



The problematic messages of nutritional discourse: A case-based critical media analysis



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ABSTRACT

Nutritional science has assumed a fundamental importance in shaping food meanings and practices in the developed world. This study critically analysed the content of one weekly nutrition column written by a nutritional expert in a popular New Zealand magazine, from a social constructionist perspective, to investigate how nutritional advice constructs food, food practices and eaters. The analysis identified a range of ways in which the nutrition information communicated in the articles was potentially problematic for readers. The articles advocated eating for health with recommendations based on nutritional science, but depicted nutritional information as inconclusive, changeable and open to interpretation. Fear-based messages were used to motivate making 'healthy' food choices, through linking 'unhealthy' food choices with fatness and chronic ill health. Unhealthy foods were portrayed as more enjoyable than healthy foods, social occasions involving food were constructed as problematic, and exercise was defined only as a way to negate food consumption. Healthy eating was portrayed as a matter of personal choice, obscuring the situational factors that impact on food choice and health. We conclude that the nutritional advice analysed in this study constructs a way of understanding food that, if internalised by eaters, may evoke anxiety, confusion and dissatisfaction around food and eating.

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Nutritional science is strongly embedded in the developed world, and has assumed a fundamental importance in shaping food meanings and practices. Information presented from a nutritional science perspective is communicated to the general public in numerous ways, through education, via word of mouth and through the media. Nutrition experts play a powerful role in communicating this information, and advice from nutrition experts is prolific in the media. Analysis of this advice can provide valuable insights into the ways food is understood today. The aim of this research is to critically analyze nutritional information communicated through the media, in order to better understand how the culture of nutritional science may influence food meanings and food practices. By the culture of nutritional science we refer broadly to all ways of understanding food, food practices and eaters that are constructed by a nutritional science perspective.

Food and food practices are deeply imbued with wider social meanings. What food practices are considered 'normal' or 'correct', has important consequences for individuals and society at large,

because these practices are intertwined with social relationships. From infancy, being fed is bound up with receiving care, love and rewards from others (Locher, Yoels, Maurer, & Van Ells, 2005; Lupton, 1996; Moiso, Arnould, & Price, 2004). Preparing (Mohd Zahari, Kamaruddin, Muhammad, & Kutut, 2011) and eating food together (Lawton et al., 2008) can play a significant role in strengthening social and community ties. Food and eating are an integral part of many social situations, religious rituals, and celebrations across cultures (e.g. Kaplan, 2008; Mohd Zahari et al., 2011; Schram, 2007).

How food is understood also has the power to influence the emotional experiences of individuals. Food and eating are evocative and may bring forth a wide range of emotions (Hormes & Rozin, 2011; Macht, Meiningner, & Roth, 2005; Steenhuis, 2009). Individual experience of food and eating can range from emotionally nourishing to emotionally destructive. For example, food can be so strongly associated with past happy memories and people that it may be comforting to individuals when they find themselves distressed or alone (Locher et al., 2005). However, food and eating can also be a significant source of worry, anxiety, guilt and shame (Locher et al., 2005; Madden & Chamberlain, 2010; Rodgers, Stritzke, Bui, Franko, & Chabrol, 2011; Rozin, Bauer, & Catanese,

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2003; Steenhuis, 2009). The extent to which food brings forth positive or negative emotional reactions in individuals has also been shown to differ between cultural groupings. Comparisons across cultures have reported that North Americans experience significantly more guilt, aversion and dissatisfaction around food than the French, argued to result from the differences in food culture (Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999). The meanings attached to food also differ across cultures, and these differences can shape an individual's subjective experience of eating. For example, research has reported that food described as 'unhealthy' is experienced differently by North Americans than by the French; North Americans reported a taste preference for food presented as unhealthy (Raghunathan, Naylor, & Hoyer, 2006) whereas the French reported a taste preference for food presented as healthy (Werle, Trendel & Ardito, 2013).

Nutritional science understands food and eating from a perspective that is unique to the time period and the society within which it exists (Lupton, 1996). A scientific understanding of food has been enabled over the last hundred years or more, with the discovery of food components (nutrients) that are important for health and the measurement of how much food people consume (Coveney, 2006). As Coveney notes: "by developing criteria for judging the adequacy of the diet, nutritional knowledge was able to establish for itself rational and calculative strategies for 'knowing' food" (Coveney, 2006, p. 62). In earlier years nutritional science focused on nutritional deficiencies, but towards the later 1900s, research implicating diet in the development of disease resulted in an emphasis on the role of nutrition in chronic disease (Coveney, 2006; Lupton, 1996). Consequently, nutritional advice in the media from the early 1900s to around the 1970s represented food more as a way to improve health (Goldberg, 1992; Schneider & Davis, 2010). Once lifestyle factors became implicated in the progression of chronic disease, from the 1980s onwards, food was increasingly represented in the media as a way to prevent disease (Schneider & Davis, 2010). Thus, being conscious about health and nutrition now involves being conscious of potential health risks and how to prevent them (Crawford, 2006). Weight has also been at the centre of nutrition and chronic disease discussions. Like diet and exercise, weight has been implicated in the development of chronic disease (New Zealand Ministry of Health, 2004; Rössner, 2012; Salas-Salvadó, Martínez-González, Bulló, & Ros, 2011). Thus food, health, and weight are all constructed as intricately related in contemporary nutritional science discourses, and this shapes how food is understood in the developed world.

