication and management meet public expectations. This research innovatively identifies food labelling as both a symbol of, and a tool for, the management of perceived risks for consumers. Therefore it is imperative that food system actors ensure the authenticity and trustworthiness of all aspects of food labelling, not only those related to food safety.

Introduction

Food risks are unique in that consumers face them every day (Fischer and De Vries, 2008). However, research exploring food risk often focusses on consumer perceptions of expertly defined risks, stating that consumers overestimate the risk posed by some hazards and underestimate others (Williams *et al*, 2004; Verbeke, 2005; Ueland *et al*, 2012). Modern food systems have been described as highly institutionalised, 'unpredictable, fragmented, and contradictory' (Poppe and Kjaernes, 2003; Kjærnes, 2012, p. 153), and, as such, general consumer knowledge of and engagement with the production of food has declined (Meyer *et al*, 2012). This contributes not only to an increasing divergence in the concerns of producers and consumers regarding what constitutes food risk (Brom, 2000), but also

evermore consumer uncertainty and anxiety regarding these risks (Meyer *et al*, 2012). As such, the study of food risk as it is understood and framed by different agents within the food system is increasingly relevant. Emphasis is placed on the importance of providing information for consumers to make 'informed food choices', presumably, in part, mitigating food risks. In modern food systems, food labelling plays a primary role in facilitating information exchange between consumers and the food system. Therefore developing an understanding of how food labelling influences consumer food risk perceptions is essential.

This paper utilises Beck's (1994; 1992) account of reflexive modernisation to conceptualise risk, founded on the premise that 'risks count as urgent, threatening and real or as negligible and unreal only as a result of particular cultural perceptions and evaluations'(Beck, 2009, p. 13). Beck (1992, p. 20) describes reflexive modernisation as a process by which late industrial societies are moving towards 'risk society'; that is to say, a process representing a transition between a society preoccupied with the distribution of wealth created through industrialisation, to a 'risk-distributing society'. In the latter, risk society is where science and industry work to prevent and manage hazards through rationalisation, and citizens are reflexively aware of new forms of risk created through the successes of industrialisation (Beck, 2009). Risk society is therefore characterised by an awareness that many uncertainties faced today are not resolved by, but conversely, originate from human knowledge (Giddens, 1994). As such, reflexive modernisation involves the projection of blame for risks outwards (to science and industry for creating hazards), but there is a concomitant internalisation of self-responsibility for seeking knowledge regarding, and therefore managing, risk in everyday life (Tulloch and Lupton, 2003). The problem of consumer food choice exemplifies the attribution of blame to external forces for risk creation, and the internalisation of responsibility for managing risks.

Food risks are commonly framed as threats to safety or quality (Verbeke, 2005). However, another distinction that usefully flows from the thesis of Beck's risk society is that of 'traditional' and 'modern' risks (Buchler *et al*, 2010; Beck, 1992). This distinction differentiates risks based on their cause; delineating hazards by their origin (either naturally occurring or brought about by industrialisation) is a fundamental concept of reflexive modernisation (Giddens, 1994). 'Traditional' risks are those that have always been present in nature, not created through human control and therefore with an element of fate and

mysticism. Buchler *et al* (2010, p. 355) define traditional food risks as food microbial contamination and spoilage. Conversely, risks produced through human technologies, interventions and due to human decision making here are termed 'modern' risks (Beck, 1992). We use the term 'modern' not with the intention of demarcating a particular era of time, but rather to affirm Beck's thesis that these are risks of modernisation, the global products of industrialisation and human intervention. In contrast to 'traditional' risks, these have much larger scope of impact and are much more difficult to see, contain and manage (Beck 1992). For Buchler *et al* (2010) modern risks are those brought about by biotechnology in food production, classifying food additives, chemicals, pesticides and their associated regulation as areas of modern risk for investigation in their study. Given the divergent origins of modern and traditional risks, it is reasonable to consider that consumers may manage them differently in their everyday interaction with food.

The conceptual purpose of risk management for individuals is twofold: to help feel a sense of control related to perceived threats, and to make sense of harm should it occur, thereby managing uncertainty and anxiety regarding threats and dangers (Lupton 2013). The aim is to reduce feelings of uncertainty and vulnerability, whether realistically it is possible to have any control over risk or not (Lupton, 2013). However, in risk society where modern risks are invisible, global and incalculable (Beck, 1992), 'risk meanings and strategies are attempts to tame uncertainty, but often have the paradoxical effect of increasing anxiety about risk through the intensity of their focus and concern' (Lupton 2013, p. 19). Knowledge therefore becomes an important and powerful tool in both managing and creating uncertainty regarding risk for all members of risk societies (Fox, 1999). In the case of food, labelling is the central communication pathway between consumers and the food system; it is the conduit of understanding and information for individual food products. Given its role in knowledge transfer in food systems—which is reliant on the probity of manufacturers who may or may not fully declare all product aspects consumers see as relevant—food labelling inevitably contributes to consumer perceptions of food as a risk.

Previous research links consumer label reading behaviour with management of perceived food risks. Dörnyei and Gyulavári (2016) state the primary motivation for label information search is avoiding health-related risk, naming 'fear' as a 'general personal factor' motivating label information search. This is supported by Williams *et al* (2004) and Lupton (2005) who

found Australian consumers use labelling to avoid ingredients they believe to be unhealthy or dangerous. Similarly, Kraus (2015) found that an important motivator for the purchasing of functional foods were ideas about health risks. Pinto *et al* (2015) also found perceived risk of food-borne disease was correlated with label reading. Abstracting this idea beyond health concerns, Hall and Osses (2013) comment that consumers use of different labelling components generally reflects their personal concerns regarding food.

However, previous research has utilised survey methods, only briefly touching on label information search and food risk as part of wider discussions of food label use. Thus, the role of labelling in influencing uncertainty regarding perceived food risks for consumers remains to be thoroughly explored. Unlike previous research, this study sought to examine participants' framing of food risk generally, and not how these risk perceptions influence specific food choices. This study provides novel insights through focussed examination of consumers' interaction with food labelling and how it influences uncertainty regarding perceived food risks. The study objectives were:

1. to describe the risks consumers perceive to be present in the food system, and

2. to explain how consumers used labelling information to facilitate the management of uncertainty relating to these risks.

Methods

This study used the methodological approach of adaptive theory (Layder, 1998). Adaptive theory is an adaption of Glaser and Strauss' Grounded Theory (Layder, 1998; Gordon *et al*, 2012), which emphasises the generation of new theory that is not isolated from useful existing bodies of knowledge. Central to the processes of adaptive theory is the use of extant theory throughout the entire research process, enabling emerging theory to be connected with an ongoing established body of theoretical concepts and firmly applicable and locatable in current knowledge bases (Bessant and Francis, 2005; Layder, 1998). Importantly, the body of concepts and theoretical ideas taken into the research is 'not inviolable but entirely provisional, to be modified, abandoned, confirmed or retained' as needed by the empirical data (Layder, 1998, p. 58). Adaptive theory therefore requires that research design and analysis involve iterative and harmonised analysis of extant theory and empirical data

(Gordon *et al*, 2012). Layder (1998) is clear that theory should be used flexibly, not concretely, to "help to both organize the data and stimulate the process of theoretical thinking" (p. 54), rather than provide a pre-ordered set of theoretical ideas to be empirically tested. Thus, the constant interweaving of theoretical understandings and empirical data was a feature of this study.

Theoretical sampling (Layder, 1998) was used to recruit participants between May and July 2014. Sampling was based on an *a priori* defined food safety risk scale (low, moderate and high risk) as population representative studies show consumers with diet-related health conditions are more likely to engage with food labelling (FSANZ, 2008). Sampling thus incorporated elements of extreme sampling where participants who are likely to have the most knowledge and experience relating to a topic are actively sought. The aim of this sampling approach is not to gather a population representative sample, but to ensure all potential perceptions of risk and ways of managing uncertainty regarding those risks are captured within the sample (Nicholls, 2009b). This approach is outlined in Layder's theoretical sampling, and is a common approach in qualitative research. Low risk consumers were those who did not identify themselves as having special dietary requirements. Moderate risk consumers were those with food intolerances or non-acutely life threatening dietary conditions such as Type 2 diabetes. High risk consumers were those with (or who shopped for others with) life threatening dietary considerations such as food allergy. We also sought to recruit consumers from a range of food markets, and with varying demographic characteristics (age, gender, place of birth) as these factors have been shown to influence perceptions of risk (Buchler *et al*, 2010) and attention to food labelling (FSANZ, 2008). A range of recruitment approaches were used to target the population groups outlined above. High risk participants were recruited through advertising with Allergy and Anaphylaxis South Australia, while moderate and low risk participants were recruited through posters in supermarkets, gyms and malls. Recruitment ceased when all theoretical sampling dimensions had been adequately represented, and the data were found to be saturated (no new ideas or themes were being raised by additional participants) (Mason, 2010). Participants were reimbursed $30 for expenses associated with taking part in the research. Ethics approval was granted by the Flinders University Social and Behavioural Research Ethics Committee (SBREC6429).

In-depth, face-to-face interviewing was chosen as the primary method of data collection. Interviews were typically of one hour duration and were loosely structured around the main themes of shopping considerations (including management of concerns relating to food), use of labelling, comparisons of labelled and unlabelled products and trust in the food system. This paper chiefly draws on participants' considerations relating to food and their comparison of unlabelled and labelled package prompts. Participants were asked to describe their shopping practices in general and food risk/concerns were spoken about spontaneously, with probing used to expand discussion. In this way food risk was not narrowed to an exploration of food safety, but reflected the perceptions and concerns of this group of participants, enhancing authenticity (Fade, 2003). When participants did not spontaneously discuss concerns, they were asked if there was anything they worried about regarding food. Importantly, the interviews did not focus on participants' specific food choices. While discussions of food choice are unavoidable in a study of this nature, these were used to elucidate the areas of risk perception presented by participants, and not how these different areas were traded-off in food choice decision making. Images and real examples of packaging were used as prompts for discussion (Eden *et al*, 2008c) (Table 5) and more detail about prompts, including pictures, can be found in (Tonkin *et al*, 2016a).

Table 5. Examples of packaging prompts used in interviews, with detail about label elements

Prompts chosen with specific label elements	
 Meat including 'meat standards graded' and 'Heart Smart' labels	 SAFCOL tuna including environmental label elements and '99% fat free' label
 Cereal with extensive nutritional information and Australian made and Heart Foundation Tick labels	 Herbal tea including many organic certification labels
 Nut spread including 'nut, dairy and gluten free' labels and nutrient content claim	 Nerada tea including 'pesticide free' label
 Milk containing health claim label 'reduces cholesterol'	 Soy milk including nutrient content claims, 'non-genetically modified' and 'Australian grown' labels

Given some foods are perceived by consumers to hold more inherent risk (Poppe and Kjaernes, 2003) we also included a range of foods from low (packaged tea) through to high risk (fresh meat) (Kjærnes, 2006). Finally, a pair of real chocolate packages and a pair of real tea packages, both including one labelled and one packaged but minimally/unlabelled, were included as a comparison (Figure 14). All packages in these comparisons were sealed and the chocolate products were visually identical. Participants were asked 'are there any meaningful differences between these two products?' when presented with the comparisons.

Figure 14. Labelled and un/minimally-labelled chocolate and tea

Analysis followed that outlined by adaptive theory (Layder, 1998), and was consistent with other studies using this approach (Bessant and Francis, 2005; Emlet *et al*, 2011; Gordon *et al*, 2012; Gross, 2007; Scott and Carr, 2003). Each audio-recorded interview was transcribed whole and coded using a set of codes elicited from the data itself (provisional coding). Analysis was managed using NVivo 10 (QSR International, Doncaster). Theoretical memo-writing (Layder, 1998) was used to summarise interviews and develop the emerging themes, connecting them with theory. Individual transcripts were read, coded and summarised multiple times by the primary author. The concept of 'risk' was used to group transcript

sections, which were then separated into the categories of 'health risks' and 'social, moral, ethical risks' based on evident differences in participant framing. Social, moral and ethical risks were defined as those unrelated to the participant's own health, encompassing issues of social justice and harm to the environment, animals or people working within, or otherwise impacted by, the food chain. Consistent with adaptive theory, existing literature was then reviewed to develop a framework through which participants' risk framings could be linked with how labelling was used to manage them. It was found that 'social, moral, ethical risks' and discussions of health risks including a human action component (use of pesticides, additives, addition of macronutrients for taste alone, carcinogenic food processes) were theoretically consistent with 'modern' risk as outlined by Beck (1992). Similarly, participants' description of health risks inherent in food, like food poisoning related to food spoilage, were consistent with 'traditional' risks (Buchler *et al*, 2010) (Table 6). This new grouping of participants' risk framings assisted with making sense of the seemingly contradictory roles played by labelling in helping participants to manage risk and uncertainty, thus expanding the depth and explanatory power of the analysis. The developing analysis was presented to the wider research group at fortnightly meetings in visual, verbal and written forms. This enabled critique of process and outcome, ensuring robustness of data and analysis, and analyst triangulation (Fade, 2003).

Table 6. The re-categorisation of risk types

Original risk category	Social, ethical, moral	Health	
Original sub-categories		Introduced through human action	Inherent in food
Examples	Unfair trade, environmental destruction	Pesticides, additives	Allergens, spoilage
Theoretical risk category	Modern	Modern	Traditional

Results

The demographic characteristics of the 24 interview participants are given in Table 7. The ways in which participants discussed food risk are presented below, followed by a description of participants' perceptions of traditional and modern risks. These descriptions provide the foundation for the subsequent findings, those exploring how food labelling facilitates the management of—but also creates and fosters—uncertainty regarding risks. The findings are integrated and summarised in Table 8.

Table 7. Participant characteristics

Pseudonym	Gender	Age group	Shopping location	Place of birth	Food risk level	Shops for children
Colin	M	25-34	Supermarket	OA[a], English language	Low	No
Lucy	F	25-34	Supermarket	Australia	High	Yes
Ruth	F	45-54	Alternative	OA, English language	Moderate	Yes
Isla	F	25-34	Supermarket	Australia	High	Yes
Ruby	F	18-24	Supermarket	Australia	High	No
Paula	F	35-44	Supermarket	Australia	High	Yes
Grace	F	25-34	Alternative	Australia	High	Yes
Thomas	M	55-64	Alternative	OA, English language	Low	No
Oliver	M	35-44	Supermarket	Australia	Low	No
Jack	M	>65	Alternative	OA, English language	Low	No
Hannah	F	>65	Alternative	OA, English language	Low	No
May	F	>65	Supermarket	OA, Non-English	Low	No
Margaret	F	>65	Supermarket	Australia	Low	No
Anne	F	>65	Supermarket	Australia	Moderate	No
Abbey	F	35-44	Supermarket	Australia	Low	Yes
Isaac	M	55-64	Local only	Australia	Low	No
Leo	M	18-24	Supermarket	OA, Non-English	Low	No
Fran	F	25-34	Supermarket	Australia	Moderate	Yes
Bruce	M	45-54	Local only	Australia	Low	No
Henry	M	45-54	Alternative	Australia	Low	No
Chloe	F	18-24	Supermarket	OA, English language	Low	No
Amelia	F	45-54	Supermarket	OA, Non-English	Low	Yes
Liz	F	55-64	Supermarket	Australia	Moderate	Yes
Lewis	M	18-24	Local only	Australia	High	No

[a] OA, outside of Australia

Consumer framings of food risk

Participants typically initiated discussions of risk using the terms 'quality' and 'safety'. When asked to define quality attributes participants usually described them in terms of risk;

> 'So I tend to go for like the cold pressed and just the higher quality ones [oils]. I mean you pay a bit more; it's just a bit better because of the carcinogenic risks and stuff' (Lewis).

While risks associated with both packaged and fresh foods were discussed, participants predominantly focussed on risks uncontrollable through home based practices. Participants were very risk-aware, 'I like checking food because I want to make sure what I eat is healthy and safe' (Leo). Those with young children were usually the most risk averse, and in general, parents perceived risks to be more relevant to their children than themselves, as shown by this quote from Lucy 'Yeah so, I guess having a daughter like, we always did take care of what we ate but having a child I guess makes it even more important'. Notably, not all consumers expressed concern regarding all the risks discussed in this paper. It was often the case that participants who perceived a specific risk intensely showed little consideration of

other risks, as demonstrated by this mother of a child with a food allergy, 'If it's not related to allergies I try not to over think these things. I don't tend to necessarily think laterally about that sort of stuff [fair trade, organic processing]' (Isla). Overall, thoughts and behaviours relating to risk were discussed by participants as a familiar part of their everyday lives.

Traditional Risk

Traditional risks mentioned by participants were those related to allergy or ill-health caused by food spoilage or contamination, and participants clearly defined the consequences as acute and visible health issues. These perceived immediate health risks included microbial contamination due to food spoilage or hygiene issues in growing, processing and preparation. Acute allergic reaction in response to food contamination was another risk identified by participants. Traditional risks were raised infrequently, and overall consumers displayed confident expectations that although these were risks inherent in eating food, the food system was managing them, 'I think that just normal first world things. I expect the food to be hygienically stored or hygienically sealed' (Thomas). Both primary (strict regulation of farming and processing practices) and secondary system factors (monitoring and testing of products) were identified by participants as evidence of this. Different types of foods were considered more risky, 'But it's tea so I'm not overly worried by it' (Oliver) and over half of the participants who discussed this type of risk specifically contrasted Australian and imported foods. Different purchasing locations also influenced the level of perceived traditional risk,

> '…for instance what's in the hot food section, the roasted chickens… I would buy that chicken in, you know, a big supermarket because they cannot risk losing their reputations. But for those small deli and grocery store *[sic]* I wouldn't buy those products' (Leo).

Participants with more personal experience of food production processes were less concerned about traditional risks,

> 'Well I've always worked in manufacturing environments so I guess I kind of, it doesn't really [worry her] because I know that things have to be processed

> the way they do to meet cost requirements for the business that's doing it' (Lucy).

Thus traditional risks were those which had clear and visible outcomes, were naturally occurring in food and participants generally assumed they were mitigated by food system actors.

