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University of Southampton

Faculty of Social Sciences

Southampton Business School

The Impact of the Maximiser Linguistic Device on Consumer Evaluations of Food Products

by

Ruoyu Zhao

BSc, MSc

Thesis for the degree of Doctor of Philosophy

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University of Southampton

Abstract

Faculty of Social Sciences

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Doctor of Philosophy

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This thesis explores the use and effects of maximisers when included within Health and Nutrition (H&N) claims on food product packaging, with direct relevance for industry practice. Four separate studies were carried out in support of this thesis, one field study and three online experimental studies.

The effects of the maximiser language device were investigated through an online field experiment, conducted through the Facebook Ads Manager platform, with the results demonstrating that the use of maximisers has a positive effect on product likeability among Facebook users. The first online experimental study then demonstrated the informality features of maximisers, and highlighted the importance of consumer perceived congruence between the language used in advertising a product and the retail environment in which the product is encountered. Results from this study showed that the use of maximisers in H&N claims has a positive direct effect on product likeability.

The second online experimental study extended on the concept of perceived congruence from the first online study, investigating the congruence between the use of language and customer comments and reviews, and its effect on perceptions of and purchase intentions towards a product. The study demonstrated the sincerity and affirmation features of maximisers, and showed the interaction of these features with online reviews, with the presence of maximisers having a moderating influence of product perceptions when bad reviews are present.

The third and final online experimental study tested the effect of maximisers in a realistic setting, investigating the effects of cognitive load on evaluations of and purchase intentions towards a product. The findings showed maximisers work effectively when consumers are cognitively available, with a reversed effect apparent when consumers are subjected to a high cognitive load.

The findings from the experimental studies have potential for impact in industry practice in the marketing and advertising of food products, and for the design of food packaging, as well as for policy-makers aiming to protect consumers and consumer interests related to food advertising.

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Research Thesis: Declaration of Authorship

Print name: Ruoyu Zhao

Title of thesis: The Impact of the Maximiser Linguistic Device on Consumer Evaluations of Food Products

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature:

Date: 27th September 2021

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Handing in this thesis marks a completion of my student journey from a postgraduate MSc student at the University of Southampton to a doctoral candidate. This has been an incredible learning experience in which I have learned much, but realise I still have far to go. (I've passed the hump on the Dunning-Kruger curve!).

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Definitions and Abbreviations

ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
CAT	Communication Accommodation Theory
CI	Confidence Interval
H&N.....	Health and Nutrition
Intensifiers	“Adverbs or adverbial phrases that strengthen the meaning of other expressions and show emphasis.”
IPT	Information Processing Theory
KMO	Kaiser-Meyer-Olkin
Language Extremity	“A set of stylistic markers that can increase the perceived extremity of a message’s position, with an adverb as its linguistic extremity”
Language Intensity	A “quality of language which indicates the degree to which a speaker’s attitude toward a concept deviates from neutrality”
LET	Language Expectancy Theory
MTURK	Amazon Mechanical Turk
PCA.....	Principle Components Analysis
PD.....	Psychological Distance
PE	Purchase Evaluation
Perceived quality.....	“The consumers’ judgment about a product’s overall excellence or superiority”
PF.....	Processing Fluency
PI	Purchase Intention
Processing fluency	“The ease or difficulty with which new, external information can be processed”
Psychological Distance	“The extent of divergence from direct experience of me, here and now along the dimensions of time, space, social perspective, or hypotheticality.”

Definitions and Abbreviations

RT Role Theory

WOM Word of Mouth

1. Introduction

This chapter serves to introduce the thesis as a whole, describing the motivations and questions driving the research, the underlying theoretical framework supporting the experimental studies, and the key findings and contributions derived from the experimental studies conducted in support of this thesis. The structure of the thesis is outlined in section 1.5., which relates the layout of the thesis itself to its conceptual structure.

1.0. Overview

This chapter introduces the topic of my research to the reader, and outlines the motivations for undertaking this work. The research gaps identified from literature on front-of-package design and customer product evaluations were used to generate the research questions that are addressed in this work. Each of the research objectives derived from this correspond to one or more experimental studies, which are described later in the thesis. This is followed by a description of the theoretical background and framework that supports the findings in this thesis, and a summary of the key experimental findings and contributions to literature that result from this work.

1.1. Research Area and Research Motivation

Packaging food is ubiquitous in daily life, and has become a dividing factor among consumers in recent years. Consumers have become increasingly concerned and increasingly vocal about all aspects of the foods they choose to consume, with particular attention being focussed on the origins of foods, processing methods, and nutritional content of ingredients, as well as on food packaging itself.

Food products that are packaged are moving fast into not only supermarkets but hypermarkets, and these proliferation of packaged products presents consumers with enormous choice (Silayoi and Speece, 2004). The whole packaged food industry worldwide is worth \$2.644T (USD) in 2019, and for food giant retailers, Walmart and Carrefour, sales are forecast to reach \$572.51B and \$143.32B (USD) by 2019 respectively (*Statista*, 2019). A substantial proportion of consumers' total food intake is comprised of packaged food purchases for home consumption, which highlights the importance of using labelling to keep consumers well-informed and to guide or influence their decision-making (Ailawadi, Ma and Grewal, 2018). A survey conducted in 2020 reveals that 36% consumers admitted they have purchased more packaged foods than usual since COVID-19's impact (*A SECOND LOOK AT COVID-19'S IMPACT ON FOOD PURCHASING, EATING BEHAVIORS, AND*

PERCEPTIONS OF FOOD SAFETY, no date), demonstrating the unchanging popularity of packaged food products.

Food retailers have been pushing for changes to the types of products they sell, as well as finding new products, to meet changing consumer demands. In the US, Walmart is advising their suppliers to redevelop products in making them healthier (Lee, 2016), reflecting a growing consumer demand. The critical importance of packaging design is growing especially in fiercely competitive market conditions, as packaging reaffirms its primacy as the vehicle for communication with consumers and conveying branding information (Rettie and Brewer, 2000).

With a strong emphasis on brand personality among fierce competition in the market, packaging is one of the most important factors influencing consumer's purchase decisions made at the point of sale (Prendergast and Pitt, 1996; Deng and Kahn, 2009), being an essential part of the sales process (Rettie and Brewer, 2000). Companies have started a drive towards more interactive products which enable a form of personal expression through one's passion for food and drink (Zegler, 2021). In detail, food companies have used food packaging to express moods, opinions and passions in order to link to a wider community of online brand fans. These labels are used as a differentiating tool for companies to stand out from their competitors, with varying degrees of success.

In order for products to be differentiated from their close competitors in an ever more crowded marketplace, an increasing number of food claims and labels are used to provide insight and information about a product (Wansink, Sonka and Hasler, 2004), and to reflect consumers' growing interest for their health and wellbeing (Block *et al.*, 2011; Andrews *et al.*, 2014). Front-of-package Health and Nutrition (H&N) claims used are widely used by companies to communicate directly and efficiently with their consumers, and have been shown to change consumers' expectations of the products they consume (Wandel, 1997). This explains why the use of different framings on H&N claims is on the rise, with companies such as Unilever stating their intention to invest around \$1 billion dollars (USD) in R&D each year (*Innovation in Unilever*), focussing especially on their product designs. Danone, Kettle Foods, and Nestle have also invested significantly in their product designs, demonstrating this is not simply an isolated occurrence, but a wider industry trend (Velasco and Spence, 2019a).

Growing evidence also shows that Health and Nutrition (H&N) claims have become increasingly important for consumers' decision-making in the past 20 years. These claims have been increasing encountered on food product packaging, and increasing reported of these claims as an information source for consumers has been reported when engaged in making purchase decisions (Garretson and Burton, 2000; Kozup, Creyer and Burton, 2003; Wansink and Chandon, 2006; Bublitz, Peracchio and Block, 2010).

The use of maximisers in advertising claims on food products can be traced back to at least 1889 with Cadbury's use in advertising cocoa (see Figure 1). The use of maximisers is still prevalent in the modern advertising, and is used in a variety of situations and contexts for food product advertising (see Figure 2).

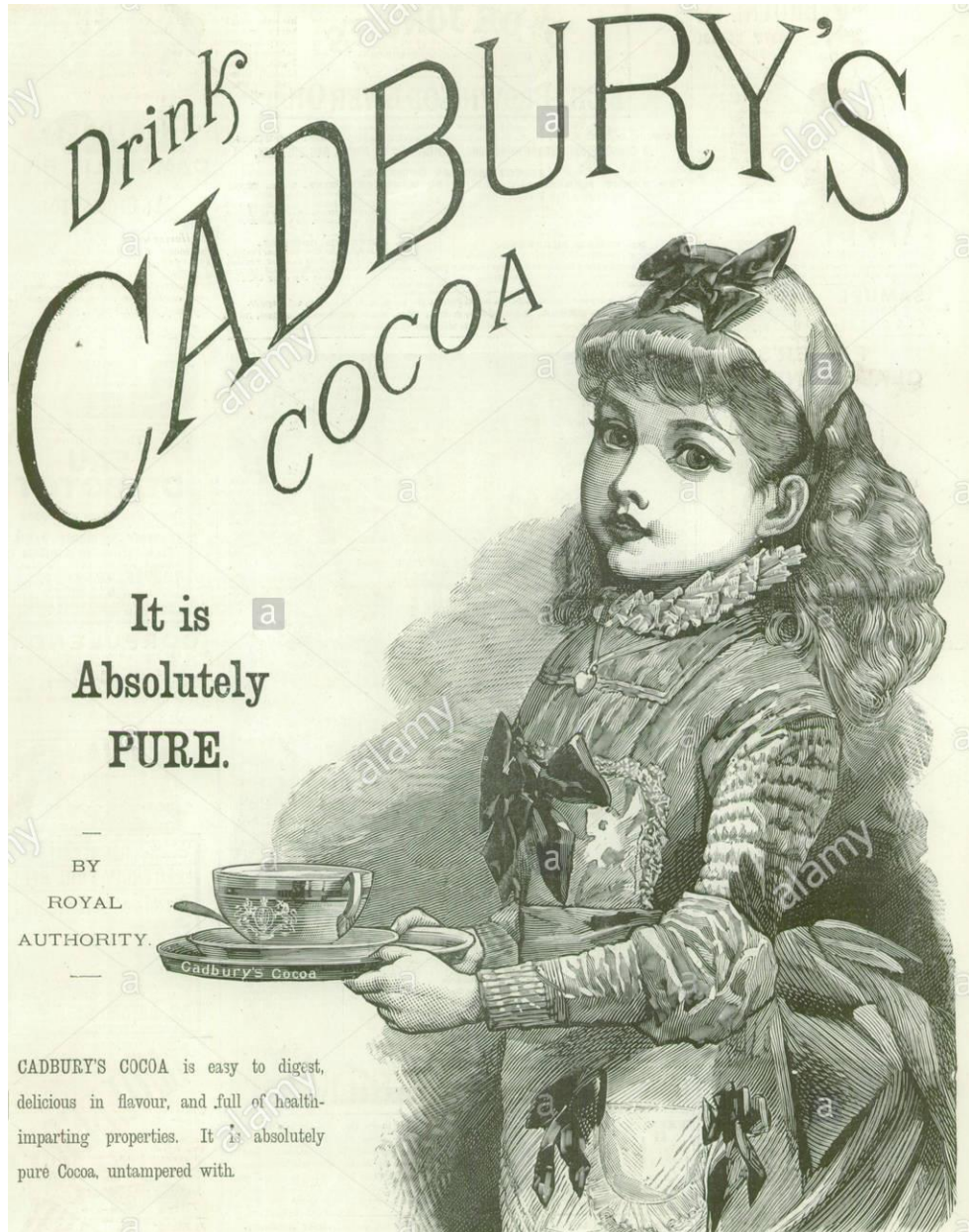


Figure 1 Cadbury's Cocoa Full-Page Newspaper Advertisement 'It is Absolutely PURE' from 1889¹

¹ Source: <https://www.alamy.com/drink-cadburys-cocoa-it-is-absolutely-pure-advert-food-1889-iln-full-page-image272473257.html>, Image ID: WR86C5



Figure 2 Examples of modern products that include a maximiser in their advertising claims. (a) Whole Earth Peanut Butter, which uses the phrase “Absolutely No Added Sugar*”, (b) Kettle Chips, which uses the phrase “Absolutely Nothing Artificial”, and (c,d) Two examples of Pip & Nut Almond Butter, both of which use the phrase “Absolutely No Palm Oil”²

² Sources: Kettle Chips: <https://kettlechips.co.uk/products/mature-cheddar-red-onion/> ;
 Whole Earth: <https://shop.wholeearthfoods.com/products/whole-earth-original-smooth-peanut-butter-340-g> ;
 Pip & Nut: <https://www.pipandnut.com/products/smooth-almond-butter-jar> ;
<https://www.sainsburys.co.uk/webapp/wcs/stores/servlet/gb/groceries/pip---nut-coconut-almond-butter-250g>

The combination of this novelty and opportunity for advertisers and the increasing importance of food packaging claims as an information source for consumers leads to a key question: do these novel and unusual changes to product claims affect the purchasing decisions of their customers, and if so, how?

Consumers' interest in eating healthy food is rapidly rising, and this interest indicates the growing concerns among modern consumers about the negative impacts of the food industry on health and lifestyle throughout society. At the same time, consumers are increasingly aware of the negative aspects of these packaged food products, and will actively seek out alternatives that are healthier and will demand foods with enhanced health aspects. Brands that aim to increase consumers' intention to purchase their products are likely then to redesign their product packaging to better meet consumer's food perceptions (Ivanic, 2016). As well as responding to the popular demands of consumers, food producers and retailers are becoming more conscious of the detrimental effects of sugar and artificial flavours on consumers' health disorders from a public health standpoint, as evidenced by the endemic high and increasing rates of obesity and diabetes worldwide. Some companies are taking active steps against this, including ingredient modification, changes in food composition, and improved food labelling and information dissemination, to help promote healthier lifestyles among their customers (Ivanic, 2016). Some companies, though, have also focused on producing products that can be perceived as healthier due to product advertising and framing alone, assuaging consumers' fears even if only at a surface level. Within academic spheres, there is an increasing research focus on better understanding the motivations and barriers surrounding healthy food choices and how package labelling is evaluated by consumers (Gravel *et al*, 2012; Choi, Li and Samper, 2019).

Efforts have been made to address customers' demands for healthy food products. New and innovative packaging techniques, and the increase in labelling legislation and guidelines across Europe and other parts of the world (parts the US and Asia), have prompted a number of trends in the way messages are communicated on packaging. Though fundamental aspects of these claims are subject to legal guidelines and/or legislative restrictions (e.g. EU food advertising laws), not all aspects of such claims are subject to restriction, providing advertisers with an opportunity to modify claims and use novel linguistic features to differentiate their products from the competition (European Commission, 2006).

This research is motivated by both online observations from online marketplaces and websites, and offline observations in the real-world retail stores, both of which provided the initial impulse by raising a key question:

How do the linguistic features seen on packaging by consumers change the way they think?

A clear starting point to begin a search for this knowledge is provided by the combined changes in advertising behaviours by modern companies, which reflect the ever-evolving demands of consumers. In the next section, the current state of research in the field will be discussed in detail and the research gap will be identified.

1.2. Research Gaps

This thesis has been informed by existing studies in a number of areas and research specialities, including research into understanding the influence of food package design, FOP labels, different types of H&N claims, and language devices. Though these studies are informative, gaps in knowledge from prior research do still remain which have motivated the chosen focus of study for the present work. This thesis aims to empirically investigate the ‘maximiser’, a linguistic device, as used on H&N claims, and its impact on consumers’ purchase intentions, and will explore the boundaries of the effect of this ‘maximiser’ language device. Table 1 summarises the gaps identified in the extant literature.

Table 1 The identified gaps in the three areas of literature that have motivated the present study

Literature on:	Gaps	Authors
Packaging design element: H&N claims	- Among all the research on the frames of H&N claims, there is a lack of research to investigate the new marketing phrases in framing H&N claims	(André, Chandon and Haws, 2019)
	- Absence of quantitative empirical evidence on the interaction of maximiser and H&N claims	(Wansink and Chandon, 2006)
	- Future research is invited for more in-depth research on different types of nutrition claims and their effect on food purchase and intake	(Belei <i>et al.</i> , 2012)
	- Future research is invited to identify the conditions under which purchase intention carrying different types of claims increases or decreases	(Finkelstein and Fishbach, 2010)
Language intensity	- Absence of a combined linguistic and psychological perspective to understand the effect of language intensity on consumer’s responses	(Bowers, 1963)
	- The empirical findings from psychological perspective lack an application in the marketing context	(Núñez Pertejo and Palacios Martínez, 2014)
	- There is currently no consistent interpretation and conceptualisation of language intensity in the literature, with significant variation in definitions used	(Craig and Blankenship, 2011)
	- Future research is invited to examine language intensity in a health message setting and understand this implementation of individuals’ health behaviour	
Theories	- An absence of communication accommodation theory in marketing and future investigation is invited to understand company’s communication from an interpersonal and idiosyncratic aspect of conversation.	(Gallois, Ogay and Giles, 2005)
	- Extending the application of persuasion theory to the use of maximisers	(Craig and Blankenship, 2011)

Firstly, H&N claims have long been recognised by food companies as a key linguistic tool for altering consumers’ perceptions about a product. From the literature on H&N claims, a number of studies have extensively investigated different method of framing (Finkelstein and Fishbach, 2010; Belei *et al.*, 2012; André, Chandon and Haws, 2019). Summary nutrition grades and specific health claims are compared in Haws, Reczek and Sample (2017) to test the effect of health claims framing on consumers’ association between price and healthiness of the food product. Similarly, positive and negative framing of food attributes were also investigated for their effects on consumer taste perceptions (Levin and Gaeth, 1988). However, research focusing on the framing of H&N claims with maximisers, effect of a language device, is entirely absent.

This use of maximisers to alter, augment or otherwise change the impact of H&N claims found on food products, such as ‘*absolutely no added sugar*’ rather than ‘*no added sugar*’ or ‘*100% whole grain*’ rather than ‘*whole grain*’, is uniquely integrated from and separated from prior research.

Prior research has predominately focused on the content of different types of H&N claims, such as 'low fat', 'good for your heart', or phrases of H&N claims, such as 'low calorie', 'high protein', without focusing on the linguistic device itself. This integration has a linguistic perspective from the additional use of a maximiser while the content of the claims remains the change, and it is unclear whether the use of maximisers on H&N claims might influence the evaluation of a food product as part of a persuasive message and, if so, how.

Secondly, maximisers, as a type of language intensity, have been examined in both linguistic research and psychological research (Bowers, 1963; Buller *et al.*, 2000; Núñez Pertejo and Palacios Martínez, 2014). However, in linguistic research, investigations have generally been limited to corpus analysis, being almost entirely descriptive or qualitative and thus of little value to this present thesis³. In psychological research, quantitative empirical evidence can be found, but generally does not include the relevance to or the context of marketing or food products. In addition, the research from a psychology perspective generally only focuses on the intensification effect of maximisers, and does not provide a holistic view of the features of maximiser, instead combining findings with descriptive analysis from linguistic research (Hamilton and Stewart, 1993; Buller, Borland and Burgoon, 1998; Craig and Blankenship, 2011). It is also questionable whether the intensification effect can accurately represent how a maximiser truly operates in a food packaging context, because the affirmative and sincere tone brought by the use of a maximiser is distinct from simply intensifying a statement.

As the use of maximisers becomes more popular in marketing practice, an increasing number of food manufacturers have used maximisers on their product package designs. Marketing literature, to date, lacks a contemporary investigation into the effect of maximisers based on the detailed features in a food context. Therefore, understanding the maximiser from its linguistic features and its application in a food product context requires further investigation.

The impact of H&N claim framing on consumers' product evaluation and purchase intention is poorly understood from a communicative perspective. The gap in the theory, CAT, has not been used to understand the commercial relationship and its communication. Therefore, it is worthwhile

³ Corpus analysis is an empirical form of analysis which depends on the language use in the real world to discover and explore rules and trends about the ways in which people use and produce language. It can enable linguists to quantify patterns, test hypotheses and reach conclusions. More information can be found from Litosseliti's book: *Research Methods in Linguistics* (Chapter 5 by Baker).

conducting an empirical investigation into this because novel relevant findings can make a good contribution to the literature on communication accommodation theory.

At the same time, literature with a more psychological focus has suggested that framing H&N claims with maximisers can make a statement appear more persuasive (Hamilton and Stewart, 1993), but researchers in this areas are yet to explain the underlying effect of maximisers (Buller, Borland and Burgoon, 1998; Andersen and Blackburn, 2004). As a result, this thesis will attempt to address this current gap in knowledge, making use of psychological distance and processing fluency mediators. The experimental studies conducted in support of this thesis will explore a potential mechanism related to maximisers' features and processing fluency, inspired by CAT and by information processing fluency, which suggests that maximisers are likely to reduce the psychological distance consumers have towards a product.

Finally, this thesis will test the boundary of the effect of maximisers, with a link to the individual features of maximisers themselves. The implications of such evidence would be important for retailers and food companies, and hopefully very useful, because of their particular interest in ultimately increasing sales, which can be informed by classifying customers and understanding the potential benefits and backlashes from their packaging designs. The research results from this thesis will help to inform food labelling policies, aiming to understand how to help consumers make better and more well-informed food choices (Bialkova and van Trijp, 2010; Bialkova, Grunert and van Trijp, 2013), given the known impact of H&N claims on consumers' decision making for packaged food products. The implications of this thesis would be important for retailers and food companies given their particularly interested in understanding how consumers perceive and evaluate their product packaging designs, which ultimately impact product sales and thus company profits.

1.3. Research Question and Objectives

According to the research motivation and identified gaps in the literature, this main research question of this thesis is articulated as follows:

Does the inclusion of maximiser language in H&N claims affect consumer product evaluations and purchase intentions across a range of products and for a range of maximisers? Furthermore, how does this affect consumer responses, and does this effect work under realistic conditions?

Aside of answering the main research question, this thesis aims to achieve a number of research objectives which are outlined as follows:

1. To investigate the impact of the inclusion of maximisers in H&N claims on product evaluation and purchase intention;
2. To test the boundary conditions on:
 - a. whether the effect of maximisers on consumer's product evaluation is contingent upon the consumers' perceived congruence between the frames of H&N claims and retail settings;
 - b. whether the effect of maximisers on consumer product evaluation is contingent upon the consumer's perceived congruence between the frames of H&N claims and online reviews;
 - c. whether the effect of maximisers on consumer product evaluation is contingent upon consumers' cognitive load or mental preoccupation;
3. To understand why and how maximisers may or may not have an impact on product evaluation and purchase intention;
4. To demonstrate the robustness of effect of maximisers included within H&N claims in real-world situations;

Finding answers to the above research questions and achieving the research aims stated above will be achieved through a combination of experimental studies aimed at uncovering and understanding the effects of maximisers in a number of contexts, and critical evaluation of these results with reference to relevant literature sources. The following section describes the theoretical framework and the key hypotheses that will be tested through these experimental studies.

1.4. The Theoretical Framework and the Research Hypotheses

The present thesis relied on persuasion model, communication accommodation theory and information processing theory to explain and uncover how maximisers affect H&N claim meaning on food packaging, and consumer's product evaluation.

Firstly, taking insights from the early empirical studies in psychology and human behaviours (Aune and Kikuchi, 1993b; Buller, Borland and Burgoon, 1998), this thesis applies the persuasion model and the communication processing model to underpin the process of a how a communicator's message is delivered to receivers, highlighting the persuasive effect the message may have as an outcome. Furthermore, this thesis adapts CAT to explain how the adjustment of a company's commercial communications can have an effect on consumers' product evaluations, with IPT used to provide an explanation of the effect language and its impact on receivers (Massaro, 1975; Hamilton and Stewart, 1993).

Accordingly, Figure 3 presents the basic conceptual model for this study. In this model, maximisers affect consumers' processing fluency and perceived psychological distance for a communication about a product. As a result, consumer's processing fluency and psychological distance can change, as these mediators can affect consumers' product evaluations and purchase intentions.

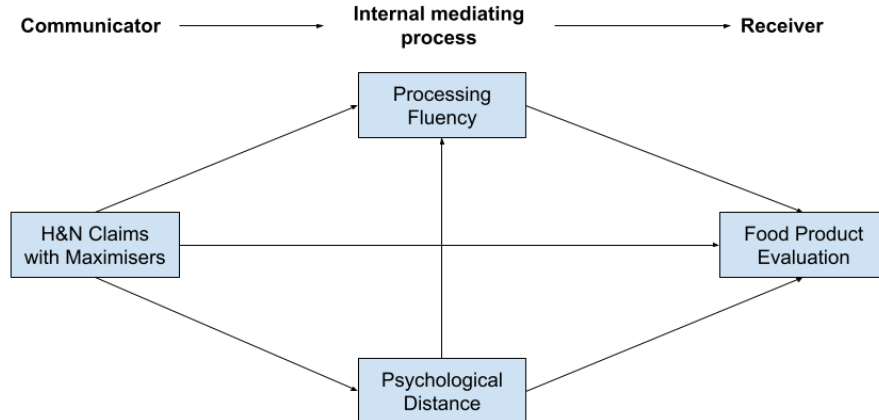


Figure 3 A basic conceptual model of the effect of maximisers on consumer product evaluation

This conceptual model has been shown to rely on moderators such as perceived congruence and consumer's cognitive load. The present thesis, which relies on theories such as language expectance theory (LET), supposes that perceived congruence is key to making the effective use of maximisers in a food packaging context and for having have a positive effect on purchase intention. This thesis adopts two scenarios to understand consumers' perceived congruence, with each of the two scenarios reflecting one or more of the features of maximisers, i.e. informality, affirmation and sincerity, and hyperbole, thereby testing the congruence between maximisers and other cues.

The implementation of IPT helps to develop an understanding of consumers' product evaluations in a realistic environment where consumers are likely to be cognitively occupied. The literature review in Chapter 2 will explore in detail the aforementioned conceptual model, and hypotheses will be generated as a result. Table 2 summarises the research hypotheses that will be empirically tested to address the research objectives of this thesis:

Useful contributions to consumer behaviour research should result from this research, helping both researchers and companies to (1) know more about consumer product evaluations based on health and nutrition claims, (2) design a food package which includes all necessary information for consumers to make an assessment, and (3) influence packaging and communication strategies for the food industry, since information on the package is the first contact between consumers and food product (Carrillo, Varela and Fiszman, 2012b, 2012a).

Table 2 Summary table of Hypotheses tested in this thesis – colours indicate the study or studies in which the hypothesis is tested

	Hypothesis	Studies
H1a	Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.	Field study and online 1,2, 3
H1b	Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.	Online 1, 2, 3
H2a	The inclusion of maximisers in H&N claims increases the positivity of consumers' product evaluations through an increase in the associated processing fluency.	Online 3
H2b	The inclusion of maximisers in H&N claims increases the positivity of consumers' purchase intentions through an increase in the associated processing fluency.	Online 3
H3a	Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.	Online 1, 2, 3
H3b	Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.	Online 1, 2, 3
H4a	Maximisers used on H&N claims increase the positivity of a consumers' product evaluation through the serially linked mediators of perceived psychological distance and processing fluency.	Online 3
H4b	Maximisers used on H&N claims increase the positivity of a consumers' purchase intention through the serially linked mediators of perceived psychological distance and processing fluency.	Online 3
H5a	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.	Online 1
H5b	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.	Online 1
H6a	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.	Online 1
H6b	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.	Online 1
H7a	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PE compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group with maximisers.	Online 2
H7b	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PI compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group with maximisers.	Online 2
H8a	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.	Online 2
H8b	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.	Online 2
H9a	With a high cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are similar whether they use H&N claims framed with or without maximisers.	Online 3
H9b	With a low cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are more positive when using H&N claims framed with maximisers than when using H&N claims without such framing.	Online 3

1.5. Structure of the Thesis and Summary

This first chapter introduces the research area and motivation and outlines the research gaps. This chapter also presents the main research question and research objectives, along with the theoretical framework and a summary of the research hypotheses to be tested through experiment.

The following chapter, Chapter 2, reviews the literature on packaging elements, including H&N claims and language devices, including maximisers. This chapter analyses and organises the findings on the effects of H&N claims and the effects of maximisers to propose a framework on how these factors influence consumers' perceptions of a product. The concepts of psychological distance and processing fluency are also explored. Finally, the concept of moderators, perceived congruence and cognitive load are reviewed, discussing its influence on the effect of maximiser on consumer responses are discussed.