This particular way of understanding food has had political, economic and social consequences. At the political level, current dietary guidelines advocated by the US government are the result of a negotiation between nutritional science recommendations and economic pressures (Nestle, 2002). In Australia and New Zealand, the government advocates similar guidelines that are shaped by a nutritional science perspective (National Health and Medical Research Council, 2013; New Zealand Ministry of Health, 2012). At the economic level, nutritional science has altered the way food marketing operates. By adhering to the discourses of nutritional science, by removing 'bad' components such as fat, or adding 'good' vitamins and nutrients, food manufacturers can sell processed foods as healthy food (Goldberg, 1992; Nestle, 2002; Scrinis, 2008). Therefore, nutritional science has allowed for the emergence of new markets where "grocery store isles are now littered with low-sodium, reduced-fat, calorie-wise and health check symbols on food items" (Ayo, 2012). At the societal level, nutritional science has changed common eating practices. In many Western countries, what the current generation eats is markedly different from what their parents and grandparents ate (Lupton,

1996). The influence of nutritional science recommendations has been argued to be a significant contributing factor in affecting this change (Lupton, 1996). Research has suggested that the media are considered a primary source of information regarding health and nutrition by the general public (e.g., Ayoob, Duyff, & Quagliani, 2002). This is despite reports that suggest media messages are not necessarily consistent with current official dietary guidelines (Ostry, Young, & Hughes, 2008), and what constitutes 'healthy eating' is often poorly defined (Wills, Dickinson, Short, & Comrie, 2013). Nutritional messages have been reported as changeable and confusing by the general public (Madden & Chamberlain, 2010; O'Key & Hugh-Jones, 2010; Prior, Hall, Morris, & Draper, 2011). Concerns have been raised as to how nutrition information is communicated through the media and what messages are conveyed to consumers and health professionals alike (Wills et al., 2013). However, these media-based messages refer to nutritional science and so contribute to the wider culture of nutritional science that pervades our everyday understanding of and relation to food. Nutritional recommendations are widespread and have a significant impact on individuals, who must choose whether to embrace or resist 'correct' dietary practices (Madden & Chamberlain, 2010).

Nutritional science has had a significant impact on how people eat today. Hence, critically analyzing nutritional information in the media can reveal important insights into how the discourses of nutritional science influence food meanings and food practices. The present study critically analyses the content of a nutrition column, in a popular New Zealand magazine, written by an expert in nutrition. The analysis looks in detail at how nutritional science constructs food and eaters, and the kind of food practices that are legitimized.

1. Method

Data for the present study were taken from the nutritional advice column in the New Zealand Listener magazine. This column was chosen for analysis on several grounds. First, the New Zealand Listener is a popular and well-respected national magazine, first established in 1939 (New Zealand Listener, 2015). It describes itself as "the country's only national, weekly current affairs and entertainment magazine. It covers the political, cultural and literary life of the country" (New Zealand Listener, 2015). The magazine editor describes the target audience as upper middle-class and middle-aged New Zealanders (Bauer Media Group, 2016), and the articles are generally intellectual in tone. The New Zealand Listener is a weekly magazine, with a circulation of 63,930 and a wide readership within New Zealand that is estimated to be between 241,000 and 269,000 (New Zealand Listener, 2012; Roy Morgan Research, 2013). As the total population of New Zealand is approximately 4.5 million (Statistics New Zealand, 2012) the readership of this magazine is significant, at around one fourteenth of the adult population.

Second, this column discusses a wide range of nutritional topics. Therefore it provides a good representation of the more general nutritional knowledge that reaches the New Zealand public. Third, the weekly nutrition column has been written by a qualified nutritionist, Jennifer Bowden, since 2007 (New Zealand Listener, 2015). Thus, unlike some magazines which present advice written by non-experts, the column's advice is representative of expert nutritional knowledge as it is communicated in the media. It might be considered a limitation that the articles are written by one nutritionist. However, Jennifer Bowden's advice can be considered representative of a nutritional science perspective. Jennifer Bowden is a University graduate and qualified nutritionist (Thinking Nutrition, 2012). She has won numerous scholarships and awards

for her work in nutrition, and is a member of the NZ Nutrition Society, NZ Nutrition Foundation, NZ Guild of food writers, and an associate member of the NZ Dietetic Association ([Thinking Nutrition, 2012](#)). Given her qualifications and achievements, her perspective is likely to be a well-respected view within the nutritional science field and representative of it.