Modern Risk

The broad categories of modern risks described by participants were health issues caused by contamination with harmful products during production (system-generated risks), and social, ethical or moral issues brought about by food production.

System-generated health risks

Perceived system-generated health risks were the most frequently raised type of risk, with every participant describing one or more of the risks categorised here. These were presented by participants as 'carcinogenic' food processes, foods contaminated with 'chemicals', unsafe additives and preservatives, farming practices that led to contamination (for example hormonal) and a lesser but still discussed form was poor nutritional profile of food products leading to chronic disease, 'There's plenty that I worry about in regards to food…definitely you hear a lot about the carcinogenic stuff and things like MSG. The additives are probably a big one' (Lewis). Genetic modification issues were discussed but were not a primary concern for these participants. These perceived risks were most often opaquely described and seemingly difficult to define for consumers, 'you just know Cheerios are bad for you' (Grace), but had long-term implications, 'with the soy milk again it's how is that affecting…how will that affect, not maybe tomorrow but in 10 or 20 years' time?' (Lewis). Infrequently the consequences of these risks were identified directly, and these were outcomes like cancer and the 'obesity epidemic'; 'I mean what preservative? There are links to cancers and things like that with some of them and I'd really like to know which ones they are' (Lucy). Participants who had children with a food allergy frequently articulated concerns about additives and preservatives, which they identified as being brought about through frequent label reading. Two participants perceived system-generated health risks so intensely that they discussed food in terms of a dichotomy, food and not-food (for example processed cereals), 'So I think I'll be teaching them [her children] about food labelling when

the time comes, how to know what's food and what's not' (Fran). As such, system-generated health risks were the most frequently considered type of risk for participants, and were those discussed as having less visible, but important long-term consequences.

In contrast to traditional health risks which were seen as being naturally present in food and mitigated by food chain actors, system-generated health risks were predominantly perceived as being created and perpetuated by food chain actors,

> 'The great agricultural experiment we are… there's all these chemicals out there that we wash our food in repeatedly that we've got no idea about the long-term effects of… But that's all government regulated which is kind of wrong…' (Henry).

The majority of these risks were identified as things consumers needed to address themselves, there was no expectation that others would be helping to manage these risks, 'Maybe like health-wise I wouldn't really expect it [Australian food] to be too healthy, and that would be something that I would look into myself' (Chloe). The only exceptions were two participants who had a farming background who felt the system was well controlled with regard to perceived system-generated health risks, but only local Australian food,

> 'And because Australia does have such a good… What's the word…? You know they keep an eye on what's going into products and all of that… Sometimes too much maybe but I like that idea and you read often foods that have come from other countries that the animals have been pumped with all sorts of things' (Liz).

Like traditional risks, perceived system-generated risks were particularly associated with imported foods, either through personal experience or through news media, 'I think it's important to support local products because they are *safer* and they are healthier' (Leo, his emphasis). A quarter of participants used strong language around the safety of imported foods, particularly older participants, those living in rural areas and those with farming connections. Therefore, participants expressed needing to take personal control, or making active food choices to avoid these risks which they saw as being *created and perpetuated* by the food system.

Social risks

The second type of modern risk identified by participants was a social framing of food risk; risks to society or their ethical and moral integrity brought about by food production practices. These risks were typically secondary to health concerns, however were central concerns for a small number of participants and raised by the majority as peripheral worries. Participants' discussion of these risks centred on the implications of transporting food long distances and the negative environmental implications of conventional farming,

> '…obviously if you produce things out of season or transport them long distances there's a lot of energy used and a lot of other things. So I'm really trying to avoid those factors' (Isaac).

Other social risks participants expressed were human costs in food production, discussed as fair market practices and trade, '…tea is one of those processes that when you've got big companies buying a lot, are other people at the other end actually being paid what they need to be paid and being looked after the way they should?' (Lucy). A similar social risk articulated by almost all participants was that of losing local production and unfairness towards local food producers, '…I don't think we need to have other oranges because our people that are growing this stuff have to live. And if we're buying Californian oranges, well the Riverland people, what are they living on?' (Anne). The framing of this situation as a risk was enhanced by the perception that Australian food is safer, linking this risk of loss of local production to health risks in general. Therefore, again participants discussed social, ethical and moral risks as being outcomes of a globalised food system, requiring personal consideration and management.

Labelling and managing perceived food risks

The preceding section described participants' framing of food risks. The following sections discuss how food labelling facilitates the management of uncertainty about these risks, and how this differs based on whether the perceived risk is traditional or modern. The participants in this study appeared to demonstrate two separate pathways by which uncertainty regarding perceived risks was managed using labelling: food labelling acting as a *symbol* that *someone else* has managed risk for them (left pathway in Table 8), and an active interaction whereby food labelling is used as a *tool* to *personally* manage perceived risks

(right pathway in Table 8). Here the term 'symbol' is used to represent the idea of a summary-construct; a representation or sign of a greater concept. It is not intended to mean an identifying mark, such as an emblem or logo. It is important to note that both pathways may be utilised by a single participant—albeit for the management of different risks—even within the same product. These data arose from the section of the interview where participants compared labelled and un/minimally-labelled chocolates and tea (Figure 14).

Table 8. Key characteristics of the two pathways for managing uncertainty about risk using labelling

Role of labelling	Labelling as a *symbol*	Labelling as a *tool*
Uncertainty management pathway	Delegating control to others (trust)	Personal control through active food choices
Origin of risk	Naturally occurring	System-generated
Type of risk	Traditional risk	Modern risk
Level of perceived risk	Lower	Higher
Level of reflexivity regarding risk [a]	Lower	Higher
Level of reflexivity regarding trust [a]	Lower	Higher

[a] Reflexivity meaning a consideration of the conditions relating to the situation of risk or trust (reflection), and an active rather than passive response to those conditions (Lupton, 2013).

Delegating control of risk management to others – labelling as a symbol

The symbolic role of labelling describes the role labelling played for participants before the reading or processing of labelling content. For all participants the simple fact that certain label elements were present *at all* influenced risk perception and uncertainty management, regardless of what was written or pictured,

> 'When I look at the use-by date on the top, I believe that date, and that that's a conservative date that I can safely eat that food because a government has mandated that certain safeguards have to be in place' (Thomas).

Participants' reactions to unlabelled products appeared to demonstrate that labelling was a symbol of hygienic processing systems; safe food in terms of traditional risk. When comparing labelled and un/minimally-labelled products, consumers articulated concerns regarding traditional risks, '…you might sort of suggest that a product that appears to have been more processed or packaged is safer just because it's, it's, it's not been done in someone's backyard' (Oliver). For two participants purchasing an unlabelled chocolate was such a risky prospect that they could not understand the question,

> 'Chloe: If, if that say came in sort of a similar packaging to the [labelled chocolates] then…I don't know actually.
> *Interviewer: So you said "if it was packaged the same", so is that like…?*
> Chloe: Yeah just with like the labelling and yeah the table [nutrition information] and everything'.

A lack of labelling did not preclude purchase for the majority of participants, but all articulated that unlabelled products required a direct encounter with the producer/seller, 'I would still be cautious, it's not like I'm gonna jump at stuff that has just been chucked in a bag' (Ruby). For a minority however, even a face-to-face encounter could not replace the reassurance provided by labelling regarding traditional risks, as demonstrated by Margaret, a low risk consumer, when asked if she would seek this information from a vendor,

> 'Margaret: Well I might, I might. But I doubt if I'd buy it.
> *Interviewer: You probably still wouldn't buy it anyway?*
> Margaret: No, unless it was something that really took my fancy. But I mean mostly… Unless it was… No it would be most unlikely'.

Therefore for these participants food labelling—regardless of its content—appeared to act as a symbol of systems of production and manufacture that result in safe food in terms of traditional risk.

Personal management of risk – labelling as a tool

The second pathway to managing uncertainty apparently demonstrated by participants was an active use of food labelling to personally make food choices to avoid perceived risks (right pathway in Table 8). Unlike the symbolic pathway, this involved reading and interpreting labelling, and the messages communicated by labelling were important,

> 'So you know the nuclear crisis in Japan? After that happened I took extra care about seafood that I'm buying. I always check the country of origin because the nuclear waste leaked into the ocean… So I check the country of origin and relate them to the news' (Leo).

This pathway appeared to be demonstrated when participants discussed modern perceived risks, and is consistent with their framing of modern risks as being created by food system actors, and requiring personal management, 'So if the companies do still make products with

for example the 133 number for colours at least people know that it's there; "okay, am I going to risk side-effects or am I just going to"…' (Ruth). This pathway was frequently discussed relating to perceived modern risks associated with imported foods,

> 'Again, the food coming into Australia, they don't need to meet those standards [regarding pesticide use] so we don't know what we're putting in our bodies. And it is a concern especially when you start to think about it. So…I will purchase vegetables that say "made in Australia" or "grown in Australia", not if it says from Taiwan or something…China…' (Paula).

Participants expressed using a variety of label elements to reassure about different risks; however branding information was often described as a shortcut for this process, 'I'd look for brands that I trust, and that's probably more just a way of fast tracking the, checking the ethical or otherwise considerations' (Oliver).

Participants describing a heightened anxiety about perceived risks were clear that label reading was an important strategy enabling them to feel safe in using the conventional food system,

> *'Interviewer: So it sounds almost like - and correct me if it's wrong - overall you feel like things are a little bit out of control in terms of the wider food system and what they're putting into food and all of that, but labelling helps you feel like you've got a little bit of control over that and then you can sort of monitor what goes in and out of your house?*
> Yes. Yes, you know I'm trying to do it well but I'm not 100%… So I do make decisions based on that' (Fran).

As such, participants described using labelling as a tool for their own personal management of perceived system-generated risks.

Prerequisites for using labelling to manage uncertainty

Labelling could only be used to manage uncertainty if the information it presented was trusted. For all but a minority of participants trust in labelling needed to be supported by other forms of social control, 'I couldn't do it [ensure food safety] all by myself; I have to rely on the labelling. And I do trust food labelling because if they are not approved they wouldn't

be able to put it on the package' (Leo). Further social controls participants discussed included reputation, regulation, monitoring and prosecution for misconduct,

> 'I'm cynical, but I have to trust. But… And I'm distressed, which is why I was talking about policing, when that trust is failed. Which it is. Case in point being the soy things that I bought the other day that were in a packet; looked like that, only it said "soy something"; [mimics examining packet] no nutritional panel, no ingredients, no country of origin… somebody should've gone "Oi, you can't sell that"' (Henry).

Four participants, while still personally managing uncertainty through active choices, felt they could not use labelling as a tool to achieve security about the risks they perceived to be present in the food system. While they described trying to utilise labelling in this way, they explained that the only method they had found to feel safe was procuring food through direct agricultural links,

> 'So the labelling fails dramatically. Yeah so the labelling doesn't tell you much at all. That's where you've got to go back to a relationship with the person that produces it and in the main try to keep away… Well try to avoid where possible the processed food or food that's processed from processes that you've got no control or no trust in' (Isaac).

All four of these participants also described managing risk by growing their own produce, 'so you know there's no pesticides on it, there's no chemicals; it's whatever you've put on it' (Paula). These participants had a number of characteristics in common; all had education to a Master's degree level or higher, had personal experience with food production in some form, and were highly reflexive about perceived modern risks,

> 'It's linked to food safety and sustainability…food safety; if you're buying from the person that grows it, like through farmers' markets, then you can feel a lot…generally feel a bit more confident about what they've done... And I think in terms of [pesticide] tests of fruits and vegetables, yes there's…there can be high tests in terms of some growers that have struggled to meet the proper standards. Now if you [buy] from somebody you know and you've seen their

> practices then you can feel a lot more confident about, about those things' (Isaac).

Interestingly, one participant contemplated whether this achieved actual or just perceived control, 'So basically I like to have that direct link…So you know, I don't know whether I'm eating healthy or not but it would be nice, it's nice to try and make a choice' (Bruce). Two further participants who also expressed extreme worry regarding perceived modern risks discussed attempting to utilise direct agricultural links but finding this too impractical and expensive, used other strategies to manage uncertainty, 'I try to make a lot of stuff from scratch so that I know what's gone in it. And then really, I don't stress much' (Abbey). Consumer trust in labelling was therefore essential for its role as a symbol or tool for the management of uncertainty and risk.

Labelling fostering uncertainty about perceived risks

While labelling facilitated the management of uncertainty for participants regarding some risks, it concurrently functioned to foster and create uncertainty about others. The symbolic role of labelling in managing but also fostering perceived risk, and how that intersected with the type of risk, is exemplified in the following quote. Abbey contrasts traditional and modern health risk considerations in response to unlabelled chocolates,

> 'Definitely [there is a difference], automatically you think this one's [unlabelled] healthier because you think it's come from a market or something; bit less processed, less big manufacturers, maybe better quality control in a sense. Yes the… I would naturally, psychologically, think it's a healthier choice. Even if it is a chocolate. But then that's a false sense of security because the food safety and that… "well we don't know; does your cat run along your counter?" like where is the quality… You know…?'

In this way labelling acted as a symbol of modern risks participants had previously considered.

Additionally, over half of the participants described incidents where labelling had caused self-confrontation about modern risks they had not previously considered, resulting in uncertainty which extended beyond simply that product,

> 'And I remember years ago being stunned that anyone thought to assure me that… What was it…a snake or a jube would be 99% fat free… I never stopped to think that a lolly might contain fat. Perhaps it would? It actually brought a concern to my mind that had never been there' (Thomas).

Reading and processing labelling appeared to trigger reflexivity regarding risk in the food system. Participants described discovering ingredients and food processing practices they perceived to be risky; ingredients, claims, warnings labels that they perceived to indicate that labelled food is artificial,

> 'Having all these food allergies, reading labels, you read all the other crap that's in there. So even if it is dairy and egg free I often put it back because I go "Well what's that number? What's that weird name?" and I won't have them eat that' (Grace).

Further, particular labelling elements were interpreted as confirmation that dangerous substances are present in the food supply, 'And it shouldn't have to say "contains phenylalanine[8]" in it, because that's a warning to people. So it should… If it's a warning to people you've got to know that you need to be warned' (Henry). In this way labelling appeared to play a role in creating uncertainty about previously unconsidered modern risks for participants, triggering a switch from the low (left pathway in Table 8), to the higher reflexivity pathway for managing uncertainty regarding risks (right pathway). As such, labelling played a role in creating concern about previously unconsidered modern risk for these participants.

Discussion

The key findings emerging from this study are: food risks described by consumers can be characterised as both traditional and modern risks; the type of risk influences how labelling is used to manage uncertainty and perceived vulnerability (either as a *symbol* of traditionally safe systems, or a *tool* for the personal management of modern risks); and finally, that labelling can also act as both a symbol of, and trigger for concern regarding, potential

[8] In Australia foods containing phenylalanine (aspartame) must include this warning label; however it is only relevant to people with the genetic disorder phenylketonuria.

modern risk. The following discussion sequentially expands upon and discusses the implications of each key finding.

The framing of food risk by participants in this study broadly supports research conducted in the last decade in Australia (Williams *et al*, 2004; Buchler *et al*, 2010; Lupton, 2005) and globally (Tucker *et al*, 2006; Behrens *et al*, 2010; Hall and Osses, 2013). The emphasis placed on system-generated health risks by these participants is consistent with a population representative survey by Williams *et al* (2004) showing double the concern in the Australian public about pesticides, additives and preservatives (modern risks) compared with food hygiene, and bacteria (traditional risks). This is supported by research suggesting that lay individuals perceive 'unnatural' hazards where blame can be attributed to an individual to be more severe than those occurring naturally (Hansen *et al*, 2003). Consumers not only care about traditional risks like microbial contamination and food spoilage, but perceive risks related to long-term health, as well as the health and wellbeing of other people, the environment, and animals (Miles and Frewer, 2001). This is consistent with a sociological framing of food consumption (Knox, 2000, p. 102).

Risks by definition involve threats to outcomes we value (Fischhoff and Kadvany, 2011), therefore this framing of food risk provides insight into the outcomes consumers value in food production. Only partially do they reflect those underpinning the rational assessment of risk that remains central to the work of risk-assessors, government policy makers and regulators working in the sector. Decision making in these areas privileges scientific knowledge, balancing the often competing valued outcomes of productivity maximisation, industry growth and public health (Hansen *et al*, 2003). As such, we support the conclusions drawn by Hall and Osses (2013), who emphasise the importance of acknowledging the divergent framings of risk, and therefore the underlying values driving risk perceptions, in food risk communication and management. This research suggests that food system actors will meet consumer expectations regarding food risk management only when privileged outcomes extend beyond simply public health and safety to reflect the additional health, social and environmental values of the public also.

Food labelling acting as a symbol of both the food system's management of traditional food risk, but also the potential for modern risks is consistent with Beck's theory of reflexive

modernisation (1992; 1994; 2009). Modern food systems characteristically employ rationality and technology to exercise control over preventable food-borne illness. In this study participants articulated a confident expectation that the food system minimises traditional risks as far as possible, indicating a situation of trust (Giddens, 1990). Therefore labelling was symbolic of the successes of industrialisation in managing traditional risks, enabling reduced uncertainty about these risks for participants. As such labelling can be thought of as providing informal risk communication between the food system and consumers, currently providing reassurance regarding traditional risks.

However, data suggest that labelling was concurrently a symbol for previously considered, and a trigger for reflexivity regarding unconsidered, modern risks. Participants articulated a personal responsibility for and used labelling as a tool to manage modern risk. Participants described a host of health, social and environmental risks being introduced by human decision making during food production; risks created and perpetuated by an industrialised, globalised, disembedded food system. In 'risk society' the public are less referential to science than was previously the case, as many risks they perceive in the world are created through science, 'scientific knowledge about risk is incomplete and often contradictory, failing to solve the problems it has created' (Lupton, 2013, p. 87). Food labelling was shown here to play an important role as a tool for facilitating participants' active management of perceived system-generated risks. Therefore our findings support and extend those of previous research (Dörnyei and Gyulavári, 2016; Kraus, 2015; Pinto *et al*, 2015; Williams *et al*, 2004), positioning labelling as a critical uncertainty management tool for consumers.