Chapter 3 describes of the philosophical methodology used in this thesis, adopting a positivist, quantitative, and deductive approach to gaining knowledge. Key advantages and disadvantages of the experimental designs are discussed, with further discussion on why and how this work incorporates realism and behaviour to achieve results with good external validity.

Four experimental studies are presented in Chapter 4, including one field study and three online experiments. For each experimental study, all of which were conducted through online platforms, the design, stimuli development, procedure, analysis and results are described, followed by a discussion and analysis of the key findings related to the use and effects of maximisers in various contexts and scenarios.

Chapter 5 draws together the findings from the literature review and the empirical examination. The findings from each of the four experimental studies are discussed both independently and in combination, addressing the research questions, aims and objectives of the thesis and providing conclusive answers. The contributions to theory and managerial contributions, as well as implications for real-world practice, are presented along with a critical discussion of the outcomes and limitations of the experimental studies, and the thesis as a whole. This chapter concludes with a summary of the future directions the research may follow, and suggestions for future research.

The following chapter presents a review of current knowledge from literature on the use of packaging elements, such as H&N claims, and language devices, including maximisers, and provides the theoretical and literature basis for the remainder of this work.

2. Literature Review

This chapter describes and discusses the extant literature on research into food product packaging, Health and Nutrition (H&N) claims and how changes to their framing affects interactions with consumers, and two key theories – information processing theory and communication accommodation theory. This information, and these two key theories, are used to form the theoretical framework underpinning the experimental studies conducted in support of this thesis.

In Chapter 2 the following topics published in the extant literature will be reviewed:

- (i) The effect of food packaging design elements on consumer responses. In particular, the pertinence of health and nutrition (H&N) claims as one of the food packaging elements, normally used on the front of packaging (FOP), and the role they play in directing different consumer responses (e.g. product evaluation, purchase intention) will be reviewed.
- (ii) The effect of language on consumer responses.
- (iii) The key theories used in linguistic (Specifically, a historical perspective will be taken, detailing the evolution of different language devices and how these have been used in marketing).
- (iv) The conceptualisation of the maximiser as a linguistic device, including its notable features and effect on consumers' responses.
- (v) Finally, the effect of framing H&N claims with maximisers on consumer responses.

Following the above topics, the conceptualisation for the model tested in this thesis will then be set out.

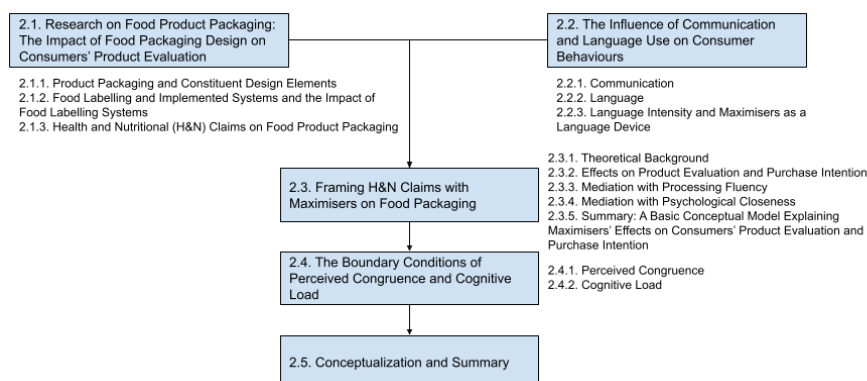


Figure 4 A flow chart summarising the structure of the literature review, indicating the conceptual links between each section

2.1. Research on Food Product Packaging: The Impact of Food Packaging Design on Consumers' Product Evaluation

Don't Judge a Book by its Cover

(George Eliot, The Mill on the Floss)

Conventional wisdom is that one should never judge a book by its cover. In school, children are taught to search for substance beneath the surface when dealing with friends, new people or when learning new ideas and concepts. Extending this analogy to the world of marketing, it would suggest that consumers naturally look beyond a products' packaging when making decisions about the product's value and efficacy.

And yet, decades of research have shown that the physical form or the outer design of a product, from mobile phone cases (Landwehr, McGill and Herrmann, 2011), wine bottles (Orth and Malkewitz, 2008) and handbags displayed on pedestals (Logkizidou *et al.*, 2019), makes a substantial difference to the value of said products. The way different foods are presented and packaged are no different, as this section will outline.

In this sub-chapter (2.1), packaging and its importance and function is introduced. Various design elements in general packaging and food packaging (i.e. shapes, colours, sizes) and their influence on consumer responses are discussed. But these standard cues, or elements, are not the only important characteristics with which consumers infer information about a product. More explicit elements in the form of information (e.g. slogans, labels and food claims) are also extremely important.

Among different types of information, the concept of Health and Nutrition (H&N) claims are then introduced, including the importance and impact H&N claims have on consumer responses. Alas, little research has been conducted thus far on the framing of H&N claims, providing a unique opportunity for contribution from the current thesis.

2.1.1. Product Packaging and Constituent Design Elements

The Oxford English Dictionary defines packaging as the "materials used to wrap or protect an object, especially a commercial product" (2005, third edition). Hine (1995) emphasised that packaging needs to be prepared in advance and labelled, and that the combination of containers with preparation and information are among the fundamental features that makes them *packages*. Indeed packaging regulations published by the European Parliament and the European Council offer the description of

packaging as being ‘... [materials] used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer’ (EC Directive 94/62, 1994).

Despite the modern day definitions of packaging, its use and application can be traced back to when the first hunter-gatherers and traders needed to collect, gather, store, transport, and market their possessions (Low and Fullerton, 1994; Twede, 2016). Tracing back to as early as the Stone Age, people used different materials including woven grasses and fibres, bark, leaves, clay pottery, or crude glassware to make containers (Klimchuk and Krasovec, 2018). These containers had specific functions such as holding goods from food and drink, to clothing and tools (ibid.). Packaging there was made for sharing and transporting goods. Tracing back over five thousand years, when some early societies began to experience a surplus of storable goods, a written communication was identified among the Sumerians, using pictographs on these stored goods (see Figure 5) as an identifying mark (ibid.). The syllabic symbols developed from pictographs became the basis of forms that written communications were used by many different cultures for more than two thousand years (ibid.).



Figure 5 Sumerian symbol for wheat - source: <https://www.sumerian.org/kib-wheat.pdf>

Later, intercontinental trade became a norm and created a demand to use a variety of packaging to contain, protect, identify and distinguish their products and goods during the transportation and trading processes (Klimchuk and Krasovec, 2018). For example, skilled artisans handcrafted packaging from ceramic bottles, jars, to other decorative receptacles to perfumes, as well as beer and wine.

Technological developments, such as the invention of the printing press, accelerated a revolution in mass communication. In the mid-1500s, Andreas Bernhart, a German paper-mill owner, was one of the first tradesmen that started printing their name on paper wrappers to package and identify his products. Later from the early 1800s, vendors posted, or advertised, products such as jars of medicine bottles, and tobacco with illustrations of their printed labels (Klimchuk and Krasovec, 2018). After the industrial revolution, new evolutionary methods on the mass production and distribution and creation of new packaging materials, transformed the way products existed in people’s life. For example, hermetically sealed containers enabled shelf-stable food products, and packaging design took the role

to communicate the new inventions, which is where the use of packaging design to communicate technological innovation and product developments started (see Figure 6).

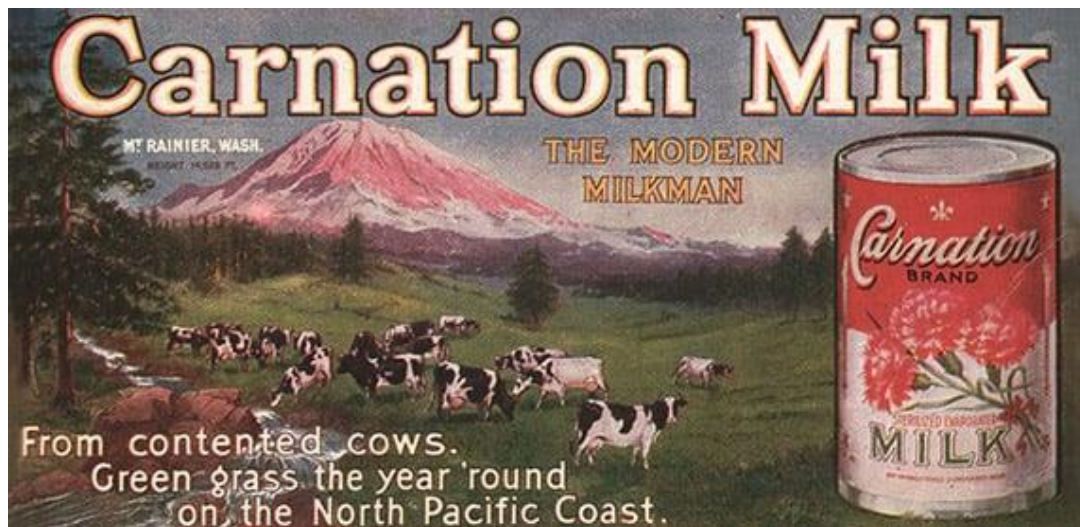


Figure 6 Advertisement for Carnation condensed milk⁴

With the start of the mass production era, around the start of the twentieth century, packaging has emerged as a marketing tool, in categories as diverse as food and beverages (F&B), home and personal care (H&PC), and fast-moving consumer goods (FMCG) (see Low & Fullerton (1994) and Hine (1995) for a history of product packaging). Through the history of packaging, the initial concern for manufacturers was the effectiveness of packaging in portion control and in product preservation (Velasco and Spence, 2019b). Once such goals had been met, early packaging manufacturers, as well as advertisers, started to realise that the packaging could also be an efficacious branding and marketing medium (Hine, 1995). Packaging was proposed as the fifth 'P' in the marketing mix, along with product, price, promotion, and place, demonstrating the importance of packaging as a marketing tool (Nickels and Jolson, 1976).

Packaging simultaneously serves two main roles – both a functional and marketing role - with distinct purposes; from simply being a container for an item to fulfilling logistical purposes, ensuring its contents remain intact, and protecting against external factors (i.e. temperature extremes, impact damage and expiration). It also plays a role of marketing, since packaging attracts consumer attention, communicates about product attributes and the values of the brand to consumers (Prendergast and Pitt, 1996; Ampuero and Vila, 2006; Simms and Trott, 2014). A more philosophical approach has also

⁴ Source: <https://www.nestle.com/aboutus/history/nestle-company-history/carnation>

been proposed for defining packaging, calling it a 'tool of expression and knowledge', revealing its marketing functions on communication (Hine, 1995, p. 17).

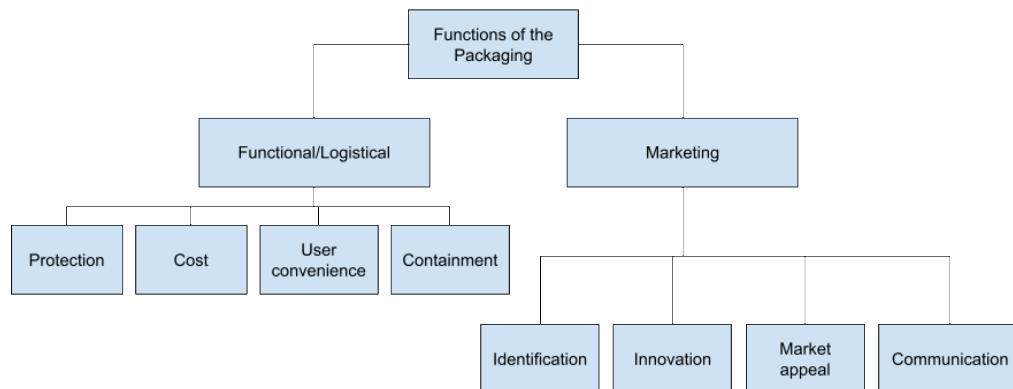


Figure 7 The Different Functions of Packaging

Focusing now on the role of packaging from a marketing perspective, Pilditch (1973) called product packaging a 'silent salesman' and indeed, packaging are multi-dimensional that can influence consumers' perceptions of its content (Marckhgott and Kamleitner, 2019) and allows companies to affect customers at the point of purchase (Ampuero and Vila, 2006). The marketing functions of the packaging exemplify its ability to distinguish a product from others in a retail context, and can attract consumers' attention and create positive impressions by visual inspection alone, even under the condition that "the company does not explicitly recognise the marketing aspects of packaging" (Silayoi and Speece, 2004, p.1497). It might even be impossible for a package to serve no marketing function. To further understand the role of packaging in marketing a product, it is essential to analyse individual package design elements and isolate their effects.

Package design is defined as "the various elements chosen and blended into a holistic design to achieve a particular sensory effect" (Orth & Malkewitz 2008, p.64). The design elements are also referred to as 'design attributes', 'design features', or 'design cues' in this thesis. Packaging elements send subtle signals about product attributes and help consumers to gather information and make decisions quickly and accomplishes this through 'a combination of display and concealment' (Richardson, Dick and Jain, 1994; Hine, 1995; Marckhgott and Kamleitner, 2019).

The design elements that comprise packaging are categorised as (1) visual, (2) sensory, and (3) information-bearing. Visual elements include, for example, the packaging shape (Wansink and van Ittersum, 2003; Yang and Raghurir, 2005), graphics (Silayoi and Speece, 2004), size (Argo and White, 2012) and colour (Silayoi and Speece, 2004; Ampuero and Vila, 2006). Sensory elements include, for

example, its olfactory attributes, i.e. its scent, (Ruzeviciute, Kamleitner and Biswas, 2020) and the material used in the packaging (Deng and Srinivasan, 2013; White *et al.*, 2016). Information elements include, for example, warning labels, ingredient lists, and brand slogans (Silayoi and Speece, 2004; Sundar and Noseworthy, 2014). To simplify the classification of design elements, this thesis will categorise them into either implicit (i.e. visual and sensory) or explicit cues (i.e. information) (Ye, Morrin and Kampfer, 2020). A non-exhaustive selection of the various key design elements that can be found on an example product are highlighted in Figure 8.

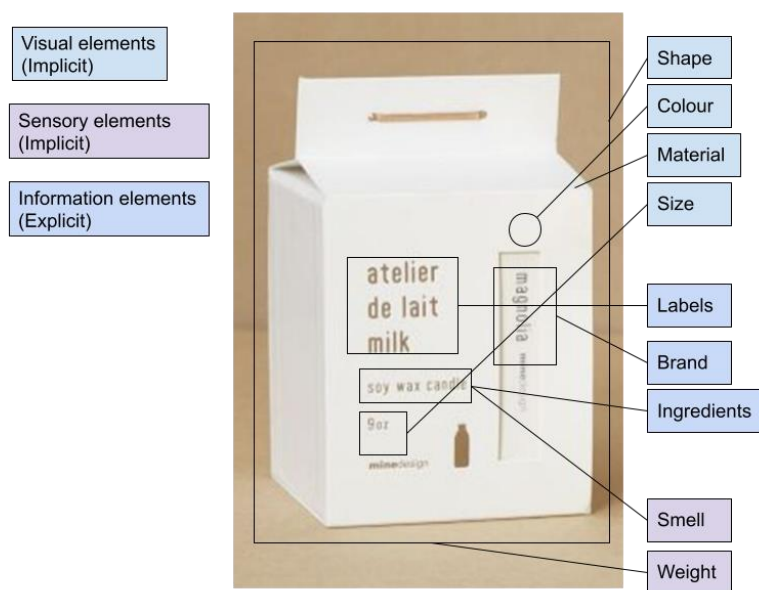


Figure 8 Design Elements of a Candle Product. This example highlights various visual design elements that form the whole product packaging and contribute to the impression received by the consumer.

The design elements found on product packaging can bridge that information gap between food companies and consumers and help consumers make inferences and reach conclusions about the products or brands under their consideration, since consumers rarely have comprehensive information on a product sufficient to make a fully-informed judgement about it when seeing it for the first time (Deval *et al.*, 2013). In isolation, each of these elements can have a significant impact on a consumer's subsequent decision to select one product over another (Hutchings, 2003; Ampuero and Vila, 2006; Marshall, Stuart and Bell, 2006). For example, packaging size has been shown to serve as a quality cue (Yan, Sengupta and Wyer, 2014), and packaging shape can influence perceived product quantity (Folkes and Matta, 2004).

In combination, packaging designers and marketers must carefully select appropriate design elements in order to make a product appear desirable (Lawson, 2006). Selected examples of products are listed below to exemplify how different packaging elements can alter consumer perceptions of a product.

Food Product Packaging and Its Constituent Design Elements

The previous section introduced product packaging specifically in terms of its functions, as well as the different types of design elements, e.g. size, shape, graphics and colour. In this section, food product packaging is introduced, highlighting its differences compared to other types of product packaging, followed by a discussion of design elements specific to food packaging and its impact on consumer responses.

Existing research into product packaging has mainly focussed on food & beverage (F&B), home and personal care (H&PC), and fast-moving consumer goods (FMCG), which is testimony to the important role packaging plays in marketing such products (Velasco and Spence, 2019a). Among these products, some product packaging, including food & beverage (e.g. chips, jams) and fast-moving consumer goods (e.g. toothpastes, shampoos), is more important than other types of products such as vacuum cleaners, apparel, digital devices. This is arguably from both functional and marketing base role point of view.

From a functional role perspective, food products and FMCG are likely to be consumed from within packaging itself and consumers will likely spend more time, value the appeal of the packaging more than the product itself, and come into more direct contact (i.e. touch) with the packaging (Velasco and Spence, 2019a). Secondly, due to its functional requirement, some food products or FMCG may be requested to cover or conceal entirely by packaging, which is a strategy adopted when, for example, the product is not visually attractive, or needs to be shielded from contamination, light, touch or some other intervention (Sara, 1993), demonstrating that food products and FMCG may have a higher reliance on its packaging comparing to other product types. While food packaging has its basic functional role which is to maintain freshness, to improve quality and safety, and often to prolong shelf life for the foodstuffs contained within (Sara, 1993; Silayoi and Speece, 2004; Marsh and Bugusu, 2007).

From a perspective of marketing, food packaging is particularly important because it is the critical point of contact in a shopping encounter unlike other types product which requires a higher involvement, and it helps to focus consumers' attention onto the product (Ares and Deliza, 2010).

Similar to other types, it may push the sale of the product, however, food packaging potentially has a more significant influence on their consumers which are unique to the context of food products, namely perceptions of taste, healthiness, and consumption, all of which could have profound influence on consumers health condition and wellbeing (Krystallis and Ness, 2004; Shih and Wang, 2017; Rosa *et al.*, 2019a). For example, Ye, Morrin and Kampfer (2020) instructed participants to evaluate a snack food packaged in either glossy or matte packaging, and demonstrated that participants perceive the snack as less healthy when the packaging is glossy and shiny. This could impact how consumers consume snacks dependent on the packaging materials. Another study showed that including a cartoon image on the food packaging appears to increase the perceived pleasantness of a taste compared to using a plain or health-focussed label among children (Enax *et al.*, 2015), illustrating the potential with graphics manipulation on nudging children to eat healthily.

Moreover, its influence of food packaging design elements has extended to problems such as overconsumption and the obesity crisis with numerous health and cost implications (Chandon and Wansink, 2011; Madzharov, Ramanathan and Block, 2016). For example, when consuming hedonic food products, Madzharov, Ramanathan and Block (2016) suggested food products in light coloured packaging comparing to the dark coloured packaging led to a more pleasurable consumption and increased quantities consumers take. Another research has also demonstrated that when manufacturers use suggested serving sizes and display calorie content information, consumers overconsumed with an implication on health and wellbeing (Tangari *et al.*, 2019).

The individual design elements such as the shape, the size, the type of graphics and the information provided as cues on food packaging have been found to both indirectly and directly influence various consumer responses (e.g. biases, choice, purchase amount, and recommendations) (Chandon and Wansink, 2007) (see Table 1 for a more comprehensive list of design elements including food products). The general design elements and food specific design elements are introduced and discussed in the following sections.

Size

The size of a package plays an important role in shaping consumption norms (Hine, 1995), and is exemplified by the larger consumption norms implicitly suggested for products distributed in large containers, which ultimately leads to overconsumption (Chandon and Wansink, 2007). Scott *et al.*, 2008 suggested that the effect of size-based visual bias on overconsumption is also dependent on the type of consumer considered: Restrained consumers consume more from small-size packages, and non-restrained consumers consume more from large-size packages. Size effects have also been

examined at the level of consumers' appearance and self-esteem (ASE), with a study by Argo and White (2012) finding that small packages can lead to overconsumption especially for people who have low ASE. Taken together, both studies highlight the inconsistency between consumers' intuitions on packaging size and reality, resulting to overconsumption.

Further studies have examined the effect of size with other product factors, such as price, where for some given product, when presented in a smaller package compared to an otherwise identical product in a standard package, was perceived by consumers to be of higher quality due to the perception that a smaller-size packaged product had a higher unit price (Yan, Sengupta & Wyer, 2014). All the examples presented above on the effect of size on consumer responses including a wide of range of consumer perceptions, decision making and consumption behaviour.

Shape

Packages come in all shapes, where shape is defined as an 'external form or contour' (OED Second edition, 1989). Some packaging shapes will vary because of the nature of the product (e.g. meat, book cover), though the reasons for some variation is not as obvious (e.g. shapes of shampoos) (Folkes and Matta, 2004). For example, Dove attempted to grab customer attention by using the packaging shape to promote positive body image. However, this strategy appeared to antagonise its customer base, with women perceiving the design as unflattering (Ghosh, 2017).



Figure 9 Dove's Body Positive Bottles

One of the most heavily-researched areas of package design shape is the effect that it can have on volume perception biases, e.g. how elongated containers are perceived to contain a greater volume

than shorter bottles of identical capacity (Raghubir and Krishna, 1999). This study by Raghubir and Krishna (1999) suggested that it is a complicated process to accurately judge volume and the process requires estimation of linear dimensions and aggregation using normatively correct formulas. This indicated that in reality, consumers in a volume judgment task will simplify the task heuristically by simplifying the three-dimensional information to two or even one dimension(s). This can cause systematic biases in volume perceptions, and it is a true reflection of how consumers make volume judgments, revealing elongation as the dominant heuristic processing method used to estimate volume. The effect of elongation of packaging shape can further affect consumer preferences about a product and even the level of satisfaction they report (Raghubir and Krishna, 1999).

The shape of packaging can also affect real-world purchase behaviours. For instance, a study conducted by Yang and Raghubir (2005) among university undergraduate students investigated their choices on 4 different brands. For each brand, both a bottle (longer) and a can (shorter) were presented, with both shapes contain 12 oz. of liquid. The result confirmed the elongation effect which means elongated beer bottles are perceived to contain more, and this resulted in decreased in purchases for a more elongated container (Yang and Raghubir, 2005).

Packaging shape and form signal symbolic and aesthetic values to consumers (Creusen and Schoormans, 2005). Schoormans *et al.*, (2010) found that when a whisky bottle had a more rounded features on its shoulder (see Figure 10), it communicates more feminine attributes and may thus be interpreted to be 'weak', whereas instead, a bottle designed with more angular shapes can contribute to an expression of power and masculinity. These examples show the impact of packaging shape on a wide range of consumer responses, from preference to assumption of product attributes.



Figure 10 Exploration of the effect of rounded shoulders on the product attributes

In the following section, the design element of shape is given further consideration in the context of food packaging.

The shape of food product packaging can also change consumers responses in perception of volume, (Raghubir and Krishna, 1999), taste and health perception (Becker *et al.*, 2011; Fenko, Lotterman and Galetzka, 2016) and consumers' decision making (Reimann *et al.*, 2010). Within studies on the shape of packaging, the choice of design angles has been studied, for example, one study investigated the effect of angular vs. rounded packaging found that food products inside angular packaging is perceived to have a more intense taste when participants are sensitive to the packaging design, again highlighting the impact of individual design elements on consumer behaviours (Becker *et al.*, 2011).

The impact of round and angular packaging shapes on the perceived taste and healthiness of a product was investigated, showing that cookies in angular packages were perceived to be healthier than cookies in round packages (Fenko, Lotterman and Galetzka, 2016). The authors also revealed an interaction effect between the shape and the brand name on product evaluations, showing that a match between the brand name and shape resulted in a more positive evaluation. Another study on the cross-modality between size and shape found that a change in product size appears smaller when the proportions of the packaging change in all three dimensions (height, width and length) rather than in one of these dimensions (Chandon and Ordabayeva, 2009). This result has implications on how to influence consumer's perceptions of size changes and consumer's size preferences.

The shape of a product's packaging can also influence consumers' sensory expectations of that product (Spence, 2012), including its tastes, flavours and oral-somatosensory attributes. Experiments by Ngo, Misra and Spence (2011) found that the angularity of chocolate shapes affect the perceived bitterness of the chocolate, and comparable work by Spence and Gallace (2011) found similarly that consumers associate sparkling water with more angular shapes and still water with more rounded shapes, reinforcing this association between packaging shape and sensory expectations.

Graphics

'Graphics' is defined as 'of or relating to drawing or painting' (2nd edition OED, 1989), and in the context of food packaging can be anything that creates an image on the packaging, including image layout, colour combinations and typography (Silayoi and Speece, 2007). The imagery can create visual excitement, memorable experiences and recognisable touchpoints when used appropriately (Klimchuk and Krasovec, 2018), and further influence consumer preferences, message recall, and product and brand evaluations, among many other factors (Underwood and Klein, 2002).

By comparing product packaging that either contains or omits graphics, the presence of an image has been demonstrated to cultivate a more positive attitude towards a product and improves brand impressions (Underwood and Klein, 2002). The presence of images on packaging also improves brand

evaluations when the benefits communicated via images are important to consumers (Underwood and Klein, 2002). Cue utilisation theory explains how graphics are used by consumers both as extrinsic cues and as surrogate indicators of the quality of a product (Richardson, Dick and Jain, 1994). The graphics used on packaging also enables consumers to imagine how a product looks, tastes, feels or smells, and has the potential to elicit positive mental imaging and therefore improve beliefs about attributes of a product (MacInnis and Price, 1987).

Image location and positioning can strongly influence consumer perceptions of the visual heaviness of a product, which therefore affects a consumer's evaluation of it (Deng and Kahn, 2009). In a study on this phenomenon, a 'location effect' extended from the size-weight illusion was hypothesised in which bigger objects of the same weight feel lighter (Charpentier, 1891). Specifically, the relationship between location and visual weight can be described as 'bottom-heavy' (gravitational pull) and 'right-heavy' (lever effect). This is beneficial for products for which heaviness is considered a positive attribute, designing packaging with product image placed at heavy locations is preferred (Deng and Kahn, 2009). Similarly, the positioning of verbal cues on packaging was found to affect consumer attention and message recall, an effect which is enhanced when such verbal cues are displayed on the right side of the packaging and visual cues on the left. This effect is attributed to the laterality of the brain and how different types of cues are mentally processed (Rettie and Brewer, 2000) (see Figure 11).



Figure 11 Packaging used in Pettie & Brewer's study showing different cue positioning

Beyond images and their positioning, the typeface used on packaging, which is considered a 'medium with their own message' (Henderson, Giese and Cote, 2004, p.70), has been utilised in managing consumers' brand impressions. Using appropriate typeface can influence how consumers perceive a brand's personality, and may influence whether a brand is seen as sincere, sophisticated, competent, or rugged (Grohmann, Giese and Parkman, 2013). There is extensive extant literature focussed on graphics on packaging, exploring whether, where and how images should be used, image positioning, the effects of typeface and lexicon, and the selection here indicates the effects various graphical features may have on the wider perceptions of a product.

Graphics are an also important design element when applied in food context, and can strongly influence consumers' eating behaviours (Madzharov and Block, 2010). Simply displaying a graphic containing a greater number of product units on the package (manipulated as 15 pretzels vs. 3 pretzels) can lead to increased consumption, demonstrating the impact of packaging cues on consumer beliefs about the product, which in this case is the product unit image on the packaging (Madzharov and Block, 2010). Product image helps consumers to anchor their estimates of how much product the package contains, and biases the quantity of food an individual consumes in one sitting.

Image location and placement was also investigated by Sundar and Noseworthy (2014), discovering that consumers have their visual expectation of height based on the brand power, which means consumers prefer a high-power brand when a logo appears high on the packaging, and correspondingly prefer a low-power brand where the logo is positioned lower. Furthermore, the orientation of the food image (Velasco, Woods and Spence, 2015), the implied motion on image (Gvili *et al.*, 2015), the heaviness of fonts (Karnal *et al.*, 2016) and the type of fonts used (Velasco *et al.*, 2014) all influence a variety of consumer responses, from evaluations of product freshness, appeal, taste perceptions, and willingness to pay. These studies show how marketers can capitalise through the food product packaging design.