This study analyses the messages that are communicated in Jennifer Bowden's nutrition column in one targeted magazine, the *New Zealand Listener*. Previous research has demonstrated that valuable insights into the types of messages portrayed in the media can be gained from analyzing a single case, such as one particular magazine ([Dawson-Andoh, Gray, Soto, & Parker, 2011](#); [Franko et al., 2013](#); [Thompson-Brenner, Boisseau, & St. Paul, 2011](#)) or one particular television program ([Byrd-Bredbenner, 2004](#); [Roose, Fuentes, & Cheema, 2012](#)). The analysis of a single case may be thought of as an exemplar drawn from a wider group of individual cases with shared characteristics ([Radley & Chamberlain, 2012](#)). As such, analysis of the exemplar can reveal something about the wider group of similar cases ([Mischler, 1990](#)). The analysis of one case, here nutrition information being communicated through the media, allows for two outcomes. First, it allows for a detailed analysis of the messages conveyed and how they are conveyed. Second, it also provides a means for building theoretical arguments and providing insights into the class of media messages under consideration.

1.1. Data analysis

The first step in data collection involved identifying the scope of data required. Weekly articles were typically one page in length, though occasionally longer, and included one or more related images. We initially selected 26 consecutive weeks of articles, from November 2011 to April 2012, and commenced a thematic analysis in May 2012. Our data set included all text, images, titles and subheadings within the articles that focused on providing nutritional advice. Across the selected time period, two articles did not focus solely on nutritional issues but were incorporated as part of larger feature articles; these focused on binge drinking and UV exposure respectively, and were dropped from the analysis. We subsequently added another five articles from the previous month, October 2011. Preliminary analysis of these five articles revealed no new ideas, which suggested that we had reached saturation for the themes of the articles. The final analysis was based on these 29 articles.

The objective of the analysis was to examine how these articles use language and images to construct food, food practices, and eaters in particular ways. It was premised on a social constructionist epistemological stance, which assumes that all knowledge and meaning is socially, historically, and culturally constructed ([Chamberlain, 2014](#); [Gergen, 1985](#)). Consequently, our analysis sought to identify the assumptions and wider cultural ideologies present in the data set. We also considered how these articles work to legitimize existing social structures and power relations. The analysis involved three interrelated phases. The first was familiarization with the data, through reading and rereading. The second was the interpretive analytical work. This involved identifying and interpreting themes across the data set. By themes we refer to any assumptions or ideologies that were prevalent enough to form a distinct pattern across the data set, that were relevant to the research question. Analysis involved initial note taking to identify themes, grouping together and labelling extracts from the data that represented each theme, and grouping together related themes into larger thematic categories based on researcher interpretation. Third, the articles were checked for any discrepancies that did not support the researchers' interpretation of the data. The analysis

process was not linear, but involved going back and forth between data and analytic work, before and after engagement with the literature. Thus, the initial analysis was data-driven. However, the data was re-analyzed again once theoretical perspectives from the literature had been considered. This second theoretically-driven analysis resulted in an additional thematic category, labelled 'Individual Responsibility for Health'.

The analytical work led to consideration of how best to represent the findings. After discussion and debate, and a review of several options, we considered the findings could be best represented under eight thematic categories, each representing an overarching assumption or ideology. Each thematic category is named in reference to the overarching assumption or ideology, as follows: 'The Right Way to Eat', 'Inconclusive Research', 'Fear-based Motivation', 'Fatness', 'Health and Enjoyment in Conflict', 'Health and Commensality in Conflict', 'Exercise to Compensate for Eating', and 'Individual Responsibility for Health'. In the discussion we draw together these thematic categories into a larger theoretical argument. In order to provide examples and evidence for the analysis, the specific articles are referenced frequently in these sections. The articles are referenced by title only, but we provide information about the date of publication for each in the [Appendix](#) attached.

2. Results

2.1. The right way to eat

The nutrition articles in the *NZ Listener* magazine construct scientific knowledge as superior to lay knowledge of food and eating. This superiority is established first, by emphasizing that food choice affects health outcomes and encouraging readers to choose foods that lead to good health. Second, the articles construct scientific information as important because it reveals which foods are healthy for the body. When the articles describe why certain foods lead to good health, they frequently mention compounds within food that are invisible for the eater, such as "nutrients" (e.g. *Waste not want not*) or "antioxidants" (e.g. *White gold*). For example, in *Star power* the reader is encouraged to eat carrots, because they are full of carotenoids, which are: "a powerful antioxidant that prevents free radicals damaging our cells". They also describe bodily processes that are undetectable without scientific investigation. For example, a bodily process is described in *Middle age spread* to explain why some readers should choose to eat a certain margarine: "when we consume food containing plant sterols, the sterols compete with cholesterol for space in the micelles. And because there are limited spaces in the micelles for cholesterol, the more plant sterols that steal spaces, the less cholesterol we absorb from our diet and other sources, and consequently the lower the circulating level of cholesterol". This is knowledge that could only be gained through scientific study - it is not available to the lay eater, as these properties of food and bodily processes are not able to be seen, tasted, smelled, knowingly experienced or otherwise detected when preparing, eating or digesting food.