Given the obvious requirement for consumer trust in labelling for it to be used in this way, ensuring the trustworthiness of food labelling information becomes paramount. In Australia, due to the prioritising of food safety risks in financially constrained regulatory environments, many of the label elements consumers are seeking to use to manage uncertainty about modern risks important to them – those falling within the 'consumer values issues' category – are left to industry to self-regulate (ANZFRMC., 2011). This reflects the mismatch in core values between consumers and policy agendas. This once again emphasises the need for meaningful consumer engagement and consultation in the formation of food policy and regulation.

This research adds to current understandings of consumer perceptions and management of risk by firstly recasting social, moral and ethical food risks as 'modern' risks. Secondly, the characterisation of labelling as both a symbol and tool by consumers for the management of uncertainty associated with food risks is entirely novel. Finally, the identification that labelling can act as a symbol to both reassure, and raise, concerns for consumers regarding risks is also new. As such it provides a much more nuanced understanding of both consumer framings of food risk, and how consumers negotiate food labelling as a conduit to the food supply.

The use of adaptive theory (Layder, 1998) is a major strength of this study as it enabled a far more explanatory and useful understanding of this topic through the constant connection with social theory. A further strength is the use of qualitative methods facilitating deeper exploration and a more complete conceptual development of the topic, which has been previously described as complex and difficult to explain through unifying theories (Frewer *et al*, 1994). While we cannot make claims to representativeness based on the perceptions of this sample, the types of risk identified by these participants are similar to those raised by participants in larger, more representative studies of Australian consumers. Additionally, participants were free to express, and relatively emphasise, all their concerns relating to food production and consumption. This is an especially useful approach given that currently the research in the area is dominated with survey methods, in which researchers, not participants, delimit the risks to be evaluated. Reliance on self-report methods has previously been identified as a major weakness of current labelling research, primarily as it limits the ability to identify 'real-world' perceptions and use of labelling (Grunert and Wills, 2007). While this study utilised some observational data, it is unlikely this would satisfy proponents of the real-world setting as this was not conducted in a supermarket. Therefore this presents an opportunity for future ethnographic research to test the conceptual propositions developed through this exploratory research.

Conclusions

This research presents a novel perspective in the wealth of food risk literature, identifying food labelling as both a symbol of, and a tool for, the management of perceived risks for consumers within globalised food systems. Ultimately trust in labelling is always required as

regardless of the pathway for uncertainty management there is a knowledge gap. Therefore it is imperative that food system actors ensure the trustworthiness of food labelling. The discrepancies in both the core values underpinning how risk is framed, and therefore the priorities for government intervention in food labelling, must be addressed through meaningful consumer engagement in policy decision making.

Chapter 3.4. Consumer concerns relating to food labelling and trust – Australian governance actors respond

Preface

This manuscript presents Study 2 findings, addressing research question 4:

4. What are the responses of those involved with labelling, labelling policy, labelling regulation, or consumer law enforcement to consumer perspectives on food labelling and trust?
    a. Do these actors see the findings as problematic?
    b. What do they see as the cause(s) of these issues?
        i. Is it possible to address these?
    c. What are the implications of the findings of this research for:
        i. The organisations
        ii. The food system more broadly

The combined results and discussion involves a critical analysis of participant responses using a social constructionist framework.

This manuscript was recently submitted for review to the *Journal of Consumer Affairs.*

Abstract

Background

The aim of this study is to report and critically analyse the responses of governance actors to a set of consumers' concerns relating to food labelling, and by doing so describe how these actors construct both consumer perspectives and the food regulation policy environment in which they work.

Methods

Fifteen food labelling governance actors in Australia and New Zealand were recruited through purposive sampling. Participants were asked to view an online presentation of the findings from a previous study exploring consumer perspectives on food labelling and trust before completing a one hour in-depth, semi-structured interview. Colebatch's social constructionist perspective on policy was adopted in the analysis.

Results

Participants used their own constructions of Australian food regulation policy, the role of labelling and consumer trust as a means to minimise the consumer concerns. They typically did not see their response as one construction in many possible legitimate constructions, but rather as the obvious view of the findings from their institutional position.

Conclusions

Inadequate critical engagement with the moral dimension of consumer concerns is a core driver of the inertia demonstrated in the Australian government's approach to addressing consumer concerns regarding food matters. In Australia, the application of rationalistic frameworks underpinned by neoliberal philosophy in food regulation policy contributes to undesirable social outcomes, such as loss of trust, which are unable to be addressed by the governance system as it both creates and fosters them.

Introduction

It is essential that consumers have trust in their food supply and the agencies responsible for governing it (Papadopoulos *et al*, 2012; Meijboom *et al*, 2006). Therefore a goal of public policy is to prevent consumer concerns from undermining trust in the food supply (Brom, 2000). In relation to food, consumer concerns about food matters have been separated into

safety concerns, and moral/ethical concerns (Kjærnes, 2012; Zwart, 2000). Brom (2000, p. 130) further defines moral concerns, delineating those related to 'the good life we want to live' (Brom's consumer concerns) and 'the good society (or world) we want to live in' (Brom's public concerns). Thus consumers' moral concerns extend beyond simply morality relating to their own conduct, to the moral functioning of society more broadly. Brom (2000) also states that if food system actors want to maintain public trust, and be seen as trustworthy, they must acknowledge this moral dimension in interaction with consumers. In short, they must take the public's moral concerns seriously. Despite this, food safety matters, in a narrow sense, feature prominently on food policy agendas globally, while ethical and moral concerns are often sidelined. One perspective is that the reasons for this privileging of some concerns over others originates and is maintained by a number of features of the policy process, including the interaction between individual governance actors and the structured environments in which they work (Colebatch, 2009). In the present study we sought to investigate how these dimensions of the policy process interact to address consumers' moral concerns through critically analysing the response of food governance actors to a particular set of consumers' moral concerns relating to food labelling.

Australian food regulation

Food labelling regulation in Australia is complex; food is governed by multiple agencies, over local, state and federal government (FSANZ, 2013). The Legislative and Governance Forum on Food Regulation (referred to as the Forum) is responsible for the development of both food regulation policy and guidelines for the formulation of food standards (Department of Health, 2014). The Food Standards Code, which is a binational legislative instrument developed by Food Standards Australia New Zealand (FSANZ), sets out standards for food. The Food Standards Code is then interpreted, implemented and enforced by state and territory agencies, for example state health departments and local councils (Szabo *et al*, 2008; Winger, 2003; FSANZ, 2013). Food labelling however is also represented in Australian Consumer Law, with the Australian Competition and Consumer Commission (ACCC) responsible for taking punitive action on false and misleading claims in food advertising and packaging. In referring to the above system here we will use the terminology of 'food governance system' and 'food governance actors' for those who are employed within these agencies. Following Colebatch (2009), 'policy' is used here in the broadest sense to refer to

the processes and activities of governance, while 'food policy' hereafter specifically refers to the overall agendas determining the scope of food governance activity, predominantly those set down by the Forum. As such, its use here is consistent with the Australian Department of Health's usage of the term to reflect food regulation policy. Therefore the scope of this discussion is limited to food labelling policy as it relates to standards setting, and does not include other areas of food labelling policy such as agricultural and importation responsibilities as these are managed through a different governance structure. Additionally, while food governance in Australia is broader than government regulatory activity alone, increasingly dependent on non-government based governance activities such as industry self-regulation, the focus of this paper shall be on government regulatory responsibilities.

Through an increasing, yet still relatively minor, presence on the world food production and trade stage, the political system in Australia has been influenced by global markets to adopt policy approaches underpinned by neoliberal ideology and economic rationalist theory (Jamrozik, 2009). Neoliberalism is defined by Dean (2014) as a 'thought collective' which champions reduced governance from the state to enable unimpeded market function in capitalist economies as a means of fostering outcomes desirable for all citizens. It typically advocates for deregulation and self-regulation of business, and the privileging of the concerns of commercial business in regulatory policy agendas (Meghani and Kuzma, 2011). The adoption of these ideals has led to clear statements of commitment from the Australian Government to reduce the burden of regulation, boost productivity, increase competitiveness and reduce unnecessary regulation (Commonwealth of Australia, 2014). The Forum is also guided by these national frameworks emphasising the need for 'minimum effective regulation' (FSANZ, 2013). Thus, it can be argued that food policy in Australia, due to the content of these guiding frameworks for regulatory standard setting, is broadly situated in a neoliberal philosophy.

In keeping with this general philosophy and following the Codex Alimentarius Commission recommendation, food standards setting in Australian has emphasised risk analysis as a policy process to prioritise food matters, defining 'risks' as hazards to human health (FSANZ, 2013). Consistent with this approach were the recommendations of the most recent review of food labelling law and policy in Australia which set out a framework for government regulatory intervention in food labelling entirely founded on health risk (Blewett *et al*, 2011).

This framework privileges techno-scientific risk issues, explicitly identifying 'consumer values issues' (for example provenance, animal welfare and environmental issues) as 'low-risk' and therefore not specifically for government intervention (Blewett *et al*, 2011), but instead for action by other non-government bodies involved in food governance, namely self-initiated industry self-regulation. These types of consumer concerns are identified by Brom (2000) as both 'concerns that matter to certain consumer groups' and 'public concerns', and are moral in nature. The Forum response to this review was supportive of this position (ANZFRMC., 2011).

Prioritisation of policy issues

Prioritisation of food matters is essential for determining the scope of food governance in resource limited environments, and for preventing trade disputes (Brom, 2000). However, it is under-acknowledged that this process of framing and prioritising food matters, and therefore determining the food regulation policy agenda, is an inherently normative process; that is, it is based upon cultural, economic, ethical and political considerations (Meghani and Kuzma, 2011). Broadly, risk-based approaches to determining food regulation policy agendas are presented as bringing a level of objectivity to the process, raising it above 'messy, socio-political distractions' (Duckett *et al*, 2015). However in reality how policy agendas and problems are viewed, and the choices available for addressing them, are structured by both the agents responsible for them, and the guiding principles of the organisations in which they work (Colebatch, 2009). Generally the values and beliefs underlying claims to knowledge are invisible to groups of like-minded people, but 'Being trustworthy in the current agri-food context cannot be without reflection on and explication of one's values' (Meijboom *et al*, 2006, p. 441). Therefore there is value in identifying and critiquing the beliefs and concerns that shape the social constructions of these groups, but to which they are blind (Meghani and Kuzma, 2011). In critically analysing the responses of food governance actors in Australia and New Zealand to some consumer perspectives on food labelling, this paper not only provides an examination of some governance actors' responses to a particular set of consumers' moral concerns, but in addition explores participants' approach to constructing policy issues, and the governance environment in which they work.

Study aims

The aims of this study are to report and critically analyse the responses of some food governance actors to a particular set of consumer moral concerns relating to food labelling, and by so doing describe how these actors construct both these moral concerns and the governance environment in which they work. A description of the present study methods is followed by a combined results and discussion section that concurrently critically analyses the responses of participants directly, and within the context of the overall food regulation policy environment. As such, this paper presents an analysis of both the agentic and structural factors inherent in the food governance system contributing to the ability of governance actors to respond to consumers' moral concerns. The concluding sections outline the main findings and implications for research and policy.

Methods

Theoretical approach

This study applies Colebatch's (2009) social constructionist perspective on policy, while also recognising there are a multiplicity of approaches to understanding the processes and outcomes of governance. From this perspective it is assumed that policy 'problems', the expertise seen as relevant in assessing these problems, and the responses seen as appropriate to address them are not natural phenomena, but are socially constructed by the participants and institutions responsible for them (Colebatch, 2009). This perspective also holds that these privileged constructions are maintained reciprocally through interaction between agents and their structural environments (Colebatch, 2009). As such, a critical lens was applied to the participants' comments regarding their constructions of both the consumer concerns they were presented with, and how these consumer concerns fit with the policy environment (or structure) in which they (as agents) are situated.

Data collection

As part of a larger research program, we conducted an earlier consumer study to explore how food labelling influences consumer trust in the food system and its actors in Australia (hereafter the 'consumer-labelling-trust study') (Tonkin *et al*, 2016b). The findings from this study (Table 9) present a number of issues of relevance to governance actors, but here we focus on the issues Brom (2000) describes as moral concerns. In the consumer study,

participants spoke about labelling they perceived as intentionally misleading, as well as their perception of Government's reluctance to take action to prevent it, representing to them immoral conduct, and described the loss of trust in the food system that resulted from this. That is, consumers described labelling as violating their ideas of the way a good society should conduct itself (a form of Brom's public concerns), resulting in trust in the system being undermined.

Table 9. Key findings from the consumer-labelling-trust study. Full discussion of this study can be found in (Tonkin *et al*, 2016b) and (Tonkin *et al*, 2016a).

1	Consumers make sense of labelling differently to regulators. For example, while '99% fat free' technically means 'this product contains no more than 1% fat', consumers intuitively interpret its meaning as 'this product is healthy'. Therefore labelling can be compliant with all regulation, and yet still be perceived as misleading by consumers.
2	Because consumers rarely have contact with the people who make up the food system, labelling is used as a way of understanding how the system works. As such, consumers use labelling to judge the trustworthiness of both the food system and the organisations it is made up of.
3	Consumers base judgements about trustworthiness on: a) perceived competence and b) 'goodwill'. For example, seeing 'use by' dates on packages reinforces the competence of food system actors, maintaining trust. Conversely, when consumers perceive a label to be misleading, they feel this demonstrates the labeller is trying to manipulate them, therefore not showing 'goodwill', and undermining trust.
4	In general, labelling leads consumers to perceive that food system actors are competent, but are more likely to put their own (in the case of industry) or industry (in the case of government) interests ahead of consumer interests. This means that in part, labelling undermines trust in the food system.

The interview schedule for the present study was structured around each of the four key findings from the consumer-labelling-trust study, cross-referenced with three questions developed from Colebatch's approach to policy analysis:

1. How do food governance actors problematize the consumer-labelling-trust study findings?
2. What causes and solutions do they identify as central to the findings?, and
3. How do they construct the implications of the findings for the food governance system?

The interview schedule (Table 10) was piloted with a member of a relevant organisation prior to data collection commencement. Questions were adapted to suit each organisational setting (food policy development, regulatory or enforcement), and minor alterations were made and questions added in response to the emergence of new ideas as interviews progressed to ensure investigator responsiveness and therefore research rigour (Layder, 1998; Nicholls, 2009b).

In-depth, semi-structured interviews were conducted by the primary author either face-to-face, via telephone or via Skype between May and September 2015, and were approximately one hour in length. Participants were asked to view a 10 minute online presentation of the consumer-labelling-trust study findings and interview schedule before the interview, to give them the opportunity to consider their responses. The findings presentation can be found online at URL: http://tinyurl.com/consumer-labelling-trust. Ethics approval was granted by the Flinders University Social and Behavioural Research Ethics Committee (SBREC6429).

Table 10. Broad interview Schedule

1	How do these findings compare with your experiences with consumers/consumer demands?
	Thinking about finding 1…
2	To what extent do you think this has implications for your organisation?
3	What about for other organisations?
4	What are some of the barriers you perceive in addressing the issues presented by this finding?
	Now thinking about finding 2…
5	Given this finding, can we discuss the utility of different approaches to food regulation?
6	To what extent does this finding have relevance for your organisation?
	Moving on to findings 3 and 4…
7	What would you say are the underlying issues driving the perceptions these consumers have presented?
8	What would you consider to be the implications of these findings for your organisation?
9	How is the regulatory climate changing around these issues?
	Now thinking about the findings in general…
10	What would you consider to be priority areas for addressing the issues raised by these findings?
11	To what extent is there room for these considerations in decision making?

Participants and sampling

Fifteen food labelling governance actors in Australia and New Zealand were interviewed. This represents a considerable proportion of those responsible for labelling governance in Australia and New Zealand; however industry actors were not involved. Purposive sampling was employed to gather participants with relevant experience and knowledge. All organisations involved with food labelling policy development, regulation or enforcement were identified, including two levels of government (federal and state), associated non-government organisations and multiple levels of seniority within each organisation. Recruitment of participants followed different pathways depending on the organisation. First, if members of the research team had contacts within the organisation an initial email was sent requesting assistance with recruitment and/or participation. If contact through this method was successful, a snowball approach was then used to further recruit within organisations. When the research team had no existing contacts within an organisation, the media department of the organisation was contacted, with media staff then identifying and

approaching organisational staff for willingness to participate. Permissions from organisational heads for contacting staff were obtained where relevant. No reimbursement or motivation to participate was provided to participants. Given the small size of the potential participant population, and the sensitive nature of the interview content, ensuring and reassuring participants of the anonymity of their responses was paramount, and thus pseudonyms are used in reporting the findings and care has been taken to remove additional information that could potentially be identifying.

Analysis

Interviews were transcribed and coded by the primary author using NVivo 10.0 (QSR International, Doncaster). Each interview was read multiple times, summarised, and coded. The first round of coding involved grouping responses under codes representing each question type in the interview schedule (for example 'causes' or 'relevance'). Second round coding involved grouping the different ways participants constructed the findings and their responses (for example 'problematic' or 'safety first'). These two code lists were then merged such that each construction approach is represented as a main theme under the three original questions developed using Colebatch's (2009) approach to policy analysis (see Data Collection). At each stage the analysis was presented to the wider research team both visually and verbally. Additionally, the analysis was also presented to this group in written form enabling critique of process and outcome, ensuring robustness of data and analysis, and analyst triangulation (Fade, 2003).

Below, Results and Discussion are presented together to situate the findings in a context that allows the research to inform and be informed by extant research and practice.

Results and Discussion

Four regulatory, seven policy and four further policy/enforcement actors were interviewed. The position levels of these actors were four policy/labelling officers, three assistant directors/section heads, five branch directors/general managers and three chief executive officers/service directors. No further detail can be provided about the participants in accordance with ethical obligations to ensure participant anonymity.