Colour

Though defined simply as 'a hue or tint' (2nd edition OED, 1989), colour influences every aspect of packaging design and their impacts on consumer perception. The colour spectrum is the image formed when light is spread out according to its wavelength by being refracted through a prism, though not it does not contain all hues and tints commonly perceived to be a colour. On a colour spectrum, colours are considered to be similar to one or a combination of two of the following hues: red, orange, yellow, green, blue, and violet (Klimchuk and Krasovec, 2018). In packaging design, survival on shelf is very much tied to the use of colour (Klimchuk and Krasovec, 2018).

The choice of colour, on an object or in an environment, is essential for linking and exploiting the meanings and emotions attached to them by consumers, derived from an instinctive cultural response. For example, red is commonly used as an attention-grabber, as a warm-spectrum colour, and can communicate heat, love, fire, passion, excitement, aggression, warning and energy, among other messages, many of which are dependent on culture (Klimchuk and Krasovec, 2018). People may prefer blue rather than red retail environments, finding them more relaxing, encouraging longer periods of browsing (Bellizzi and Hite, 1992). The strategic choice of colour has been exploited in product packaging design and has proven effective in shaping brand impressions (Madden, Hewett and Roth,

2000), in attracting consumer attention (Grimes and Doole, 1998), as well as in distinguishing brands from competing products at the point-of-purchase (Garber, Burke and Jones, 2000). Because of these different colour associations with objects and emotions, in packaging, consumers will perceive a particular package design to be more appropriate when there is a congruence between the colour used and the product type (Bottomley and Doyle, 2006). More specifically, it was found that blue colours were more appropriate than red for functional products, and that red was more appropriate for sensory-social products (*ibid.*).

Consumers have learnt to associate and match certain colours with product categories, invoking expectations about the product (Kauppinen-Räsänen and Luomala, 2010), and have become so accustomed to the use of packaging colour that their responses to colour cues are automatic. For example, a colour scheme that uses blue, green and white indicates to consumers a strong association with 'peaceful', 'gentle,' 'calm' (Madden, Hewett and Roth, 2000), and smokers now erroneously associate lightly coloured packages with reduced harm (Hammond *et al.*, 2009). Similarly, products with a lighter shade of packaging are preferred when consumers had an existing health goal (rather than indulgence goal) when selecting a cereal bar (Mai, Symmank and Seeberg-Elverfeldt, 2016).

Other types of behaviour are also affected by colour, including tipping behaviour, where one study showed that using a gold colour on a restaurants' menu is more likely to increase a consumer's tip amount compare to using a dark / black colour scheme (Lee, Noble and Biswas, 2018). This is because of the colour and meaning association, since gold is often linked with high status and exclusivity.

If products are advised to use colours that evoke a strong automatic association with positive attributes (Madden, Hewett and Roth, 2000) or create a congruent experience for consumers with product (Bottomley and Doyle, 2006), then this sets a challenge for new products that do not conform to the norm, though the novel use of colour can become advantageous in attracting some types of consumer, especially those who are not loyal to particular brands (Garber, Burke and Jones, 2000).

Colour is an implicit design element that has been studied extensively in a wide range of contexts for both food-related and non-food products, and colour choice can lead to biased judgment about a food's attributes and affect related behaviours. Changing the colour of a product's packaging can have a great impact on its taste perceptions, as demonstrated in a study that used a yellow rather than a white coloured background on a juice product, and measured a positive effect on consumer perceptions of sweetness (Deliza, Macfie and Hedderley, 2003). Sugrue and Dando, 2018 also found that red-coloured labelling on cider made it appear both sweeter and fruitier, and also found that green-coloured packaging drew perceptions that the product should be served at a lower temperature.

Colour is also regularly used strategically to indicate product healthiness, such as consumers perceiving food in red-coloured packaging as less healthy than food in blue-coloured packaging (Huang and Lu, 2016). Similarly on food labels, red-coloured food labels are used to indicate less healthy choice and colour green is used on food labels for more healthy choices (Temple *et al.*, 2011; Levy *et al.*, 2012). An investigation into colour intensity by Mai, Symmank and Seeberg-Elverfeldt (2016) showed that light-coloured packaging can induce a healthy perception of a product and damage the flavour perception of the food product. Other works (Schulte-Holierhoek *et al.*, 2017; Mead and Richerson, 2018) have shown that not only the colour itself, but the saturation of a colour on food packaging can also affect consumer expectations of healthiness, flavour intensity and sweetness, such as where products using highly saturated colours are perceived less healthful by consumers than using muted, less colour-saturated packaging (Mead and Richerson, 2018). Employing colour on packaging requires holistic consideration of how consumers may interpret and respond to the cues invoked by its presence on product packaging and key for marketers who intent to use colour to influence consumer perceptions on food their products.

Information

In addition to implicit design elements, explicit packaging elements can also easily influence consumer perceptions and food choice (Chandon and Wansink, 2007). Explicit food packaging elements contain information about the product including brand names, brand imagery (i.e. logo, symbols, slogans, and design elements), and endorsements (Chandon, 2013), which are universal across product types.

For example, though the phrases 'best by' and 'use by' have no difference, Wilson, Miao, and Weis's (2018) study found consumers do distinguish between them, relating 'best by' labels to the taste attributes of a food product and 'use by' labels to food safety. The information on serving size and calorie content has proven to have a great impact on consumer consumption. Tangari *et al.*, (2019) manipulated perceived product healthiness and the packaging label (serving size condition: '4 crackers per serving/12 crackers per bag' vs. serving size with calorie information condition: '4 crackers per serving/100 calories per serving/12 crackers per bag') and demonstrated that providing calories-per-serving information can lead to overconsumption of the food snacks perceived as less healthy.

Fajardo and Townsend (2016) stressed the effectiveness of information presented on packaging by comparison with advertisements, finding that claims displayed on packaging are perceived as closer than on advertisement and therefore increase believability and persuasiveness. It is important to note that food labels, an explicit element, are a specific type of information for food products, which will be explained in 2.1.3. The studies presented and discussed in this section reveal the importance of

food product packaging as a major factor in a customer's product assessment, and in understanding how different packaging design elements affect consumer responses to the food products (Orth, Campana and Malkewitz, 2010).

In summary, this section outlines the similarities between food packaging and other types of products, also highlights the profound impact of food product packaging elements on various consumer responses including product inferences (taste, healthiness), purchase intentions, choice, and consumption. The design of food labels plays an essential role in communicating and highlighting particular features of food products to consumers especially with the increased health awareness among modern consumers (Kees, Burton and Andrews, 2015). The concept of food information and labelling, its impacts, and the system of food labelling on packaging will be explored in the next section.

These examples above confirm that marketers can influence consumer responses to a presented product in a broad range of contexts and using a variety of packaging design elements, thereby affecting a wide range of customer responses from attracting their attention and changing their perceptions towards a product or brand, and their purchase intention. All of these factors may ultimately change consumers' propensity towards completing an actual purchase. Table 3 presents a typology of different packaging elements linked to various consumer decision making outcomes, adapted from Ye, Morrion and Kampfer (2020).

Table 3 Summary of Design Elements used in Product Packaging (Adapted from Ye, Morrin and Kampf, 2020)

Element types	Sources	Product type	Findings (sorted by consumer response)
Size	(Marchiori, Corneille and Klein, 2012)	Snacks M&M	The results from this study show that container size influences food intake among high-energy food when portion size is constant, meaning the larger containers stimulating food consumption .
	(Argo and White, 2012)	Gumdrops	This research shows that smaller package does not always reduce consumer consumption. Findings suggest that small package can lead to overconsumption especially for people who desire regulatory assistance. This type of consumer is more sensitive to external control properties, and factors such as visibility of the product quantity or calorie content can enhance the effect of overconsumption from the small package.
	Ketron (2019)	Wine, Soap	The author demonstrates the level of visual complexity around the product can alter the perceived product size and this has a direct impact on purchase intention.
Colour	(Ares and Deliza, 2010)	Milk dessert	The results show that consumers associate the package colour to its flavour, link the package shape to its product textual (i.e. runny or thick). The study highlights the importance of sensory expectation packages which can shape consumer perceptions.
	Mai et al. 2016	Breakfast bar, chips	This research investigates the impact of colour intensity on consumer responses (perception of healthiness, taste and purchase decision). More specifically, when consumers rely on light-coloured packaging as a health cue, and results show that this direct effect is dependent on the consumers' eating goal, motivation and attitude, as well as the healthiness of product itself.
	Lee, Noble and Biswas 2018	Bill folder	The use of gold as a dominant colour might positively influence consumer tipping behaviour at restaurants, demonstrating the strategic use of colour.
Material	(Ye, Morrin and Kampf, 2020)	Crackers, potato chips	The authors find that consumers have learnt to associate unhealthy snacks with glossy surface package and healthy ones with matte surface packages. With this learnt intuition, consumers are more likely to consume more when a snack is packed in matte packaging because of the healthier assumption.
	(Krishna and Morrin, 2008)	Bottle	This study finds that the firmness of a watch cup can affect consumer's perception of the quality of that water.
Shape	(Becker <i>et al</i> , 2011)	Yogurt	The package shape (angular vs. curvy) and colour saturation affect consumers' perception on taste. More angular or more saturated packaging colour has a positive impact on taste intensity. This effect can be more pronounced for participants that are sensitive to the design. These two factors (design and colour saturation) may also impact product evaluations and price expectations.
	Raghubir and Krishna (1999)	Packages in boxes, jars, bottles	Because of consumers using simplifying heuristic of a container's elongation to estimate its volume. The results identify that the effect of elongation can create perception of volume bias, therefore affect preference, choice, and post-consumption satisfaction.

	(Raghubir and Greenleaf, 2006)		Moreover, particular shapes such as rectangles are studied. In (Raghubir and Greenleaf, 2006)'s study, results show that the ratio of the sides of rectangular products and packages affect consumer purchase intentions and choice making.
	Chen, et al. (2020)	Shampoo, Wine	This study demonstrates that product shapes (symbolic meaning associated) can change consumers' perception on brand status.
Graphics	(Deng and Kahn, 2009)	Danish cookie tins	The authors study the effect of location of product image on consumers' perceptions of the visual heaviness of the product and product evaluation.
	(Underwood & Klein, 2002)	Candy, bacon, margarine	Placing images on product packaging significantly had positive attitude toward the packaging, and improved brand beliefs. When the benefits are conveyed through the image, the brand evaluation is favourable.
	(Sevilla and Townsend, 2016)	Drugstore	This study is concerned at the space-to-product ratio on the product packaging and finding shows that increasing interstitial space on the product packaging can enhance consumer perception on product aesthetic appeal and store prestige which as a result, can increase purchase intention.
Weight	Maggioni, Risso, Olivero, and Gallace (2015)	Mineral water	The weight of the plastic cup affects the participant's taste perception of mineral water. Participants perceive mineral water as less pleasant and also seen as more carbonated when contained in the heavier cups.
Sound	Spence, Shankar, and Blumenthal (2011)	Potato chips	Individuals perceived the potato chips as crisper when listening to the sound of opening a package of Kettle's or Walker's chip package than the sound of opening a tube of Pringles
	Spence and Wang (2015)	Beverage	The sound of opening and pouring liquids from different types of vessels (bottles, cans) and what consumers can discern (temperature and carbonation level) from the sounds.
Packaging claims	Kozup, Creyer, and Burton (2003)	Restaurant	Health claims and nutritional information on packages increased product attitude and purchase intentions
	Dachner, Mendelson, Sacco, and Tarasuk (2015)	Beverages	The packages of 66 functional beverages such as energy drinks, sports drinks, and vitamin waters sold in Canada were examined over time and were found to often contain on-package micronutrient claims (e.g., vitamin B content) that consumers were unlikely to benefit from (due to sufficient micronutrient consumption levels in the population)
	Wilson, Miao, and Weis (2018)	Food products	Consumers perceived "best by" labels to refer to taste attributes and "use by" labels to refer to safety. There was some confusion regarding the meaning and application of such labels.
	Fajardo and Townsend (2016)	Energy spray	A marketing claim on a package was more believable than one in a print ad. The results were driven by perceptions of proximity, with the product perceived to be closer to the package than to the advertisement, making the claim seem more verifiable and thus the marketer more trustworthy

This section 2.1.1. introduces the concept of product packaging, including its functions and importance. Packaging design elements are outlined, including shape, graphics, and colours, which are reviewed

2

as more specific examples to illustrate the impacts that particular food packaging elements can have. The following section will move on to food labels as one type of information presented on food products, discussing the impact of different types of food labels on consumer responses to food products.

2.1.2. Food Labelling and Implemented Systems and the Impact of Food Labelling Systems

In the previous section, packaging and food packaging were introduced, exploring their functional and marketing roles in the context of food products. The various types of design elements, including implicit and explicit, used on both packaging and food packaging were also explained. This section will explain and discuss food labelling as an important explicit design element, highlighting Front of Packaging (FoP) labelling as one of the key focusses in this thesis.

Food labelling

Food labels, an example of an explicit design element found on food packaging, will be explored in this section, including the types of commonly used labels and their roles for government, companies, and consumers. The terms “food label”, “food labelling” and “food information” are often used interchangeably in the literature, and all of these terms refer to information displayed on food packaging. The term “food label” will be used in the remainder of this thesis.

An information gap exists between consumers and food companies, since food companies have more knowledge about the quality of their products than consumers (Kiesel, McCluskey and Villas-Boas, 2011). Therefore, food labels are one of the tools designed to bridge this information gap by explicitly communicating product-specific information about both nutritional values and non-nutritional values to consumers, such as a product’s sugar content, or its fair trade certification. Labels are defined as “a piece of paper, etc., which provides information about something to which it is appended, and related senses” (OCD 3rd Edition, 2018). When this definition is applied in a food context, it is “an educational tool and a shopping aid that enables consumers to compare the nutritional values of different brands or different foods and to compare new food products with more familiar ones” (Bender and Derby, 1992, p292). This definition highlights that in addition to their role in marketing a product by distinguishing a product from the competition, food labels serve an important functional role, in educating the consumer.

The functional role of food labels is to provide information to consumers and enable them to select foods and verify a food product’s quality (Bender and Derby, 1992; European Commission, 2006; Young, 2010; Grunert, Bolton and Raats, 2012). For example, consumers may select food items based on their dietary restrictions or personal preferences, and accurate food labelling allows them to select or avoid certain products. To help improve the quality and safety of food labels, improving their functional role, governments and third-party organisations issue standards and regulations. Since food labels are essential for food companies’ efficient marketing of products, companies will determine how labels are used in a marketing role, influencing the choice and presentation of labels for the

benefit of the company and their products (Golan *et al.*, 2001; Drichoutis, Lazaridis and Nayga, 2006). Companies will select particular food labels to signal a product's quality (Kiesel, McCluskey and Villas-Boas, 2011; Grunert, Bolton and Raats, 2012), to highlight certain attributes of a food product (Gabaix and Laibson, 2006), to highlight a product's benefits to potential consumers (Wansink, Sonka and Hasler, 2004; Newman *et al.*, 2018), and ultimately to influence customers' product choice at the point of purchase (Malam *et al.*, 2009; Bialkova *et al.*, 2014).

The functional role of food labels, an explicit design element, distinguishes them from implicit packaging design elements, which were previously outlined in 2.1.1., since less regulation is needed for implicit design elements found on packaging, such as size, shape, and colour (Malam *et al.*, 2009). Because there are more regulations surrounding the food label, these food labels are credence attributes where consumers rely on what is said and they have little power to evaluate—before purchase or even after consumption. The presence of these design elements on food packaging can enable consumers to examine product characteristics before purchasing (Drichoutis, Lazaridis and Nayga, 2006). The non-functional characteristics of both types of design element, implicit and explicit, can influence consumers' perceptions of a food product, and in their marketing roles these design elements are used for this purpose. However, implicit design elements influence consumers more subconsciously. For example, both packaging a food product with a light hue and stating that the product contains less fat and sugar may create an impression of 'healthiness' for a consumer (Belei *et al.*, 2012; Mai, Symmank and Seeberg-Elverfeldt, 2016).

As stated above, there are many cases where food companies cannot state the benefit of a product without third-party organisations' authorisation and /or following government requirements and legislation. Food labelling regulations are a key determinant of how food labels are designed for use on packaging, and have a similar influence on the design and use of H&N claims on food packaging which will be introduced in the following section. Policy makers and third-party organisations are central to mandatory and voluntary food labelling enforcement. For example, the Food and Drug Administration (FDA) and US Department of Agriculture (USDA) in the USA both take an active role on issues related to the labelling and certification of food products. The FDA and USDA are the primary federal authorities responsible for assuring that foods sold in the US (both domestic and foreign) are safe, wholesome and properly labelled. The FDA also has its own regulations (21 CFR 101.9(d)) on the provision of 'food labelling (*CFR - Code of Federal Regulations Title 21*, 2020), where food labels' format is specified. Similarly, in Europe, the EU Commission is responsible for specifying the content and format of mandatory information found on food packaging, including the name of the food, list of ingredients, the presence of allergens or intolerances, net quantity of the food, 'use by' date,

instructions and storage conditions (EU 1169/2011). The UK Food Standard Agency (FSA) has a similar approach that was retained from EU law, and further detail on providing food information to consumers can be found on the FSA website (Food Standards Agency, 2021).

Some food labels are optional and are controlled by third-party organisations, and the vast majority of food labelling and certification schemes are voluntary, and are often initiated by private industry, food retailers, NGOs, advocacy groups, and partnerships between NGOs and businesses (Congressional Research Service, 2017). Some food companies and manufacturers may choose to include private process labels and certifications, to address consumers' concerns about particular characteristics of the food products they purchase⁵. The wide range of food labels found on modern food packaging also reflects consumers' diverse concerns⁶ (Congressional Research Service, 2017). These labels are in place to address and circumvent market inefficiencies by making the information readily available to consumers (Teisl and Roe, 1998; Drichoutis, Lazaridis and Nayga, 2006). Mandatory information and third-party organisations act to certify the accuracy and validity of product packaging labels. These labels can help improve the credibility of a firm's communications with consumers since the existence of such food labels allows consumers to use trusted third parties to verify claims made by food companies and may prevent some firms from overstating the qualities or characteristics of a product (Teisl and Roe, 1998).

Both mandatory and voluntary labels can be categorised into information concerning health and nutrition values and information concerning other food product values (Bialkova, Sasse and Fenko, 2016) (see Figure 12). Health and nutrition (H&N) information refers to nutrient-related information on a food label along with some means of quantification (i.e. reduced fat/sugar, or 20% fibre) (Hawkes, 2004), while non-H&N information may include environmental claims, production process claims, product origin claims, and taste claims (i.e. 100% tastefulness) (Grunert and Wills, 2007; Sirieix *et al.*, 2013). H&N claims and labels will be discussed in further detail later (see 2.1.3).

Mandatory and voluntary labels, and information regarding H&N and other food product values, may appear on the front or back of food packaging. Back-of-packaging (BOP) labels generally contain more detailed information than front-of-packaging (FOP) labels. Examples of BOP labels include the

⁵ Examples of the types of product attributes claimed include food safety, quality, freshness dates, nutrition, cleanliness, natural, healthy, 'free-of' claims, organic, GMO-free, fair trade, cage-free, free-range, humane animal treatment, dolphin-free, sustainable, kosher, halal, bee- or bird-safe, local and carbon off-setting (Congressional Research Service, 2017).

⁶ Concerns include food safety, health benefits, corporate social responsibility, sustainability, animal welfare, human rights and ethics, religious, production systems and innovations, to food origin (Congressional Research Service, 2017)

Nutrition Facts Panel (NFP) in the US which, though presenting information in a rigorous and standardised format, can take time, knowledge, and motivation to study and understand (Newman *et al.*, 2018). On the contrary, FOP labels are used to complement the information found on the back or the side of packaging, and normally contain condensed highlights of key information, the content of which is controlled both by marketers and by regulation (Kiesel, McCluskey and Villas-Boas, 2011; Grunert, Bolton and Raats, 2012). Furthermore, different countries have different systems for both FOP and BOP on standardising food label formats, though the content and intent behind the labels and their underlying regulations are almost identical. For example, both the Traffic Light System in the UK and the “Facts Up Front” (FUF) panel in the US contain condensed information on key nutrient information about a food product.

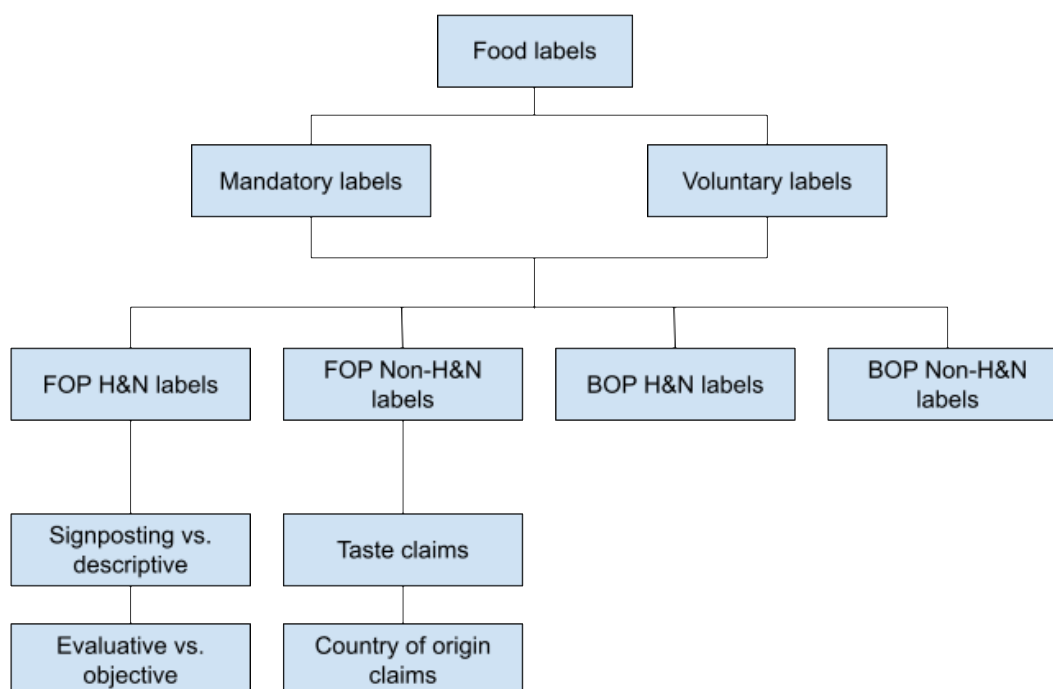


Figure 12 Diagram illustrating the various types of food labels. Labels may be mandatory or voluntary, may be front-of-packaging (FOP) or back-of-packaging (BOP) labels, and may include various descriptors for the benefit of consumers.

FOP panels aim to give consumers quick access to useful information about food products while expending minimal effort and time to develop their understanding (Newman, Howlett and Burton,

2016). The main FOP food labels encountered by consumers⁷ can potentially influence consumer evaluations of a product, which explains why FOP labelling has become an increasingly common policy strategy applied in the efforts to fight unhealthy diets and reduce obesity (Baltas, 2001; Grunert, Bolton and Raats, 2012; André, Chandon and Haws, 2019). It is easy for consumers to process the information from these FOP labels, presenting little to no barrier to understanding, and their importance has been recognised by an increasing number of research studies (Newman, Howlett and Burton, 2014; André, Chandon and Haws, 2019). Table 4 below outlines the key features of FOP labels organised by whether they contain nutrition and health information or not.

Front of Packaging (FOP) Labelling

After having introduced the different types of food labels, FOP food labels are considered to be significantly more important for consumers' decision making than BOP labels (Newman, Howlett and Burton, 2016). To gain an understanding of FOP food labels' impact on consumers, this section will present a classification of the different types and formats of FOP food labels and draw comparisons with existing literature to exemplify their impact.

FOP labels can be categorised as either descriptive or a signpost (Leek, Szmigin and Baker, 2015), in recognition that FOP labels can contain both text and graphic labelling elements presented in a variety of ways (e.g. guideline daily amounts (GDAs); traffic light system). Signpost labelling presents information in graphics on nutrients such as calories, fat & saturated fat, sugar(s), and salt, in contrast with descriptive labelling which displays a condensed summary or a 'snapshot' of the information from the nutrition panel or food product attributes, such as 'low fat or sugar' and 'made in X', and which consumers find easier to process. This model is helpful in identifying the key information used in different label formats. It is important to note here that this thesis does not compare the various systems of food label health information displays and formats from different national agencies, which contain a combination of descriptive and signposting elements, and are carefully regulated. Artistic design features and other such subjective and stylistic choices are also not discussed here either, since the information provided is broadly equivalent, and is aimed at achieving the same objective, i.e. to inform the consumer in a uniform and regulated way about the nutritional content of their foods (more details can be found in Table 4).

⁷ Examples of FOP food labels include those regarding taste, quality, health and nutrition labels, organic and fair-trade logos, nature and animal welfare, calories, country of origin, and benefit claims, among many other labels across multiple categories of food products (Grunert & Wills, 2007; Sirieix, et al. 2013).

Food labels may contain interpretive information (i.e. high, medium or low; colour coding) and/or objective information (Andrews *et al.*, 2014; Newman, Howlett and Burton, 2016; Andrews, Burton and Cook, 2017). Objective cues provide impartial and measurable product information (Prabhaker and Sauer, 1994), such as the traffic light system and the Facts up Front (FUF) panel, whereas evaluative cues provide consumers with interpretive information with respect to either the overall product (e.g. 'great taste', 'healthy stars' program, smart choices, NuVal) or a specific product attribute (e.g. low in fat). To be clear, even though the categorisations of signposting vs. descriptive and interpretive vs. objective overlap to some extent, they remain distinct and should not be confused or interpreted incorrectly. A label such as 'healthy stars' can be categorised as a signpost label, as well as being interpretive, H&N information.

Examples of the effects of different FOP labels on consumer responses

By classifying food labels using the aforementioned categories, researchers are better equipped to understand their effect(s) on consumer responses, rather than investigating the effect of individual labels. Three examples of using food label classifications to understand consumer behaviours are stated below.

In a first example, traffic light labelling, which is an objective signposting label, has been shown to have a positive impact on healthy (good for health) and sustainable (related to carbon emissions) food consumption (Osman and Thornton, 2019). Consumers will often underestimate the causal relationship between their personal food consumption choices and the direct effects their habits have on the environment (Lea, Crawford and Worsley, 2006; Lea and Worsley, 2008; Spaargaren *et al.*, 2013; Feucht and Zander, 2017). Information provision on sustainable issues such as 'traffic light labelling' and 'carbon footprint' labels overcame this barrier by increasing consumer awareness around the subject (see example in Figure 13).

In a second example, a study from Bialkova, Sasse and Fenko (2016) examined how both FOP taste claims and health claims affect consumers' taste and health experiences as well as their subsequent buying intentions. The impact of the health-pleasure trade-off intuition meant consumers believed a foodstuff could not be made healthier without compromising its taste (Raghunathan, Naylor and Hoyer, 2006). These findings showed that the presence of both nutrition labels and taste labels can cause adverse effects, resulting in a more negative evaluation of a food product's healthfulness, as well as a more negative taste experience.

Finally, in a third example, a qualitative study was conducted to analyse consumer' motivation, attention and understanding on four types of sustainability labels, since the variety of sustainability labels has been growing in the past years. The descriptive analysis results showed that the existence of sustainability labels may increase their use on products, but this increase is strongly linked to a consumer's understanding of environmental issues and their motivation to make positive personal decisions surrounding this. Consumer self-reporting also revealed they were more interested in nutritional and health content information than ethical and environmental certifications (Annunziata, Mariani and Vecchio, 2019). These examples demonstrate how consumers may use food labels to infer perceived product quality and influence their purchase decisions (more examples on different labels' impact can be found in Table 2). More importantly, these examples stress the critical impact of the nutritional and health contents of food labels on consumers' decision-making.



Figure 13 'Reducing CO2 Packaging' Label (from Carbon Trust)⁸

It is important to acknowledge that even with government restrictions and regulations, the design and choices of food labels displayed on food packaging can be unintentionally misleading. FOP food labels can make the benefits more salient by drawing customers full attention to only one attribute of the food, rather than a holistic overview of the food product's nutritional content, which as a result causes consumers to overlook the food product's negative attributes and consume more than they should (Wansink and Chandon, 2006; Kessler, 2010; Swinburn *et al.*, 2011; Chandon, 2013; Nestle and Nesheim, 2019). This is particularly true for consumers that either have busy lifestyles or those consumers that do not have the skills, knowledge or motivation to choose healthier food products (Kees, Burton and Andrews, 2015). Furthermore, food labels on packaging still face a lack of a standardised or fully government-mandated labelling system, which creates considerable variation in the formats of FOP labelling developed by companies and manufacturers (see Table 4) (Newman,

⁸ Source: <https://www.carbontrust.com/what-we-do/assurance-and-certification/product-carbon-footprint-label>

Howlett and Burton, 2016). Different formats present a challenge for researchers and policy makers to understand the effect of food products on consumers. Among food labels, descriptive H&N claims particularly show a high utilisation among consumers. The simple communication and easy to process characteristics may encourage and influence consumers' decision making. Combining with the motivation of this thesis, the next section will detail the reasons H&N claims are the focus of this thesis and illustrate the effect of H&N claims.