In talking about food this way the articles construct a 'correct' way to eat. This involves making dietary choices based on what will lead to good health, as informed by nutritional science. This way of talking about food differentiates between food experts and non-experts, by constructing those who 'know' about how food affects the body, and those who do not know. This differentiation justifies the assumption conveyed in the articles that experts should guide non-experts in what and how to eat. The articles directly convey this message by recommending that readers seek further advice from nutrition experts in order to obtain more personalized

nutritional advice (*A load off your belly*, *Getting waisted*, *Good and bad acid*, *Hush little baby*). They also do this by referring to official guidelines on what to eat, as provided by official institutions such as the National Heart Foundation (*E is for excess*), the Ministry of Health (*Weighty problem*, *Whey to go?*), and the New Zealand Food Safety Authority (*Rising risk*).

Science has connotations of objectivity and legitimacy within our culture. Therefore, when the articles make reference to scientific research and scientific expertise, this gives greater credence to the advice and information provided. Bowden frequently refers to research to legitimate her information as scientific, which also functions to position her as a nutritional expert. In 27 of the 29 articles, scientific findings are cited to support the advice given. The articles also frequently reference expertise, such as University professors (*Attention please*, *Late male*, *Sweet talking*, *Weighty problem*), doctors (*Good and bad acid*, *Sweet talking*), nutritionists (*Getting waisted*) and researchers (*Now hear this*, *Read the label – if you can*) to legitimate the advice given.

2.2. Inconclusive research

The nutritional advice in the Listener is based on Bowden's interpretation of the field of nutritional research. However, the articles frequently construct nutritional science research and expert opinion as potentially incorrect. This has the effect of portraying the nutritional advice that is offered as somewhat uncertain. In a number of articles, the research that is referred to is described as "inconclusive" (*Attention please*, *Eating for two*, *Feed your head*, *Hush little baby*, *Now hear this*, *White gold*). The field of nutritional science knowledge is constructed as changeable, as in the following quote: "Nutrition research and healthy-eating recommendations evolve through different phases and trends" (*E is for excess*). The articles allude to differing opinions amongst nutritional experts (*Sweet talking*). Furthermore, the official sources that are referenced in some articles, for example the Ministry of Health (*E is for excess*, *Whey to go?*), are constructed as providing incorrect information in other articles (*Weighty problem*). In *Weighty problem* the official Ministry of Health guidelines are portrayed as potentially incorrect, to the extent that following them may actually lead to becoming obese: "Though the difference between the protein ranges recommended by the Ministry of Health (15–25%) and the Diogenes study (20–25%) might seem insignificant, this may not be the case if the protein-leverage hypothesis is correct. This is because the ministry's five-percentage-point lower recommendation could make a significant difference to overall energy intake by encouraging overconsumption of carbohydrates and fats and increasing the risk of weight gain and obesity" (*Weighty problem*). This demonstrates a confusing contradiction for the reader. Research findings and expert opinions are provided as a reason why particular foods should be eaten, implying that food should generally be chosen based on scientific evidence. However, according to the articles many of these research findings may be incorrect or interpreted incorrectly.

2.3. Fear-based motivation

The articles construct a causal link between dietary choice and health, which provides the rationale for following nutritional recommendations. The articles suggest that consumption of specific foods might reduce the chances of experiencing particular health problems, for example, asthma (*Whey to go?*) or may promote good health in particular parts of the body, for example, the bowel (*Something to chew on*). Consuming the correct diet overall, is portrayed to result in general good health, a 'healthy weight', and a

longer lifespan, whilst consuming an incorrect diet is portrayed to result in the reverse (e.g. *Late male*). Consuming an 'unhealthy' diet is constructed as a risk factor for developing chronic disease, including cancer (*Late male*), cardiovascular disease (*Talking turkey*, *White gold*) and type 2 diabetes (*Talking turkey*). A key ideology communicated in the articles can be summed up in the following quote: "healthy eating is a preventative health measure" (*Late male*). Thus, there is a strong emphasis on avoiding ill health by making the right food choices.

In emphasizing the avoidance of ill health, the articles use fear-provoking language and images that construct certain foods and ways of eating as unhealthy or dangerous. A look at some of the headings and subheadings reveals this: "**Attack** of the munchies: How to cut down on **unhealthy** weight-gaining snacks" (*Attack of the munchies*); "When less is more: **Watch out** for those extra calories" (*When less is more*); "Sweet talking: is sugar really the **killer** food that some experts say it is?" (*Sweet talking*) (Emphasis in bold added). Food is described here as something that the reader must 'watch out' for, which 'attacks', is unhealthy and kills. Images accompanying the articles similarly construct incorrect dietary choices as dangerous. In *As easy as pie* the outline of a deceased, obese man is surrounded by the processed foods that are implicated in his death. In *Sweet talking* an obese man is being crushed underneath the weight of many sugar cubes. These images construct a clear causal link between unhealthy food, obesity and negative or dangerous outcomes.