Participants approached the interviews in one of two ways, setting the tone for their responses. Some defensively critiqued the consumer-labelling-trust study, interrogating the robustness of the data before beginning the interview. Others were immediately able to apply the consumer-labelling-trust study findings to their work. Participants reframed and reconstructed the findings to assimilate them with their own experiences. They interpreted the findings in the context of their own knowledge and work, differentially emphasising particular aspects, resulting in varying comments on how consistent the findings were with their experiences. The majority of participants reported the findings to be consistent with their experiences. A participant who closely worked with consumers expressed the findings in general clearly represented what they understood as the consumer perspective, but also mentioned that consumers would ordinarily struggle to articulate them in this way. For others it was a new way of thinking about the consumer-labelling interaction for them,

> '[The findings] didn't surprise me. So it was kind of what was expected… obviously a lot of what my thinking in the past would have been more pitched around like education, communication elements rather than what that might then do to consumers' trust' (Arabella, policy).

Importantly, nearly half the participants articulated that their only experience with consumers is through consumer research; therefore they were judging the validity of the findings on consistency with other research. A minority felt the results represented the perspectives of specific, small consumer groups, and thus not the 'average' consumer. While they could see the theoretical validity of the findings, these participants felt they were not consistent with their experiences of 'average' consumer behaviour,

> 'I understand the theory that leads me to a point that says that consumers are losing trust in government because they feel deceived by the labels, but on the other hand they're still looking to government to back whatever it is that's on the food products. So it's an interesting dichotomy really isn't it' (Gayle, policy).

This raises the importance of a sociological understanding of trust and distrust as not discrete phenomena, but instead opposite ends of a scale with a range of positions along that scale possible (Gambetta, 1988). As such, participants' understanding of how the foundational concepts such as trust work, and also their framing of the consumer (through

experience or exposure to research) were integral in forming their responses to the consumer-labelling-trust study findings.

Problematization

Participants took three primary approaches to determining whether the consumer-labelling-trust study findings were a problem for food governance organisations. Some adhered to only one approach, while others offered multiple lines of thinking.

The first approach was discussed by a group of participants who appeared to be sympathetic to consumers' framing of food labelling, 'It [food labelling] might ultimately enable them to make a purchasing choice…but then it's going down and it's actually instilling views and opinions at a level deeper that we don't realise' (Arianne, policy). These participants typically found the consumer-labelling-trust study findings problematic for food governance. They also often extrapolated the implications further to what they saw as even more problematic outcomes,

> 'I would be concerned if people were saying to me you know, "No we're not even, we don't trust that product at all, you know? I'd rather go to the farmers' market and buy, yeah, the cellophane taped up package of something" yeah… I mean however, whatever standards that's grown to… I'd be concerned if that's starting to slip over into absolutely don't trust anything that that label says. Especially the parts that they would perceive as being the safety elements of it' (Mary, enforcement/policy).

However, the conclusion these participants often came to was similar to Julie who said '…but I can't see that you can label it as a problem because then everything would be wrong…' (Julie, enforcement/policy). This conclusion empirically demonstrates how the participants' scope for choice in constructing the findings as a problem was limited by the overarching policies of the organisations in which they work, representing the tension between choice (of governance actors) and structure (existing policy agendas) in their work (Colebatch, 2009). Conversely, a number of participants minimised the consumers' perspective on the role of food labelling in influencing their trust in the system, suggesting food safety is the only determinant of consumer trust,

> '… in general there's an aspiration that there is confidence within the community…but it's, it's a broad trust and it's around, you know, the food safety issue. And so labelling ultimately, yeah, it doesn't necessarily play out as an area where trust necessarily becomes important' (Arabella, policy).

This privileging of a static view of labelling as nothing more than a unidirectional information exchange, and the problems with it, have been discussed in other research (Tonkin *et al*, 2015; Eden, 2011). In this sense the way participants framed the role of food labelling in influencing trust for consumers was a fundamental element in whether they constructed the consumer-labelling-trust study findings as a problem.

A second approach to determining problematization was shown by participants who thought the consumer expectations and concerns presented in the findings were 'misguided', 'utopian' or 'inflated'. These participants reported that the findings were not problematic because they were simply based on consumers' misunderstanding or idealistic view of the food system,

> '…I think that trust is very important, and goodwill is very important, but consumers need to adopt a certain amount of cynicism as well and just accept that the companies that they're dealing with are in the business of making money. That's why they exist' (Mark, enforcement).

This problematization reframes the focus of the consumer concerns to a simpler question. In the earlier study consumers are questioning the moral limits of what is considered acceptable conduct in the pursuit of profit, not whether it is appropriate for industry to make money from food as the quote suggests. This group of participants presented this moral dilemma as though it is simply a fact of life, rather than a contested social construct up for public debate. This minimisation of the consumer concerns presents a problem for governance organisations as 'Considering a partner in the agri-food sector trustworthy requires not only some kind of reflection and explication of one's norms and values, but also the deliberative attitude to explain and engage in critical discussion on these principles and their impact: ie responsiveness' (Meijboom *et al*, 2006, p. 440). Additionally, this construction approach included a reframing of the consumer concerns as simply a brand image issue, not a broader trust issue. Participants cited that 'The market will take care of it. Not immediately but it does take care of it' (Peter, regulatory), implying that the issue can be

solved by consumers simply purchasing a different product. The evidence provided to support this idea was consumer's continuing engagement with the conventional food system,

> 'I don't think we are at a place where there is a really awful level of distrust and I guess the reason I say that is I don't see people in the supermarket getting angry and frustrated about, you know, they don't look at the products and go "oh I don't believe any of this" sort of thing, they just take them and put them in the basket or trolley and buy them. So I think by and large there is still quite a high level of trust' (Gayle, policy).

Similarly, consumers' purchase decisions were often used by this group as evidence that no real issue with trust exists, 'They know what is being said is probably not true but they're still going to purchase it' (Greg, enforcement). This argument brings to focus the choice of outcome measures when problematizing consumer concerns. Purchase decision cannot be relied upon in every circumstance to be an indicator of trust, especially so in the case of food. As Hansen *et al* (2003, p. 119) state '… systemic trust is hard to measure through purchasing behaviour: consumers must eat, and although they can switch between food products, market withdrawal is normally not an option.' Because food is unique in this, it demands critical thinking and flexibility from governance actors regarding the outcomes used in policy evaluation. What may constitute a relevant evaluative measure in other areas of the free market can be entirely misleading in the case of food. How governance actors construct and therefore choose the measures seen as relevant in problematizing an issue therefore has implications for the resulting policy outcomes (Colebatch, 2009).

Many participants taking this approach also reasoned that distrust can be positive for markets,

> '…it's a good thing. I actually think if there is [*sic*] more consumers who have a level of distrust in labelling and what's being said to them, I think more and more people will question and that will put the emphasis back on to producers and marketers to actually address the consumers' concerns so that their products move' (Greg, enforcement).

Firstly, this demonstrates the importance of participants' understanding of trust. Social theory recognises the functional differences between trust, mistrust and distrust (Barbalet, 2009). Sociologically, the practical role of trust is to reduce complexity and manage uncertainty in conditions of risk (Luhmann, 1979; Heimer, 2001) and consumer vulnerability (Meijboom *et al*, 2006). To mis- or distrust is uncomfortable, burdensome, and promotes feelings of anxiety; distrust is a relatively harder path to complexity reduction (Luhmann, 1979). Empowered, discretionary consumers that manipulate markets to function for their own interests are essentially different to anxious, confused and mistrusting consumers that are powerless to actively disengage from these markets due to dependence on food (Hansen *et al*, 2003; Meijboom *et al*, 2006). Secondly, these participants reconstruct where consumer trust is being placed. The consumer-labelling-trust study findings discuss mistrust in the food system as a whole; consumers institutionally mistrust the food system. Conversely, these participants reframe this to be mistrust in something less; consumers mistrust industry or even particular brands. Loss of faith in a brand has a simple solution, choose a different brand; loss of faith in the food system as a whole presents a far more complex problem. This issue of trust in the food system cannot be minimised in the preceding ways if it is to be properly understood and addressed.

The final approach to problematizing the results was presented by many of the participants, including those who considered the findings to broadly present a problem. This approach involved comparing the issues presented in the consumer-labelling-trust study findings with the Australian food regulation policy agenda to determine if they are problematic. Participants hesitated to label consumers' loss of trust a problem for food governance organisations due to their objectives emphasising primarily food safety and health, 'We [food regulatory organisation] would ask the question 'well so what?' So what is the impact of that on people's health… you know, so what?' (Judy, regulatory). Firstly, this presents a different framing of the role of trust; rather than a fundamental social requirement for a cooperative and functioning food system (Meijboom *et al*, 2006; Misztal, 1996; Jamrozik, 2009), trust is seen here to be an individual consumer characteristic. Secondly, as might have been expected from individuals working in the food regulation policy environment, participants supplanted their initial, and potentially more personal, views on the matter (those described above) with the authority provided by ministerial directives (Jensen *et al*,

2005). What the data from these interviews cannot elucidate, and a potential area for future research, is whether this was seen as a burden or blessing by participants; as Colebatch puts it 'In this way, policy is seen to set limits on the behaviour of officials; at the same time, it frees them from the need to make choices' (Colebatch, 2009, p. 8). Another interpretation may be that the participants who initially discussed the findings as 'misguided' work within the policy environment precisely because it reflects their own personal views.

This position also demonstrates, consistent with other research, that experts typically do not identify policy decisions to be the value-judgements that they are (Jensen *et al*, 2005). The policy objective to protect public health is inherently normative (Meghani and Kuzma, 2011), with the World Health Organization (1948, p. 100) definition of 'health' explicitly stating it as 'a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity'. These participants appeared to see the version of 'health' in the food policy agenda, which is far narrower than the WHO definition, as uncontested. As such they were typically much more comfortable discussing where the consumer concerns fell within this narrow scope of policy action, rather than whether the policy scope reflected societal values given the consumer concerns. One participant suggested that anything beyond food safety is a luxury; therefore loss of trust due to perceptions of being misled suggested consumers have 'got lost' regarding what is important. This is consistent with the neoliberal philosophy underpinning Australian food policy with its emphasis on techno-scientific risk framings (FSANZ, 2013). As such, in problematizing the consumer-labelling-trust study findings, many participants used the scope of the food policy agenda to discount the importance of the findings for their organisations, despite many demonstrating different initial reactions. This was done without either critical reflection regarding the contested nature of the value-judgements inherent in food policy agendas (Jensen *et al*, 2005) or how their application of this limited scope of action recreates and maintains its legitimacy (Giddens, 1984).

Causes and solutions

Participants saw the causes for the consumer perceptions presented in the consumer-labelling-trust study as having consumer, regulatory, industry and system origins (Table 11). As such, the solutions suggested were also targeted at these areas (Table 11). In addition, all participants articulated that more research would be useful in furthering understanding. For

clarity the causes are presented in separate sections in Table 11, but many participants discussed their interconnected nature, as Rebecca demonstrates with the pattern of her thinking in the following quote;

> 'I think the main areas [causing consumers' concerns and mis-/distrust] come down to the misleading nature of labelling. We need to…but then and that leads into self-regulation, is self-regulation working? How can that be better monitored and enforced? And then how does that relate to consumer value issues, because are the consumer value issues actually what makes the misinterpretation? Like are industry actually doing what they're supposed to do but the interpretation actually leads to the misleading [sic]? I think it's sort of a circle' (Rebecca, policy).

Table 11. The summarised causes and solutions for the consumer concerns and mis-/distrust, as presented by participants in the present study

Causes	Solutions
Consumer origins	**Consumer level**
- Unreasonable/utopian consumer expectations	- Reducing consumer dependence on government
- Consumer disengagement from the food system resulting in loss of knowledge	- Educating consumers in general regarding the food system and food labelling
- Distrusting nature of consumers (± natural reaction to a capitalist market)	- Educating consumers about government's role (that is, educating about the food policy agenda)
- Consumers judging without critically thinking about the system	
Regulatory and enforcement origins	**Regulatory and enforcement level**
- Policy complexity around federal and state party interests, and standard setting and interpretation	- Increased regulator control and presence with industry
- Balancing competing stakeholder needs	- Enhanced enforcement action on misleading and deceptive conduct and 'consumer values issues'
- Social benefits being hard to justify in regulatory impact statements	- Transparency about decision making processes
- Too many assumptions made in the regulatory process	- Increased consumer engagement in food policy decision making
- Multiple competing demands on resource poor agencies	- More holistic thinking in regulatory decision making and standards setting
Industry origins	**Industry level**
- Misleading and deceptive conduct from industry	- Increased honesty from industry in labelling
- Divergent values and goals of industry compared with consumers	- Industry fully understanding and taking responsibility for resolving problems
Market system origins	
- Imbalance of power and knowledge between consumers and industry	

When participants discussed solutions however, their previous acknowledgement of the complexity and reciprocally supporting causes of the consumers' mis-/distrust was generally lost. In considering solutions, almost all participants specifically focussed on the perceived 'distrusting nature of consumers' cause (Table 11), suggesting consumer education as foremost for addressing the issues presented. This reframes what the original consumer concerns present as a problem of the food system's trustworthiness to an issue of consumer 'trustingness'. This reframe, and the consequential suggestion of consumer education as the solution, is rife within academic literature on the topic, and among regulatory authorities and the food industry (Hansen *et al*, 2003) (Meijboom *et al*, 2006). Again, 'in one way, trust cannot be effectively created and maintained through information campaigns. Instead, the food sector must aim to improve its trustworthiness by being more socially responsive' (Hansen *et al*, 2003, p. 119). Trust cannot be effectively fostered by simply providing information through consumer education and reducing health risk levels (Meijboom *et al*, 2006); the so called 'knowledge-fix' solution (Coveney, 2008; Eden *et al*, 2008a). Thus again, despite many participants being able to identify non-consumer origins for the consumer concerns and mis-/distrust, less were able to set aside the emphasis on individualism found in Australian food policy environments to situate consumer education focused solutions within wider system responses.

We will now turn to focus on some of the solutions suggested with specific implications for food system governance.

Implications for the food governance system

Contradictory to how participants typically problematized the consumer concerns, there was a general agreement that consumer distrust has some relevance for all organisations involved with food, including third party organisations and consumer advocacy groups,

> 'I think we all have to work hard all the time on trust, you know? Whether you're the, you know, you're an enforcement agency and people trust that you're onto the bad things in the marketplace, whether you're in industry and you've got to be careful not to go that step too far with your claims, or whether you're policy people …tasked to develop that health star rating system in a way that was not onerous on industry but was truthful to

> consumers and made the public health lobby happy…But the commonality that we all have is that we need to be credible to the consumer I think otherwise it doesn't work' (Gayle, policy).

This was often followed with less clear statements of action; 'they're certainly interesting issues you raise and something to keep in mind…I mean we're certainly interested in this type of, you know, what you're saying…' (Judy, regulatory). However, a smaller number of participants saw areas for direct action from food governance actors. 'Cracking down' on misleading and deceptive conduct, and taking action on 'consumer values issues' were proposed (Table 11).

Additionally, working with industry in a pre-emptive way was identified as important by two participants,

> 'And I think too the more we can work with industry on these sorts of things the better… I think what you're saying is right in that consumers believe—and it's true—that industry are out there to make a profit, and they are. And I think if we as government people can acknowledge that too and say "yes we acknowledge that you're out there to make a profit, but let's find the pathway that fits"' (Mary, enforcement/policy).

This position is progressive, and among these participants almost unique, in that rather than positioning the consumer perspective of industry as naive, and therefore irrelevant, it accepts it as a reality that must be acknowledged if consumer trust is to be fostered. This perspective reflects calls in previous literature for food governance actors to engage with the divergent values held by consumers, governance actors and the food industry, rather than bracketing this issue out (Meijboom *et al*, 2006; Brom, 2000). These authors acknowledge that, because of the moral pluralism in most Western societies, simply discussing these values and the distribution and interpretation of responsibilities will not necessarily lead to trust, but providing some clarity around what consumers can reasonably expect, and critical engagement with consumer concerns, is certainly necessary if any trustworthiness is to be demonstrated (Meijboom *et al*, 2006). However, this position was only held by a small minority of the participants interviewed, suggesting there is still work to be done in communicating the importance of this message between academics and governance actors.

Impediments to change

In discussing the potential areas for change above, participants also outlined ways in which the governance environment presented either impediments to the actions proposed, or in an alternative view, reasons that there were no implications for food governance organisations. It was clear that participants least adherent to neoliberal philosophy typically presented the former view, while those most adherent presented the latter.

The scope of food policy agendas

As mentioned previously in the 'Problematization' section, participants saw the prioritising of food safety above all other food matters in a resource limited environment as either a reason that the findings were unlikely to be applied, or justification for why they should not be.

> 'We do everything based on risk… something that's just straight up misleading and it's not actually causing any harm may well be very low down on our list to deal with because of our resources' (Arianne, policy).

Again, as has been found in other areas of so called 'policy uncertainty' this position was stated by participants as though it is foundationally objective, neutral and rational, with little recognition of its position as a value-based, or normative, judgement (Jensen *et al*, 2005; Duckett *et al*, 2015; Meghani, 2009). When policy agendas are presented as value-free, emphasising their authority rather than the underpinning values that may be shared by consumers, communication is distorted and is inevitably unsuccessful in convincing publics of their validity (Jensen et al., 2005). Some have argued that the privileging of expertly-defined frameworks, and the exclusion of citizen input into the normative concerns informing policy agendas fundamentally undermines the principles of democracy (Meghani, 2009). However as is found here, these agencies typically do not view these decisions as normative (Meghani, 2009).

When considering the consumer concerns in the context of the food policy agenda participants typically reconstructed trust from a crucial social phenomenon, to a personal, individual concern, as demonstrated in the following quote from Arabella,

> 'I suppose what I'm saying is the degree to which the outcomes of your research influence what should be government's role or what should be the policy perspective I think perhaps are of, you know, it's important to be aware of that but whether it actually changes or impacts given that as long as the key criteria are generally around ensuring people stay well and safe and they're not misled type stuff, trust is then obviously a personal…it's that emotional factor...' (Arabella, policy).