Table 4 Front of Packaging (FOP) Food Label Categories

Categories	Types		Examples of implemented cases	Study findings
Nutritional and health (H&N) information	Signpost	Objective	Guideline Daily Amounts (GDA) Facts Up Front (US) Traffic lights for energy, fat, salt, sugar (UK) Traffic lights for sugar, sodium, and fat (Ecuador)	(Ducrot <i>et al.</i> , 2016) FOP nutrition labels are effective tools for guiding consumers toward overall healthier food choice, among different food label formats, the study showed that a graded summary label such as 5-CNL was the most effective in improving the nutritional quality of the shopping cart. (Muller and Prevost, 2016) Provides a review of the food label formats and evaluated them from three discriminate criteria: the symbol, baseline and granularity. They stated that with limited attention and simpler heuristics, consumers are more affected with salient FOP logos and consumers also prefer simpler nutritional labels to more complex ones. (Osman and Thornton, 2019) Confirms that the presence of traffic light labels led to positive shifts towards lower carbon emission and lower calorific content meals.
		Evaluative	5-colour nutrition label (5-CNL) (France) ; Health logos 'Healthier choice' logo (Singapore, Brunei, Thailand, Malaysia) ; Rating systems: 'Health star rating' (New Zealand)	
	Descriptive	Objective	This will be illustrated in the next section 2.1.3.	Consumers may perceive a food product with poorer taste expectation in response to seeing a nutrition claim and this effect is more pronounced when the product is hedonic (Wansink, Sonka and Hasler, 2004; Loebnitz and Grunert, 2018). Bialkova and van Trijp (2010) examined key factors including colours, set-size, display size, position, that affect consumer attention on food labels.
		Evaluative		
Non-nutritional and health (Non-H&N) information	Taste claims		'Great taste' (UK)	(Bialkova, Sasse and Fenko, 2016) Using taste claims (hedonic benefit claims) can positively influence consumers taste expectation as well as actual taste experience, and this effect is more pronounced when no nutrition labels appeared.
	Quality claims		Vegetarian/vegan or organic labels	(Schuldt and Schwarz, 2010) Examines the effect of organic labels and the results show that consumer infers that organic cookies are lower in calories and can consume more often than conventional cookie.
	Country of origin claim		Made in country/place	The use of country-of-origin on packaging can induce either favourable or unfavourable evaluations of a product and this effect is dependent on involvement or capacity factors (Gürhan-Canli and Maheswaran, 2000).
	Environmental and sustainable packaging claims		Low CO2 emission, rainfoster alliance certification, fair trade	Engels, Hansmann and Scholz (2010) found that consumers preferred full disclosure to comprehend sustainability dimensions (e.g. environmental impact and contribution to national wealth). Cho (2015) suggested that consumers seem to evaluate the sustainability claim more favourably if the advertisement highlights the personal impact on them.

2.1.3. Health and Nutritional (H&N) Claims on Food Product Packaging

As discussed in 2.1.2., FOP food labels can be grouped or classified under health-and-nutrition (H&N) or non-H&N labels, and as descriptive or signposting labels.

This section presents an in-depth discussion of descriptive FOP H&N claims, their importance and impact as used in food product marketing, and a summary of findings from extant literature on H&N claims, including the effects of claim framing on consumer behaviours and the impact of different claim types.

Individually, nutrition claims state the particular beneficial nutritional properties of a food product, derived from the energy (calorific value) it provides, or the nutrients, substances or factors it contains or reduces (European Commission, 2006). A health claim is any representation in labelling or advertising that states, suggests, or implies that a relationship exists between a person's health and the consumption of a food or ingredient in a food product (European Commission, 2006; Mariotti *et al.*, 2010). Combined, H&N claims are statements about the positive and beneficial effects that a certain food product or ingredient might have on a person's health condition, conveying information on the food's characteristics and health-related benefits to the consumer (Leathwood *et al.*, 2007). In this thesis, descriptive H&N information encountered in the context of food packaging will be referred to as H&N claims. The reasons underlying the particular focus on H&N claims in this thesis, rather than other claim types, are threefold and are outlined below.

First, H&N claims, formed by combining descriptive labels with H&N labels, has attracted more attention from both academic scholars and policy makers both due to its increased use by marketers and due to consumers' growing concerns regarding their health and wellbeing (Block *et al.*, 2011; Andrews *et al.*, 2014). H&N contents on food packaging received more interest from consumers than non-H&N content of a food product that has other characteristics (Annunziata, Mariani and Vecchio, 2019; Osman and Thornton, 2019). Though a nutrition claim may encourage consumers to focus more attention on the nutrient and its level by highlighting or suggesting its importance (Garretson and Burton, 2000). Consumer dependence on H&N claims to make their judgement can lead to biases. For example, the consumer perception that 'organic' claims on cookies have lower calories (Schuldt and Schwarz, 2010), or the consumer perception that foods promoted with claims such as 'no cholesterol' and 'healthy' contain less fat (Andrews, Netemeyer and Burton, 1998). This shows that H&N contents are widely regarded as one of the most promising instruments for fighting unhealthy eating habits and rising obesity rates (Baltas, 2001), unavoidably, consumers misperception of H&N claims made it a contributing factor in the problem of overconsumption. There is an urgent need to understand how these food labels affect consumers' perceptions and consumption of food products.

Secondly, compared to other types of H&N labels, descriptive H&N claims present consumers with a single summarised metric of either health or nutrition information that aim to require consumers less effort and time to process and understand (Newman, Howlett and Burton, 2016). An experimental study conducted by the Food and Drug Administration (FDA), aiming to evaluate the performance characteristics of several proposed H&N label formats, identified that consumers were not able to accurately judge the nutrient level of a single product (Levy and Fein, 1998). This means that consumers may experience difficulty in understanding or using the nutrition information provided in the health panel, which is a signposting label. For example, they may be unable to convert nutrient levels from 'per 100g' to 'per serving', or contextualise this information and make it personally relevant (Glanz, Hewitt and Rudd, 1992; Shannon, 1994). Many studies have also found descriptive H&N information helps customers to inform their decisions and has a stronger impact on their food product purchases than the presence of a health panel or other objective nutrition information (Garretson and Burton, 2000; Kozup, Creyer and Burton, 2003; Wansink and Chandon, 2006; Bublitz, Peracchio and Block, 2010). This not only explains why many consumers only search information from FOP rather than BOP (Levy and Fein, 1998), but also explains why consumers turn to descriptive health and nutrition information for verification that a product is indeed perceived to be healthy.

Third, food package labelling remains unstandardized, and because marketers have more control over descriptive labels than signposting labels, which are more highly regulated, which means that marketers have greater self-autonomous power on choosing and designing such descriptive labels (Levy and Fein, 1998), therefore, H&N claims can be an effective tool in shaping consumers' decision making, in contrast to more detailed signposting labels such as health panels (Newman, Howlett and Burton, 2016). Regulations from different countries (i.e. Nutrition Labelling and Education Act in US, regulation No. 1047/2012 in EU) are designed to mandate the conditions in which specific information on nutrients and/or health that can be included on the FOP by food companies and packaging designers (ibid.). For instance, for a food company in the US to apply a claim such as 'low in fat or low fat' for a product, it requires no more than 3 grams of fat per 100 grams of food content, at the same time, the product must contain less than 30% of its calories from fat content (*FDA Takes on Deceptive Labeling*, 1993). Similar detailed regulations are encountered in the EU and from other regulatory bodies around the world. These regulations were designed with an aim to assist consumers making clear decision as these health and nutrition claims are often used as a tool to attract consumers by marketers (Petrucci, 1996). However, even with regulation on the content of H&N claims, the range of H&N claims in use across the marketplace is increasing, and limited is known about how consumers comprehend and evaluate to each type of H&N claim, including how they approach and understand these claims.

The reasons identified above explored the characteristics and real-world impacts of H&N claims. With consumers constantly seeking for appropriate H&N information to guide their food product decision-making, H&N claims are designed by marketers to help consumers to make sense of their food product choices, create a healthy perception of the food product, and provide essential guidelines to make positive dietary choices from among a range of products (Ross, Jr. and Creyer, 1992).

In order to achieve this, certain H&N claims are selected for use on the product and are framed to influence consumers' decision making. H&N claims are diverse and can focus on a particular ingredient (i.e. high fibre), macro-nutrient (i.e. low fat), or processing method (i.e. homemade, no artificial flavour) (Wansink, Sonka and Hasler, 2004). Table 5 provides a summary of previous research on different formats of H&N claims aimed at understanding the impact of different types of H&N claims on consumers' interpretation of packaged food products, adapted from Andre, Chandon, and Haws (2019).

To illustrate the impact of H&N claims, key research will be discussed in the following. Some research focused on specific H&N claims that can attract consumers' attention such as fat-related claims, i.e. "low fat" is understood by consumers as reducing the goal conflict between healthy eating and indulgence eating (Belei *et al.*, 2012). This backfire effect is also known as the "health halo", which occurs when food products are perceived as more healthful, and so consumers overgeneralise the benefits associated with such food products which therefore lead to well-tested behavioural consequences such as overconsumption (Wansink and Chandon, 2006; Chandon and Wansink, 2007). In addition, with brands now introducing a series of H&N claims on their package or combining taste claims (e.g. best tasting) with H&N claims (e.g., reduced fat/sugar), products marketed with low fat or low sugar claims may inadvertently be perceived as having a less pleasing taste. This perceived trade-off in taste is known as the health-pleasure trade-off effect (Nørgaard and Brunso, 2009; Lähteenmäki *et al.*, 2010), which seems to be pronounced as consumers believe that food could not be made healthier without sacrificing on taste (Raghunathan, Naylor and Hoyer, 2006). An experimental design conducted by Bialkova, Sasse and Fenko (2016) found that this health-pleasure trade-off effect can, depending on the product category, be positively altered by taste claims when nutrition claims are present. Though it is important to consider this in a real-world setting or in the design of an individual product, the interaction of multiple claims is not considered in the scope of this thesis.

For example, many consumers rely on objective nutrition information to make assessments of diet-related health implications with the consumption of many foods (Howlett *et al.*, 2009). Despite the fact that adding evaluative disclosure reduces the attractiveness of food products with nutrient claims, a study on specific (e.g. 'no cholesterol') and general (e.g. 'healthy') H&N claims found that both types

lead to a positive product evaluation and there is no clear difference in consumers' perception of the products studied (Andrews, Netemeyer and Burton, 1998). This indicates that even though certain H&N claims may have a more dominant effect on consumer' product evaluations, the perceived importance of these claims for consumers can vary. For example, if some people intend to "eat clean", then the absence of artificial preservatives is more important than the presence of additional protein in a given product. In this case, it is likely that applying these H&N claims will have a favourable effect towards the product decision making.

The framing of H&N claims is also proven important, for example, the perceived naturalness of a food product is strongly influenced by whether the associated H&N claims are drawn from a perspective of providing additional nutrients rather than from a perspective of highlighting individual food components or of nutrients being removed (Rozin, Fischler and Shields-Argelès, 2009). In another study, the perceived naturalness did not differ between 'adding positive' and 'removing negative' claims (André, Chandon and Haws (2019). This distinction between two studies can be caused by the specific combination of claim and food used in Rozin, Fischler and Shields-Argelès's (2009) study. Moreover, in a study by Wansink, Sonka and Hasler (2004), the length of the health claims are manipulated with an aim to understand how to present health and nutrition-related information and the results show that consumers generate more favourable inferences from short claims than long claims on FOP. The same information with different frames results in different types of information processing and demonstrates that both the content of H&N claims and how the content being communicated are both important (ibid.).

Finally, it is important to understand that the same claim may elicit a different effect depending on a consumer's knowledge, belief, motivation in healthy eating, as well as cognitive abilities to assess various claims (Levy and Fein, 1998; Schwartz, 2013). This is not the focus of this study, though the relevant information will be addressed later in this thesis.

In summary, this chapter starts by introducing the concept of packaging, its design elements, and focuses on the food product and H&N claims among food labels. This section introduces H&N claims, explains the impact of H&N claims with specific effects, and more importantly, demonstrates that even H&N claims are only a small amount of information on food packaging, they act as part of the food product marketing communication strategy, play an important and positive role in acquiring customers' trust and easing the complexity of customers' decision making. The following subchapter will take a closer look at communication in marketing and how language devices shape consumers' product evaluations, given the relative lack of knowledge on how they are impacted by the framing of H&N claims with particular linguistic devices.

Table 5 Summary of types of H&N claims (Adapted from André, Chandon and Haws (2019))

Source	Classification	Finding Details
Newman, Howlett and Burton, (2016)	Objective / evaluative health and nutrition claims	In non-comparative contexts, objective nutrition cues lead to higher evaluations and purchase intention, and offer specific quantitative information; In comparative contexts, evaluative nutrition cues are more likely to have a positive impact on evaluations and purchase intention of healthier products, since they provide interpretive information about a product's healthiness. Objective claims are perceived by consumers as more credible than impressionistic claims (Darley and Smith, 1993), encounter less cognitive resistance by consumers (Edell and Staelin, 1983), and in advertising testing produce both higher belief scores (Holbrook, 1978) and more positive attitudes toward the brand (Darley and Smith, 1993).
André, Chandon and Haws, (2019)	Nature vs. Science Presence vs. absence	Health and taste expectations depend on the type of claim. Claims with a nature focus can be perceived as healthier and less tasty than claims based on science. Claims based on presence of positive attributes are perceived as both healthier and tastier than claims based on the absence of negative attributes.
Andrews, Netemeyer and Burton, (1998)	Specific claims and general description	An experiment was conducted to compare general and specific nutrition claims with a non-nutrient control group. Misleading generalisations are found for both specific and general nutrient content claims in an advertising setting. This study also found among different disclosures, the evaluative disclosure leads to less favourable evaluations of products use specific and general nutrients labels.
Belei <i>et al.</i> , (2012)	Functional claims (e.g. 'enriched omega 3'); hedonic claims (e.g. 'low fat')	Low fat claims lead to increased consumption because the goal conflict is mitigated, but functional claims don't have such an effect.
Moorman, (1990)	Familiar vs. unfamiliar ingredients	Familiarity causes consumers self-evaluate as more capable of processing information, thus reducing further processing (increased automatic/ heuristic processing)
Haws, Reczek and Sample, (2017)	General vs. specific	The healthy = expensive intuition acts as a bias for consumers' processing information about health and price when processing is mainly heuristic. H&N claims about unfamiliar ingredients or for general H&N claims will more likely be evaluated more systematically by consumers.
Newman <i>et al.</i> , (2018)	FOP classified as either reductive icons or evaluative icons	Reductive icons present a reduced amount of nutrient-specific information from NFP; Evaluative icons provide an overall evaluation of products' healthfulness. Including reductive FOP information can aid consumers in evaluating the healthiness of product alternatives.
Rozin, Fischler and Shields-Argelès, (2009)	Natural vs. not natural	People are more concerned about harm from actions than from omissions. Aligning additive with a positive trial and subtractive with a negative trial appears to be more persuasive than the corresponding matchup with omissions and commissions.
Garretson and Burton, (2000)	Nutrient and health claims (fat vs. fibre) vs. nutrition facts panel (mandatory)	Consumers are less likely to notice the incongruences in claims and nutrition fact information about fibre than fat. Claims did not affect product evaluation and purchase intentions. There is a weak effect of inclusion of a health claim on disease risk perceptions.
Wansink, Sonka and Hasler, (2004)	Long vs. short health claims	Having shorter health claim on the FOP leads consumers to a more attribute focus of a food product and less evaluative thoughts on the products comparing to longer health claims. These shorter claims also are more positively evaluated by consumers.

2.2. The Influence of Communication and Language Use on Consumer Behaviours

In making a speech one must study three points: first, the means of producing persuasion; second, the language; third the proper arrangement of the various parts of the speech.

- Aristotle

Communication is a valuable element in marketing and can be planned and directed to exchange information. Language is one of the major elements in communication, and is often used in interpersonal relationship and build relationship with others and, extending this analogy to marketing, language is applied to shape the consumer perception of a brand or product.

This sub-chapter (2.2.) introduces the concepts of communication and language, focussing on the effectiveness of language in marketing, the theory that informs this study, the impact of language devices on consumer behaviours, and on the linguistic factors that determine consumer perceptions, attitudes, and behaviours towards a product. Maximisers, the linguistic device introduced in the previous section, will be explored further, including its concept and effect on consumers.

2.2.1. Communication

The definition of 'Communication' as per the Oxford English Dictionary is the 'imparting or exchanging of information by speaking, writing, or using some other medium'. This concept underpins the four key components that are essential to all forms of communication, namely 'information', 'communicators', 'medium', and 'receivers'. In addition to this, many scholars have offered their own definitions of communication that are relevant in particular contexts. For example, Stevens (1950, p.689) ventures a simple definition of communication as 'the discriminatory response of an organism to a stimulus' and Beattie & Ellis (2017, p.3) later expanded this definition in stating "communication occurs when one organism (the transmitter) encodes information into a signal which passes to another organism (the receiver) which decodes the signal and is capable of responding appropriately". Though alone this definition is insufficient to describe communication processing, it summarises the key aspects of the communication process.

Though a number of models have been developed to explain the communication process, in a variety of contexts and of varying complexity, a fundamental and irreducible model of the communication process was developed by Shannon and Weaver (1949). In this work the authors developed a one-way model of communication information flow that included five distinct components: (1) information

source; (2) transmitter; (3) channel; (4) receivers; (5) reconstructed message by receivers. They also included the concepts of noise which is a better reflection of many real-world contexts (Shannon, 1948; Shannon and Weaver, 1949). However the concept of feedback was criticised to be omitted from their model, preventing a viewing of communication being a two-way or interactive process, and opportunities to receivers to get involved in the creation and formulation of the messages (Chandler, 1994). The model (see Figure 14) well captured the process for human communication, communication has been viewed from how the source delivers information to one or more receivers and get feedback from receivers.

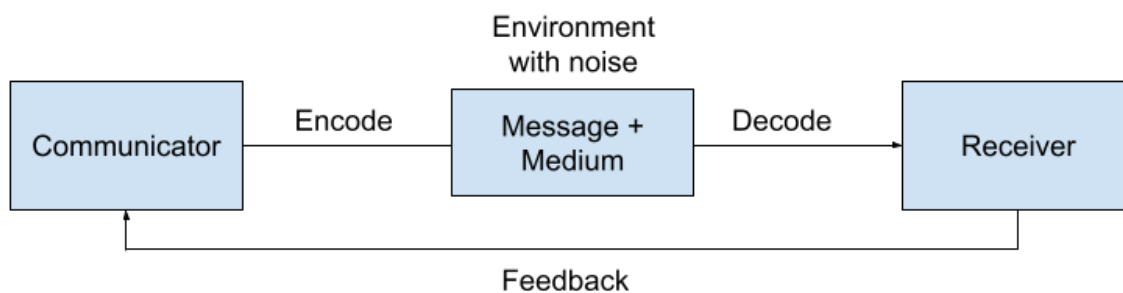


Figure 14 Two-Way Communication Process Model

The first step in this model involves a communicator creating an idea that forms the basis of the message to follow. Step 2 involves encoding this idea into a form suitable for transmission to a receiver, such as words and/or symbols. Step 3 is the actual transmission of the now-encoded information, which can be achieved through a variety of media, including speech, writing, and pictures. Step 4 is the decoding process, where the message is interpreted by the receiver and the message is given meaning, showing the receiver's apparent or actual understanding of this message. Finally, step 5 permits the source to know whether the message, and/or the underlying idea, has been received and understood, though the practicality this is dependent on the chosen communication medium. These steps outline the process of two-way communication and help to classify the effectiveness of the communication. Furthermore, the generalised structure indicates this communication processing model is applicable across different contexts, including in marketing.

Davis (1989) added a sixth step to this model in which a receiver, in response to the information content of a communication, may take action based on this information. This is a logical further step onward from the model proposed by Shannon that otherwise leaves it fundamentally unaltered, and is particularly true in marketing communications where consumer purchase behaviours can be influenced by a communication (Varey, 2002). Understanding the communication process (Figure 14) is helpful in examining the effectiveness of the communication process, where the individual steps can be used to identify the key factors affecting how receivers comprehend the information contained

within messages that communicators had intended to express. Relatable concepts will be connected back to this model throughout this thesis.

Communication, in a general sense, is the practice of producing and negotiating meanings, and takes place under specific social, cultural and political conditions (Schirato and Yell, 2000). It is at the heart of meaning-making activities across all areas of interpersonal interactions including in politics, psychology, education, healthcare, and in marketing (Duncan and Moriarty, 1998). In a book published in 1980 'Readings in Organisation Communication', Rogers and Agarwala-Rogers stated that 'communication is the process by which an idea is transferred from a source to a receiver with the intention of changing his or her behaviour' (Rogers and Agarwala-Rogers, 1980, p.2). Expanding on this further, Johnston and Smith (1980, p.31) highlighted more functions of communication, stating 'communication is simply the process of creating understanding with ideas, facts, and feelings, transmitted from sender to receivers.' Communication is essential for expressing ideas and feelings, exchanging thoughts and changing behaviours, and for connecting people, being the basis for establishing any form of interpersonal relationship.

For marketing in particular, a fundamental part of a consumer's experience is their engagement with and their evaluation of a product, and hence, businesses take great care to make their products desirable to their customers (Varey, 2002). On the other hand, business are also concerned with how effectively and efficiently they provide information to their consumers, and whether a consumer can comprehend the information provided about a product, i.e. do they understand and engage well with marketing and advertising communications (Varey, 2002). Communication in marketing is 'the means by which a supplier of goods, services, values and/or ideas represents itself to its target audience with the goal of stimulating dialogue, leading to better commercial or other relationships' (Egan, 2014). Companies, as communicators, will use numerous channels to reach out to potential customers, often with a commercial motive (van Dolen and de Ruyter, 2002), with aims that include increasing customer certainty, persuading customers, confirming customers' views, and providing or receiving feedback, ultimately attempting to address customers' needs (Schachter, 1977). Recognising and understanding the impact and importance of communication in marketing is key to understanding its impact on consumer behaviour.

Though communication as a whole serves a number of purposes in marketing (i.e. improving income, attracting consumers), potential challenges and complications can appear from each component in the model of the communication process (see Figure 14). For example, there may be ignorance about the effectiveness of information sent by a communicator, questions about which channel(s) should be used to reach consumers, and distrusting consumer perceptions of the information presented to them.

For example, the selection of channels was found to affect a company's perceived trustworthiness, fun, and reliability to consumers (Danaher and Rossiter, 2011). This study by Danaher and Rossiter (2011) compared communication channels for their ability to engage and persuade consumers, with results showing that traditional channels such as television, radio, and direct mail were perceived as containing more trustworthy and reliable information than other comparable new media (email newsletters, online advertising, etc.). Though the relevance of these findings may have changed based on the increasing familiarity with new media over time, it highlights the importance of channel selection when companies are considering how to reach potential customers.

Another challenge comes from the noise inherent to the communication process. Noise was defined as 'a type of disruption in the communication process' (Loudon and Della Bitta, 1993) and can affect consumers' information recall and accuracy of recall. As found in a study by Wu and Newell (2003), when companies make an effort to reach consumers, noise is one of the main barriers to effective communication, with internal noise (distractions) negatively affecting consumers' ad recall (Wu and Newell, 2003). Though companies have limited control over consumers' internal noise, this must be considered carefully when choosing a method of communication, since it can obscure or occlude the information that an advertiser (communicator) is attempting to deliver to a consumer (receiver). Moreover, characteristics of individual communicators and receivers can further affect the outcome of business communications. For example, some consumers are less easily persuaded by marketing messages in advertising, sales promotion and other formats, which reduces the effectiveness of the message (Egan, 2014). Similarly, messages from some types of communicator are perceived to be more credible, which may be due to their brand image or by occupying a position of authority, and which in turn can positively influence the effectiveness of their communications.

In addition to the characteristics of the communicator and receivers, the characteristics of the information itself are key in determining its effectiveness. Cherry (1974) considers communication to be 'the use of words, letters, symbols or similar means to achieve common or shared information about an object or occurrence'. Since information can be presented in different formats, the choice of format will have a direct impact on how a consumer will understand and receive it. Messages encoded into different formats, including verbalised (language), vocalised (tone, dialect) or nonverbalised (body language) forms, can be received differently by a consumer even if the objective information content is identical (see Figure 15). This thesis focuses on the language-based communication and how the use of language devices influence consumers' attitude or decision-making.

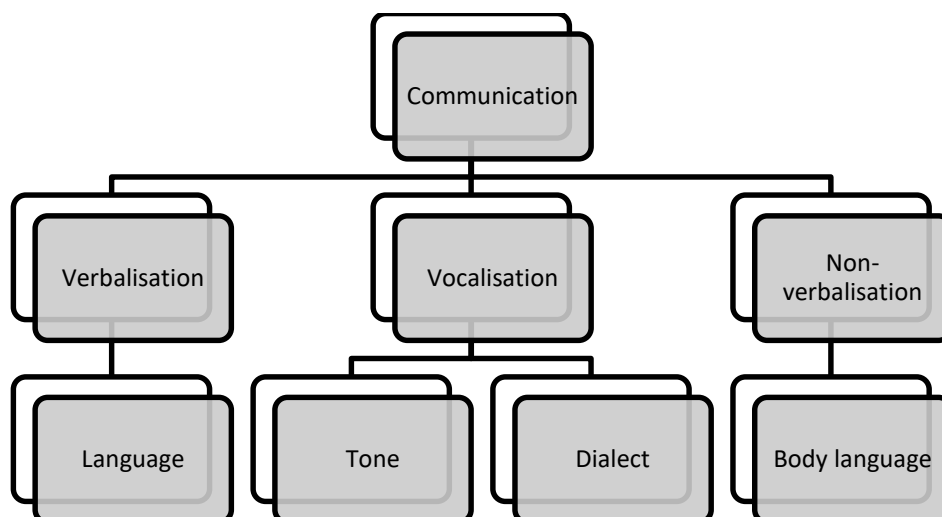


Figure 15 Diagram illustrating the relationships between the elements of communication

In this section, the concepts of communication, communication models and functionality are introduced, all within the context of marketing. The following section will introduce the concept of language, including its importance in communication for laying the foundations on how a subtle change in language use can influence the persuasiveness of communication.

2.2.2. Language

Language as stated by Hazen (2015, p.3) is “the discrete combinatorial system humans use most for communication”, and is a tool key for communication. The Oxford English Dictionary defines language as “the system of spoken or written communication used by a particular country, people, community, etc., typically consisting of words used within a regular grammatical and syntactic structure”. The Oxford definition also highlights the ability to communicate by decoding or encoding words, phrases, and sentences under a grammatical structure.

Language processing requires access to a lexicon, application of the rules of grammar, construction of sentences, and assignment of a specific meaning, aimed at forming a mental model of the discourse based on an individual’s existing knowledge (Fromkin, Rodman and Hyams, 2019). Though linguistics and psychology both investigate language, but in different ways, they can both contribute to developing our understanding of language. Psychological processes, such as perception, cognition, emotion and memory, are also involved in the production and comprehension of language.

This thesis takes a psychological rather than linguistic approach to understanding and investigating the subject matter, aiming to describe how language is processed by consumers, instead of simply reviewing the knowledge receivers must have to understand language. This psychological approach

focuses on how language, as conveyed by communicators, is understood by receivers, unlike a linguistics-focussed approach which may instead concentrate on how communicators produce language. It is important to recognise that language is a primary method used to communicate ideas, opinions, and emotions, and shapes and influences consumers' perceptions of the world (Pennebaker, Mehl, and Niederhoffer, 2003; Pinker, 1995; Whorf, 1956). Furthermore, the creation and consumption of language allows the expression or sale of ideas to others (Pogacar, Shrum and Lowrey, 2018). Finally, this thesis views the understanding of language as a sequence of psychological processes that occur between the initial exposure of the language stimulus and the meaning in the mind of the language receivers (Massaro, 1975).