2.4. Fatness

The articles construct a fearful and derogatory account of weight gain and fatness. There is a repeated reference to weight and avoiding weight gain across the articles (*A load off your belly*, *As easy as pie*, *Attack of the munchies*, *Eating for two*, *Getting waisted*, *Lead us not into temptation*, *Read the label – if you can*, *Something to chew on*, *Sweet talking*, *Talking turkey*, *The diners dilemma*, *Weighty problem*, *When less is more*) which reflects Western society's obsession with weight and weighing less. A causal chain is constructed, where consuming excess fat, sugar, calories or energy leads to obesity, which leads to chronic illness, and then illness may lead to an early death. For example, *Talking turkey* reads: "Most adults put on weight with age; exactly how and when this happens is hard to establish. We do know however, that weight is typically gained and retained during adolescence, pregnancy and mid-life (in women), and following marriage (in men). There's also the belief the Christmas season contributes to long-term weight gain. Given weight gain during adulthood is a risk factor for diabetes, cardiovascular disease and numerous other chronic conditions, and that it is hard to reverse, it's not a problem to be ignored". These sentences construct weight gain as a significant problem because it is difficult to 'reverse' once it has occurred and may result in 'numerous' chronic conditions. Weight gain is constructed as uniformly problematic, as there is no suggestion here that weight gain at certain times in life may be acceptable. Weight gain at adolescence, when a child will naturally put on weight when they develop an adult body shape, is grouped in the same category as putting on weight from eating too much over Christmas. The articles construct being fat as a dangerous health condition, describing fatness as an "epidemic" (*Sweet talking*) and a "disorder" (*Sweet talking*).

The articles also construct an official and scientific account of overweight people as essentially inadequate, unhappy and inferior members of society. In *As easy as pie*, fat people are constructed as uneducated: "Unsurprisingly, people with lower levels of education are more likely to be overweight or obese". Fat people are also

constructed as unsuccessful individuals who have “fewer job prospects” (*As easy as pie*). In *Getting waisted* fat people are depicted as unhappy. The article reads: “Congratulations on getting yourself to a healthy weight and a place where you feel good about your health and life. This is a significant achievement” (*Getting waisted*). This quote presents thinness as an achievement, a state of being where people are healthy feel good about life, whilst implying that fat people feel bad about their health and their life. Accompanying images reinforce the message that to be fat is shameful and embarrassing. In *Talking turkey* the accompanying image depicts a round fat man who has broken his chair whilst eating Christmas pudding. This image communicates that to be fat is to be ridiculous and shameful. Furthermore, fatness is constructed as a public problem that impacts on those who are not even overweight themselves: “obesity is a serious problem not only for the individuals, but also for their families and the wider community” (*As easy as pie*). Overweight people are portrayed as costly because they have “25% more spent on their health in any given year” (*As easy as pie*). By being overweight, a person is constructed as a problem and a burden on society.

Being thin is not portrayed as unhealthy or problematic though. Not once in more than six months of weekly articles is there any mention of the dangers of being too thin. The articles focus on avoiding being fat, not avoiding being thin. In the article *A load off your belly*, guidelines for maximum waistlines but not minimum healthy waistlines are provided. In *Eating for two* the dangers of being overweight while pregnant and the effect this may have on the unborn child is discussed. However, the dangers of being underweight are not mentioned. The accompanying image in *Eating for two* depicts a pregnant woman's torso, who despite having a pregnant belly is otherwise very thin, like a fashion model. The focus of the article, combined with this accompanying image, has the effect of conflating thinness with good health.

2.5. Health and enjoyment in conflict

The articles encourage eating for health but this is consistently portrayed as un-enjoyable and therefore difficult to achieve. The articles imply that there will be a clash between what a person would like to eat, and what they should eat. For example, in *Talking turkey* the author writes: “Should I just forget about healthy eating and have whatever I like over summer?” The author then goes on to argue that she should not eat whatever she likes. Note that what the author ‘likes’ to eat is not the same as what she ‘should’ eat. This sentiment is repeated in other articles. For example, the subheading of *Lead us not into temptation* reads “if then’ plans are a great way to stay in control when we struggle to stick with the programme”. The assumption being that ‘sticking’ to a healthy diet will be a ‘struggle’.

Self-control is offered as the solution to this clash between health and enjoyment. The ideal amount of self-control is described in *Lead us not into temptation*. This article explains that some people are able to eat less chocolate because they have higher “inhibitory control”, which is “the ability to resist a strong preference to do one thing and instead do what is most needed or appropriate” (*Lead us not into temptation*). This article encourages the reader to develop greater self-control in order to be healthy. High levels of self-control are idealized, such as, the ability to stop eating an enjoyable food half way through. This is exemplified in the following quote: “therein lies the real chocolate challenge – to stop eating when you’re halfway through a chocolate bar” (*Lead us not into temptation*).

The articles advocate a methodical, objective approach to performing self-control. They encourage the reader to record what is

eaten (*Attack of the munchies*), make clear goals (*Attack of the munchies*) and plans (*Lead us not into temptation*), and create ‘policies’ or rules about what can be eaten and when (*The diner's dilemma*). These recommendations emulate scientific principles, such as careful measurement, and draw on scientific theory, such as mental contrasting and implementation intentions (*Attack of the munchies*), in giving this advice. The amount of time needed to implement these strategies is potentially time consuming and requires careful attention, which mitigates against eating as an enjoyable activity.