Here there is little recognition of the fundamental role of trust in ensuring social stability, cooperation and cohesion (Misztal, 1996; Brom, 2000), and in legitimising institutional activities (Houghton *et al*, 2008; Wynne, 2002). Also demonstrated in the preceding quote is the uncompromising focus on food safety in food policy agendas. This, and system competence regarding food safety, is often presented as the only way to maintain public trust in food systems (Papadopoulos *et al*, 2012; Sapp *et al*, 2009). However this overlooks research indicating that shared values are three to five times more important than competence for the development of trust in food systems (Arnot, 2011; Sapp *et al*, 2009). As such, many participants' constructions of the food policy agenda as objective and uncontested contributed to their perception that the consumer concerns did not have implications for the food governance system.

Analytics used in policy processes

For participants who did see implications for food governance, the analytics used in policy processes were presented as barriers to their implementation. Most participants referred to well documented issues around the ease of quantifying costs but the difficulty, and in the case of the consumer concerns presented many suggested the impossibility, of quantifying benefit in cost-benefit analyses and regulatory impact statements,

> 'So you can't put a value on trust and emotions and what that means, and distrust, and if you can change it what benefit do you get? You can't. And that's why unfortunately a lot of the softer stuff that you're doing that is not black and white either gets lost or never happens, or happens really ineffectively because nobody can, you can't… Justify it or do anything with it because it doesn't fit in a box' (Julie, enforcement/policy).

Few expressed reflexivity regarding the privileged position of these economic tools in decision making however, with only a small minority (comprised solely of actors with extensive experience in their field) expressing that they consider this a serious issue,

> 'I think there should be much more consideration of public value then there is currently about regulatory impact statements, which in my view are entirely nonsense, nonsensical. Packed full of assumptions, pages and pages of assumptions, things that are not counted, not included, not incorporated. And then they give you an answer with four decimal places indicating some sort of degree of exactitude. It's...they're silly…' (Paul, policy)

This finding is consistent with findings in other areas of policy uncertainty, where policy actors were found to hold 'paradoxical positions' where they both privilege the authority of risk-based policy approaches, while concurrently acknowledging quantitative risk analysis as having a constrained role (Duckett *et al*, 2015; Mouter *et al*, 2015). The issues with cost-benefit analyses described by these participants are similar to those identified by Mouter *et al* (2015) as 'intangible effects'. Intangible effects are effects for which it is difficult to determine: causality between a course of action and an effect, whether the effect will occur and/or whether the effect is beneficial or harmful for national welfare (Mouter *et al*, 2015, p. 280). Good public policy must recognise the limited capacity for economic instruments to determine policy priorities in complex, competitive, multi-stakeholder areas, and not succumb to the temptation to simply bracket-out the inherent uncertainty through exclusive use of apparently 'rational' risk-based approaches (Duckett *et al*, 2015) which themselves are value-laden (Meghani and Kuzma, 2011).

A similar issue raised by some participants was the emphasis on evidence-based decision making and the type of evidence required to demonstrate benefit, 'Very difficult to come up with the evidence to say that labelling would lead to those outcomes' (Colin, regulatory). It is interesting to note that this participant did not necessarily consider the consumer-labelling-trust study as 'evidence'. When pushed on how the consumer-labelling-trust study findings could be used as evidence, a number of participants suggested expert elicitation[9] as one method. However, others saw issues with this too, 'I think the challenge for us is bringing

[9] Expert elicitation involves the use of expert judgement going beyond established knowledge to inform policy making, when such knowledge does not exist.

that expert elicitation to the table and having a convincing story from that, or a convincing narrative perhaps, that will actually satisfy our requirements around regulation impact statements' (Peter, regulatory). Again, this acknowledgement from governance actors of the issue of the relatively weaker position of non-quantifiable effects, which are typically social in nature, is echoed in previous literature (Mouter *et al*, 2015). The central issue here therefore is the types of evidence that are privileged in regulatory decision making, which are again not natural phenomena but instead reflect the dominant mainstream ideas of what constitutes 'evidence' (Colebatch, 2009). The majority of participants emphasised that every regulatory decision must be justified with evidence, particularly with regulatory impact statements incorporating cost-benefit analyses, while at the same time explaining why social impacts are near-impossible to demonstrate in these same analyses, without any apparent awareness of this contradiction.

Many participants expressed a powerlessness to challenge these constructions of evidence due to their position within their organisations. Most felt that it was those 'higher up' that had ultimate control over the analytics used in policy processes. While this is an understandable view given the strength of the evidence-based discourse in the Australian policy environment, there is historical evidence of a different view. Hall (1993) showed that during the time of radical change to the instruments of macroeconomic policy in Britain between 1970-1990, policy officials (in a similar position to many of the governance actors interviewed here), rather than politicians (those 'higher up'), were instrumental in initiating both the changes and the corresponding social learning. However contemporary Australian food governance is structured to prevent even this type of change, with an overt aim of the reorganisation of food policy processes in the early 2000s to separate policy development (responsibility to food ministers) and food regulatory implementation (responsibility to FSANZ). Compounding the structural basis for this expressed powerlessness may also be participants' limited awareness of both these forms of evidence as contested constructions, and their role as agents in maintaining the structures to which they object (Colebatch, 2009; Giddens, 1984).

Philosophical approach underlying governance

Finally, in their construction of the implications of the findings for the food governance system, all participants centralised the philosophical approach underlying Australian food policy,

> 'Yes that [finding 4, see Table 9] clearly does have huge issues for policy. Policy is a very fraught space actually about this, around this whole area. It's the most political area I work in, by a long way. And there are, and there have been for a number of years, different camps or views' (Paul, policy).

There were indeed two very clear discourses around the philosophical underpinnings of policy, the first being a justification for there being no implications of the consumer concerns for the food governance system,

> '… you know the old theory that governments can solve all the problems you know has got to be dismantled because governments don't have the resources to do that, and arguably that's not the most effective form of government, or form of intervention to deliver the outcomes those groups want' (Colin, regulatory).

Conversely, the second way the food policy environment was spoken about was as an impediment to a more complete framing of food matters,

> '…to demonstrate a benefit in an environment of where the Australian government is pushing for deregulation all of the time is very, very hard…Yes so it's, the current framework is… doesn't… my personal view, not the *organisation* view, but my personal view is that the *organisational policy guidelines* and the whole framework doesn't really enable the sorts of issues you're talking about to be considered properly really' (Judy, regulatory).

This filtered into a construction of which stakeholders are being affected, and the relative importance of, and evidence for, their claims,

> '…in government we are always really aware that there is a lot of money at stake…if we were going to put something, an additional requirement, a mandatory requirement on labelling we now have to do a regulatory impact

> statement and a cost benefit analysis and all the rest of it. So we're always very, very conscious that whatever we require, *if it's additional*, is costing industry money and if it's costing industry money then it could be costing jobs. So it's all connected…the food industry is a very big industry in Australia and the export, agricultural exports is all connected. It's a very big industry in Australia and you can't afford to, you know, increase burden on them on a whim I guess. You have to be very careful. And it has to be fully justified' (Gayle, policy, emphasis added).

Again, there was little recognition that these are claims based on the privileging of some values (the fostering of a competitive food industry) and not others (the morality emphasised by consumers in the consumer-labelling-trust study findings). For example, Gayle's point about 'additional' suggests it is not core and, arguably, not important. Most acknowledged the different perspectives on classical questions relating to the role of government and the best philosophical and economic approach to governing. However, regardless of what the best approach to governing is determined to be, free-markets are predicated on consumer trust; consumer trust is essential to the overall function of free-market economies (Jamrozik, 2009). As such, all participants should be concerned by a situation of consumer trust being undermined.

Study strengths and limitations

A major strength of this research is that it presents a case of advocacy in action. It did this by asking governance actors to respond to a set of consumers' moral concerns, and challenging their construction of these concerns and the Australian food policy environment. Through this, the process of reflexivity for these actors is potentially triggered. However, while the majority of participants had watched and contemplated the online presentation, there were three who saw this only at time of interview. This meant that there was considerable variation in the depth of participant response and it would be interesting to see if these participants' views may have changed in the weeks since the interview. The importance of prior viewing of the findings presentation (see Methods section) was emphasised to all participants, and the time required and ease of viewing were designed to facilitate participation as much as possible. Future research using this design could potentially plan to follow up participants who had not seen the findings presentation before the interview a

week later via phone or email to see whether they had any further comment. This could also potentially be done by sending through interview transcripts and asking participants whether they wish to amend any of their responses. Of course, this must be balanced with the potential for overburdening participants who are volunteering their time for research, and it is possible that the participants who were unable to find time to prepare for the interview would be those unlikely to respond to follow up.

Additionally, this study did not elicit comment on the Study 1 findings from industry actors. Doing so would add an interesting and important dimension to this research, and more comprehensively position it within the Australian food governance system. An interesting future study could document a round-table discussion of the Study 1 findings from a group of actors more representative of the complete governance system (therefore including industry and other non-government associations not represented here). This would have the added benefit of demonstrating the competing interests and politicisation of the issues within the food policy space.

Conclusions

This research found that food governance actors typically did not see their response to a particular set of consumer concerns as one construction in many possible legitimate constructions, but rather as ***the*** obvious view of the findings from their institutional position; the consumer concerns were simply problematic or not problematic, realistic or utopian, actionable or impossible to apply. It was through participants' reconstruction of the role of labelling, the function(ing) of trust, and the outcome measures for trust in the system that the implications of the findings for food system governance were constructed as either irrelevant or unworkable. Additionally, the organisation of the food governance environment to separate policy development and implementation, and both the philosophical approach underpinning, and the analytics used within, food governance structure the food policy environment to further prevent consumer concerns from being adequately addressed. Through this reconstruction of the key issues, the moral concerns expressed by consumers were perpetuated rather than addressed. While literature emphasises the importance of acknowledging and taking these moral concerns seriously, both agentic and structural factors made it possible for both consumer perspectives on the role of food labelling, and

the importance of the divergent and contradictory values held by consumers, governance actors and industry to be sidelined. Inadequate critical engagement with this is a core driver of the inertia demonstrated in the Australian government's approach to addressing consumer concerns regarding food matters. The food regulatory system must pay critical attention to both identifying and opening dialogue with the public regarding the values which underpin Australian food policy if it is to maintain public trust. A critical first step toward this is acknowledging the normative, and therefore contested, nature of the food policy agenda and its underpinning principles.

PART 4. DISCUSSION

Introduction

The aim of this research was to explore how food labelling influences consumer trust in the Australian food system, and the corresponding implications for food labelling governance. The related objectives were:

1. To describe and explain how consumers construct meaning in their interaction with food labelling
2. To describe and explain how food labelling influences trust in the Australian food system
3. To describe and explain how consumers use labelling in the management of uncertainty relating to food risk
4. To determine the implications of consumer perspectives on food labelling and trust for food system governance actors

Broadly, the research addressed the aims and objectives by, firstly, seeking to understand consumer perspectives on food labelling, and the consequences for trust in the Australian food system in Study 1 (objectives 1-3). These perspectives were then taken to Australian food governance actors for their engagement, opinions and reflections in Study 2 (objective 4).

Specifically, in Chapter 3.1 I explored the process by which consumers construct meaning and trust related judgements through their interaction with food labelling. In Chapter 3.2 I identified the influence food labelling had on consumer trust in both the actors they recognise as being part of, and in the broader, Australian food system. In Chapter 3.3 I provided one conceptualisation of how consumers frame food risks, and how labelling is used as a symbol and a tool for the management of uncertainty relating to perceived food risks. Finally, in Chapter 3.4 I addressed the final research objective, exploring the response from, and implications for, food system governance actors of consumer perspectives on food labelling and trust.

Overview

This discussion begins with a synthesis of the key findings from the four empirical manuscripts included in Part 3 as they relate to the research objectives stated above. This section is followed by a discussion of how the findings are linked to form a larger view of the role of labelling in influencing consumer trust, and the implications for governance in order to fulfil the research aims. A summary of the implications for policy and regulatory stakeholders, and future research, is then provided. The thesis concludes with a discussion of the strengths and limitations of the overall research process (to complement that already presented in each manuscript in Part 3), and my personal reflections on candidature.

Synthesis of key findings

Figure 15 (below this section) diagrammatically synthesises the findings of Study 1. The purpose of this figure is to demonstrate how the findings from each of the three Study 1 manuscripts are conceptually linked, and to also identify the discrete themes of each manuscript as represented by the coloured boxes. As such, the figure is a tool to support readers' in understanding how the discrete chapters within Part 3 come together, and it is not intended as a reflection of the complexities of the social reality discussed within these manuscripts. While not included in the diagram, Study 2 concerns governance actors' responses to these Study 1 findings, predominantly those encompassed by the green and purple boxes (Chapters 3.1 and 3.2).

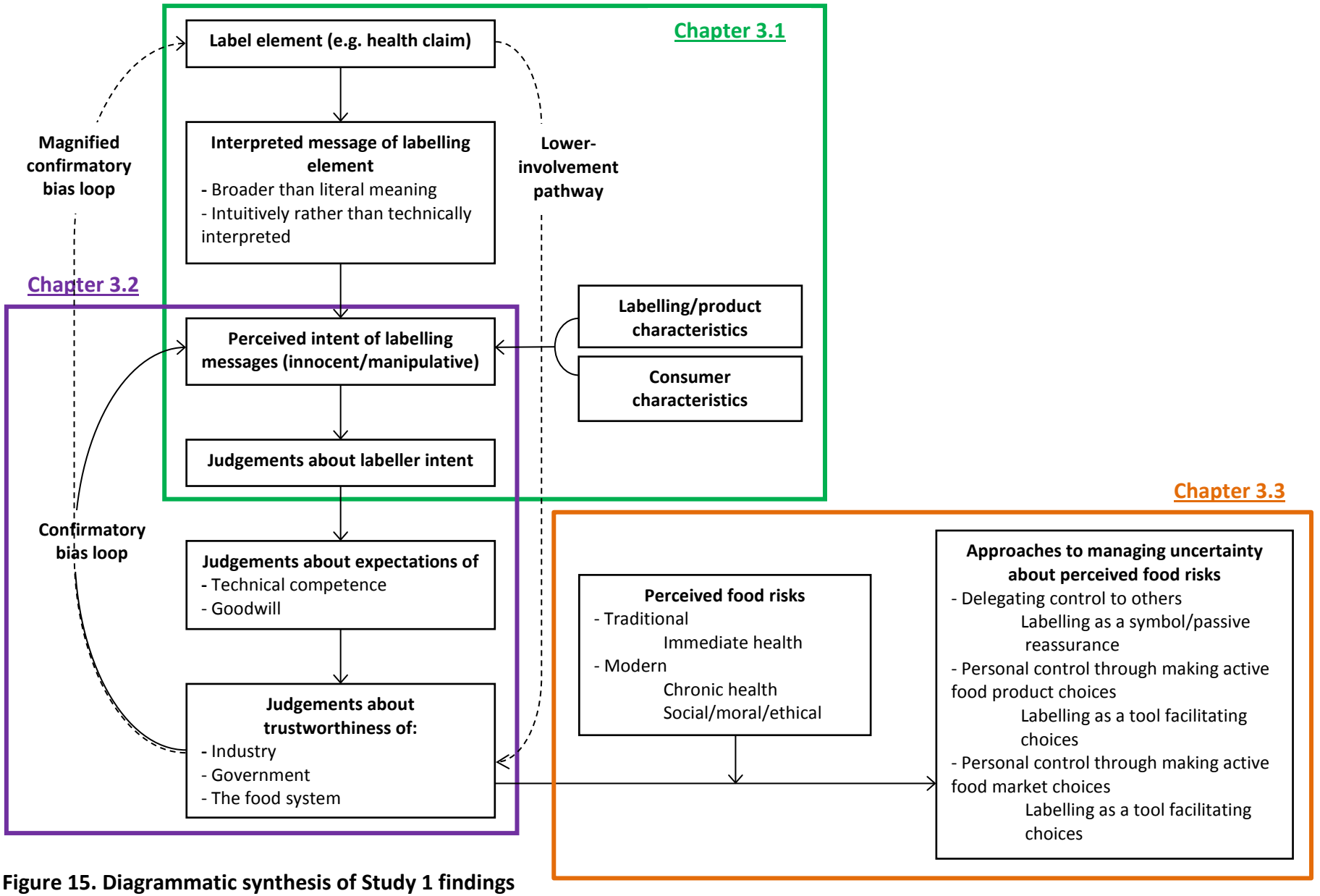

Figure 15. Diagrammatic synthesis of Study 1 findings

The principal finding of Study 1 was that food labelling plays a role as an access point for institutional trust in the food system and its actors in modern, disembedded food systems where interpersonal trust is not feasible. Consumers described seeing food labelling as a direct communication with industry, but also as a representation of the principles and priorities of government. In this way, food labelling acts as a surrogate for personal interaction with food system actors, enabling the formation of trust judgements (both trust and distrust) about industry and government, and the broader food system.

It was found that judgements about trust were predicated on consumer expectations that food system actors will act both competently, and with goodwill towards consumers. Labelling was shown to influence consumer judgements about the competence and goodwill of food system actors. The way consumers interpreted labelling, and the intent behind the labelling, was central in creating this influence. Consumers interpreted label elements more broadly, and in more common sense terms, than technical definitions intend; that is, there was a divergence in consumer and technical labelling interpretations. When consumers' more generalised interpretation was perceived to be incongruent with other label elements on a package, which Dörnyei and Gyulavári (2016) describe as internal inconsistency, consumers perceived the intention of the labeller was to mislead them, undermining their belief in the goodwill of the labeller. Similarly, when the perceived interpretation conflicted with the consumers' own personal knowledge or their ideas about the product itself (Dörnyei and Gyulavári name this external inconsistency), belief in the goodwill of the labeller was also undermined. The frequency of these perceived 'manipulative' occurrences on labelling resulted in consumers doubting the ability and willingness of government to uphold its fiduciary responsibility to prevent misleading and deceptive conduct in the food system. As such, labelling undermined consumers' belief in the goodwill of industry and the fulfilment of the fiduciary responsibility of government, eroding their trust in the system as a whole.