Receivers can make inferences based on communicators' language styles, their attitudes, moods, and affiliations, and can do this effortlessly and automatically (Triandis, Loh and Levin, 1966; Bradac, Bowers and Courtright, 1979). Consumers break continuous speech into smaller linguistic units such as phonemes, syllables, and words to comprehend a message, composing sounds into words in order to produce meaning from speech (Fromkin, Rodman and Hyams, 2019). To investigate the impact of language on consumer responses, researchers have focused on these smaller linguistic units to understand how consumers perceive and respond to different linguistic units through communicators' advertisements, brand packaging and social media communications (Pennebaker, Mehl and Niederhoffer, 2003; Zhang, Schmitt and Haley, 2003; Whorf, 2012; Hagtvedt, 2015; Gretry *et al.*, 2017; Pogacar, Shrum and Lowrey, 2018). Phonological, semantic, and structural features of language have all been investigated in these contexts. For example, Schmitt and Zhang (1998) investigated whether one grammatical structure in linguistics, a lexical-syntactic structure called a 'classifier' (Lucy, 1992), could affect how people perceive and categorise objects. This structural property was found to affect perceived similarity among objects, clustering in recall, preferences, and also consumers' choices. This result can be explained by the effect of classifiers on categorisation and perceived similarity among these objects, as memory is organised around category concepts. Where the classifier device exists in a language, some fundamental features of objects are encoded by the classifiers, meaning individuals can make judgments of an object based on a classifier, e.g. similarity between objects based on classifiers (Schmitt and Zhang, 1998).

A study conducted by Lowrey and Shrum (2007) suggested that the distinctions between the vowel sounds, e.g. front and back, influence consumers' perceptions in a variety of ways, including their judgement of an object's size, brightness and speed. The effects of phonetic symbolism on brand name preferences were also examined, with results demonstrating that individuals preferred particular words as brand names when the attributes expressed through vowel sound of this word and the

attributes of the product are matched. The examples provided above are in the realm of psycholinguistics, and focus on a specific psycholinguist element, and propose a process that explains what is happening.

Existing studies at the interface of psycholinguistics and marketing have identified psychological processes and drivers that explain how various linguistics devices can shape consumer perceptions (Massaro, 1975). Similar studies have been conducted with a focus on word choice and message framing. For example, Mayer and Tormala (2010) explored the message framing effect (i.e. 'I think' vs. 'I feel'), suggesting that 'think framing' ('feel framing') is more persuasive when recipients are cognitively (affectively) oriented, i.e. when they are more prone to using their cognitive rather than affective / emotional processes when exposed to a message. Matching a message's framing to an individuals' psychological state can increase subjective processing fluency, i.e. where it is easier for individuals to process information, ultimately meaning they are more easily persuaded. One further study focused on word choice in forging alliterations (Davis, Bagchi and Block, 2016), which demonstrated that alliterative pricing presentation with words and numbers can influence consumers' evaluations, choice and purchase behaviours, as alliteration facilitates message processing and leads to quicker and more efficient processing.

These examples, which examined building blocks of linguistic systems that include structure, phonology, and phrases, confirm the power of language on influencing consumers in numerous areas, from processing of the information (Davis, Bagchi and Block, 2016), thoughts (Hunt and Agnoli, 1991; Whorf, 2012), product attribute perceptions (Levin and Gaeth, 1988), categorisation (Schmitt and Zhang, 1998), physical health (Campbell and Pennebaker, 2003), gustatory discrimination (Hoegg and Alba, 2007), coupon redemption (Cheema and Patrick, 2008), and product evaluation (Hagtvedt, 2015).

The importance of linguistic devices for shaping consumer relational perceptions was emphasised by Semin (2011), proposing that marketers further develop their understanding of how to implement strategic language to more effectively connect with their consumers. The power of language can not only regulate relationship between friends, acquaintances, and others, but also builds strong relationships between consumers and brands. The experience of consumers during their interactions with a product can be influenced by the language used by staff or on advertising associated with that product. The choice of language also enables brands to build their characteristics, impacts how consumers associate brands with personalities, and can reveal a brand's social and psychological status from the perspective of a consumer (Wallendorf and Arnould, 1988; Aaker, 1997; Pennebaker, Mehl and Niederhoffer, 2003). In this thesis, the marketing strategies concerned with the choice of

words that are deliberately selected for display on H&N claims about a product will be examined, and will seek to uncover consumers' cognitive and affective responses toward a product.

Language on package designs can be manipulated through using lexically creative constructs, including the use of promotional phrases (Hagtvedt, 2015), the use of assertive language (Kronrod, Grinstein and Wathieu, 2012a, 2012b), the substituting of formal for informal communication (and vice-versa) (Gretry *et al.*, 2017), the use of pronouns (Fitzsimons and Kay, 2004; Sela, Wheeler and Sarial-Abi, 2012), the use of consensus devices (Lee and Kronrod, 2020), and the use of shortenings (Núñez Pertejo and Palacios Martínez, 2014). These different message features can affect the persuasiveness of a message, and can alter the frame of message (e.g. gains or losses), the characteristics of the message source, the style of presentation, and the choice of words (Buller, Borland and Burgoon, 1998).

Table 4 presents a summary of key research on the different types of language devices used in marketing and their impact on consumer behaviours. These studies highlight the importance of making an impactful choice of language and why companies should care about it, since it can be used as a key strategic tool for managing brand impressions, and for attracting and convincing consumers (Pogacar, Shrum and Lowrey, 2018). The studies in Table 6 illustrate an important point, which is that language can communicate meaning in ways beyond the mere content of what is being expressed, and that the structure of language can be used as a tool for indirect communication, since subtle changes in language can have a measurable effect on consumer behaviour (Fitzsimons and Kay, 2004).

This thesis focuses on the choice of words used for message framing, and the impact of word choice on consumers' perceptions. Language, in this context of marketing and advertising, does not refer to the system of communication employed by a particular group, but instead refers to the choices of phraseology used to achieve a particular effect or outcome. Of particular interest in the present thesis is how maximisers are used as a language device, and their influence on consumer perception will be introduced later in section 2.2.3.

In summary, this section introduces the concept of language and the use of linguistic devices in marketing, identifying the factors that may influence attitudes towards a product. To understand how language influences consumer attitudes towards a product in different situations, a foundation has been laid based on prior theories, and the rudiments of a framework have been established for persuasion and language processing, all of which will be explored in greater detail in the following section.

Table 6 The impact of language on consumers' perceptions and purchase behaviours

Literature	Study	Findings
Pronouns	(Sela, Wheeler and Sarial-Abi, 2012)	The study demonstrates that the use of pronouns can remind receivers with different level of closeness with the delimiters. This closeness-implying pronouns can have either positive or negative effects on consumers' attitudes toward real-world brands which are dependent on whether people's affiliation with the brand, brand type, and the extent of cognitive elaboration. This effect is mediated by perceived brand trustworthiness.
	(Fitzsimons and Kay, 2004)	Studies conducted to examine the hypothesis that subtle language variations can have a causal impact on perceptions of relationships. This study finds that pronoun use can lead people to perceive their own and other relationships as closer and higher in quality. This effect of pronoun variations on closeness is mediated by perceptions that the two friends are similar and share a common fate.
Style and rhetorical devices	(Mcquarrie and Mick, 1996)	This study explained the pervasiveness of rhetorical figures in print advertising. A rhetorical figure performs a function that makes a difference in how an ad is received.
	(Ottati, Rhoads and Graesser, 1999)	Findings suggest, for example, that rhetorical devices can enhance ad recall and produce more positive attitudes among consumers. This study finds that metaphor increases or reduces intrinsic interest in a persuasive communication depending on the degree to which it resonates with the listener's chronic interests and attachments. When metaphorical content attracts and interests the listener, it motivates the listener to engage in effortful and systematic processing of literal message arguments. /message-relevant elaboration and sensitivity to argument strength among individual that resonates (does not) with the listener's preferences and interests.
Informal and formal communication	(Gretry <i>et al.</i> , 2017)	This study concerns about how brands communicate with their consumers to gain trust. The results show that the effect of communication style (informal vs. formal) on brand trust is dependent on whether consumers are familiar with brands or not and this effect is mediated by the perceived appropriateness of the brand communication style.
Assertive language	(Kronrod, Grinstein and Wathieu, 2012a)	This paper concerns about the effectiveness of environmental message. This study show that the persuasiveness of assertive language is contingent on the perceived importance of the issue. When message receivers perceive an issue as important, they are more likely affected by assertive phrasing of a message than non-assertive phrasing and they are more willing to comply with this message.
	(Kronrod, Grinstein and Wathieu, 2012b)	This study demonstrates that assertive messages can cause greater compliance in the context of hedonic consumption or utilitarian advertised as hedonic products and lower compliance in utilitarian consumption contexts. Moreover, it reaffirms the effect of assertive message by demonstrating that an unknown product advertised using assertive language is also more likely to be perceived as hedonic.
Consensus language	(Lee and Kronrod, 2020)	This study finds that when consensus language increases or decreases the message's influence depending on the tie strength between the deliverer and the receiver of the message. It shows that weak ties are more influential than strong ties on persuasion when using consensus language.
Concrete communication	(Packard and Berger, 2021)	This paper addresses the consumer's frustration by customer service. The findings show that customers feel more satisfied and purchase more when company employees speak to them in a concrete manner.
Promotional phrases	(Hagtvedt, 2015)	This paper investigates consumer's response to promotional phrase styles. This study used the level of arousal as moderator. The results show that when arousal level is low, promotional phrases in questions are more positively valued and this is mediated by perceived interestingness. When arousal level is high, promotional phrases in statements are more positively valued and it is mediated by perceived clarity.
Types of words	(Meng, Luna and Czellar, 2016)	This paper provides empirical evidence that the type of words used can influence consumer actions. Specifically, the use of verbs in marketing communication leads consumers to take immediate actions, such as clicking a link, and product choices, whereas nouns lead to delayed action. This can be explained as verbs' strong association with implemental mindset. This effect is mediated by the activation of an implemental mindset and moderated by cognitive load, meaning that verb-behaviour connections predominantly exist when consumers are in low cognitive load situations.

Effect of word choice: explanatory words	Moore 2012	This study concerns about how and why explaining language influences storytellers' evaluations of and intentions to recommend. The results show that explaining language helps storytellers understand consumption experiences, but this effect depends on the product type. More specifically, explaining language dampens evaluations of the positive and negative hedonic experience but polarise evaluation of positive and negative utilitarian experiences. This language type also prevents individuals to share stories about hedonic experiences but increase their intention to share utilitarian experience.
Message framing (refusal words)	Patrick & Hagtvedt 2012	The study is conducted to understand wording a refusal with either 'I don't' or 'I can't'. The refusal framing facilitates resistance to temptation and motivates goal-directed pursuit.
Textual paralinguage	(Luangrath, Peck and Barger, 2017)	This study conceptualises textual paralinguage and investigates the impact of textual paralinguage on marketing communication effectiveness from reception of the brand, brand-consumer relationship to consumer effects.
Figurative language	(Kronrod <i>et al.</i> , 2020)	Following the thread of figurative language positive effect on health attitude in health communication, authors find that using figurative language (e.g. rhyme, metaphor) in naming food items can induce pleasure, perceived enjoyment and preference of these products.
Message framing	Mayer & Tormala, 2010	The authors examine the effect of using 'I think' (vs. 'I feel') to frame messages on persuasion. Results show that 'think' (vs. 'feel') framing technique is more persuasive when the receivers' attitude is more cognitively (vs. affectively) oriented.
Alliteration & Rhymes	Davis, Bagchi and Block (2015)	Alliteration, as the repetition of initial word sounds across two or more proximal words, when used for price presentation, can influence consumer evaluation, choice and even purchase behaviour. Because the phonological overlap facilitated message processing and led to more positive judgments and impacted choice.

2.2.3. Language Intensity and Maximisers as a Language Device

Communication and language as used in marketing have now been introduced and explored, with a focus on exploring a variety of different language devices and their effects on consumers and consumers' behaviours. Following directly from the various types of language devices used in marketing, outlined in 2.2.2, this section will introduce and discuss a specific language device – the “maximiser”, and will introduce the definition of this language device as used in this thesis. Furthermore, this section will develop an understanding of the functionality and characteristics of maximisers, along with its effects on consumer perceptions as used in marketing.

The Conceptualisation of Language Intensity and Maximiser

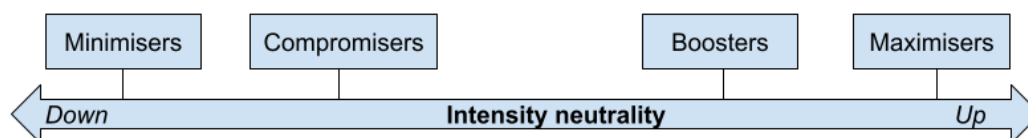
Language intensity is defined by Bowers (1963) as a “quality of language which indicates the degree to which the speaker’s attitude toward a concept deviates from neutrality”. The English language uses a variety of labels to describe and clarify the meaning of the term ‘language intensity’. For example, in discussing the concept of language intensity, the term ‘degree words’ was used by Bolinger (1972, p.17) to describe words which can ‘scale a quality up, down, or somewhere between the two’. Similarly, ‘degree intensifiers’ (Allerton, 1987), ‘degree adverbs’ (Peters, 1994), and ‘degree modifiers’ (Paradis, 1997) were variously used to describe this same concept – language intensity. Though the terminology used is not uniform, all of these terms convey the idea of how language intensity modifies and modulates the degree or the exact value of an expression (Méndez-Naya, 2008).

Quirk *et al.*, (1985, p.590) differentiated between two major subcategories of intensifiers based on different degrees of deviation from neutrality: ‘amplifiers’ and ‘down-toners’ (see Table 7). Amplifiers “scale upwards from an assumed norm” and can be further distinguished into ‘maximisers’, which express the highest point on the scale, and ‘boosters’, which express a high or higher position on the scale (*ibid.*). Down-toners are devices that “scale down from an assumed norm” and include ‘compromisers’ and ‘minimisers’ as sub-groups (see Figure 16 for the visual illustration of the intensity of different categories) (*ibid.*). Table 7 presents this typology of ‘degree words’ with examples.

Table 7 A typology of Intensifiers from Quirk et al. (1985)

Intensifiers	Subgroups	Examples
Amplifiers	Maximisers	Utterly, wholly, totally, extremely, absolutely, completely, entirely, fully, perfectly, definitely, literally, absolutely, positively, frightfully, terribly, egregiously
	Boosters	Very, so, really, deeply, greatly, strongly, a lot
Down-toners	Minimisers	Hardly, barely, slightly, merely, nearly, only, scarcely
	Compromisers	Kind of, more or less, a little bit, almost, mildly, partially, partly, practically, somewhat

In contrast, the Cambridge dictionary defines intensifiers, a linguistic element, as: “adverbs or adverbial phrases that strengthen the meaning of other expressions and show emphasis.”⁹ (Cambridge Dictionary), which is different to the definitions provided from scholarly sources, with the major source of difference between these definitions being the direction of divergence from neutrality. Figure 16 illustrates that for most scholars, language intensity covers the whole spectrum, while it is clear that the “maximiser” from Quirk’s model is equivalent to the “intensifier” defined in the Cambridge Dictionary. In this thesis, an intensifier is taken to represent a language intensity modifier that operates across the full spectrum of neutrality, in both directions, matching with the literature terms, while maximisers as used in this thesis specifically refer the language intensity modifier that amplifies the intensity of a claim to a position at or near its maximum possible extent (See Figure 16 for a visual explanation of this distinction).

**Figure 16 Categories of Language Intensity on the intensity scale**

Since this thesis focuses on maximisers, it is important to clarify a number of terms that are used in existing literature sources to refer to this same concept and very similar concepts. First, the differences between a “maximiser” and “intensive language” are not clearly distinguished in the literature, presumably due to their similar purposes in communication. For example, Bradac, Hosman and Tardy (1978) categorised the language styles of different communicators as either high-intensity or low-intensity language, where high-intensity language signals a speaker’s departure from

⁹ In full, the dictionary entry states: “Adverbs or adverbial phrases that strengthen the meaning of other expressions and show emphasis. Words that we commonly use as intensifiers include absolutely, completely, extremely, highly, rather, really, so, too, totally, very and at all.” (Cambridge Dictionary)

attitudinal neutrality, or more generally, indicates a strong affect. This “strong affect” includes, but is not restricted to, the “maximiser” as used in this thesis. Secondly, what this thesis calls a “maximiser” matches the concept of “intensive language” (Bradac, Hosman and Tardy, 1978; Hamilton and Stewart, 1993) and what is defined as a “language extremity” by Craig and Blankenship's (2011, p.291), who adapted and defined language extremity from Hamilton and Stewart (1993) as “a set of stylistic markers that can increase the perceived extremity of a message’s position, with an adverb as its linguistic extremity”.

Regardless of the particular term used to refer to “maximisers”, it is important to highlight that all of these terms refer to the strengthening and intensification of an expressed statement. However, under each definition, the choice of words used for “maximiser” or “intensive language” is different. This point, along with different types of words used and their impacts, will be explained in detail later in 2.2.3.3. with evidence from literature. The work presented in this thesis specifically addresses adverbial maximisers that strengthen the meaning of an expression, following the typology of Quirk *et al.* (1985), and examines the characteristics of maximisers based solely on adverbs. The use of maximisers is informed by real-world observation in both offline and online marketplaces, which has informed this specific focus on adverbial maximisers, a result of how real-world food companies are framing H&N claims. This will be discussed in detail later in 2.3.

The differences between maximisers and boosters or down-toners are more salient. Firstly, Fries (1940, p.240-245) divided a cohort of amplifiers used in American English into ‘standard’ as opposed to ‘vulgar’ forms. Among these amplifiers, some terms (such as ‘very’) are attributed to ‘standard’ English, and a considerable number of other terms (including ‘absolutely’) are relegated to ‘vulgar’ English. Based on the examples given, the ‘standard’ English group is similar to boosters and the ‘vulgar’ English group is more similar to maximisers. In addition, maximisers increase the force of a described object to an extreme position (Quirk *et al.*, 1985), which indicates that maximisers are more likely to be used in an informal situation (i.e. vulgar English) than in academic writing, whereas the use of boosters is more cautious and is thus more appropriate for academia (i.e. standard English). This demonstrates the different contexts in which the two types of language devices should be applied.

Secondly, and in comparison with the scaling-up effect of maximisers, down-toners have the opposite effect - a lowering effect - on the force of a described object, i.e. they reduce the scale or extent of an action or idea as mentioned (Quirk *et al.*, 1985). Chafe and Danielewicz (1987) characterised down-toners as ‘academic hedges’, since they are commonly used in academic writing to indicate probability, and Chafe (1985) had previously noted that down-toners are used to indicate reliability. Down-toners can mark politeness or deference towards the addressee, in addition to marking the degree of

uncertainty towards a proposition (Holmes and Buchanan, 1984). The informality feature of maximisers will be expanded on in the following section in detail, as well as a number of other features that are exclusively characteristic of maximisers.

The Features of Maximisers

Having introduced, defined and clarified the terms used for maximisers in the previous section, this section will review and discuss the key features of maximisers, using literature sources that refer to maximisers and to equivalent terms.

The first key feature of maximisers identified from literature sources for discussion here is affirmation. All language intensifiers, including maximisers, allow communicators to express degrees of certainty, possibility, and doubt, and provide insight into how communicators decide, predict or speculate on their own certainty regarding a fact, with the use of maximisers being described as “a short step from averring truth to being emphatic about it” (Partington, 1993, p.181). Among these intensifiers, the lexical meaning of maximisers reflects its features of extremity, totality or finiteness as previously clarified in literature sources (Núñez Pertejo and Palacios Martínez, 2014; Claridge, Jonsson and Kytö, 2019). The mere presence of the extreme feature of maximisers not only enables communicators to express a full certainty based on their information or speculation, i.e. person A believes (vs. totally believe) the quality of B, but also contributes to a more assertive and emphatic type of expression, thus potentially leading to a communicator sounding more urgent, certain, affirmative and maybe even convincing to receivers.

In addition to affirmation, a second key feature of maximisers has been suggested, stating that maximisers being emphatic and affirmative with fully expressed certainty also reflects maximisers’ sincerity regarding the content communicated to receivers (Núñez Pertejo and Palacios Martínez, 2014). Maximisers are used by communicators in their assessment of truth conditions, and can indicate their confidence in an assessment, using them to emphasise the sincerity of their messages (Partington, 1993). A communicator may also use maximisers to express their emotions and attitudes about a fact beyond simple intensification through extremity (Núñez Pertejo and Palacios Martínez, 2014).

However, some scholars have suggested that when maximisers are overused, they can be perceived negatively and have an effect opposed to what was originally intended, leading to a loss of effectiveness or popularity (Núñez Pertejo and Palacios Martínez, 2014). Alternatively, the truth

modification feature of maximisers may be weakened, with receivers perceiving the communicator to be more superlative or hyperbolic rather than sincere (Blanco-Suarez, 2011; Núñez Pertejo and Palacios Martínez, 2014). Communicators' overuse and over-exploitation of maximisers is perceived as hyperbolic (i.e. the claims being made are met with disbelief), especially when maximisers are applied inappropriately (ibid.).

This hyperbole feature can be traced back into history since maximisers, like other 'degree words', have undergone a series of competition and recycling events from the Old English period (before 12th century) up to the present day (Bolinger, 1972; Altenberg, 1991; Ito and Tagliamonte, 2003). In the Old English period, maximisers were considered a feminine form of expression since "ladies are notoriously fond of hyperbole" (Stoffel, 1901, p.101). Stoffel also attributed this preference to children and to what he refers to as "ladies' men" (p.102). According to Stoffel, women not only use these expressions frequently, but they also intensively develop and innovate in their use (Stoffel, 1901). While Stoffel (1901) considered the use of maximisers characteristic of women, Jespersen (1922, p.250) explicitly described the role of women in language change, stating "the fondness of women for hyperbole will very often lead the fashion with regard adverbs of intensity, and these are very often used with disregard of their proper meaning". Though maximisers are no longer associated exclusively with women, the feature of being hyperbolic remained as a perception among individuals.

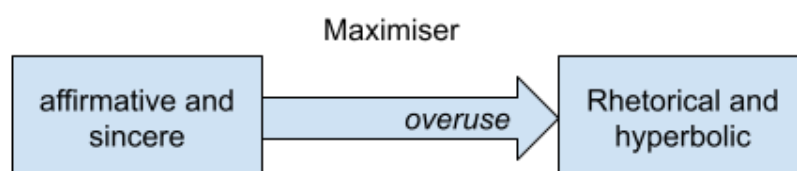


Figure 17 The dynamic relationship between the characteristics of maximisers

The third key feature of maximisers is informality, which is the context in which maximisers are being applied. This third feature was briefly introduced in 2.2.2.1. section with comparisons between maximisers and down-toners or boosters. Maximisers are often applied in an informal environment, as observed by Stoffel (1901, p.122), who stated that the uses of maximisers are "exceedingly numerous [in] vulgar parlance and in the dialects" and this "vulgar speech will use almost any adjective or even participle, with a strong emphatic meaning, as an intensive". A corpus analysis from Recski (2004) also revealed that the use of intensifiers appears to be associated with a colloquial style and an exaggerated tone that is often considered inappropriate in formal academic texts. Maximisers such as 'absolutely', 'completely', and 'entirely' are characteristic of spoken language (Biber, 1988; Altenberg, 1991; Paradis, 1997) and are sometimes restricted to academic writing (Biber, 1988, p.565;

Claridge, Jonsson and Kytö, 2019). This informal communication style is defined as “common, non-official, familiar, casual, and often colloquial, and contrasts in these senses with formal” (*Oxford Companion to the English Language - Google Book*>, no date), and is associated more closely with spoken language (Biber, 1988), involving the use of linguistic features generally associated with a conversation (Fairclough, 2003; Gretry *et al.*, 2017).

Finally, there are some other features of maximisers centred on their real-world use and applications. Maximisers can be combined with a variety of language devices, including adjectives, adverbs, verbs, participles, prepositional phrases and particles, with a particular focus having been made in empirical work on intensifiers’ modification of adjectives. This grammatical use of maximiser in a sentence, which is not considered to be as important as other key features, helps to explain the numerous ways to operationalise language intensity in experimental studies and also reflects maximisers’ flexibility and versatility.

Characterised as flexible and versatile, maximisers are constantly acquired, updated and recycled. Some maximisers may be replaced in common use by a new or different one, with new expressions or uses of maximisers invented as a result, as is often noted in literature sources (Stoffel, 1901; Bolinger, 1972). In the sense that this area of language remains unstable and unsettled, no maximisers can stay popular indefinitely since their impact comes from their novelty, and thus their value will decrease through overuse (Tagliamonte, 2016). This may be partly explained through a ‘speaker’s desire to be ‘original’, to reinvent their speech, demonstrate their verbal skills, and to capture the attention of their audience’, and as one maximiser loses its effectiveness another takes its place (Peters, 1994, p.271). Therefore, it is important to, where possible, test empirically whether particular maximisers have the intended effect and to evaluate the effectiveness of their usage.

As mentioned above, maximisers undergo a constant renewal and recycling process, though all maximisers are partially synonymous, since they can be readily substituted for each other, and all exhibit the same extremity feature, intensifying a term away from neutrality (Bolinger, 1972). There is a known association between certain types of maximisers and certain semantic types of collocates, meaning that these series of words habitually co-occur than other combinations (Recski, 2004). For example, the maximiser “completely” commonly collocates with adjectives that have a negative implication, whereas “perfectly” collocates with items which convey positive qualities, and “fully” tends to collocate with verbs (Recski, 2004). A number of studies have attempted to understand collocational restrictions of maximisers but these studies have not always produced the same results with different types of data sources and methods (Greenbaum, 1970; Bolinger, 1972; Bäcklund, 1973; Altenberg, 1991; Bublitz, 1998; Kennedy, 2003). The difference in the results could be caused by the

frequency of use or the popularity of particular maximisers in different time eras. In addition, with the versatile, competitive and recycling nature of maximisers, different maximisers become no longer restrained to certain collocates. In this thesis, the differences between maximisers can be ignored (though this assumption is tested experimentally – see Online Experiment 3), as Mollin's (2009) study pointed out that there is no semantic difference between maximisers, such as 'I entirely agree' and 'I completely agree' even though some maximisers are used more frequently than others.

This section describes the complex, dynamic and unsettling nature of maximisers and their features in language communication. As discussed, the application of maximisers can make expressions sound or appear more colloquial and, more importantly, can more easily convey sincerity and modify the certainty of a fact. These features have a persuasive effect on receivers' attitudes towards a message (Partington, 1993), but can also be seen as hyperbolic and untruthful when overused by a communicator, being perceived to be inappropriate by receivers.

In the context of this thesis, a well-developed understanding of how and to what extent consumers are comprehending maximisers used on food packaging is important, since it allows companies to better communicate their product benefits with consumers. As there are numerous factors that shape how a receiver perceives a speaker's messages when it contains maximisers, factors that include the message intensity and the original attitudes held by a receiver (Bowers, 1963). The effects of maximisers in literature will be explored in detail in the next section (2.2.3.3.), along with key factors underpinning the effectiveness of maximisers used to frame H&N claims, and a further exploration of the dynamic relationship between the characteristics of maximisers (Figure 17).

The Impact of Maximisers on Consumer Behaviour

Having introduced maximisers, including an exploration of their definitions and features, this section will review and discuss existing literature on the general effects of maximisers. Findings from literature sources that discuss the effects of maximisers in general terms may not be directly applicable to those maximisers that are discussed in this thesis. To understand the extent of their applicability, I will outline contemporary research in this area, and present an informed evaluation on the extent to which the findings are applicable.

As stated in 2.2.3.1, a variety of terms, including "language intensity", "intensifiers", and "maximisers", were used to refer to either maximisers or to both maximisers and boosters, which indicates an attitudinal position shifted away from neutrality (Bradac, Hosman and Tardy, 1978; Quirk *et al.*, 1985).

Although literature sources have agreed upon a generally-accepted definition of intensive language (which includes maximisers), the interpretations and applications of this definition vary widely across studies, as shown by the examples presented by scholars in these works. Furthermore, some studies entirely lack a clear definition of intensive language, which prevents effective interpretation and understanding of such sources (Buller, Borland and Burgoon, 1998).

The interpretation of language intensity proposed in these aforementioned studies apply this intensifying language to various lexical items, from adverbs and adjectives to entire phrases, which leads to potential doubt on the extent to which findings may be generalised or may be applicable to the features of maximisers, previously identified in 2.2.2.2.