2.6. Health and commensality in conflict

Celebrations and social occasions that involve food are also depicted as problematic because they may interfere with healthy eating goals. These are occasions during which planning might go astray when a person is too busy enjoying themselves. In these situations, the articles recommend making plans to limit food intake and do not recommend enjoying the food provided. In *Talking turkey*, Christmas celebrations are constructed as problematic and the author recommends avoiding food where possible, for example: “Stand away from the buffet table and focus on conversation rather than food” (*Talking turkey*). Easter is also constructed as problematic in *Lead us not into temptation*. This article discusses the negative effects of eating chocolate on health: “chocolate is generally high in fat, sugar and calories that can promote weight gain”. Easter weekend is not presented as a celebration, but as a challenge of will power. The accompanying image is a chocolate rabbit, whose speech bubble says, “Go on – bite me – you know you want to”. The assumption here is that the reader would like to eat chocolate but knows they shouldn't - and the article encourages restraint by listing the reasons not to eat chocolate. This type of attitude is encouraged towards any social gathering that involves food. *The diner's dilemma* describes restaurants – a place where people go to enjoy food with other people - as “a challenging environment for those with healthy eating aspirations”. By setting up social gatherings as problematic, healthy eating is portrayed less as a shared social activity and more as a carefully planned and individualized activity.

2.7. Exercise to compensate for eating

The focus of the articles is nutrition not physical exercise, and so exercise is rarely mentioned. However, when it is mentioned, exercise is described primarily as a way to negate the effects of eating. For example, *Talking Turkey* mentions that Christmas in New Zealand is celebrated in the summer time, so “the odds are good, weather-wise, that we can get outside to walk off our celebratory lunch”. Thus, exercise is described as a compensatory strategy for eating too much rather than as an enjoyable or social activity. This sentiment is repeated in *The diner's dilemma* when Bowden talks about food trade-offs to reduce the amount of energy consumed. She explains “an example for dining out might be ‘I can only have a dessert if I've exercised that day’”. On the one hand, dessert is constructed as the pleasurable yet problematic component, which means that exercise is needed to offset the calories consumed.

2.8. Individual responsibility for health

The articles are aimed at the individual eater and communicate to individuals that they have personal responsibility for their own health, by depicting lifestyle and consequently health outcomes as primarily within the individual's control. For example, *Late male*

reads “poor lifestyle choices and other preventable risk factors are major contributors to premature deaths” (*Late male*). This choice of wording communicates that health outcomes are ‘preventable’ and lifestyle is a matter of individual ‘choice’. The article goes on to state that “Men tend to have a shorter lifespan than women – what can they do about it?” (*Late male*). The argument presented is that they may increase their life span through making healthy food choices. In some respects this empowers the reader – they can *choose* how to live, they can *choose* what to eat and thus have an impact on their own health. However, the articles do not adequately discuss wider societal issues that may impact on individual health and an individual’s ability to make healthy choices. *As easy as pie* alludes to a correlation between poor health, poverty and being overweight. However, this article does not discuss how poverty may constrain an individual’s ability to engage in a healthy lifestyle in the first place. Instead, the article’s depiction suggests that the key cause of fatness and poor health is a lack of education, meaning that some people do not make healthy choices because they are too ignorant. The article concludes that simpler information is needed for the uneducated: “Poorly educated women are two to three times as likely to be overweight than women with high levels of education. And this is unlikely to change while nutrition information is provided in complicated formats” (*As easy as pie*). Thus, the articles focus on individual factors that may contribute to weight gain or poor health and do not discuss the socioeconomic context and how this may also affect health. Food producers are not identified as having a responsibility to make healthier food, placing the responsibility for making healthy choices on the individual eater. In the article *Read the label - if you can*, the author argues that “Restaurants, particularly fast-food ones, should make nutritional information easy to see”. However, the article implies that as long as sufficient information is available to the consumer, the primary responsibility to make healthy choices lies with the consumer.

3. Discussion

These findings reveal how nutritional information can be intertwined with problematic messages about food and eating. The problematic messages are legitimized by constructing the nutritional advice provided as the ‘correct’ way to eat. The articles construct correct dietary practices as those which lead to a ‘healthy weight’ and positive health outcomes. They construct scientific knowledge as essential to knowing which foods are healthy to eat, by frequently referring to food components and bodily processes that are invisible to the lay eater. The reductionist focus on ‘nutrients’ presented in the articles has been previously referred to as the ideology of nutritionism (Scrini, 2008). This ideology functions to create experts who have access to and can interpret nutritional knowledge and non-experts who can only access such knowledge via expert advice. Nutritional science experts are constructed as knowing the correct way to eat. Thus, the eater is encouraged to choose foods based on expert recommendations instead of their own tastes or preferences. This encourages an objective and scientific approach to food choice that emulates the values of science but that is disconnected from personal preference and social relationships.