The types of risk consumers perceived to be present in the food system played an important role in this judgement, however. First, consumers did not believe that food system actors would deliberately jeopardise consumers' immediate health, or at least not in any way that could conceivably damage their reputation, for example a salmonella contamination. As such, food labelling acted as a symbol of systems of food safety, supporting consumers'

belief in the competence of food system actors regarding food safety, and supporting trust in the safety of food in a traditional sense. Beyond this framing of risk however, consumers believed that food system actors would deliberately mislead them relating to their perceptions of modern risk in food (chronic health, social, moral and ethical issues). This was because consumers held food system actors responsible for creating and fostering the presence of these risks in the food system. Reflexivity regarding these perceived risks influenced how consumers dealt with uncertainty about them. Some consumers were not reflexive about these risks, and therefore did not demonstrate a need to manage uncertainty about them. Others were satisfied that complementary control mechanisms, such as media reporting and prosecution for misconduct, provided enough security for them to use food labelling as a tool to manage these risks, despite scepticism about the goodwill of industry. A third group felt these complementary control mechanisms had failed, and despite wanting to use labelling in this way, could not. This group of consumers consequently engaged with direct links for food procurement such as through friends working in agriculture and farmers' markets.

In responding to these consumer perspectives all governance actors in Study 2 emphasised the primacy of traditional food safety concerns for resource-restricted food governance organisations. Consumer trust was typically seen as something that governance organisations 'aspire to', but do not necessarily consider in their work. Many governance actors were resistant to the alternative framing of food labelling presented in this research. Those that embraced it struggled to reconcile this new perspective with the structural demands of their work; regulatory impact statements and cost-benefit analyses were frequently mentioned as barriers to increased consideration of social impacts of food policy. Misleading and deceptive conduct were typically seen as the exclusive business of the Australian Competition and Consumer Commission (ACCC). This was despite most governance actors mentioning the multiple competing pressures on this organisation, and relatively low priority of labelling that is 'not unsafe'. There was a clear and uncritical belief in the ability of the market to manage consumer values issues effectively through self-regulation and third party certification. Similarly, most food governance actors emphasised 'education' in order to bring consumer labelling interpretations in line with technical definitions as the solution to many of the issues presented. The values presented by the

consumer perspectives in Study 1, and therefore the corresponding moral concerns, were generally seen as an inconvenient problem in the business of food governance. Most (not all) governance actors saw this as a background problem however, not something relevant to the daily functioning of these organisations, and therefore their work.

The links between the papers – further points for consideration

This section elaborates on the consequences and implications of the findings synthesised above for the Australian food system and its actors, including consumers, industry, third-party organisations and governance actors. Four key themes are used to structure the section. The first theme concerns the divergence in consumer and technical interpretations of labelling shown in the research, as this is the central cause of labelling's negative influence on consumer trust in the food system. The second theme explores what the findings suggest about how institutional trust in food systems might be demonstrated by consumers, and assessed by governance actors. The third theme draws together the findings of Chapters 3.3 and 3.4 to explore the consequences of the divergence in consumer and governance actor perceptions of risk, with the final theme exploring the repercussions of this for the broader food system.

Divergent labelling interpretations

The overarching thesis theme of social constructionism is most obviously demonstrated in the divergent interpretation of food labels between consumers and food system actors. This issue warrants attention as labelling may be both fully compliant with all relevant legislation and regulation, and still be interpreted by consumers as misleading and deceptive. Importantly, the resistance of governance actors to consider this as a problem for anyone other than the ACCC, as found in Study 2, means this issue is likely to remain unaddressed. In most cases labelling is not technically misleading or deceptive, and therefore the ACCC is not likely to be able to successfully prosecute on the matters these consumers object to, even if food labelling issues were prioritised by this organisation which there is historical evidence to show they are not (Williams *et al*, 2006; Williams *et al*, 2003). The problem concerns the interpretation of the labelling, but not in the sense that consumers are interpreting it 'incorrectly' and thus need to be 're-educated'. In fact, my findings are clear that negative trust related judgements are likely to be formed especially when consumers are *not* mistakenly interpreting a label element, and therefore read manipulative intent into labelling, making them feel that the system lacks goodwill and is therefore untrustworthy. The problem for the food system is threefold; firstly, there is currently limited recognition of different ways of interpreting labelling. Secondly, labelling definitions (those found in the Australia New Zealand Food Standards Code and Australian Consumer Law) must be both

legally enforceable and interpretable to consumers. Thirdly, the role of labelling in influencing consumer perceptions of actor trustworthiness is underestimated. Utilising narrow and specific technical label definitions when the end-user of that information (the consumer) is not aware of, nor can intuitively interpret those definitions is problematic. More effort to ensure that label definitions are both legally enforceable and intuitively interpretable from a consumer perspective is needed to ensure that labelling sends positive messages about the trustworthiness of the food system. This may require more extensive and potentially new forms of consumer engagement in the development of these definitions.

Another potentially problematic outcome of this divergence in label interpretation is the development of a learned response to different labels. Consumers' interaction with labelling is not static, as with all social interactions it is iterative and constantly changing based on previous experiences. This is inherently recognised in food labelling literature in that most surveys request information about labelling practices when a product is purchased for the first time only (FSANZ, 2008). I suggest that a learned response to labelling in my findings may be seen in the confirmatory bias loop proposed in Chapter 3.2 being magnified over time; shifting consumers from the higher-involvement pathway to the lower-involvement pathway proposed in Chapter 3.1 (as indicated by the broken arrows in Figure 15). Dörnyei and Gyulavári (2016) state that trust in labels impacts on the perceived usefulness of those labels and therefore directly impacts future labelling information search practices. Similarly, Charlebois *et al* (2016) found that consumers who engage with labels often are more likely to also mistrust industry and regulators, and seek external verification of labelling information. Further, Szykman *et al* (1997) found more sceptical consumers were less likely to use absolute and relative nutrition claims, and propose that these consumers may so rapidly discount this type of labelling that they do not even consider whether it can be verified. I extend and support this idea with my findings, showing that not only do negative experiences with internal and external labelling consistency impact trust in labels themselves, but more broadly influence trust in those responsible for the labelling; trust in *both* the label and food system actors is undermined.

Following the thesis of Dörnyei and Gyulavári (2016), I propose that negative trust judgements formed through interaction with labelling may result in reduced involvement

with particular label elements consumers are especially suspicious of (magnified confirmatory-bias loop). This confirmatory-bias may result in quick, and potentially at times unwarranted, negative responses to the products and product categories these types of labels are found on (lower-involvement pathway). While there is research examining the impact of these rapid assessments on food choice (Ducrot *et al*), here the emphasis is on the implications for trust. In a sense these labels become summary constructs (Han, 1989) for untrustworthiness. This confirmatory-bias has implications for government and third party organisations involved in health promotion labelling initiatives. My findings suggest these types of rapid negative trust judgements can extend to the visible organisations associated with a product carrying a label with a learned negative response for initially highly-involved consumers. An example of this in Australia is the reported loss of trust in the Heart Foundation's Tick food label when it was approved for use on healthier McDonald's meals (Squires, 2011). According to Squires (2011), for many consumers, despite the 'Tick' meals being substantially reformulated to improve their nutritional profile, consumers' rapid judgement of all McDonald's food as 'unhealthy' resulted in negative, and enduring, judgements about the trustworthiness of the Tick label, *and the Heart Foundation itself*, rather than positive judgements about the food products. Szykman *et al* (1997) suggest that increasing consumer awareness of the regulations surrounding labelling may reduce scepticism about labels. While this may be true for some relatively low-involvement consumers, I argue based on these findings that for others it would simply undermine trust in regulatory and third-party organisations. What is needed is reform of food labelling regulation to reduce internal and external labelling inconsistency. This could be done through changes to label definitions as outlined within the first paragraph of this sub-section. For third party organisations this looks like a consideration of all the labelling on a product, as well as the product attributes relevant for their endorsement, before providing approval for the use of their certification label.

Indicators of institutional trust in food systems

The learning developed through interaction with labelling described in the section above may also help to explain the different approaches to using labelling as a tool to manage uncertainty found in Chapter 3.3. Simplifying the findings for this discussion, it could be said that the least involved and reflexive consumers used labelling as a symbol of safe food

systems; more reflexive and involved consumers used labelling as a tool to manage uncertainty; and, the most reflexive and involved consumers described feeling unable to use labelling in this way due to distrust of both labelling and food system actors. The latter consumers described managing uncertainty associated with risk by engaging with alternative food markets where they could place trust in people rather than abstract systems. This pattern is consistent with work from Ekici (2004) showing consumers displaying distrust in the American food system typically shopped at co-ops, organic food stores and grew home produce. Again, social theory provides useful insights through Giddens' (1990) conceptualisation of abstract systems introduced in Chapter 2.1. Abstract systems cannot be avoided in the modern world, so rather than complete disengagement from institutionalised food systems in the form of total self-sufficiency, a pragmatic attitude to certain aspects of the system may be taken (Giddens 1990). A movement to personal forms of food procurement therefore reflects a breakdown of institutional forms of trust, and an attempt to emphasise mutuality of norms and expectations through engaging in interpersonal, rather than institutional, trust (Kjærnes, 2006; Kjærnes, 2012). Interestingly, the most reflexive and involved participants still reported continued engagement with labelling, probably because as Luhmann says 'relatively, trust is the easier option' (1979, p. 72). All the participants in Study 1 appeared to be positioned somewhere along a scale of reflexivity around modern food risk, involvement with labelling, and institutional (dis)trust. While their personal and social history with the food system contributes to their (dis)trust in it, this research shows that interaction with food labelling can be an important contributor to system (dis)trust.

The above perspective on what institutional (dis)trust may look like raises two points worthy of further consideration. The first is a situation of consumer dependence. Gambetta (1988) makes the point that in a situation of trust, the trustor is always able to refrain from the trusting relationship, and choose not to take action that is predicated on trust. If there are no alternative courses of action for an individual than that which requires trust, Gambetta (1988) suggests this is better described as hope or dependence. In agreement with others (Ekici, 2004; Kjærnes, 2012; Kjærnes, 2006; Hansen *et al*, 2003) I notice that the primary alternative course of action to trust in institutionalised food systems in modern life is to engage in alterative markets such as farmers' markets, co-ops and growing home produce. Some may argue that these are positive activities and therefore distrust expressed in this

form is not inherently problematic, but Gambetta (1988) asserts alternatives need to be feasible. Whether an alternative action is feasible depends on innumerable personal, social and nationally contextual factors. Access to these pragmatic forms of disengagement is likely to be inequitably distributed throughout the population of food consumers for a broad range of reasons (Kjærnes, 2012), not the least of which being prohibitive cost. For example, those living in dense suburban environments with limited financial resources are unable to grow their own produce, and engage with produce in farmers' markets which in Australia often attract price premiums. Australian research does indicate many access barriers for lower socio-economic status consumers to these types of alternative markets, some of which seem insurmountable (Markow *et al*, 2016). The increasing impossibility of disengagement from these systems, and therefore the inability to act on distrust, shifts the balance from a situation of trust to one of dependence for some consumers. This increases the responsibility of food system actors to respond and address consumer perspectives and concerns.

The second point reemphasises the importance of governance actors' constructions of relevant evaluative measures of consumer trust in the food system. It is not appropriate for governance actors to assume that simply because they are not seeing what they would anticipate to see based on their personal understanding of institutional trust (demonstrations of public outrage), that there is no cause for action or concern. Kjærnes (2012) suggests that consumer distrust is expressed as powerlessness in relationships with corporate and state food actors. Thus the direct, vocal and unambiguous expressions of distrust seemingly expected by the governance actors interviewed in Study 2 are likely to be seen as pointless from the consumer perspective, therefore unlikely to eventuate. Similarly, while shifts in consumer adoption of alternative market practices could be used as an evaluative measure for consumer trust, I have shown that issues with accessibility make this expression of distrust unavailable to particular consumer groups. Given the imbalance of power present in modern food systems, and the complexity and nuance of the concept of trust, many attempts to measure consumer trust are likely to inadequately reflect true consumer sentiment. This demonstrates the need for food system actors to think more broadly, and with sophistication, about what consumer distrust may look like from their institutional position. Further research will be a powerful tool in assisting food system actors

with this, and again, the importance of using social theory to guide this research cannot be overstated.

Divergent framings of risk

The general role played by food labelling is another area that governance actors and researchers could be encouraged to consider more broadly based on this research. In agreement with others (Dörnyei and Gyulavári, 2016; Kraus, 2015; Pinto *et al*, 2015; Williams *et al*, 2004), I find labelling to be not simply an information transfer enabling mundane consumer choice, but more meaningfully an essential tool for the management of uncertainty associated with perceived food risk. Importantly, this is not only food risk defined as traditional food safety hazards, but includes consumers' perspectives of modern risks in food production. In Study 2 governance actors demonstrated concern relating to the findings of Study 1 only if consumers reported being sceptical of labelling relating to 'food safety'. This however disregards the important insight that for consumers, many more label elements are important for food risk considerations than exclusively those governance actors would define as 'food safety elements'. This research showed that simply having any labelling at all reassured consumers about the traditional safety of food products. But the label elements consumers most sought to fulfil the role of managing their uncertainty about perceived food risks were those considered 'consumer values issues', along with ingredients lists. This is because Study 1 consumers did not see these as risks that are prioritised for consideration by industry or government. Again, this is consistent with a sociological framing of food consumption and risk (Knox, 2000; Lupton, 2013; Lupton, 2005), and emphasises the need for a sociological frame to be considered alongside the techno-scientific rationality currently privileged in governance.

Considerations of modern risk and the perceived lack of reliability in labelling information relating to them were also reported by the most highly-involved consumers in Study 1 as contributors to their distrust in institutionalised food systems. It is often discussed that consumer trust in government and industry influences consumer perceptions and acceptance of food hazards (Frewer and Miles, 2003; Siegrist, 2000). However this research indicates the opposite is also true; perceived acceptability of food risks, and the willingness of government and industry to act upon these perceptions, influences trust in government

and industry. Industry self-regulation does not enjoy public confidence (Papadopoulos *et al*, 2012; Kriflik and Yeatman, 2005). Consumers perceive industry to provide distorted and biased information about risk, only accurately providing information when it serves their interests, essentially unconcerned about public welfare (Frewer and Miles, 2003). Therefore continued reliance on the market to manage consumer concerns will disable efforts to build consumer belief in the trustworthiness of the food system, especially if this is combined with resistance to action from government due to alternative framings of risk. Public health as well as food governance agencies have a role to play to 'ensure that consumer concerns are treated with respect and with holistic consideration of broad and long-term impact' (Kriflik and Yeatman, 2005, p. 21). Recent changes to Australian food labelling regulation relating to country-of-origin labelling (Vidot, 2016), and free-range egg labelling (Han, 2016) are undoubtedly steps in the right direction for demonstrating government fiduciary obligation and goodwill. However the intuitive and meaningful relevance of these labelling systems for consumers is again questionable. If these labelling systems do not represent what consumers intuitively interpret from the labels (which has been questioned, see Han, 2016) they may simply perpetuate the issues presented in this research, rather than alleviate them.

Repercussions for policy and regulation

The concept of risk and its proliferation into the everyday life of individuals and societies in modern society has been explored in a large and thorough sociological literature. Despite this extensive understanding, in Australian food governance risk continues to be assumed to be largely an objective reality (FSANZ, 2013). As such, the attitude towards contrary consumer perspectives on risk can be summarised by the following quote,

> 'On this view, the irrationality of risk perception among large portions of the population is primarily a matter of inadequate information…All complicating factors – such as different forms of non-knowing, contradictions among different experts and disciplines, ultimately the impossibility of making the unforeseeable foreseeable – are bracketed and dismissed as overrated problems' (Beck, 2009, p. 11).

'Risks' can be most simply defined as threats to valued outcomes (Fischhoff and Kadvany, 2011), and despite the dramatic changes in almost every aspect of food provisioning over the last century (Lang, 2003), there has been limited demonstrated consideration of how these changes influence outcomes society values beyond a narrow perspective of health. Kriflik and Yeatman (2005) state that food governance originated to protect the public from contaminated foods, but the focus has necessarily evolved to the protection of public health in commodified and globalised food systems. This evolution brings about two important perspective shifts for reflection. The first is a transition from considerations of simple food safety hazards (such as bread contaminated with sawdust) to the social, moral and ethical risks described by Study 1 participants. Secondly, it poses new questions about assumptions of public consent to their vulnerability to certain types of risk, and the legitimacy of the governance of these risks by institutions on behalf of the public (Kriflik and Yeatman, 2005). My research echoes previous Australian research showing consumers are concerned about government prioritisation of economic matters over potential food risks they, as consumers, see as important (Kriflik and Yeatman, 2005). This research was conducted over a decade ago, suggesting little has changed to reassure consumers in the interim. As such, I reemphasise the call for a broadening of the concept of risk in food governance, or at least increased dialogue between consumers and food governance actors about this, and a revitalised consciousness of the original purpose of food regulation which was initially about protecting public interest, rather than the prioritisation of profit outcomes (Kriflik and Yeatman, 2005).

The above mentioned call for reconsideration of the order of priority of public interest and profit outcomes is not meant as a naïve attack on profit-making however; these considerations are clearly interrelated. An economically thriving Australian food system has obvious and direct benefits for all Australians. What is being suggested is that product differentiation and market advantage for industry should not be prioritised at the expense of consumers' institutional trust and faith in the functioning of the food system for their interests and protection. Consistent with neoliberal reasoning (Dean, 2014; Colebatch, 2009; Jamrozik, 2009), it was argued by governance actors in Study 2 that competitive market function allows consumers to exercise choice. Consumer choice modifies markets to serve the overall interests of the public. This is only true however if consumers are completely free

to express their choices in an environment where they fully understand the implications of the choices they are making (Barber, 1983). Aside from arguments regarding whether food labelling in Australia is comprehensive enough to enable this, or realistically ever could be, Study 1 findings suggest a new perspective for consideration. Study 1 consumers described that the perceived intentions of labellers to 'deceive' and 'hide' information through incomprehensible or meaningfully misleading labelling demonstrated that even though they may be highly-involved with labelling, they are not actually exercising completely objective and informed choice. That is, they perceive that labellers deliberately prevent them from making the choices that reflect their values through meaningfully misleading labelling. A current Australian example of this may be free-range egg labelling. Consumers interpret a 'free-range eggs' label to mean hens are primarily kept outdoors and free to roam. Consumer purchase of eggs on this interpretation therefore supports these food production practices. However, currently in Australia eggs labelled 'free range' may come from hens that experience no outside time whatsoever (Han, 2016). Thus this label may both be seen as misleading by consumers as it does not conform to their intuitive interpretation, and therefore their choice to purchase these eggs in an effort to support their perception of free-range farming practices is corrupted. In this instance, the market cannot be manipulated by consumers to reflect the wider expectations and values of the public.