The examples below illustrate the current range of procedures and language intensifiers that have been investigated in extant literature. A study by Bowers (1963) pre-tested a list of words to examine their intensity and appropriateness, enabling these words to be graded by intensity. In a study by Burgoon and Chase (1973), high, medium and low intensity were represented by 'very bad', 'bad', and 'poor' respectively, showing the effectiveness of these very literal terms as a general modifier of language intensity. High-intensity language not only substitutes 'strong' words and phrases, the definition provided by Bradac, Hosman and Tardy (1978) also includes terms connoting sex and death. Pogacar, Shrum and Lowrey (2018) referred language intensity as a deviation from neutrality, which can be accomplished by the addition of adverbs such as 'extremely', 'completely', and by the use of strong adjectives such as 'detested'. Burgoon and Miller (1971) only selected words from a pre-rated and out-of-context list consisting mostly of evaluative qualifiers, and used terms ranging from those that were most highly and positively intense, i.e. 'best of all', through to the most negatively intense, i.e. 'despise'. Greenberg (1976) made use of terms that more properly indicate probability than simply evaluation, inserting the word 'sometimes' in low-intensity messages, 'always' in high-intensity messages. The great variety of possible language intensifiers makes it inappropriate to generalise the findings from this variety of studies, which must instead be read with relevant and appropriate context.

In agreement with other literature sources, the examples above present a wide range of applications of high intensity language, which was caused by authors' differing and subjective judgments about the position of the same lexical unit on an absolute scale of intensity (Bradac, Bowers and Courtright, 1979). These aforementioned practices and varying definitions may lead to an insufficient theoretical grounding in some studies, resulting in an inability to generalise, apply and integrate their findings (ibid.). The operationalisation of language intensifiers from the studies mentioned below can be found in Table 9.

As interpreted by Hamilton and Stewart, language intensity is expressed by manipulating two language features – emotionality and specificity, where ‘emotionality’ refers to “the degree of affect expressed in the source’s language, ranging from stolid displays to histrionics”, for example, ‘detest’, ‘rage’ etc. (These terms express a change emotionality expressed in attitude, compared to ‘dislike’, ‘anger’), and ‘specificity’ refers to “the degree to which a source makes precise reference to attitude objects in a message” (Hamilton and Stewart, 1993, p.231). Specificity can be achieved through manipulation of words that either provide clarity on an outcome or information on the intensity without necessarily becoming specific or providing clarity (lethal vs. very bad) (ibid.). This shows again different operationalisation and interpretation of language intensifiers.

Further effort was made to distinguish between different intensifiers, with a categorisation proposed by Maat and de Jong (2013) and Renkema (1997) that grouped intensifiers into semantic and lexical intensifiers. They proposed that semantic intensifiers (SI) are language devices that have different levels of extremity (e.g. *gigantic number* is a SI of *large number*), and lexical intensifiers (LI) are language devices that removing them only leads to a decrease of language intensity and emotionality without changing the meaning of the phrases or sentences (e.g. *extremely dangerous* is a LI of *dangerous*) (ibid.).

This categorisation enables a systematic understanding of the effect of intensifiers. Maat and de Jong (2013) further clarified upon this category and argued that intensifiers have a variety of grammatical categories such as adjectives, adverbs, and quantifiers (e.g. hundreds). Regardless of the category of intensifiers, emotionality has been identified as features of intensifiers (Hamilton and Stewart, 1993), because both SI and LI types exaggerated the evaluative valence of the subject (Burgers and De Graaf, 2013). The definition and examples of LI match with the concept of ‘maximiser’ as described in this thesis and the concept of language extremity defined by Craig and Blankenship (2011). However, the definition of language extremity of Craig and Blankenship contrasts with both the definition from Maat and de Jong (2013) and the definition provided by Hamilton and Stewart, in which emotionality and specificity are excluded from their description of linguistic extremity. It is clear to conclude that though useful findings have arisen from communication research, they have typically remained isolated, un-patterned and un-tested. This thesis maintains that to underpin the effect of maximisers based on its key features, it is essential to first examine key findings from the surrounding literature.

The studies discussed in the following section will share similar definitions of maximisers and amplifiers, regardless of the operationalisations of these concepts. This does not mean the definition and effects of maximisers derived from existing literature will fully agree with those that are

specifically defined in this thesis, though findings from literature that are sufficiently generalizable can still be applied, and examples of such literature sources will be discussed in the next section.

The Effect of Language Intensification

As discussed previously, language intensity was examined with a broad definition and no detailed specification, which contains the concept of maximiser defined in this thesis. The terms used in these papers to describe 'language intensity' include or overlap with the definition of 'maximiser' used in this thesis and, though these terms are not a perfect overlap, the findings remain sufficiently applicable because of this close overlap. Furthermore, in order to avoid uncertainty, the original terms as used in each of the papers discussed below will be used in discussing them, with some clarification provided as needed.

In general, the use of high intensity language strongly affects receivers' attitudes (Bradac, Hosman and Tardy, 1978) and it has been studied extensively in a wide variety of fields ranging from politics to health and to educational communication (Hovland and Pritzker, 1957a; Aune and Kikuchi, 1993a; Buller *et al.*, 2000; Andersen and Blackburn, 2004).

Using intensifying language is effective in positive attitude change, and a variety of explanations have been proposed to support this positive effect, which will be discussed in the following section along with the situations where the use of maximisers may backfire. For example, a positive attitude change was confirmed by Andersen and Blackburn (2004) in a study on how language intensity affects email response rates. This study examined the persuasiveness of a credible message by framing emails with either high- or low-intensity language, and found that emails framed with more highly-intensive language resulted in a greater response rate than those emails sent without intensive language. This study also tested the impact of intensive language on real behavioural changes (response rate) and demonstrated that these effects extend to a new communication medium – the online environment. This finding was particularly interesting, since mass communication in the early 2000s was dominated by traditional media, i.e. one-to-many communications and dyadic interactions that include TV broadcasts, radio, and print advertisements (*ibid.*). This result demonstrated the robustness of the relationship between using intensive language and being persuasive, and was supported by a variety of theories including information process theory (IPT), communication accommodation theory (CAT), and language expectancy theory (LET) which will be discussed in detail in 2.3.1.2., 2.3.1.3 and 2.4.1. respectively.

Similarly, the effectiveness of language intensity in promoting sun safety behaviour was tested in another study (Buller, Borland and Burgoon, 1998). As this research was interested in understanding how to construct persuasive prevention messages, the authors reasoned that high-intensity language affected consumers' processing of the message either by increasing a feeling of fear or through an appeal charged with negative emotions. According to LET, highly intense language is not expected in the prevention campaigns, i.e. not the norm, so sun safety messages with high linguistic intensity should violate these linguistic expectations. Assuming such messages are provided by a credible source, this type of violation is likely to be positively evaluated by receivers and yield increased compliance as a result. As a result, the use of high intensity language on sun safety messages can increase compliance with disease prevention recommendations. Likewise, Buller et al. (2000) found that language intensity is most successful in changing family sun protection behaviours when used in deductive rather than inductive messages, such as those found in newsletters, tip cards, and brochures, and is effective with information on several sun safety behaviours for both children and adults (Buller *et al.*, 2000).

Among all the studies introduced here that describe intensive language, the use of maximisers in particular has been shown to be more effective at persuasion than the use of neutral language, affecting perceived credibility, attitude or behaviour change (Hamilton, Hunter and Burgoon, 1990; Buller, Borland and Burgoon, 1998; Hamilton and Hunter, 1998), though these studies have not explained or empirically tested the underlying processes.

Perceived extremity was measured and tested as a mediator by Craig and Blankenship (2011), and language extremity, as a component of language intensity and "an indicator of how strongly held attitudes and judgments can be", was also found to affect message compliance via consumers' processing of the message (Craig and Blankenship, 2011, p. 291). More specifically, it was found that when arguments are strong, the use of intensive language can effectively increase consumers' message elaboration and therefore increase message compliance. The effect of extremity markers on receivers' processing of a message was supported here by IPT, since extremity markers may increase position discrepancy and, therefore, increase message processing. It must be noted however, that message processing was not measured in the aforementioned study.

In addition to this, the correlation of the relationship between communicator and receivers and the similarity in their language intensity usage was investigated by (Aune and Kikuchi, 1993a). Communication accommodation theory (CAT) proposes that when a communicator shares speech styles with a receiver, the communicators' needs for social integration or approval are satisfied, which results in more positive evaluations of the communicator (Welkowitz and Kuc, 1973; Coupland, 1985).

Though the relationship is only associative rather than causal, this is one of the first studies suggested the application of CAT to explain the effect of the similarity in using intense language on not only receiver's assessments of the communicator's credibility but also (2) the receiver's perceived immediacy and intimacy, indicating the effect of language intensity on consumers' relationship perception. The role of language intensity has been described as a "vehicle for impressing, praising, persuading, insulting, and generally influencing the listener's reception of the message", suggesting different aspects of influence from language intensity (Partington (1993, p.178)).

Table 8 Effect of Language Intensifier and Maximisers

Concepts	Definition	Features of the language devices	The marketing outcome	Research focuses
Language intensity	Language intensity refers to the extent to which a message deviates from neutrality (Bowers, 1963). Deviations from neutrality can be achieved by adjectives and adverbs such as "really," or "extremely," or the use of stronger adjectives (e.g., "detested" vs. "didn't like").	Extent to which a message deviates from neutrality (extremity)	Can increase message elaboration. Effective if message recipients themselves are prone to using intensive language. Effective if attitudes toward source are positive, backfire if negative. Influence perceptions of source credibility and trustworthiness.	Covered in the previous literature (e.g.) Aune & Kikuchi (1993): relationship between language intensity and perceived credibility and relations; Buller et al., (1998): language intensity on sun safety prevention protection; Criag & Blankenship (2011): language extremity markers (no emotionality and specificity) on compliance
Maximiser	Maximisers are a set of adverbial markers that can increase the perceived extremity of a message's position, or show extreme deviation from neutrality, they can be removed from the text which result in a decrease in intensity (Craig and Blankenship, 2011; Burgers and De Graaf, 2013; Pogacar, Shrum and Lowrey, 2018)	Sincerity (emotional) Affirmative / empathic Rhetorical / Hyperbolic Informal	Positively influence perceptions of source credibility and trustworthiness. Build stronger relationship with the communicator. Ultimately more persuasive. May be used to stimulate greater depth of processing Negatively affect the product review when maximisers applied in the formal context	Will be addressed in this research.

In addition, the effects of highly intense language on consumer responses can depend on accompanying variables (Clementson, Pascual-Ferrá and Beatty, 2016a), examples of which include the characteristics of the message, i.e. memorability of the message (Hovland and Weiss, 1951), the communication medium (Danaher and Rossiter, 2011), the characteristics of receivers, i.e. their preconceptions and tendency to use intensive language (Buller, Borland and Burgoon, 1998), personality predispositions (Janis, 1954), and the characteristics of communicators, i.e. credibility, status or trustworthiness (Aune and Kikuchi, 1993b), demonstrating that language intensity is reliant on other elements through the communication to achieve a positive effect. For example, the

effectiveness of language intensity in motivating sun safety behaviour is dependent on whether receivers already intend to engage in such behaviour (Buller, Borland and Burgoon (1998). More specifically, the use of high intensity language in this situation can be a negative response from those not intending to practice sun safety.

This shows that, the effect of language intensity, under certain conditions, can lead to a lesser attitude change, i.e. an interaction with source characteristics or situational variables (Bowers, 1963; Burgoon, Jones and Stewart, 1975; Buller, Borland and Burgoon, 1998; Clementson, Pascual-Ferrá and Beatty, 2016a). For example, the impact of using maximisers for persuading a population through speech may explain their popular use in public speaking by public figures, including politicians, who may wish to use this effect to increase their popularity and gather votes (Mollin, 2009). However, a study investigating the speech characteristics of US political candidates found a backfire effect in this context, where political candidates using low-intensity language received higher scores on character than candidates who used high-intensity language (Clementson, Pascual-Ferrá and Beatty, 2016a).

The studies discussed above identify the various potential impacts of highly intensive language, and clearly demonstrate that language intensity can interact with many other variables encountered in the communication process, which has implications for how and where such language devices should be used to achieve a particular effect. Table 9 summarises the features and effects of language intensity and maximisers, and outlines their effects on consumer behaviours.

An Evaluation of Current Literature and Its Applicability to the Current Thesis

A positive relationship between the use of intensive language and the persuasiveness of a message has been established, but a separate and complex relationship exists between intensive language and consumer attitude change. The features of maximisers introduced in 2.2.3.2 have not been fully understood in the current literature, especially considering that all effects of language intensity are applicable to maximisers. This section will evaluate the applicability of the existing findings from literature to the specific usage and application of maximisers in food product marketing.

The intensification and extremity features of language intensity are the main focus of the studies introduced in the previous section. Intensification has been shown to be highly effective in increasing

message elaboration¹⁰ and credibility, and improving its persuasiveness (Buller *et al.*, 2000; Craig and Blankenship, 2011). Though the features of maximisers outlined in this thesis— sincerity, affirmation, informality, and hyperbole – may overlap with the effect of language intensity, these studies have not investigated the impact of each feature of maximiser on consumers. The effect of features of maximisers will be explored further in this section.

Sincerity and hyperbole are indirectly reflected in the literature through a well-recognised and general feature of language intensity, emotionalism. Studies have focused on the emotionalism feature of language intensity (Hamilton and Stewart, 1993), which describes the degree of affect reflected in a communicator's message. For example, Burgers and De Graaf (2013) further examined that language intensifiers, as a textual feature, make a printed news item more sensational through this emotionalism and this emotionalism can sometimes express the sincerity for the communicator. However, Clementson, Pascual-Ferrá and Beatty (2016b) extended the context of investigation of the emotionalism of high-intensity messaging to the 2012 U.S. presidential campaign, and revealed a negative effect was observed between the use of high-intensity language and perceptions of presidential candidates, indicating a backfire effect of using high-intensity language.

The findings of Bowers' study (Bowers, 1963) show this "boomerang effect", matching the 'positive effect' and 'no effect' shown in the studies noted above (Hamilton and Stewart (1993), Burgers and De Graaf (2013), Clementson, Pascual-Ferrá and Beatty (2016b). As such, there is no clear understanding of the boundary conditions for situations in which language intensity will persuade people or have a positive effect. For example, voters in Clementson, Pascual-Ferrá and Beatty (2016b) study did not show consistency in rewarding or punishing modulated or emotional political messages.

Additionally, speculation has arisen that this emotionality may over-arouse receivers and cause them to 'disengage' from a communication if solutions are not offered to minimise or prevent this over-arousal and its consequences (Burgoon *et al.*, (1989) and Buller, Borland and Burgoon (1998). On the other hand, Craig and Blankenship (2011) had a different view on the emotionality of language intensity by stating that language extremity (adverbial maximisers) is exclusive to the characteristics of emotionality. They demonstrated that extremity, a particular form of linguistic intensity, changes the message position when used in persuasive messages without necessarily changing the content or other message features (e.g. emotionality).

¹⁰ Message elaboration is 'the extent to which people think consciously about a message. Petty RE, Cacioppo JT. The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology* 1986; 19:123–205. 10.1016/S0065-2601(08)60214-2

These differing views in the literature are derived from considering whether or not the feature of language intensity with emotionality is caused by a difference in interpretation and operationalisation of that language intensity. In addition, this emotionality feature is distinct from the sincerity and insincerity features of maximisers, meaning that literature where emotionality is used to investigate language intensity should be considered incomparable for this thesis.

Sincerity is not an emotional state, but is rather an assessment by receivers that the expressions from communicators are true representations of their feelings and their emotional state (Beeman, 2001). For communicators, it has been argued that receivers need to be convinced of sincerity of expression without necessarily considering that the communicator is revealing his or her personal emotional state (*ibid.*). In addition, perceiving a communicator to be insincere reflects an assessment by a receiver that there is a discrepancy between this communicator's expression and their true positions or feelings. There exists a variety of different forms of insincerity, such as irony and hyperbole, where a communicator's message is perceived incongruently by a receiver (Beeman, 2001). Though not all language intensifiers include emotionality, and though sincerity or insincerity is not an affective expression, this dynamic features of maximiser illustrated in Figure 17, i.e. arouse vs. over-arouse state is believed in this thesis to match the response when receivers perceive communicators being sincere or insincere. When maximisers are overused or when the credibility of a source is low, receivers may perceive a communication to be insincere or hyperbolic. Therefore, the findings of language intensity from existing literature on emotionality are not fully applicable to the adverbial maximiser in this thesis.

Next, another feature of certainty is investigated in existing studies through credibility moderators rather than maximiser's own feature. Affirmation helps communicators to modify the certainty of a statement. Existing literature sources examined source credibility as a moderator on the process of how language intensity impacts consumer behaviours (Hamilton and Stewart, 1993). However, since credibility is already a feature of maximisers, the use and application of maximisers in consumer messaging will further increase the affirmation of a given statement, assuming there are no other effects. Though moderation effects on the impact of language intensity on consumer's response have been studied in prior literature, affirmative messages framed with language intensity have been thus far overlooked.

As discussed earlier in section 2.2.3.2., maximisers are often applied in an informal environment and are considered to be less appropriate in formal academic texts (Claridge, Jonsson and Kytö, 2019). Their impact has been investigated indirectly through the appropriateness of the usage of language intensity (*ibid.*). As a receiver accustomed to using language extremity markers may view a message

framed with these markers as unexceptional, even when used in a formal setting (Aune and Kikuchi, 1993b). In comparison, a receiver that is unaccustomed to seeing messages framed with maximiser will see such messages as exceptional (ibid.). Though this example does not directly reflect the informal nature of adverbial maximisers, it demonstrates the potential boundary that informality and formality impose on the use of maximisers, which are considered less appropriate in a formal setting. These features, thus far overlooked in literature sources, will be examined in this thesis.

Finally, the applications of language intensity in the context of food packaging and food product marketing, and more specifically the application of language intensity on H&N claims, have not been investigated in extant literature sources. In order to fully understand the effects of language intensity in these contexts, it is important to investigate each feature and its influence on consumer responses towards food product packaging. Although H&N claims play an important role in consumers' decision making, few studies have focussed on the application of maximisers in marketing. Though the framing of H&N claims is widely regulated and trusted by consumers (Kiesel, McCluskey and Villas-Boas, 2011; Grunert, Bolton and Raats, 2012), framing these claims with maximisers remains uncommon.

In summary, current literature sources lack a clear definition of language intensity, which leads to difficulties in comparing and contrasting their findings, given this incomplete overlap in their definitions. Literature sources have until now focussed on the impact of the intensification feature of language intensity on message persuasiveness and compliance, and the extent to which this impact depends on the traits and characteristics of the communicators and receivers. However, the multifaceted features of maximisers outlined in this thesis remain overlooked, and their impact on consumer attitudes and product evaluations in food marketing remains unknown.

The following section will (1) provide a comprehensive discussion on the interaction effect of framing H&N claims with maximisers and (2) explore the theories that are suitable for explaining and underpinning the mechanisms of various features of maximisers on consumers' product evaluation. More specifically, this thesis will examine the role maximisers play in framing H&N claims, and how they shape consumer attitudes and responses towards food products.

Table 9 The effect of language intensity on consumer behaviour

Literature	Study	Language intensity (high vs. low)	Findings
New media communication	(Andersen and Blackburn, 2004)	Has been swamped with calls/ some vital input/ Please submit your crucial/ These essential questions are... vs. Received a high volume/ some input/ You can submit/ Questions are...	This study indicates that email messages with high language intensity result in greater compliance (i.e. email response rate) than the email featuring less intense language.
Health communication	(Buller <i>et al.</i> , 2000)	Grotesque growth/ cutting or burning/ hazardous sun damage/ working intensely to protect/ irritating and annoying, vs. unusual growth/ removing/sun damage/ working overtime to protect/ disturbing	This study recommends medical professionals and organisations to implement high intense language in their messages for patients to improve compliance and language intensity is more effective in changing behaviour when used in deductive rather than inductive messages. Deductive vs. inductive messages.
Politics communication	(Mollin, 2009)	Maximisers are included: absolutely, altogether, completely, entirely, extremely, fully, perfectly, thoroughly, totally, and utterly.	This study found that eleven different maximiser adverbs studied here occur 557.58 times per million words in the BNC, but 1786.54 times in the TBC, more than thrice as often. The results pointed out an insight derived from their corpus analysis of maximisers comparing Tony Blair's speech to the average British English and finds that the use of maximisers is more frequent in Tony Blair's speech. They rationalise the reason can be politician's talk needs to be more persuasive and emphatic than normal communication.
Politics communication	(Clementson, Pascual-Ferrá and Beatty, 2016a)	I'm sick and tired of these crooks running government. I'm going to run them out of town/ Please vote for me. Tell government that enough is enough. We're fed up. vs. In order to protect future generations, I propose a shift to get our country back on track/ I'm honoured to receive your support and will work to serve you admirably. I hope I can earn your vote. Together we will reform government for the better.	For communicators such as politicians who lack trustworthiness, the use of intensive language can backfire. This study manipulates language intensity for a hypothetical presidential candidate, using intensive language can lead to candidates rated lower on character than those who using less intensive language.
Communication in daily life	(Aune and Kikuchi, 1993b)	Extremely like/ excellent/ wonderful/ intensely like/ terrible/ loathe/ best of all vs. like/ acceptable/ fair/ like/ not pleasing/do not care for/ only fair	This research concerns the impact of the language intensity on source credibility and message agreement moderated by whether the receivers perceive similarity in language intensity with the communicators. More specifically, the greater the tendency for message receivers to use intensive language, the more positive are the effects of intensive language to use on source credibility and a message agreement.
Communication in argumentative speeches	(Bowers, 1963)	Spent/squandered/lavished/ugly/ Unbecoming/unsightly/monstrous/vast/ Monumental/enormous/gigantic/Etc.	This study finds that extroverts were significantly more influenced than introverts were by the intensity of language and low intensity speeches against concepts were significantly more effective than high intensity speeches.

Messages communication	(Craig and Blankenship, 2011)	In linguistic extremity condition, participants read a message with terms <i>much more, extremely, very, and wonderful</i> embedded in the sentences.	This research investigates the effect of linguistic extremity on message processing, persuasion and behaviour intentions. The study demonstrates that, from an information processing perspective, the use of more intensive language leads to greater intentions to comply with a request, and this effect was mediated by message elaboration. Intensive language increased message collaboration and the compliance when the message arguments were strong, suggesting that sufficient motivation and ability to process language arguments may be needed for intensive language to be effective.
Behaviour change communication	(Hamilton, Hunter and Burgoon, 1990)	Addicts almost always reuse and share filthy needles vs. addicts from time to time reuse and share unsanitary needles.	The study explores differing degrees of attitude change when language intensity varies. It presents university students in Hawaii with messages concerning the legalization of heroin. Their results reported that a highly credible source is more persuasive when using intense language, a low-credibility source is less persuasive when using intense language, and there was no effect in the persuasiveness of a source of moderate credibility whether using high- or low-intensity language.
Interpersonal communication	(Bradac, Hosman and Tardy, 1978)	High intensity: extremely great Neutral: quite good	This study focuses on the relationship between disclosure intimacy and language intensity, more especially, how will a person respond to a speaker's high or low intimacy disclosure when it is presented in either high or low intensity language. The results show that language intensity qualifies to some extent the positive judgment of high intimacy and the negative judgments of low intimacy. Other findings show that high intimacy and high intensity result in attributions of high speaker internality and a perceiver's own tendency to disclose affects his or her judgments of high- and low-intimacy messages which vary in language intensity.
Health communication	(Buller, Borland and Burgoon, 1998)	Skin cancer is a (grotesque/unusual) growth of skin cells. Treatment of skin cancer involves (cutting or burning/removing) tumours from the skin.	Intense language is highly effective in motivating sun safety behaviour in people that have already intended to engage in such behaviour but produces a reactant response from those not intending to practice sun safety.
Persuasive communication	(Hamilton and Stewart, 1993)	High, moderate or low intensity lexical items into a template text from a lecture given at a health symposium.	This research used information processing model of persuasion to build a mathematical model of language intensity effect. This model proposes that in order to change attitude, variables such as message discrepancy, source evaluation (perceived trustworthiness), and message strength (intensity) play a role. The results from the experiment showed that attitude change was a multiplicative function of message discrepancy, perceived credibility, and message strength, adjusted for receiver counterarguing. Manipulated intensity enhanced attitude change directly, by increasing message strength and indirectly by making the source position seem more extreme. Importantly, the result also demonstrated the effect is true for both female and male sources.

2.3. Framing H&N Claims with Maximisers on Food Packaging

So far, several concepts and ideas have been introduced centred on communication and the ways in which consumer behaviours can be affected, all in the context of marketing. Product packaging and its various elements have been described and discussed, including the various ways in which H&N claims can be used on food packaging, aimed at improving product sales. Previous sections have also outlined and discussed the language elements used by communicators, providing an understanding of how language devices affect consumer responses, specifically maximisers. Key features of maximisers and other language intensifiers were also identified and explored. This subchapter will discuss the inclusion of maximisers in marketing claims and the resultant effects on consumer evaluations of food products, which thus far has remained unexplored.

In both real-world and online shopping environments, marketers have framed H&N claims to alter, augment or improve their appeal and effectiveness. Various framing strategies for H&N claims have been implemented, including repeated presentation of the same information, and the involvement of authoritative or celebrity figures (e.g. support from a famous chef or nutritionist). A further framing strategy involves the inclusion of maximisers within H&N claims on food packaging, which is a strategy employed by food manufacturers to emphasise/intensify the idea behind an original claim that does not include a maximiser. This, the inclusion of maximisers within H&N claims on food packaging and the resulting effects on consumer behaviours, is the key focus of study in this thesis.

The following section will describe and discuss the effects of including maximisers within H&N claims and their use on food product packaging, with reference to and support from relevant theoretical background based on communication theory and on language and information processing.

2.3.1. Theoretical Background

The effects of language intensity on consumer behaviour were examined in 2.2.3.3., and several theories have been employed to predict and explain the effects of language intensity on attitude change, including Information Processing Theory (IPT) (Hamilton, Hunter and Boster, 1993; Hamilton and Hunter, 1998), Language Expectancy Theory (LET) (Burgoon and Chase, 1973; Burgoon, Jones and Stewart, 1975), Communication Accommodation Theory (CAT) (Aune and Kikuchi, 1993a). Through these studies, communication researchers have sought to provide theoretical and empirical advice to communicators on the effectiveness of their messages where language intensity modifiers had been integrated or used. These theories, applied in numerous contexts in literature sources, now help to inform the present thesis and, through different lenses,

are used to explain the role and effects of maximisers in influencing consumers' product evaluations, particularly the effects of using specific features of maximisers (see 2.2.3.2).

Persuasion theory is introduced along with information processing theory (IPT) and communication accommodation theory (CAT) as a fundamental framework to underpin the effect of maximiser applied on H&N claims. CAT and IPT are two competing but complementary theories which enrich the theoretical groundwork supporting the present thesis and will be used to explain the phenomena that arise from framing H&N claims with maximisers. For reasons which will be discussed below the present thesis uses persuasion theory, IPT and CAT theory, in preference to other theories, to support the conceptualisations developed in this section. An overview of the theories relevant to the present thesis can be found in Table 10.

Table 10 Descriptive list of theories underpinning the effects of maximisers on consumer product evaluations

Theory	The concept of this thesis	Application in this thesis	Similarities and differences
Communication accommodation theory (Giles, 1979)	Can explain the interpersonal relationship between the communicators and receivers. More specifically, this theory proposes that the communicators will adjust their language to converge or diverge from the receivers.	Food companies frame H&N claims with maximisers in order to affect their consumers' perception on the product because the language could make their buyer-seller relationship either converge or diverge. CAT proposes that the psychological distance between a food company and its consumers is reduced when consumers perceive food company using convergence language. Comprehend with the relationship perspective, understand how the maximiser can increase the connectedness between the food product and consumers.	LET also focuses on the effect of language characteristics from individuals on attitude change.
Information processing theory (Hamilton and Stewart, 1993)	Suggests that when receivers are exposed to a message, they attend to and comprehend this message content and compare their attitude on an issue with the position advocated in the message by the communicator (McGuire, 1968).	With an attitude change focus, IPT enables this thesis to understand the impact of intensification feature of maximisers on the persuasiveness of the H&N claims.	IPT argues that for low credibility sources, maximisers would be still more effective in persuasion while LET proposes that no maximiser would work more effective because it matches receiver's expectation level of the source.