The way in which nutritional information is communicated in these articles is problematic because the reader is encouraged to disconnect from the psychologically and socially nourishing aspects of food and eating. This disconnection is constructed in several ways. First, the articles convey that eating a healthy diet is unenjoyable and therefore difficult to achieve. This portrayal assumes that there is fundamental conflict between enjoying food

and healthy eating. This assumption, which has also been reported in other studies (Casotti, 2010; Raghunathan et al., 2006), constructs a need for will-power and self-control when eating a healthy diet. Consequently, the articles advocate for a controlled relationship with food and idealise self-control in the presence of food, whilst discouraging eating for pleasure. Second, although the commensality of food is widely discussed in food literature (e.g. Danesi, 2012) the articles construct eating during social occasions and celebrations as difficult to navigate. They portray commensality as problematic due to the potential loss of control over the food available, or the temptation to enjoy foods that have been made available but are not ‘healthy’. Therefore, the articles set the emotionally nourishing aspects of food – pleasure, comfort, celebration, and social involvement – against physical health. These articles function to artificially disconnect positive emotion and social relationships from ‘correct’ eating practices. If this way of understanding food is internalised by readers, this has the potential to create significant dissatisfaction in relation to ‘correct eating’. When people do not follow correct eating practices though, this may likewise lead to dissatisfying emotional experiences. When people break social rules about eating by choosing ‘unhealthy’ foods purely for enjoyment, they may subsequently experience guilt or shame (Madden & Chamberlain, 2010). This has the potential to create a no win situation, where choosing either the healthy or unhealthy option will similarly lead to an emotionally dissatisfying experience. This constructed association between good health and good taste is not an accepted truth in all cultures however (Werle et al., 2013), which calls into question whether these negative emotional experiences are either inevitable or necessary.

Research has reported on the anxiety that many eaters experience in relation to food choice and eating (e.g. Madden & Chamberlain, 2010; Rozin et al., 1999). Our findings suggest that the way food and eating are constructed in nutritional messages may provoke anxiety. The articles construct a clear causal relationship between eating an unhealthy diet, weight gain and chronic ill health. These fearful messages that emphasize the negative effects of making incorrect dietary choices, provide the rationale for making correct dietary choices. This emphasis on the negative outcomes of unhealthy eating has the potential to create anxiety in those readers who do not conform to healthy eating guidelines. Following a healthy diet is consistently constructed as difficult to achieve, not only because healthy eating is constructed as unenjoyable, but also because the articles construct nutritional information as potentially incorrect. In nutrition science, as in all scientific disciplines, there is a degree of uncertainty, which can render the provision of nutritional advice as problematic (Folker & Sandøe, 2008). The advice provided in the articles refers to expertise and scientific research to support its legitimacy and yet the field of research is constructed as inconclusive, changeable and open to different interpretations. If the dietary choices that are defined as correct are defined based on scientific findings then what constitutes correct dietary choice may be subject to changes in the field of research and conflicting interpretations. This has the potential to create confusion amongst lay eaters about what constitutes a healthy diet. Furthermore, the expertise required to really understand nutritional concepts may also add to the confusion about what to eat. The articles reference the details of reductionist nutritional research, which is so complex that it has the potential to create confusion in lay eaters (Scrini, 2008). This potential for confusion is highly problematic. When confusion about what constitutes a healthy diet is coupled with fear-based messages about the consequences of eating an unhealthy diet, this may provoke anxiety in relation to food or skepticism of nutritional

advice (Madden & Chamberlain, 2010; Nagler, 2014; O'Key & Hugh-Jones, 2010).

Our analysis also highlights other ways in which the articles have potential to construct self-dissatisfaction in eaters. The articles do not give cognizance to the critical literature on weight and obesity (Fletcher, 2013; Fraser, Maher, & Wright, 2010; Gronning, Scambler, & Tjora, 2013). Instead, they construct overweight people as inferior, unhappy and unhealthy due to their weight. Derogatory beliefs about fatness and fat people at a societal level means that overweight adults and children are targets for bullying, exclusion and harassment (Brixval, Rayce, Rasmussen, Holstein, & Due, 2011; Lewis et al., 2011). Thus these accounts have potential to promote shame, low self-esteem and poor body image in those readers who are overweight, by portraying fatness as inferiority.

The encouragement of self-denial, self-control, eating less and fear of fatness that is communicated by these articles would appear to promote an unhealthy emotional relationship towards food that is not unlike disordered eating. Individuals with anorexia have achieved control in the presence of food, but have gone below a socially acceptable ideal weight. Likewise bulimic individuals are attempting to regain control over their food intake and lose weight by using compensatory behaviors to negate bingeing episodes, such as extreme exercise. Although the exercise recommended by the articles is quite gentle, the logic underlying the advice offered is the same; exercise is referred to only as an activity that can be used to *compensate* for food consumption. This implies that the primary purpose of exercise is to help eaters maintain control of weight. Additionally, the articles encourage a fear of becoming fat, which is symptomatic of anorexia and bulimia, but do not explicitly state that a person can be too thin. The argument here is not that the articles are encouraging disordered eating, or that following this advice will lead to disordered eating, but simply that the logic underlying this way of eating is analogous to the logic underlying disordered eating, albeit in a less extreme form. The articles encourage a fear of becoming fat, a watchful control over food, and the use of exercise as a compensatory strategy to negate calorie intake. These representations of food and eating, if taken up by readers, will limit their social engagement with, and enjoyment of, food and eating.