Therefore in this sense aspects of labelling demonstrate to consumers that the power imbalance (or at times abuse) and information asymmetry in the food system is such that the indirect competitive mechanisms that usually allow for the overall public welfare to be served in capitalist market economies (for example consumer purchase decision) are also not functional (Barber, 1983). The erosion of consumers' institutional trust in a capitalist food system essentially undermines its legitimacy. It also subverts the position of Study 2 governance actors that the capitalist market system will 'take care of' consumer issues of distrust, therefore they do not require government action. It requires governance actors to take action to address the underlying issues creating these consumer perceptions, one being the divergent interpretations of labelling as demonstrated in this research. The strategy of consumer education suggested by governance actors in Study 2 underestimates the depth of the problem. There is a divergence in expected values and norms: consumers expect a level of honesty and goodwill in labelling, and probity in food production, that are not currently

fostered by the competitiveness of the market. No amount of consumer education will change this problem. The central issue is that the values underpinning the food system no longer reflect those supported by the community who is dependent on it, and food labelling visibly represents and reinforces this belief for consumers.

Summary of implications for stakeholders

This section condenses the discussion in previous sections to provide a summary of the implications of the research for food policy and regulation, and for future research.

Policy/regulatory

In addition to established events that undermine consumer trust in the food system (for example food safety incidents), this research demonstrates new ways in which this trust may be diminished. The damage done through interaction with food labelling may lead to less dramatic expressions of distrust (for example public outrage), instead being a slower, more insidious breakdown in institutional forms of trust. This does not mean it can be overlooked by food system actors; contrarily, these everyday encounters with the food system have the potential to build a solid foundation of institutional trust which could temper the rapid escalation in public outrage seen in response to food safety incidents. This research however finds that for the most part, consumers' everyday interaction with food labelling destabilises institutional trust instead. In order to address this erosion of trust, governments would need to extend their understanding of trust to consider consumers' mundane, everyday social interactions with the food system as an important influence on trust, rather than simply being reactive to food safety incidents only.

This research also presents a warning in that by their nature and purpose, rationalistic approaches to governing result in the cutting away of potentially relevant considerations which may have unexpected social implications. Naturally prioritisation is essential in resource poor environments. But this underscores the importance of a critical awareness of prioritisation frameworks as normative, potentially contested, and socially constructed tools. As such, to ensure the success of these tools in terms of citizen satisfaction and acceptance, deep and thorough consumer engagement in this process is necessary, as is a potential broadening of the methods used to incorporate consumer engagement. Consumer engagement must not simply skim the surface of what consumers 'want and understand', but delve deeper to ensure food system governance reflects the core values of what its citizens consider 'a good society'. It also emphasises the importance of flexibility and responsiveness within the regulatory process. Rapidly evolving markets create shifts in social sentiment and perceptions of risk that, due to the vulnerability of consumers in these

markets, the food system has a responsibility to address. This may require sensitivity to different types of policy outcomes, and broader, rather than ever-more restricted outcome indicators and types of evidence considered in regulatory and policy decision making.

Research

A number of overarching implications for future research can be drawn from this research. This work demonstrates the benefits of using social theory to explore research problems that would traditionally be considered from a more positivist frame of reference. Especially useful was the use of a social constructionist perspective allowing a critical awareness of all framings as contested, and therefore worthy of critique and exploration. Consequently the position taken in this thesis relating to labelling, trust and governance is again one of many possible positions, and is itself contested. However, the extensive incorporation of knowledge from social theory through the use of adaptive theory has enabled unique insights and valuable new perspectives for stakeholders that would otherwise have remained uncovered. Consequently, future research in the area should generally consider both the approach of utilising social theoretical knowledge more extensively, and specifically utilise the more holistic framings of consumers, food labelling and the consumer-labelling-interaction developed in the frameworks presented in this thesis.

There are also specific topics for further investigation that arise from the links between the papers, and therefore add to those already mentioned in the previous manuscript chapters. Foremost is future applied study of appropriate evaluative indicators of consumer trust in institutionalised food systems. There is an extensive literature surrounding how trust can be measured which will be useful in informing this work, however research that can be directly applied to food governance, and therefore used by policy and regulatory actors in their everyday work would facilitate greater engagement with these important considerations by these actors. Similarly, explicit examination of the fundamental expectations and values that underpin the food system as held by different food system actors, including consumers, would be of value. Finally, this work represents the beginning, exploratory stage of the research process, and therefore a natural progression from this point is to test the propositions and concepts developed in this deep qualitative study with quantitative research that is population representative and generalisable beyond selected participant

groups and geographic locations. This will again assist in translating this work from academic literature to useful, applied direction for policy and regulatory actors.

Reflections on the research process

This section presents my final thoughts on the doctoral research process. It begins with a discussion of the strengths and limitations of the research process, as separate to the strengths and limitations of the research studies as described in each of the manuscripts in Part 3. This section, and the thesis, then concludes with my personal reflections on candidature.

Strengths and limitations

Perhaps the greatest strength of this research overall is the theoretical coherence achieved despite it being broken into two studies, and multiple manuscripts. The overarching themes of the research are consistently applied in these different contexts such that each paper can be seen to provide support for the arguments in the others. This is especially so regarding the theme of the importance of knowledge generated in social theory initiated in Chapter 2.1, and practically demonstrated in the final empirical manuscript, Chapter 3.4. Additionally, through the research design and the conduct of two studies, one with consumers and the other with governance actors, this work inherently presented opportunities for immediate research translation. It has also contributed to the further development of my relationships with regulatory and policy actors that can facilitate future cooperative involvement. This ensures that any eventual applied research as discussed above is directly relevant to non-academic stakeholders as well as the academic community.

The quality of data collection resulted in deep and rich data, enabling a thorough investigation and analysis of the multiple areas outlined in the research questions. However, the exclusive use of qualitative data means that findings require extension through quantitative study as mentioned above. Another opportunity for extension of this research exists due to the methods of participant sampling. Study 2 involved regulatory and ministerial government actors, as well as a selection of actors from some other organisations associated with food governance that cannot be listed here due to ethical constraints. However, this study did not elicit the perspectives of industry actors. Discussing the findings of Study 1 with industry actors and collectives such as the Food and Grocery Council would add an interesting and important dimension to this research, and more comprehensively position it within the Australian food governance system.

A further overall reflection worthy of brief discussion is that because of the unique framing of the role of food labelling in this research, it was found to be necessary to at times limit the literature areas used to contextualise the findings to preserve conceptual distinctions. Through the process of peer review of the manuscripts there was often conceptual confusion between the role of labelling in influencing institutional trust (being the perspective of this thesis), and the role of labelling and trust in influencing food choices (of which there is a large literature). Often reviewers rolled these concepts together inappropriately, causing them to either suggest key papers had been omitted, or the findings were not novel. This was exacerbated by the fact that Study 1 was broken into three independent manuscripts, disconnecting the findings of one manuscript from the context of the others. This however was seen as necessary to thoroughly theoretically explore each important theme to address the objectives of this thesis. The strategy employed to overcome these mis-conceptualisations was to focus the literature used and observations made in contextualising the findings away from this periphery literature to clarify the conceptual distinctions without laborious explanations of why particular bodies of work are not relevant. While this was necessary and enables a clearer picture of the perspectives used in the thesis, this presents an opportunity for further research to explicitly address the interconnections between the areas identified above, and differently position the insights from this research regarding labelling and institutional trust in the broader and endlessly complex context of food choice.

Personal reflections on candidature

The approach of structuring the thesis around prospectively completed peer-reviewed manuscripts was chosen within the first six months of candidature. This was ambitious given the three-year time frame of candidature. It produced both benefits and challenges. All papers, with the exception of Chapter 3.4 which was completed and submitted shortly before thesis submission, underwent at least one round of peer-review and were revised based on reviewer feedback prior to thesis submission. Thus the research was critically examined and assumptions challenged by an international audience of experts in each area throughout the research process, pushing me to consider different perspectives and the validity of and justification for my claims. This process was instrumental in assisting me to fully develop and clarify my arguments. It also helped me to more clearly position my

research within existing fields of investigation, which is by no means straightforward given the many research areas this topic interconnects with as mentioned above. I note however that combining this approach with a 3-year doctoral timeline resulted in fewer papers having completed the process of peer-review to publication than it was originally hoped. Additionally, given the somewhat controversial perspectives this research at times takes, and my extensive use of social theory in areas typically dominated by more positivist quantitative research, I needed to quickly build resilience and an understanding of the politics and skill involved in publishing somewhat non-conventional research in the current academic environment. Therefore this approach assisted the development of the research itself, but was also central in fostering my growth as a professional researcher, and the personal qualities needed to be successful in the academic environment.

I was also given the opportunity to explore philosophical questions about what is legitimate knowledge, different approaches to gathering this knowledge and what it means to know, through my candidature. I began my doctoral studies having had extremely limited exposure to anything other than a positivist frame of reference, but feeling as though there had to be more. The first six months of candidature therefore proved to be both extremely challenging and satisfying as I initiated my learnings in philosophy, and was a rapid period of professional and personal growth for me. I feel the research is greatly enriched by the resulting depth of understanding about the differing philosophical perspectives which form the foundations of the various research paradigms, and again this was crucial for enabling me to position my research within the broader context of the academe.

While undoubtedly there are aspects of this research that I would do differently now given the personal and professional development achieved through my candidature, I believe these parts of the work presented compounding challenges and essential learnings that in sum have assisted me in the transition from undergraduate student to independent researcher.

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APPENDIX A

Statement of Author Contributions to manuscript chapters

Chapter 2.1: 'Integrating social theory and public health – new perspectives, possibilities, questions and solutions'

Emma Tonkin conceptualised the manuscript, developed the model described, developed the literature review plan, sourced and reviewed the literature and analysed theory, developed the argument, drafted and edited the manuscript for publication.

John Coveney played a role in contributing foundational ideas for paper, contributed to theoretical orientation, read and commented on all manuscript drafts, advised on appropriate journal.

Annabelle Wilson provided guidance in conceptualisation of the manuscript, manuscript structure and commented on drafts, reviewed the final manuscript prior to publication.

Samantha Meyer provided guidance in the critical analysis of theory in the application to food labels, read and commented on all manuscript drafts.

Trevor Webb played a role in contributing foundational ideas for manuscript and reviewed the final manuscript prior to publication.

Chapter 2.2: 'Trust in and through food labelling – a systematic review and critique'

Emma Tonkin conceptualised the paper, developed search strategies and literature review plan, developed analysis frameworks, conducted all literature searches, data extraction and analysis, developed the argument, drafted and edited the manuscript for publication.

John Coveney provided feedback on concepts, structure and analysis, read drafts and provided feedback on content.

Annabelle Wilson contributed to review plan, discussion of and classification of studies, provided feedback on critical analysis framework, read drafts and gave feedback on content.

Samantha Meyer provided guidance on the framing and development of critical analyses, read and provided feedback on all manuscript drafts.

Trevor Webb provided feedback on review plan, concepts, structure, read drafts and gave feedback on content.

Chapter 3.1: 'The process of making trust judgements through interaction with food labelling - a consumer study'

Emma Tonkin conceptualised the study, collected, analysed and interpreted all data, developed the argument, drafted and edited the manuscript for publication.

John Coveney provided guidance regarding study planning and data collection, feedback at each stage of data analysis, read and provided feedback on all manuscript drafts.

Annabelle Wilson provided guidance in conceptualisation of the study, study planning and data collection, feedback at each stage of data analysis, reviewed the final manuscript prior to submission.

Samantha Meyer provided guidance regarding study planning and data collection, feedback at each stage of data analysis, guidance in development of theoretical ideas presented, read and provided feedback on all manuscript drafts.

Trevor Webb provided guidance in conceptualisation of the study, feedback on data analysis, reviewed the final manuscript prior to submission.

Chapter 3.2: 'Consumer trust in the Australian food system – the everyday erosive impact of food labelling'

Emma Tonkin conceptualised the study, collected, analysed and interpreted all data, developed the argument, drafted and edited the manuscript for publication.

John Coveney provided guidance regarding study planning and data collection, feedback at each stage of data analysis, read and provided feedback on all manuscript drafts.

Annabelle Wilson provided guidance in conceptualisation of the study, study planning and data collection, feedback at each stage of data analysis, reviewed the final manuscript prior to publication.

Samantha Meyer provided guidance regarding study planning and data collection, feedback at each stage of data analysis, guidance in development of theoretical ideas presented, read and provided feedback on all manuscript drafts.

Trevor Webb provided guidance in conceptualisation of the study, feedback on data analysis, reviewed the final manuscript prior to publication.

Chapter 3.3: 'Consumer management of uncertainty about food risk – the dual role of food labelling'

Emma Tonkin conceptualised the study, collected, analysed and interpreted all data, developed the argument, drafted and edited the manuscript for publication.

John Coveney provided guidance regarding study planning and data collection, feedback at each stage of data analysis, guidance in development of theoretical ideas presented, read and provided feedback on all manuscript drafts.

Annabelle Wilson provided guidance in conceptualisation of the study, study planning and data collection, feedback at each stage of data analysis, reviewed the final manuscript prior to submission.

Samantha Meyer provided guidance regarding study planning and data collection, feedback at each stage of data analysis, read and provided feedback on all manuscript drafts.

Trevor Webb provided guidance in conceptualisation of the study, planning of study methods, feedback on data analysis, reviewed the final manuscript prior to submission.

Chapter 3.4: 'Consumer concerns relating to food labelling and trust – Australian governance actors respond'

Emma Tonkin conceptualised and planned the study, collected, analysed and interpreted all data, developed the argument, drafted and edited the manuscript for publication.

John Coveney provided guidance regarding study planning and data collection, feedback at each stage of data analysis, guidance in development of theoretical ideas presented, read and provided feedback on all manuscript drafts.

Annabelle Wilson provided guidance in study planning and data collection, feedback at each stage of data analysis, read and provided feedback on all manuscript drafts.

Samantha Meyer provided guidance regarding study planning and data collection, feedback at each stage of data analysis, read and provided feedback on all manuscript drafts.

Trevor Webb provided guidance in conceptualisation of the study and planning of study methods, assisted in recruitment, provided feedback on data analysis and theoretical development of the arguments made in the manuscript, reviewed the final manuscript prior to submission.

I agree that all statements in the preceding document pertaining to my contribution to the aforementioned manuscripts or published articles (being chapters 2.1, 2.2, 3.1, 3.2, 3.3 and 3.4 within this thesis) are a true and accurate reflection of my contribution to the works,

Emma Tonkin _____

John Coveney _____

Annabelle Wilson _____

Samantha Meyer _____

Trevor Webb _____

APPENDIX B

Additional study summary tables for Chapter 2.2

Characteristics of included studies

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Sirieix et al. 2013 UK Aim: 1. Consumer perceptions re: sustainable vs. other labels (origin, nutrition). 2. Consumer reactions to combinations of different sustainable labels.	2 Focus groups, individual questionnaires before discussion n=16 University staff and students (NFD) Outcomes of interest: Responses to labels, preferred/rejected combinations, thoughts on sustainable labels	Participants did not trust the 'Climate Friendly' label - due to a lack of receptiveness to the message it is communicating. The 'Organic Farmers and Growers' label added trust and was reassuring, while only some of these participants felt the same way about the EU organic label	None
Gerrard et al. 2013 UK Aim: To consider whether UK consumers recognise & trust organic certification logos, and whether this increases WTP for products.	3 Focus groups, survey &WTP experiment FGs – n=29 semi/regular organic food consumers, responsible for shopping. S – n=788 organic apple & egg consumers at shopping centre. Age & gender spread. Outcomes of interest: How to recognise, awareness of standards, price differences between logos, 'I do trust this label'	Some trust in Soil Association (75%) & Organic Farmers and Growers (59%) logos. More people trusted the word 'organic' than the EU logo (29% vs. 14%). A lack of knowledge about logos 'seemed to have added to the lack of trust in the industry'.	None
Uysal et al. 2013 Turkey Aim: To analyse consumers' perceptions of organic certification logos.	Focus groups (first) & survey (second) at various organic food sales points FGs – n=29 organic food consumers, S - n=400 organic food consumers, have some responsibility for shopping, must buy organic. Age matched organic consumer profiles using quotas Outcomes of interest: 'I do not trust this label'/'I trust this label'	Trust a key factor in eco-label preference. Lower trust was reported with multiple labels compared to 1 Government label ($p<0.001$). Females had lower trust ($p<0.01$), while younger consumers ($p<0.01$), & those with greater organic purchase frequency ($p<0.01$) and percentage of budget for organics ($p<0.01$) had higher trust in logos. Consumers purchasing from open markets trusted logos less than those who purchased from stores ($p<0.01$)	None