Persuasion and Persuasion Theory

As stated by Schramm (1973, p.46), “persuasion is primarily a communication process”. Persuasion is defined as “human communication that is designed to influence others by modifying their beliefs, values, or attitudes” (Simons, 1976, p.21) and can be found everywhere in “politics, religion, psychotherapy, education, and day-to-day social interactions” (Petty and Briñ Ol, 2008, p.137). Though not all communications intend to be persuasive (Duncan and Moriarty, 1998), persuasion is still intrinsically embedded within communication activities and it implies a simple presumption that companies will attempt to change a person’s attitude by means of such communication (Seel, 2012).

One of the essential elements for creating persuasive messages is language as Whorf (1956) proposed that communication is largely dependent on language, and argued that individuals’ perceptions of the world are organised, divided and shaped by the linguistic system they use. In order to change or influence the opinions and minds of others, language phenomena (e.g. words, symbols, imagery and emotion) are often employed (Yeager and Sommer, 2012) and variations of language in persuasive messages are of critical importance, explaining the strong interest in the research and study surrounding them since the days of Aristotle (Andersen and Blackburn, 2004). Persuasion and persuasive messaging can be used to influence across scales, at the level of individuals, groups, organisations, and national populations (Yeager and Sommer, 2015), and marketers attempt to heighten persuasion by employing different communicative approaches.

Carl Hovland, a pioneer in research on persuasion and persuasive communication in the period following the Second World War, proposed an attitude change model, Message-Learning Approach, focusing on the question: *who says what to whom and how and with what effect?* This model described the conditions under which attitudes can be changed by a learning process, with learners responding to characteristics of source, message and audience factors. This further demonstrated that certain features of the source of a persuasive message (e.g. credibility and trustworthiness), the content of the message (e.g. comprehensibility and number of arguments), and the characteristics of a receiver (e.g. intelligence, knowledge, tendency to agree) will influence the persuasiveness of a message (Hovland, Janis and Kelley, 1953) (see Figure 18). Persuasive communication was viewed by Hovland as a process by which a communicator transmits particular messages (especially verbal messages) in order to change a receivers’ attitude(s) (Hovland, Janis and Kelley, 1953). Understanding this thesis through the context of persuasive communication helps to focus on how linguistic devices produce attitude change, and identify variables based on sources, messages and receivers and their effect on consumers’ product evaluations.

Hovland’s model on attitude change reflects the key components in the communication process model first introduced in 2.2.1., since both models emphasise the receiver, content and communicator as essential elements. The key difference between these two models is that communication process model has a broader perspective, and includes the channels used to convey a message and the noise experienced by receivers, whereas these factors are not focussed on in the persuasion model. In addition, the communication process model does not focus on the outcome (e.g. persuasion) but instead aims to capture the process, i.e. the process of receiver decoding the message and responding to the communicator based on their understanding. Therefore, the combined model will be used in this thesis to underpin and support the understanding of the communication process. This model will also be used in identifying variables related to how consumers perceive food products based on packaging language elements, as well as in better understanding the impact of claims framed with maximisers created by food companies and their effects on consumers’ attitude change towards a communicator or towards particular content.

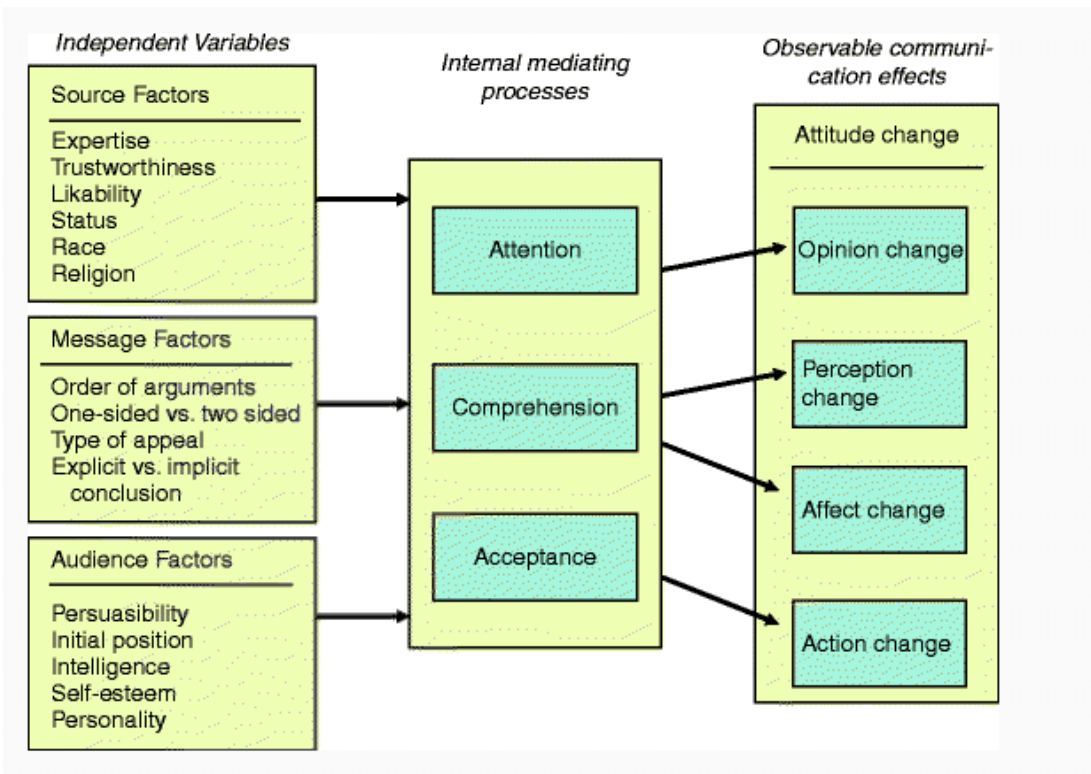


Figure 18 The Message-Learning Approach (Adapted from Hovland et al., 1953) by Seel (2012)

Since food companies want to optimise their products’ persuasiveness, through application of selected language strategies on product packaging, this thesis explores the effects of these language strategies, particularly the use of maximisers and how they impact consumer attitudes towards products. Persuasion theory enables this thesis to understand the effects of maximiser from an information processing perspective, by focussing on how much attention consumers give

to a product or how much effort it takes consumers to comprehend product information. The concept of persuasion constitutes the broader theoretical foundation upon which the present thesis finds its theoretical grounding, and guides the selection of moderators in this research. Both the persuasion model and the communication processing model enable further development in understanding how the effects of persuasive messaging occur between a product on display and receivers.

To summarise, this section introduced the concept of persuasion and Hovland's persuasion model, which aids in understanding the concept of persuasive communication as a process to understand receivers' attitude change based on messages they are exposed to. To clarify, in this thesis, though persuasion is not the dependent variable, the persuasion model serves as a useful underpinning theory to allow for useful and insightful investigation of maximisers. The combination of both the persuasion model and the communication process model will not only help this thesis to understand the impact of persuasive messaging on consumers' evaluations of food products, but also underpins the key factors that alter the effectiveness of this persuasive messaging.

Information Processing Theory (IPT)

Several theories describe how attitudes can be changed using aspects of persuasive communication (Dainton and Zelle, 2004). Some of these theories focus on the systematic processing of information, whereas others include the effects of emotions and personality traits on attitudinal change (Seel, 2012). As language can impact consumer information processing and persuasion (Peracchio and Meyers-Levy, 1997; Luna, Peracchio and De Juan, 2003), different models have been introduced in language processing to explain human information processing including the Elaboration Likelihood model and the Systematic and Heuristic information processing model. Information Processing Theory (IPT) is an important theory that has been applied in explaining persuasion, and has been suggested for use in describing a number of stages in how an individual's behaviour may change (McGuire, 1968). This model of persuasion, focussing on information processing, was developed from the message-learning model (Hovland, Janis and Kelley, 1953; McGuire, 1969).

McGuire proposed that when receivers are exposed to a message, they attend to and comprehend this persuasive message content by comparing their position on this issue with the position advocated by the communicator (McGuire, 1968, 1969). The processes of McGuire's model can be simplified from 6 stages – Exposure to the communication, Attention, Comprehension, Yielding/acceptance of arguments and attitude change, Retention/perseverance of changed

attitudes, and Behaviour – to three factors: attention, comprehension, and acceptance. Experiments in social psychology regularly use these three factors to examine the effect of communication after its presentation (see Figure 19). Attention and comprehension are two components of reception, hence a simplified two stages version of McGuire’s model is called the Two-factor model of persuasion, which evaluates the probability of receiving a message and the probability of yielding to this message’s recommendation once a recipient has received its content (Albarracin, 2002).

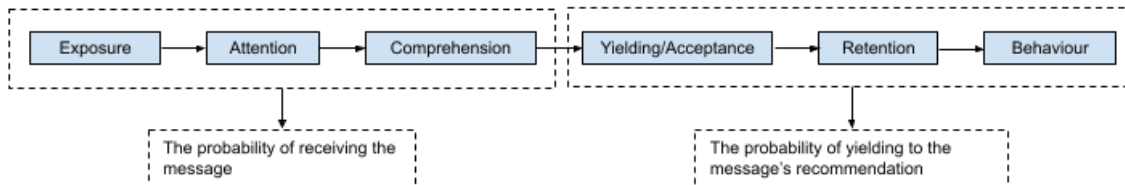


Figure 19 McGuire's Model Simplified Version: Two-Factor Model of Persuasion

IPT delineates each of the component processes or processing stages between the language stimulus and the meaning response. This theory enables an adequate explanation of how language is understood (Massaro, 1975) and was applied in understanding the effect of language intensity on receivers’ evaluations of messages (Hamilton and Stewart, 1993). Although Hamilton and Stewart (1993) extended the information processing model using mathematical formulae, only the nonmathematical application is of interest the present thesis. Specifically, in the context of maximisers, they proposed that attitude change results from message discrepancies perceived by receivers, from source evaluation, and from message strength, adjusted for receiver counterargument. Maximisers may improve message processing by increasing its position discrepancy, therefore altering the effectiveness of a message (Craig and Blankenship, 2011). The impact of maximisers on the persuasiveness of a message is dependent on the quality of argument, i.e. it may become stronger when a strong argument is used, and vice versa (Craig and Blankenship, 2011). Attitude change enhanced by maximisers can be explained using IPT since this language device increases message strength and makes a communicator’s position seem more extreme. However, there is a ‘tipping point’ for attitude change, where by making the message more discrepant, the use of maximisers inhibits attitude change. The aforementioned studies applied IPT to understand the effects of maximisers, showing that maximisers can have both positive and negative effects on attitude change.

IPT enables this thesis to understand elements of persuasive messages (e.g. message strength and discrepancy), and is used to explore how maximisers can affect consumer message processing and product evaluation. Though IPT helps to underpin a number of different elements of a persuasive message, it does not sufficiently consider the features of maximisers and their impact on consumers’

attitude change. IPT focuses on message discrepancy and strength, rather than sincerity or its truth modification features, and an understanding of these features would be beneficial in predicting the impact of maximisers in persuasive messages on consumers' information processing as well as their influence on consumer product evaluations. Furthermore, IPT does not provide an understanding of the potential environment or context in which a message is placed.

In summary, IPT offers a useful framework for investigating the persuasive effects of messages. Communication accommodation theory (CAT) will be introduced in the next section as a complement to IPT, aiming to approach and understand the maximiser linguistic device from a relationships perspective.

Communication Accommodation Theory (CAT)

Interviews conducted in Martha's Vineyard (Labov, 1963) led to a ground-breaking study on the relation of sound change with social identity. Labov suggested that the phonological variation observed in inhabitants' pronunciations (e.g. /au/ and /ai/ vowel sounds) reflected the islander's efforts to forge their own distinct identity, and concluded that the inhabitants' attitude was a key factor causing the differences in this pronunciation change.

The above finding resonates with a theory of communication originally developed by Howard Giles (1987), Communication Accommodation Theory (CAT). This theory offers a framework for predicting and explaining the adjustments made by communicators to create, maintain, or decrease social distance in their interactions (Gallois, O'Garra and Giles, 2005). It has been widely applied across studies investigating gender (Thomson, Murachver and Green, 2001; Thomson, 2006), culture (Meyerhoff, 1998; Wang and Fussell, 2010), varies by level of trust (Scissors, Gill and Gergle, 2008), and communication features such as message length and duration (Hesse, Werner and Altman, 1988), and language groups such as in different fields (e.g. organisations, healthcare system, courtroom, and marketing) and across a range of different media (e.g. face-to-face interactions, radio, telephone, and email) (Andersen and Blackburn, 2004; Chang *et al.*, 2019; Meyerhoff, 1998).

This accommodative practice contains a wide range of communicative behaviours, including linguistic (e.g. speech rate, accents), paralinguistic (e.g. pauses, utterance length), and nonverbal features (e.g. smile, gaze). This practice, as a strategy for eliciting positive responses and establishing sympathetic relationships with receivers, also involves communicators adjusting their language to converge with receivers' expectations. Convergence, as perceived by consumers, has shown to be positively correlated with perceptions of communicative effectiveness (Giles & Smith, 1979). For example, Balaji, Roy and Lassar (2017) showed that the negative effects of language

divergence on consumer's service interaction assessments, meaning that when consumers receive service in their second language, the service provider may seem more dissimilar and could have a negative impact on their relationship with the service providers.

CAT has also been applied in understanding language intensity and communicative behaviour (Bradac, Hosman and Tardy, 1978; Aune and Kikuchi, 1993b). However, CAT has not been widely used in marketing research, especially advertising communications, food package communications. CAT acknowledges that the impact of intensity language also depends on the existence of credible information sources, which can have an impact on a larger variety of consumer behaviours without negatively violating their expectations (Bradac, Courtright and Bowers, 1980; BURGOON, DILLARD and OORAN, 1983; Burgoon, 1995; Burgoon, Pauls and Roberts, 2002). Aune and Kikuchi (1993) used CAT to study language intensity and to predict the relationship between communicators and receivers, based on the similarity between the receiver's and communicator's usage of language intensity. If there is a perceived high similarity of the usage of language intensity, CAT posits that this similarity creates an intimacy between the communicator and receiver, resulting in more positive feedback towards the communicator.

CAT views the impact of language devices from a relational perspective and addresses interpersonal communication issues (Giles and Ogay, 2007). In the context of this thesis, and with the aim of studying the impact of H&N claims framed with maximisers, CAT can be used to investigate the impact maximisers may have on consumers' product evaluation from a relational perspective. This means that food companies can tailor their communication styles (i.e. adjusting the use of language on H&N claims) to reduce the psychological distance between the communicators and receivers and acquiring a higher social integration or approval from consumers, thereby better meeting and/or satisfying consumers' expectations and/or needs (LaFrance, 1979; Mehrabian, 1967, 1969, 1981; Street & Giles, 1982). It is also important to investigate if and how specific features of maximisers contribute to a reduction in psychological distance, and therefore cause more positive product evaluations (the psychological distance concept and more detailed application of CAT will be introduced later in 2.3.3.3.).

This thesis reviews the use of both IPT and CAT to conceptualise and explain the many effects resulting from the use of maximisers. From a position supported by IPT, it is assumed that consumers will process messages based on message position and discrepancy, whereas using the lens of CAT, it can be argued that consumers' positive evaluations of food products result from attempts by a company or a brand to build connections with consumers using a more personal language device. Both information processing and interpersonal relationship perspectives help to

explore and understand each of the features of maximisers, enabling informed investigation of the impact of this persuasive messaging on consumer responses.

To summarise, while early studies into language intensity and its effects made use of IPT to underpin the impact of language intensity cues on the persuasiveness of a message, recent studies have also referred to CAT, and have primarily relied upon this theory to describe the relational effect of certain maximiser cues on consumers' perceptions. Hence, the present study uses both IPT and CAT as complementary theories to provide an appropriate theoretical grounding that underpins the effect of maximisers on consumers' product evaluations.

2.3.2. Effects on Product Evaluation and Purchase Intention

Food product packaging elements and the prevalence of H&N claims among them have now been introduced, along with the concept of a maximiser and its features and effects. Maximisers are a form of language intensity modifier which, when applied as a communicative strategy, can increase the effectiveness of a message and consumer compliance. This section will introduce (i) product evaluations and purchase intentions and (ii) how they can be altered, changed and/or modified by H&N claims, especially when maximisers are used to frame these H&N claims.

Product evaluations are determined by different aspects of a product, often attributes of a product familiar to consumers (Meyers-Levy and Tybout, 1989; Carpenter, Glazer and Nakamoto, 2018). Perceived quality was defined as the "the consumers' judgment about a product's overall excellence or superiority", though consumer perceptions of product quality is only one factor used in overall evaluation of a product (Zeithaml, 1988). From this definition provided by Zeithaml, 'perceived healthiness' and 'perceived tastiness' can be considered to reflect consumers' judgements about the health-related or olfactory aspects of a product respectively. Food products often are evaluated by consumers using their taste-, quality-, and health-related attributes.

Product evaluations may be formed independently of participation in a transaction, and are expected to be a key variable affecting purchase intention (Chang and Wildt, 1994). In general, if a product is judged to be low in quality, healthiness and tastiness, consumer purchase intention is expected to be low. Likewise, if a product is judged to be high in quality, healthiness and tastiness, this judgement is expected to lead to high purchase intention. Kotler (1973) described purchase intention as consumers' responses to a product or service and to an overall consumption package. The combination of the two contains all the elements that may accompany a food product, and includes all packaging design elements (see 2.1.1.2.). As such, the packaging and information presented contribute in making a purchase desirable for consumers. Particularly for food products, packaging may be considered more important than the product itself, since consumer involvement

happens in a real-world shopping environment and decisions will generally be made based on the look of a product, especially when the taste of that product is unknown (Rundh, 2009).

As one among many food packaging elements, H&N claims enable food companies to communicate nutritional benefits to consumers. H&N claims can help consumers to make sense of their food product choices, providing essential guidelines for making positive dietary choices from among a range of products, and playing a crucial role in shaping consumers' product evaluations and fostering decision-making (Kaitz *et al.*, 2004). Consumers seek nutrition information in order to guide their decision-making, and use such information and recommendations to aid in product verification. A well-developed understanding of the varying effectiveness of H&N claim framing on consumers' product evaluations and purchase intentions is essential for this.

More specifically, less known about the effectiveness of different framings in a food product context when maximisers are used to frame a H&N claim, versus using a plain H&N claim without such maximisers. As discussed in section 2.2.2., language devices play an important role in shaping consumer perceptions of products and can alter and ultimately determine consumer purchasing decisions. Therefore, understanding different framing strategies in H&N claims is vital not only for predicting their effects on consumer evaluations of a product, but for predicting consumers' intention to purchase and companies' intention to exploit this in a real-world context for increased sales.

The persuasiveness of a message is measurably impacted by the use of a maximisers. This impact is often positive, and is likely to result in a change to consumer's attitude due to the enhanced strength of the message (Hamilton and Stewart, 1993). In addition, it was described in section 2.2.2.2. that maximisers are often seen in colloquial communicative contexts, and their features of sincerity and affirmation can modify the truth of a message. It is known also that in a political context, as well as other contexts, language intensity appears less persuasive, making the message more hyperbolic or rhetorical. Key features of maximisers will be discussed below, including an analysis of their effects when used on H&N claims.

First, maximisers are often applied informally, such as in speaking situations and colloquial dialogues. Food companies intend to humanise their products and brand image to form a good relationship with their customers. When food companies use maximisers in H&N claims, the claim appears more colloquial and can be perceived as similar to speech used by a human speaking verbally to consumers. The concept that brings the products to life has been researched comprehensively in brand personality, consumer-brand relationship management, and brand communities. Anthropomorphism is "the attribution of uniquely human characteristics and features to nonhuman creatures and beings, natural and supernatural phenomena, material states

or objects, and even abstract concepts” (Aggarwal and McGill, 2012, p. 308), and is among the more popular and effective methods used to indicate and encourage familiarity (Epley, Waytz and Cacioppo, 2007). This concept proposes that giving products more humanlike characteristics can make them more distinctive and memorable. This includes assigning specific qualities that exemplify what the product represents, making the product more endearing and likeable (Aggarwal and McGill, 2012). Using maximisers in H&N claims on a food product can provide a feeling of perceived informality and can thus appear to be a more approachable and more humanised product, again ultimately creating a more positive attitude towards this product. However, the examples of anthropomorphism investigated in extant literature are usually brand characters, mascots, and/or spokespeople, so it is unclear whether the use of H&N claims results in a more humanised product and encourage more positive evaluations of a product (Aggarwal and McGill, 2012).

Secondly, maximisers can be used to express a communicators’ sincerity, which is a key focus for development of brand personalities. This sincerity is considered as important as the other four characteristics of a brand personality: excitement, competence, sophistication and ruggedness, as identified by Aaker (1997) (Aaker, Fournier and Brasel, 2004; Swaminathan, Stilley and Ahluwalia, 2009; Hu and Shi, 2020). Brands perceived as having sincere personalities will be better received by consumers and this sincerity, portrayed by the use of maximisers, signals consumer needs and can help brands to improve their trustworthiness. There is growing evidence indicating that consumers are more willing to purchase sincere brands, meaning that the sincerity feature of maximisers is likely to positively affect consumers’ product evaluation and purchase intention (Eisend and Stokburger-Sauer, 2013). Therefore, consumers’ product evaluation can be positively affected when maximisers are used to frame H&N claims. In contrast, maximiser can also be perceived by consumers as rhetorical, meaning the inclusion of maximisers in H&N claims will negatively affect a product under consideration.

Historically, rhetorical skills have helped communicators to transmit and convey meanings, thereby manipulating and enhancing consumers’ perceptions of a chosen subject matter (Wieman and Walter, 1957). In marketing communication, being rhetorical has the potential to influence image creation, reputation, and culture, thus conveying meanings both symbolically and figuratively (Wieman and Walter, 1957; Campelo, Aitken and Gnoth, 2010). Being rhetorical is used in forming communication strategies, as rhetoric is about persuasion. The use of rhetoric in advertising not only “tries to use the most effective devices for informing, reminding and persuading the target market” but is also used “for creating meaning or constructing an argument” (Bulmer and Buchanan-Oliver, 2006, p.55). Therefore, using maximisers as a rhetorical phrase could make the associated H&N claims more evaluative than factual (Shimp, 1983; Andrews, Netemeyer and Burton, 1998). These types of claims can be believable, criticising the idea that, depending on customer’s

tolerance of advertising hyperbole, consumers can intuitively believe the persuasive tactics used in advertising (Silverglade, 1991; Hurley and Schmidt, 1992). Hence, the use of maximisers on H&N claims could damage consumer’s evaluation of food products.

In conclusion, maximiser’s features, such as informality and sincerity, have a positive effect on consumer’s product evaluation and purchase intention (Aggarwal and McGill, 2012; Eisend and Stokburger-Sauer, 2013), despite appearing hyperbolic to some consumers. This research suggests that only a small proportion of consumers have a resistance to persuasive advertising techniques, i.e. they see advertisements as hyperbolic, meaning hyperbole is only effective with certain customer types, such as those who are not prone to such suspicions. A majority of consumers do not see the use of persuasive advertising techniques, such as maximisers, as hyperbolic, but instead will see these techniques as sincere, or reinforcing sincerity. After examining literature on both language intensity and marketing, and after examining the features of maximisers and their impact, this research can conclude that, as a communicative strategy, the inclusion of maximisers in H&N claims is likely to positively affect the persuasiveness or effectiveness of a message and will also positively impact consumers’ product evaluations and purchase intentions (as shown in Figure 20).

Accordingly, the first research hypothesis is presented:

Hypothesis 1a: Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.

Hypothesis 1b: Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.



Figure 20 The Impact of Maximiser used on H&N claims on consumer product evaluation and purchase intention

Although the relationship between maximisers used on H&N claims and product evaluations can be assumed after the discussion above, it is important to understand the processes through which the features of maximisers have their effects. The following section will further investigate the mechanism underpinning the impact of maximisers on H&N claims. Drawing on the literature and supporting theories reviewed in both this section and in previous sections, the following section suggests one possible mechanism to explain the process involved in maximisers’ alteration of consumer perceptions of a product, from a consumer’s initial exposure to a language cue on food

2

packaging to their product evaluation, which acts by reducing the perceived distance between consumers and food products.

2.3.3. Mediation with Processing Fluency

Customers often use numerous pieces of information (i.e. cues) from a diverse range of sources to evaluate food products, and such information can be processed at differing levels of effort, speed and accuracy (Novemsky *et al.*, 2007). This is often called processing fluency and Schwarz (2004, p.333) defined processing fluency as the receivers' feeling of "the ease or difficulty with which new, external information can be processed". For example, in deciding whether a product is tasty, a customer may examine packaging graphics and H&N information when evaluating in person, or sale history and technical information if evaluating a product online. Consumers can generate thoughts and opinions and reach a judgment based on the available cues surrounding product, as well as on the ease/difficulty level that they process these cues (Schwarz, 2004).

Multiple factors can affect the highly subjective feelings of ease and fluency, of which there are multiple types, including perceptual fluency, which refers to the perceived ease with the physical identity and form of a stimulus (Jacoby, Woloshyn and Kelley, 1989), conceptual fluency, which means the consumer's perception of feeling at ease or fluency with the meaning and associations of a stimulus (e.g., Whittlesea, 1993), and linguistic fluency, which explains the ease of language processing (Mcglone and Tofighbakhsh, 2000; Alter and Oppenheimer, 2006). A study by Mcglone and Tofighbakhsh (2000) focussed on linguistic fluency, demonstrating that individuals are more likely to believe aphorisms when they can rhyme (e.g. woes unite foes) comparing to similar such phrases that cannot rhyme (e.g. woes unite enemies), and this finding showed that this effect is produced by the similarity of linguistic repetitions, resulting an increase in a statement's familiarity and processing fluency. Alter and Oppenheimer (2006) later reported that the processing fluency of a share label, in the form of stock name and code, affected both its price and performance, showing that putting information in a visual format reduces barriers and effort related to information processing. Familiarity is a key component in processing fluency, with familiar stimuli being easier to recognise, read, and remember, leading to improved ease of processing (Schwarz, 2004). Assertive phrases, another language device, and their effects on processing fluency have also been studied in recent literature, with one study suggesting that an appropriate combination of character type and advertising language determined the ease of processing a message in an individual's mind (Chang, Chu and Kao, 2021).

The aforementioned studies suggest that individuals can base their judgments on the ease of processing language information. This thesis proposes that H&N claims lead to differing levels of linguistic fluency and, as a result, they can have opposing impacts on consumer's food evaluations and purchase intentions.

Processing fluency can be apprehended with both objective and subjective measures, such as processing speed, subjective impressions of effort respectively (Schwarz, 2004; Herrmann *et al.*, 2013). In the context of this thesis, the certainty and affirmation features of maximisers are directly a feeling of ease, which in turn can lead to greater certainty about a product evaluation or purchase than the feeling of difficulty, highlighting one effect of processing fluency on individuals' perceived certainty (Reber and Schwarz, 1999; Alter and Oppenheimer, 2008; Tormala, Clarkson and Henderson, 2011). Meanwhile, an ease in processing fluency can lead to more favourable attitude and behaviour (Lee and Aaker, 2004), including trustworthiness (Reber and Schwarz, 1999), likeability (Reber, Winkielman and Schwarz, 1998), aesthetic liking (Graf and Landwehr, 2015) and intelligence (Alter and Oppenheimer, 2006; Oppenheimer, 2006).

In sum, this thesis proposes that maximisers could lead to consumers experiencing a greater ease of processing fluency when viewing a food product's packaging due to the affirming features of this language device. This thesis is interested in understanding consumers' processing fluency in relation to food products and the effect of this fluency on the evaluation of this product and intention to purchase. Consequently, it could be assumed that maximisers used on H&N claims will affect consumers' intention to purchase a food product by influencing their processing fluency related to that product. Based on the literature reviewed and the supporting theoretical basis for this work – IPT – the second research hypothesis is presented below:

Hypothesis 2a: The inclusion of maximisers in H&N claims increases the positivity of consumers' product evaluations through an increase in the associated processing fluency.

Hypothesis 2b: The inclusion of maximisers in H&N claims increases the positivity of consumers' purchase intentions through an increase in the associated processing fluency.