If positive emotions are discouraged and negative emotions are evoked, then this functions to construct healthy eating as a socially and psychologically conflicted way of eating. This in turn sets up a paradox; that nutritional advice which aims to encourage healthy eating may have the opposite effect by evoking negative emotional experiences. Any nutritional advice which has the potential to evoke negative emotions in eaters is counterintuitive because anxiety, stress and depressive symptoms are associated with unhealthy eating (Casotti, 2010; Hou et al., 2013). Furthermore, feelings of self-dissatisfaction have been reported to cause unhealthy dietary choices in some eaters (Townsend & Liu, 2012).

The articles advocate for self-regulation of diet and lifestyle, and do not advocate for any systemic level changes, except to provide more information or education to the individual, who may then use this information to self-regulate more effectively. The articles provide nutritional advice with the aim of helping individuals to stay healthy, and so on one level it would appear to make sense to focus on what the individual can do to control themselves. However, this portrayal is overly simplistic because it obscures and renders unimportant the situational factors which impact on individuals' ability to engage in a healthy lifestyle, such as living in poverty or experiencing discrimination (Bower, Thorpe,

Rohde, & Gaskin, 2014; Leung, Epel, Ritchie, Crawford, & Laraia, 2014). The articles reflect a neoliberal, victim-blaming ideology where the individual is responsible for their food choices and for managing their risk of chronic illness (Ayo, 2012; Carter, 2015; Crawford, 1977; Gurrieri, Brace-Govan, & Previte, 2014). This portrayal supports the status quo, by redirecting attention away from the contributions of the food industry in creating and marketing unhealthy foods in the first place (Nestle, 2002). Dietary choice is socially symbolic, to the extent that people will judge the disposition and morality of others based on what they choose to eat (Crawford, 2006; Stein & Nemeroff, 1995). This emphasis on individual responsibility functions to place blame on those individuals who do not conform to healthy eating or weight ideals (Ayo, 2012).

The articles, although written by a nutritional expert, represent a combination of media and nutritional science influences; they inevitably reflect editorial influences in the choice of images, headings and subheadings, and perhaps even in the content. However, this is the case for all media texts which communicate nutritional advice, and this joint influence will be representative of nutritional messages which reach the general public via the media. Media messages intertwine with other nutritional messages gained through word of mouth or education, to construct hegemonic societal understandings of what and how to eat. Although our analysis here is based on a single nutrition column within one magazine, we consider that it provides a substantial case analysis of how nutritional discourses work in practice, which is relevant to contemporary Western societies more broadly.

Our findings have implications for the communication of nutrition information and advice. This research suggests that there can be a substantial disconnection between nutritional science recommendations and the sociological/psychological research that reports on how people are psychologically, emotionally and socially affected by food meanings and food practices. Thus, this study highlights a need to reconnect nutritional advice with the emotionally and socially nurturing aspects of food and eating.

4. Conclusion

This paper critically analyses how food, food practices and eaters are portrayed in the nutrition column of popular NZ magazine, the NZ Listener. The research objective was to better understand how food, eating and eaters may be constructed in dietary advice, written from a nutrition science perspective. Like many other nutrition messages in the media, the series of articles analysed here promote healthy eating. However, the way that healthy eating information was delivered in the articles proved to be problematic in a number of ways. The articles function to disconnect eating from positive emotional and social experiences, whilst providing advice that could lead to an emotionally negative relationship with food and eating. This way of understanding food and eating emphasises physical health and is framed within scientific discourses, but renders eating as joyless, controlled, individualized, confusing and motivated by fear. More generally, such messages reinforce and sustain neoliberal understandings of health, food, eating, and the eater. Understanding how such nutritional messages in the media construct these cultural beliefs around food and eating can open possibilities for a more critical approach to communicating and promoting healthy and pleasurable eating. Overall, the findings demonstrate a need to reconnect dietary advice with the social and psychological role of food and eating.

Appendix

New Zealand listener articles.

October 1, 2011	Attack of the munchies
October 8, 2011	Something to chew on
October 15, 2011	Getting waisted
October 22, 2011	When less is more
October 29, 2011	Attention please
November 5, 2011	E is for excess
November 12, 2011	Late male
November 19, 2011	Good and bad acid
November 26, 2011	White gold
December 3, 2011	Damage control (Feature on alcohol – not included in analysis)
December 10, 2011	Talking turkey
December 17, 2011	Rising risk
December 24, 2011	Whey to go?
December 31, 2011	Now hear this
January 7, 2012	Weighty problem
January 14, 2012	Eating for two
January 21, 2012	Waste not want not
January 28, 2012	Feed your head
February 4, 2012	Hush little baby
February 11, 2012	The diner's dilemma
February 18, 2012	Read the label – if you can
February 25, 2012	Zap that cuppa
March 3, 2012	Best milk
March 10, 2012	A load off your belly
March 17, 2012	Middle age spread
March 24, 2012	Getting fresh
March 31, 2012	As easy as pie
April 7, 2012	Lead us not into temptation
April 14, 2012	Sweet talking
April 21, 2012	The D Factor (Feature on vitamin D, UV exposure and cancer – not included in analysis)
April 28, 2012	Star power

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