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Janssen & Hamm 2012 Czech Republic, Denmark, Germany, Italy, Switzerland, UK Aim: To investigate consumer preferences & WTP for different organic certification logos in six EU countries to give recommendations for market actors in the organic sector.	Choice experiments (with WTP) & structured interviews Age & gender spread n=2441 consumers of organic food at conventional supermarket & organic food shops Outcomes of interest: 'I completely trust this label'/'I do not trust this label at all'	- Trust in no logo label was low, all 6 countries <30%. - Trust in Government organic logos was generally high, all 4 countries >70%. - Trust in private logos and trust in EU logo varied greatly between countries, but private label generally more trusted than EU logo.	None
Rezai et al. 2012 Malaysia Aim: To evaluate & assess consumers' degree of confidence in manufactured Halal labelled food products & the Halal logo that comes with them.	Survey, structured interview n=1560 Muslim shoppers, randomly approached at supermarkets Outcomes of interest: 'I am confident with the Halal food products with the JAKIM logo' 'I am more confident with the 'halalness' of Halal foods from Muslim countries'	- Not including the JAKIM Halal logo meant consumers were 5.25 times more likely to not be confident in the product's 'halalness' ($p<0.01$). - Respondents were 1.2 times more likely to have less confidence in Halal labelled products from non-Muslim countries ($p<0.1$). - Respondents were 1.05 times more likely to have less confidence in products not carrying detailed ingredients lists ($p<0.1$) (NS).	Little
Sønderskov & Daugbjerg 2011 Denmark, Sweden, UK, USA Aim: To explore to what extent government engagement in eco-labelling impacts consumers' confidence in such schemes.	Survey n=3858 participants. Nationally representative samples. No inclusion, exclusion specified Outcomes of interest: 'You can trust that products marketed as organic actually are organic in the majority of cases'	- Increased confidence in governmental institutions, higher education and higher environmental awareness are associated with increased confidence in eco-labelling. - Institutional trust was a highly influential predictor suggesting consumer perceptions of 'the formal institutions also affect their perception of non-state institutions like labelling systems provided by private parties'	Some
Barnett et al. 2011 UK Aim: To understand the complex risk assessment decisions made by peanut and nut-allergic adults when purchasing food, with particular reference to use of printed package information.	Thinking aloud method during normal food-shop with semi-structured interview n=32 (23F/9M) participants with clinical history of IgE-mediated reactions to peanut and tree nuts, and >16 years old. Variation in exposure to clinical guidance. Outcomes of interest: When and why participants were confident in packet information.	- Many participants trusted that the absence of an allergen warning box meant there were no allergens present (not so). - 'Nut free' labelling was universally trusted.	None

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Van Rijswijk & Frewer 2011 Germany, France, Italy, Spain Aim: To investigate consumers' information needs & requirements regarding traceability.	Semi-structured interviews n=163 interviews. Quota sampling - recruited to be population cross-sectional. Food researchers or workers excluded. Outcomes of interest: 'Who do you think should guarantee the traceability of food products?' 'Would it be necessary to have information about the guaranteeing agency on the product?'	- 90% of German, French & Italian respondents indicated that including information about the agency guaranteeing traceability on the product would generate confidence about the trustworthiness of the information, potentially a logo or stamp.	None
Janssen & Hamm 2011 Czech Republic, Denmark, Germany, Italy, UK Aim: To identify potential added values that organic certification schemes could incorporate to differentiate themselves from the mandatory EU logo.	Focus groups n=218 organic food consumers, partly responsible for food shopping. Age & gender spread. Outcomes of interest: 'What are the added values that consumers associate with the preferred schemes?'	- Products without a logo were not trusted as it was thought they did not comply with any standards. - Organic logos perceived to represent stricter controls generated greater trust in product integrity.	None
Koenigstorfer & Groeppel-Klein 2010 Germany Aim: To investigate the relationship between habitualised & unconscious aspects of consumers' food choices, the FOP nutrition labelling schemes on food products & the healthiness of their diets.	Photoelicitation – photographs taken at point of purchase & consumption & used as stimuli in interviews n=10 middle-class families, with children Outcomes of interest: Consumers' trust in nutrition information	- Participants may trust or distrust nutritional labelling. - Participants trusted nutrition information due to their trust in the market & product testing	None
Mahé 2010 Switzerland Aim: To improve the understanding of consumers' stated motivation for buying 'Fair Trade' & 'organic Fair Trade' bananas in Switzerland.	Survey with WTP & observation of food choices - 'Max Havelaar' Fair Trade label & 'Bio-Suisse Max Havelaar' organic Fair Trade label n=110 banana buyers at a grocery store. Outcomes of interest: Self-reported levels of confidence in the Fair Trade 'Max Havelaar' label	- Confidence was high in both labels (Scale of 1.19 for 'Max Havelaar' Fair Trade label & 0.61 for 'Bio-Suisse Max Havelaar' organic Fair Trade label) - Buyers of the organic labelled bananas were significantly more confident about the organic label (z -4.384, p=0.000)	None

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Essoussi & Zahaf 2009 Canada Aim: To understand what, how, where and why Canadian consumers buy organic food by exploring consumers' motivations and decision-making process, & digging into consumers' trust orientations with regards to organic food.	In-depth interviews n=29 regular, occasional or irregular consumers of 2/6 listed organic products. Needed knowledge of organic food & responsible for shopping. ½ recruited from organic stores, ½ supermarkets Outcomes of interest: Perception of labelling & certification of organic food.	- 'Typical' organic food consumers sought further assurance from ingredients lists, while non-typical consumers simply trusted labelling & certification.	None
Eden et al. 2008 England Aim: To consider how consumers understand & evaluate a range of organisations that offer assurance about food & consumer products, particularly voluntary certification schemes.	6 Focus groups - card sorting exercise n=46 (27F/19M). 4 groups cross-section of ordinary consumers, involved in household shopping & show interest in relevant product categories, 2 groups were experienced organic buyers Outcomes of interest: Sort cards to reflect the amount of confidence in assurance provided	- Some participants found third-party certification more trustworthy - independence of the organisation, with the government being itself untrustworthy. Others felt these organisations lacked power – but this opinion was not widespread - There was less trust associated with commercial assurance schemes like Tesco Organic – lack independence and place company interests first	None
Coveney 2008 Australia Aim: To explore consumer trust in food, especially people's experiences that support or diminish trust in the food supply; consumer practices to strength trust in food; & views on how trust in the food supply could be increased.	In-depth interviews & focus groups Interview (n=12, 8F/4M), FGs (n=12, 8F/4M) primary food providers, between 18-65 years, range of socioeconomic groups Outcomes of interest: What are people's experiences that support or diminish trust in the food supply? How could trust in the food supply be increased?	- 'Made in Australia' labelling generated trust as respondents felt Australia had higher manufacturing standards than other countries	Some
Wier et al. 2008 Denmark Aim: To investigate consumer perceptions and priorities, labelling schemes and sales channels as a basis for assessing organic market stability and prospects for future growth.	Household purchase data (shopping diary) & survey n=1609 households. Population representative Outcomes of interest: Perceptions and stated value attributes with respect to organic foods	- National labelling increases trust of foreign products	None

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Batrinou et al. 2008 Greece Aim: To examine how label information may affect the acceptability by young consumers of a food produced by genetic engineering methods.	Experimental survey - taste test corn chips with 'GM', 'conventional', 'organic', 'EU approved GM' & 'non-classified' labels. n=229 (54%F/46%M) food technology students Outcomes of interest: Refused to eat or ate with hesitation – reason given, one selection being 'no trust'	- 31% and 43% of students who refused to eat GM labelled & EU approved GM labelled corn respectively gave reason 'no trust in it', however 145 (vs 63) more tasted when EU approved.	None
Cornelisse-Vermaat et al. 2007 Greece, Netherlands Aim: To understand whether current food labelling practices are perceived to be adequate by food allergic consumers.	Shopping observation (list of problematic products provided) & interview n=40 (parents of) milk, egg or peanut/tree nut-allergic consumers Outcomes of interest: 'Do you trust the information that was given on the label?' (from ref. 10)	- Labelling information was not always trusted, which may result in feelings of insecurity & stress.	None
Pieniak et al. 2007 Belgium, Spain Aim: To explore consumers' use of internal & external information sources & their use of information cues with regard to fish.	6 focus groups n=48 women, responsible for household fish purchase & preparation Outcomes of interest: Information about fish (traceability & labelling)	- Belgian consumers doubt whether it is feasible to provide a trustworthy guarantee about fish origins (traceability)	None
Singer et al. 2006 Australia Aim: To assess whether the health claim format had an effect on consumers': satisfaction & attention to product labelling (health claims in particular), trust in the health claim & understanding of the claim & the product's health benefits.	Survey using 2 products with different labels n=149 (101F/48M) primary food shoppers (>50% regular shopping), over 18 years old. Demographically diverse. Recruited at shopping centre, non-random, quota-controlled Outcomes of interest: 'I believe the health claim on this package is true' & 'this health claim on the package is just an advertising tool to sell more products'	- Split-claims (small message front, long message back) on the milk product were associated with a borderline higher belief in the truth of the claim (8.2 vs 7.6, p=0.05).	None
Miles et al. 2005 Italy, Norway, England Aim: To investigate consumer preferences for labelling of GM foods in Italy, Norway & England. To investigate the impact of information about traceability on attitudes towards GM food & trust in regulators in these 3 countries.	Survey that provided additional information about traceability to random consumers n=1133 (572F/561M) quota sampling for gender, age & socio-economic class. Outcomes of interest: Options to increase confidence in food safety – 3/11 choices involved labelling, 'pick <=5'	- 'Clearer labelling of GM foods on food packaging' was the most popular of 11 options for increasing confidence that GM food products in shops are safe & this was consistent across countries.	None

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Padel & Foster 2005 UK Aim: To explore the values that underlie consumers purchasing decisions of organic foods.	Focus groups with laddering interviews n=181 organic food consumers Outcomes of interest: Motives & barriers for organic food purchase; how consumers relate to certification & labelling	- Regular & occasional consumers describe mistrust about truth of organic labelling. - Felt they could only trust claims if the product was 'almost passed over the fence' - Independent certifiers perceived as more trustworthy.	None
Poortinga & Pidgeon 2004 UK Aim: To investigate the stability of trust in the context of GM food.	Survey involving contrasting events related to GM food regulation drawn from media coverage. n=396 (54%F/46%M) from different residential areas Outcomes of interest: 'The government states that it is not necessary to label food that contains GM material' – & contrasting event.	- 'The government states that all food containing GM material should be labelled' had the largest positive impact on trust of 28 items. - The contrasting statement had the third largest negative impact on trust in GM regulation. - This finding was independent of prior attitude towards GM food. - Moderate positive effect, but large negative effect.	Some
Soregaroli et al. 2003 Italy Aim: To evaluate consumer's attitude towards foods obtained from the application of biotechnologies & foods labelled as 'GM free', where the measure of this attitude entails the elicitation of the individual WTP for both branded & unbranded products.	Survey with WTP component (WTP for 'GMOs-free labelling) – branded and unbranded products used. n=500 consumers Outcomes of interest: 'Assessment of the level of confidence in "GMOs-free" labelling'	- 30% would trust a 'GMOs-free' label with government certification, but this was lower when confidence in the label was linked to the brand or store.	None
Worsley & Lea 2003 Australia Aim: 1. To examine South Australians' use of, & trust in, sources of nutrition information, as well as the influence of demographic variables & personal values on use & trust. 2. To examine the relationship between trust & use of nutrition information.	Survey n=603, randomly selected from White Pages Outcomes of interest: Level of trust in information sources	- Food labels were generally trusted, although not among the top most trusted sources. - Food labels trusted least by people who had not completed high school. - Women & tertiary graduates trusted food labels the most (p=0.05). - Personal values influenced trust in sources more than, and independently of socio-demographic predictors.	None

Study	Study design - Methods & Sample	Findings of relevance to review not discussed in text	Trust theory
Garretson & Burton 2000 USA Aim: To examine how differences in Nutrition Facts information on fat & fibre, coupled with differing claims for these nutrients, influence consumers' product evaluations, perceptions & awareness of disease risk & trust of the claims & Nutrition Facts information.	Experimental survey using different NFP & health claims (congruent & incongruent conditions) n=382 (73%F/27%M) primary household shoppers from a state-wide mail household research panel Outcomes of interest: 'I trust any nutrition information shown on the front of this package' & 'I trust the nutrition information shown in the NFP on the back of this package' Manufacturer 'trustworthy/untrustworthy' scale	- 'low in fat' & 'low in fat, high in fibre' claims – differences in 'trust of claim' scores across NFP categories ($F=9.22$, $p<0.01$; $F=8.41$, $p<0.01$) with greater incongruence = less trust ($p<0.01$ & $p<0.25$ respectively). - No difference for trust in the 'high in fibre' claim across any conditions (all $p>0.05$)	None
Nayga 1999 USA Aim: To examine the effect of socio-demographic factors on consumers' confidence about the reliability of nutrient content claims on food labels.	Survey - USDA's 1994 'Diet and Health Knowledge' – CATI interviews n=1468, random selection of 'Continuing Survey of Food Intakes by Individuals' sample persons, >20 years with 1 complete intake record. Outcomes of interest: Confidence questions about different nutrient content claims (e.g. 'healthy', 'light' & 'low fat'; 0=no, 1=yes)	- Proportion of respondents indicating confidence in claims ranged from 42% for 'healthy' to 66% for 'good source of fibre' – so overall not that confident ($p<0.05$). - Higher income, less confidence in; & 'blacks', higher confidence in 'light' & 'healthy' claims ($p<0.05$). - Older consumers & males, less confidence in all claims, except for older & those about fibre ($p<0.05$). - Region & urbanisation did not impact confidence, while employment reduced confidence in 'low cholesterol' claims, but higher education increased confidence in this & 'good source of fibre' & 'extra lean' ($p<0.05$). - Individuals with higher perceived importance of nutrition were more confident in all claims ($p<0.05$).	None
De Almeida et al. 1997 15 EU states Aim: To assess what sources of information on healthy eating are used and in particular most trusted by European adults.	Survey (assisted) n=14331 adults >15 years. Quota-controlled to be nationally representative. Outcomes of interest: The level of trust in food packaging for healthy eating information	- High variation in trust between countries (Austria, Germany, Luxembourg ≤50% trust; Netherlands, Finland ≥85%). - Younger (15-34 years) 68%, older (55+) 61%. - Educated at secondary level highest trust (69%).	None

Abbreviations: CATI, computer assisted telephone interview; COO, country of origin; FOP, front-of-pack; F&V, fruit and vegetables; MRC, market research company; NFD, no further detail; NFP, nutrient facts panel; WTA, willingness to accept; WTP, willingness to pay

APPENDIX C

Interview guide for Study 1

This guide was used as a reminder of the main interview areas, with questions used simply as prompts only if the topic had not already been discussed in a more conversational manner during the interview. The study 2 interview guide is provided in Chapter 3.4.

I'm a PhD student in the Public Health Department at Flinders University.

As I mentioned on the phone/in the email, I'm studying how people use food labelling and what it makes them think about the food in Australia.

I'm planning on using my findings from these interviews to talk with policy makers and people responsible for labelling regulation. The findings will also be used in my thesis and some other academic publications.

Firstly I'd like to thank you for taking the time to speak with me today, and ask your permission to record our voices so that later I can type up our interview?

Another little practical thing is that when I have typed it up, if you would like to read what you said or check that I have understood everything properly I can send it to you for checking, but you certainly don't have to do that. So feel free to let me know if you would like that.

I have a whole pile of labelling pictures and examples that I'm going to put out here, so feel free to refer to them or use them as examples for anything you like throughout.

So tell me a little bit about yourself

- Family/living situation (kids)

Give me and idea of what food shopping looks like for you (and your family)

- Where do you do it – why?

–

Speaking about everyday shopping type of food rather than food in restaurants and things, what are your expectations about the food that you can buy in Australia?

- Safety, quality, health, ethically sound?
- Are there any particular foods that you have specific expectations for?
- Has there ever been a time you can think of when these expectations haven't been met? Who did you blame?

Do you worry about these things, or is there anything in particular you worry about with the food in Australia?

- Anything about the way food is made or gets here?
- **What about things that are out of your control?**
- Is there anything you do to help manage that worry?

–

<u>Checking in question – that clear statement about is exactly what I'm after, that's great.</u>

I'd like to go on now to discuss how you would define food labelling

- can you give me an example of food labelling as you would define it?
- What are your thoughts on how it is managed or regulated?

I'm really interested in what it means to you that there is labelling on food?

- How do you make sense of it?
- Who do you see as communicating with you through food labelling?

Is there anything in particular you look at on food labels?

- To what extent do you think these things are reliable? Why?
- If the information is put there by the government or by the company does that make a difference to you?

–

What do you think about the fact that some foods don't have labels, like restaurant food and foods in markets?

- What makes it ok?
- Where would you get information you would otherwise get from the labels?
- Do you trust people more or labels more – why?

Checking in question – what you've been telling me so far has been really great, so I feel like things are going well for me, is everything ok for you? There isn't much longer to go now, and really it's a more practical fun bit.

So if I can just draw your attention to a few specific examples, and I really only want you to focus on the labelling rather than the food as such.

- *Thinking aloud section*

Group 1


–

Group 2


Group 3


Is there anything else that stands out to you that you'd like to point out to me from all of these?

Have you ever seen anything on a food label or heard something about food labelling that led you to do further research or made you worry?

- Is there anything that helped you feel ok about that?
- Have you ever had the reverse happen?

Something that we hear government people saying is that food labelling helps consumers have trust in the food in Australia; I'm interested in your thoughts on that?

- To what extent do you think it does?
- How do you think it does that?
- Could it do it better?

APPENDIX D

Recruitment grid for Study 1 participants – Consumers

	Supermarket - Woolworths/Coles – metro + rural location (posters) - Flinders University male gym change room (posters)		**Organic/Health/Boutique food shops** - Organic Market Adelaide Corner Store (posters Bellevue Heights & Glenelg) - The Organik Store (posters Glenelg) - Consumers SA (email to members)		**Farmers'/local markets** - Slow food South Australia (email to members) - Soil Assn of South Australia (email to members) - Consumers SA (email to members)	
	Metro	**Rural**	**Metro**	**Rural**	**Metro**	**Rural**
Low risk - Consumers SA	*1, 9*, 15, *17*, 21, 22	12, 13	*8,* 10, *11, 20*		*16*	*19*
Moderate Risk - Intolerance/Coeliac - Coeliac Australia NT/SA	18, 23	14	3			
High Risk – allergy - Allergy & Anaphylaxis NT/SA	2, 4, 5	6	7		*24*	

Numbers represent chronological participant order of recruitment, and gender is differentiated as Female, *Male*