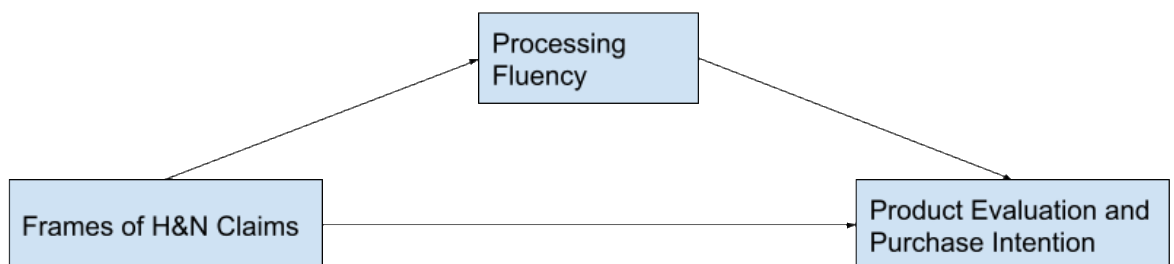


Figure 21 The Influence of maximiser-augmented H&N claims on product evaluation and purchase intention through mediator processing fluency

2.3.4. Mediation with Psychological Closeness

This section will explore and unpack the underlying mechanism of maximiser on consumer's perception of a product from an interpersonal perspective.

Psychological Distance

Distance is a concept that has multi dimensions and conveys 'a sense of space between objects' (Edwards, Lee and Ferle, 2009, p.35), with the terms 'distance', 'proximity' and 'closeness' all referring to this same sense of space between objects. Both physical and psychological distance have been studied extensively in psychology, social psychology, human communication, counselling and therapy and family studies (Hess, 2002). Physical distance in general refers to a distance between two locations that is objective, and can be measured (Darke *et al.*, 2016). In contrast to this, psychological distance is defined as "the extent of divergence from direct experience of me, here and now along the dimensions of time, space, social perspective, or hypotheticality." (Liberman and Trope, 2014, p.365). Psychological distance is more suitable to capture the sense of social interaction or interpersonal distance, such as in the context of relations between consumers and products (Edwards, Lee and Ferle, 2009). This thesis focuses on psychological distance rather than measurements of physical distance.

Psychological distance is considered to have a variety of facets, including social distance (i.e. the extent of personal connection and closeness), hypotheticality (i.e. perceptions of imaginary things versus tangible things), and temporal distance (i.e. present time versus past or future) (Edwards, Lee and Ferle, 2009). Social and hypothetical distance are both a key focus among all types of psychological distance for interaction of consumers and products. When consumers interact with a product, through observation and learning its packaging information cues, they can form a sense of relationship towards that product, since as social distance describes the connections consumers can form towards a product, hypotheticality states the imaginary relationship between a product and a consumer.

There are other terms such as closeness and attachment that, though based on the definition of psychological distance, share the same concept in the context of explaining and understanding the relationship between food products and consumers. For example, the term 'closeness' is used loosely across literature sources, and the meaning changes by context, culture, demographics, and life concerns (Allan, 1989). Closeness generally refers to a pattern of social contact or interdependence, or alternatively the experience of connection, between interacting partners (Berscheid, Snyder and Omoto, 1989). Perceived psychological closeness is considered as an interactive process because of communicators' responses to consumers, resulted in consumers come to feel being understood, validated by the communicator, and cared for. Hence, in this

context, closeness refers to consumers' perceived psychological proximity between themselves and a product (Kreilkamp, 1984; Gino and Galinsky, 2012; Dubois, Bonezzi and De Angelis, 2016).

'Closeness' has also been used interchangeably with the term 'attachment' (Reis and Patrick, 1996), where 'attachment' is a concept related to understanding the mechanisms of close relationships. The principles and processes that underlie attachment relations play an important role in other types of interpersonal bonds and the interactions, especially those that involve intimacy, support, emotion, and the emotional regulation. These terms describe this commercial relationship where a psychological bond can be created by certain elements of a product, including graphics (e.g. a mascot), or linguistic information (e.g. personalised statements such as personalised Nutella or chocolate bars). These terms, 'closeness' and 'attachment', will be referred to generally as 'psychological distance' in this thesis.

In criticism of the key idea under consideration here, Bove and Johnson (2001) suggested psychological distance may not be an appropriate term for describing commercial relationships, and instead argued that the use of psychological distance or proximity is more properly used to describe a romance or friendship, since customers' perceived psychological proximity may not be a desirable outcome for companies due to its inherent instability. Furthermore, Lii *et al.* (2013) explained that consumers' perceived psychological distance from a product depends on the type of communication used. The authors argued that a feeling of psychological closeness is encouraged for information-rich communication (e.g. face-to-face), whereas the feeling of psychological distance is fostered for informationally lean communication (e.g. online) (Lii *et al.*, 2013). While the nature of food shopping, both online and in-person, may require comparably less involvement than other types of shopping (e.g. purchase of luxury items or electronic devices), psychological proximity may not be fostered due to the type of communication used or the influence language used on H&N claims on customer's product evaluation.

However, relationships between consumers and food companies have some level of psychological distance, which is reflected in the connection or the feelings of psychological bonds a consumer has towards a food product (Kreilkamp, 1984; Trope, Liberman and Wakslak, 2007; Edwards, Lee and Ferle, 2009). This psychological distance was suggested by Story and Hess (2006) for use as a metaphor for the above relationship, i.e. the degree of connection or psychological bonds that form between consumers and brands in order to better explain consumer behaviours. Extant literature has focussed on the nature of friendship, but does not specifically address the incidence, nature of, or contexts for commercial friendships (Allan, 1989; Fehr, 1996), so psychological proximity, as an idiom for food product commercial relationships, is worthy of exploration.

In commercial contexts, language plays an important role in forming a perceived relationship, due to language's ability to express distance and manage relationship. This language effect can trace back to Brown and Levinson's (1987) theory of politeness, in which it was suggested that language politeness is used to imply or create social distance between communicators and receivers. For example, a communicator may address a receiver in a very polite way to not only signify the relatively larger interpersonal distance as well as to increase the social distance between them. A study by Sela, Wheeler and Sarial-Abi (2012) tested the influence of subtle changes in linguistic devices in shaping consumer's belief, attitude and behaviour. Through their experiments, it was found that the pronoun 'we' rather than 'you and the brand' can promote consumers' feelings of being attached with that brand's products and can change consumers' expectations of their relationship with the brand, highlighting that by carefully crafting communications, different language devices can act as a distance indicator (*ibid.*). The use of plural pronouns likely also communicates a speaker's commitment level to their relationship partner or others, therefore again demonstrating the effect of language choices on individuals' perceptions of relationships (*ibid.*).

The aforementioned empirical studies investigated a variety of effects of language applied on consumer behaviour, suggesting that language strategies can affect the consumer purchase intention through perceived psychological distance. This present thesis intends to investigate a particular language device, maximisers, and to examine whether their use affects consumers' evaluations of and purchase intention towards food products, through shaping consumers' perceptions of psychological distance towards such products.

The Application of CAT: Maximiser as a Relationship Indicator on Psychological Distance

As previously mentioned, language devices can play a subtle but important role in reflecting and communicating stereotypes and expectations to receivers (Fitzsimons and Kay, 2004). This section demonstrates, using the lens of CAT and the features of maximisers conceptualised previously in section 2.2.3., the influence of different features of maximisers on consumers' perceived psychological distance towards a product.

First, the literature on politeness suggested that polite, formal language signifies interpersonal distance (Brown and Levinson, 1987; Stephan, Liberman and Trope, 2010), and when one partner feels some distance from the other, especially in a first encounter, their more formal behaviours are considered more appropriate and comfortable (Kaitz *et al.*, 2004). The use of informal language can in turn reduce the perceived psychological distance between a communicator and a receiver, increasing their familiarity.

As discussed in 2.3.2., the use of maximisers in informal contexts of interpersonal discourse can create a feeling in consumers that a humanised product is speaking to them, which is linked to anthropomorphism. Food companies attempting intentionally or unintentionally to humanise their product, known as anthropomorphism, can evoke a feeling of similarity in consumers and create social connections (Li and Sung, 2021). Consumers have been found to form stronger self-and-brand connections with those brands that seem to have in-group member features, i.e. humanised H&N claims (Escalas and Bettman, 2005). Further, Li and Sung (2021) empirically demonstrated that psychological distance mediated the relationship between anthropomorphism and evaluation of the artificial intelligence assistant. Therefore, using maximisers helps food companies to manage their relationships with customers. The informality expressed through using maximisers on H&N claims can make consumers feel it is easy to connect with a product, viewing this advertising as a form of interpersonal communication, analogous to human interaction.

Secondly, sincerity is a key attribute in a relational interaction (Merolla, 2014), and is suggested to be essential in maintaining interpersonal relationships (Fletcher *et al.*, 1999; Aaker, Fournier and Brasel, 2004). Wortman and Wood (2011) studied the association of individual personality traits with being liked and found that people are more likely to include individuals in their social circles when these individuals are more likely to agree with them. As being sincere is one of the dimensions of agreeableness, this again confirms sincerity can foster close relations with others. Research into the impression formation processes of individuals and groups has also demonstrated that people tend to attach a great value to sincerity (Leach, Ellemers and Barreto, 2007; Brambilla *et al.*, 2013), and a perception of sincerity can also promote intimacy in a relationship, meaning that a product

seen as having sincere attributes may reduce consumer's perceived psychological distance from that product (Reis and Patrick, 1996).

From a marketing and branding perspective, sincerity is one of five traits in a brand personality (Aaker, 1997), and is considered important in strengthening consumer relationships as consumers often perceive a sincere brand as warm, trustworthy and down-to-earth (Buss, 1991; Fletcher *et al.*, 1999; Robins, Caspi and Moffitt, 2000; Aaker, Fournier and Brasel, 2004). The warmth and friendliness are relational indications, and the use of psychological distance can be a proxy for the feeling created by using maximisers on H&N claims. Therefore, sincere products should be perceived as closer or more proximal by consumers in comparison to a product without such impressions of sincerity. More specifically, sincere use of maximisers can enable food products to create and sustain a close relationship with customers, as well as to shape consumers' perceptions of a product (Fournier, 1994; Aaker, 1997).

The effect of maximisers on psychological distance is especially true with new products that have not yet established a well-known and distinctive brand image, since direct product observation determines how a product image is built (i.e. by creating and influencing perceptions of the product on display), which makes consumers' first impressions very important.

Finally, as introduced in 2.3.1.3., CAT is a communication theory which emphasise the adjustments that communicators make while communicating. Understand the effect of maximisers from a CAT perspective, communicators may use different linguistic devices in order to communicate both implicitly and explicitly whether they want to maintain or change the psychological distance with the receivers of their message (Fiedler, 2007). Communicators can thus build supportive relationships with consumers, gaining approval and establishing a positive image of themselves before their consumers. Not only does CAT indicate that psychological distance is a potential underlying mechanism for explaining how maximisers affect consumer product evaluations, the features of maximisers also reveal maximisers' impact on a customers' perceived proximity with a food product. Psychological distance reflects the relational perception receivers have on a communications' efforts to converge or diverge relative to them.

Hence, though maximisers can play a role in reflecting or creating commercial relationship perceptions, they can also play the role of maintaining or perpetuating those same relationship perceptions. More specifically, it can be predicted that psychological distance between a food product and consumers should be more proximal for those food products that use maximisers on H&N claims than those that do not.

The idea that proximity increases how well a product is liked by a consumer, also known as the propinquity effect, was suggested almost 90 years ago (Bossard, 1932), and this physical proximity has been suggested to lead to a 'close is good' heuristic (Shin *et al.*, 2019). Similarity, Kaitz *et al.*, (2004) stated that the appropriate physical distance between the communicators and receivers plays a significant role in shaping the quality of their interaction, and additionally helps communicators to sustain a relationship with receivers (Kaitz *et al.*, 2004). Though only social objects were tested in their experimental studies, Kaitz *et al.* (2004) posited that the proximity effect can occur theoretically in both social and non-social situations (e.g. hamburger, wrapped present), suggesting that this proximity effect is generally applicable, and not only in social situations.

Though often applied to physical proximity, the propinquity effect can also help to underpin the impact of psychological distance on purchase intention and product evaluation. A number of empirical studies have demonstrated the effect of psychological distance on trust and altruism (Etang, Fielding and Knowles, 2011), on affective reactions to an object (Shin *et al.*, 2019), on consumers' evaluations of an object (Harwood and Lin, 2000; Liberman and Trope, 2014; Thomsen, Karsten and Oort, 2016), and on purchase behaviour, especially for situations describing a consumers' first purchase encounter with a previously unknown retailer (Edwards, Lee and Ferle, 2009; Lii *et al.*, 2013; Darke *et al.*, 2016). This contributes to a greater understanding about the effect of psychological distance as a mediator on purchase intention and product evaluation.

In summary, this thesis aims to explore the impact of food packaging language choice on consumer product evaluations and purchase intention through consumer's perceived psychological distance towards the product, which stems from the seemingly sincere and informal language used on H&N claims. In the context of food packaging, H&N claims are particularly important information sources for consumers, and therefore subtle changes in H&N claim framing plays an important role in a food company's strategies for shaping consumers' perceptions of a product by reducing consumers' perceived psychological distance relative to that product. The preceding discussion demonstrate that both CAT and the features of maximisers help to explain that the inclusion of maximisers in H&N claims can influence positively consumers' perceived psychological closeness in relation to a food product. This provides evidence for food companies about framing H&N claims with maximisers. Hence, drawing upon the evidence presented in this section, and considering CAT and the propinquity effect, the present study suggests that the inclusion of maximisers in H&N claims can affect consumer product evaluations positively and purchase intentions by affecting the consumer's perceived psychological proximity with the product and this thesis hypothesises the following:

Hypothesis 3a: Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.

Hypothesis 3b: Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.

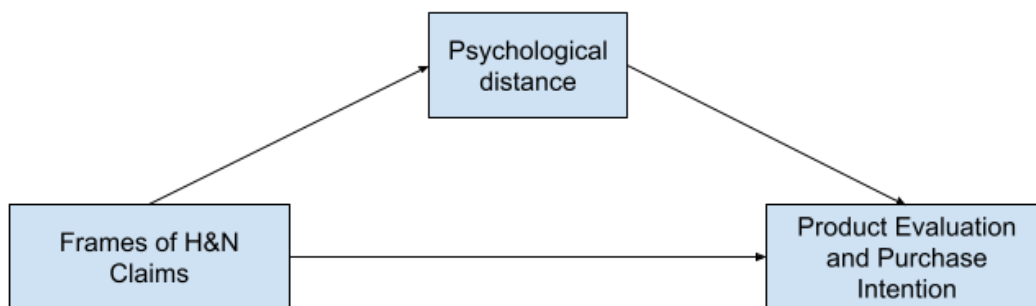


Figure 22 The Influence of maximiser-augmented H&N claims on product evaluation and purchase intention through mediator psychological distance

Finally, the following section brings together the two proposed mechanisms through which the use of maximisers is seen to affect consumer purchases of food products, namely through processing fluency and psychological distance, using the communication processing model and the persuasion model to present the basic conceptual model presented in this thesis.

2.3.5. Summary: A Basic Conceptual Model Explaining Maximisers' Effects on Consumers' Product Evaluation and Purchase Intention

The communication processing model and persuasion model are used in this thesis to underpin the message delivery process through which maximisers affect consumers' product evaluation and purchase intention via processing fluency and perceived closeness, providing a simple but comprehensive theoretical framework that underpins the present thesis's basic conceptual models.

Communication researchers have a long-standing and conceptually broad interest in the complexity of speaker behaviours and listener responses. Speech-response sequences are typically coded along predetermined dimensions according to functional, descriptive, or content-based properties, in order to identify interactional consequences of particular acts and sequences. Most models consider the listener's response to be a signal that helps define and regulate interactions. The communication process model proposed by Shannon and Weaver, (1949) helps to underpin the impact of language (stimuli), created by communicators and targeted at consumers, and recognises the variables that could affect the communication process, i.e. noise.

In the present thesis, maximisers represent a message element delivered by food companies that can increase consumers' processing fluency and perceived closeness. Studies have shown that disfluently processed stimuli feel more psychologically distant than fluently processed stimuli (Alter & Oppenheimer, 2008). Thus, a link can be theorised between consumers' processing fluency and perceptions of closeness. Psychological distance and processing fluency, which represent affective and cognitive processes, can in turn affect consumers' product evaluations and purchase intentions for a food product on display. Consequently, this thesis proposes the following hypothesis:

Hypothesis 4a: Maximisers used on H&N claims increase the positivity of a consumers' product evaluation through the serially linked mediators of perceived psychological distance and processing fluency.

Hypothesis 4b: Maximisers used on H&N claims increase the positivity of a consumers' purchase intention through the serially linked mediators of perceived psychological distance and processing fluency.

The communication processing model (2.2.1.) and persuasion model (2.3.1.1.) are useful in linking all key elements together to inform the potential moderator for this thesis.

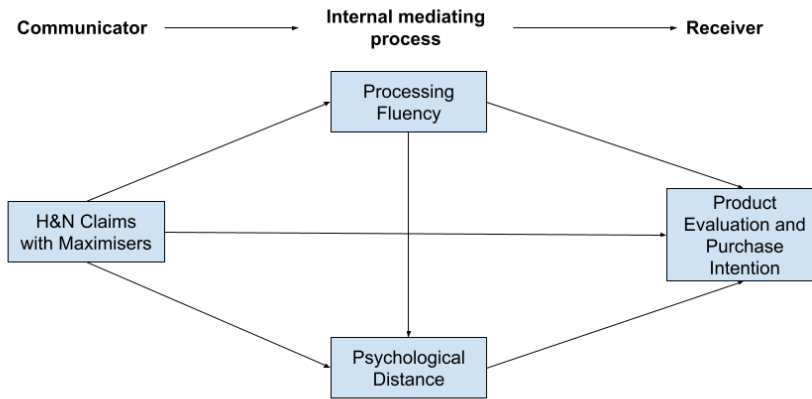


Figure 23 A basic conceptual model of how maximisers affect consumers' product evaluation

The conceptual model in Figure 23 presents two parallel processes through which maximisers can affect consumers' evaluation of and purchase intention towards a food product. The next section will discuss moderators that have been found in literature source that are used to influence consumers' responses towards a product. The concepts of perceived fit and cognitive load, and their roles related to the impact of maximisers on processing fluency and perceived closeness, and thus, on consumers' product evaluation and purchase intention, are the focus of the next section.

2.4. The Boundary Conditions of Perceived Congruence and Cognitive Load

This section will discuss the effects of two moderators, perceived congruence and cognitive load, on the impact of H&N claims that include maximisers on consumers' food product evaluations. The following sections will discuss the background and relevance of each moderator, the reasons for their exploration and use in this thesis, and their potential effects in contexts relevant to food product packaging and packaging in general.

2.4.1. Perceived Congruence

Heckler and Childers (1992) provided a first conceptualised congruency, suggesting that congruency has two dimensions: expectancy and relevancy, where 'expectancy' refers to the degree to which information falls into some predetermined pattern or structure evoked by a stimulus, and 'relevancy' refers to the degree to which information contributes to or hinders the identification of the primary message communicated by a stimulus (Heckler and Childers, 1992). Consumers' perceived congruence with a product can be influenced by the many information cues surrounding that product. In contrast to the conceptualisation by Heckler and Childers, this thesis assumes consumer's perceived congruency has only one dimension, expectancy. This is considered a reasonable assumption since maximisers themselves can only be categorised as expected or unexpected, as though the information contained in the statements modified by a maximiser can be considered relevant or irrelevant to a receiver, the maximiser itself is neither relevant or irrelevant.

Perceived congruence plays a significant role in predicting a variety of performance metrics, including recall and product evaluations (Mazodier and Merunka, 2012; Woisetschläger, Backhaus and Cornwell, 2017). When a consumer's expectations and the evidence presented by the environment do not differ, a stimulus is perceived as congruent (Mandler, 1981). Incongruent stimuli, i.e. those that fail to meet consumer's expectations, can lead to more intense information processing than for congruent stimuli (Peracchio and Tybout, 1996). As individuals prefer stimuli that match their expectations, a high congruence can result in more favourable consumer responses towards a product (Heckler and Childers, 1992; Lee and Mason, 1999). Consumer behaviour studies have also offered various perspectives on achieving congruence through product designs and marketing communications, with the resulting outcomes suggesting that congruency enhances the perceived value of a product (Erdem and Swait, 1998, 2004; Lyons and Wien, 2018).

On the contrary, consumer product evaluations are more favourable when they experience moderate incongruity about a product, rather than either extreme of full congruence or extreme incongruence (Meyers-Levy and Tybout, 1989; Peracchio and Tybout, 1996; Orth, Rose and Merchant, 2019). Fleck and Quester's (2007) study on congruency for sponsorship showed that a

certain level of mismatch between the sponsor and the event contributed to a sense of unexpectedness or surprise for consumers, which led to an enhanced positive evaluation. For the studies conducted in this thesis, the above information illustrates the importance of exploring the effects of perceived congruence when H&N claims are framed with maximiser.

Consumer's perceived congruence is considered a boundary effect on the impact of maximisers for influencing consumer responses. This concept of congruency reflects Paul Grice's (1975)'s maxims in which the key elements for understanding the effective use of language were highlighted. Manner (as it needs to be clear) and relation (as its relevance) are two factors in these maxims¹¹, and correspond to the concepts of 'expectation' and 'relevance' stated above. Marketing communications need to account for perceived congruence in order to successfully communicate with both their consumers and their wider target audience (Henderson, Mazodier and Sundar, 2019).

It is reasonable to assume that when the type of language used on H&N claims is perceived to be inappropriate for the product with which it is used, consumer evaluations of this product will be more negative. The informal feature of maximisers can restrain the situations in which it is applied, for example, it is less appropriate to use maximisers in a formal environment. Similarly, can affirmative and sincere features of maximisers save a food product from negative reviews as the product trustworthiness is internally enhanced? Hence it will be beneficial for this thesis to understand consumer's perceived congruence on the language used on a product with other information cues in understanding the marketing effectiveness.

Before discussing different situations concerning consumers' perceived congruence, language Expectancy Theory (LET) and Role Theory (RT) are introduced. These theories are helpful in predicting how consumers perceive food packaging elements and, specifically, in understanding the role of perceived congruence as an indicator of a consumers' product evaluation, particularly where a consumer's perception matches their expectation. In other words, LET and RT explain the moderation effects surrounding the use of maximisers, and both are used for this purpose, though LET will be the primary theory used for exploring these effects in this thesis.

¹¹ Another two factors are: quantity, appropriate amount of information; quality, as it needs be genuine.

Role Theory

In role theory, the term 'role' refers to a set of social cues (i.e. being a mother, or teacher) which guide individuals or companies on how to behave in a given setting (Solomon *et al.*, 1985). This theory extends to understanding the relationship between consumers and companies, positing that a successful social interaction between consumers and products depends on whether these products behave appropriately according to their specific social role in a relationship (Sarbin and Allen, 1968; Schewe, 1973; Solomon *et al.*, 1985). For example, a salesperson whose behaviours are contingent upon their customers' specific needs is more effective than a salesperson who does not adjust their behaviours (Weitz, 1981). This adjustment demonstrates a link to consumer's perceived congruence.

Food companies can gauge their behaviour to the predicted behaviour of consumers (Rose, 1962), meaning companies can anticipate consumer needs and manipulate packaging design elements in order to meet consumers' expectations of a food product. In other words, food packaging designs reflect a food manufacturers' understanding of the nature of the roles they intend to play, which is accordingly shown through the nature of the design elements used (Schewe, 1973). In order to have a successful interaction, food companies need to have a good understanding of their customers' behavioural norms, since consumers evaluate the presentation of food packaging based on their personal expectations (Sarbin and Allen, 1968; Schewe, 1973; Solomon *et al.*, 1985; Gretry *et al.*, 2017). For example, a particular behaviour, dress code and language would be expected in a more formal or more professional environment (banks, court etc.), whereas typically a relaxed approach to these things is taken for a more informal atmosphere, such as a conversation happening between friends. Consumer beliefs and expectations about the behaviour and language used by marketers when communicating their products can subsequently affect their consumption decisions and experiences (Allison and Uhl, 1964; Irmak, Block and Fitzsimons, 2005; Faro, 2010; Lee, Frederick and Ariely, 2016; Shiv, Carmon and Ariely, 2018).

Consumers expect a given type of product to behave according to social norms. Inclusion of a maximiser in H&N claims is perceived by consumers to be more appropriate for informal brands compared to formal brands due to the colloquial nature of maximiser. When consumers experience congruence between the presented product packaging with H&N claims and expected product packaging, the consumers satisfaction with this product will be more likely to be positive (Solomon *et al.*, 1985). When consumers expect to see such language on a product with which they are presented, the effectiveness of the language intensity manipulation is higher than situations in which it is less expected / not expected.

This thesis posits that framing H&N claims with maximisers may not work as effectively when applied under formal conditions (vs. informal conditions) due to the match between the feature of maximiser and the environment. Informality, as revealed by the presence of maximisers on elements of food packaging, can either have a positive or negative influence on product evaluation depending on whether consumers are expecting such framing on that packaging.

Though role theory helps in the conceptualisation of the present thesis, establishing the concept of congruity in social interactions, which requires a shared understanding of behavioural norms between companies and consumers, though the present thesis does not make use of it. The focus of role theory is beyond language alone, so it cannot explain the effect of a maximiser as a language device in even though it has a social relationship focus.

The use of expectation to link to role theory suggests an attitude change based on consumers' different norms and preferences. However, and with the clear focus of LET on linguistics, people react to some specific language expectation based on the pattern when they receive messages, which are employed in a persuasive manner. Therefore, LET is more appropriate for this thesis.

Language Expectancy Theory

LET is 'a formalised model about message strategies (verbal aggression like fear appeals, opinionatedness, and language intensity), and attitude and behaviour change' (Buller *et al.*, 2000, p.104). It is similar to role theory but can be used to explain the persuasive effects behind various types of language strategies, which have been tested across a wide range of communication exchange formats, including in-person communication exchange (Buller *et al.*, 2000; Jensen *et al.*, 2013). This section will introduce LET and its application in this thesis – framing H&N claims with maximisers on food packaging.

LET, as a theory describing persuasion and social influence, was developed in response to inconsistent empirical findings about the effectiveness of various language strategies, aiming to centre on message variables (Burgoon, Jones and Stewart, 1975). LET assumes that consumers develop (a) expectations and preferences concerning the language strategies employed by communicators in their attempts at persuasion, and (b) informed opinions about what is considered competent communication (Buller, Borland and Burgoon, 1998). LET highlights a key factor: expectation in the communication, which means an 'anticipated behaviour that may be either generalised or person-specific' (BURGOON and WALTHER, 1990, p.235). LET explains how consumer's expectations 'interact to enhance or inhibit persuasion effect' (BURGOON, PAULS and ROBERTS, 2012, p.121).

If a communicator positively violates a receivers' expectations, attitude change can be enhanced, corresponding to the effect of moderate perceived incongruence; whereas if a communicator negatively violates a receiver's expectations, attitude change can instead be inhibited, corresponding to the effect of extreme incongruence. This is crucial for understanding the effectiveness of particular language strategies for achieving significant attitudinal changes. For example, use of aggressive language by a female communicator can be deemed inappropriate by receivers, therefore inhibiting their potential attitude change (Buller *et al.*, 2000). This perceived inappropriateness can be considered to be an incongruence between the speaker and their choice of language. In a further example, salesperson language use can be seen as appropriate or inappropriate, determining both the success of their interactions with a customer and perceptions of whether that salesperson is trustworthy (Clementson, Pascual-Ferrá and Beatty, 2016b).

LET has been applied in studies investigating the effects of message variables, such as language intensity, and in studies that investigate the effectiveness of using particular claims for a positive social effect. For example, the use of intensive language in sun protection messages was found to enhance the effects of different argument styles, showing that physicians could use high-intensity messages to encourage parents to put sunscreen on their children (Buller, Borland and Burgoon, 1998). Highly-intensive language is assumed not to be non-standard in the context of a healthcare and prevention campaign, so integrating intensive language within a claim should violate a receiver's linguistic expectations. Since the communicators behind such healthcare and prevention campaigns are generally considered to be credible information sources, LET posits that the violation is likely to be viewed positively and would thus yield greater compliance with sun safety guidance. This finding indicates that a communicator that is highly-regarded as a credible source should be expected to use high-intensity language, while a communicator that is not perceived to be authoritative and credible should not use high-intensity language in an attempt to enhance attitudinal changes (*ibid.*).

The aforementioned studies stated the importance of a communicator being a credible information source (e.g. more trustworthy, competent, and dynamic), since they are given more leniency with what is considered appropriate communication, i.e. can explore a larger variety of behaviours without negatively violating receivers' expectations (Burgoon, Jones and Stewart, 1975). Section 2.4.1.2. will explore the factor credibility and its impact on consumer response toward a product.

In the context of this thesis and from the perspective of LET, consumer product evaluations are likely to be influenced by the language characteristics found on food packaging, e.g. by maximisers on H&N claims. Depending on the standard practices in food marketing communications, new norms, such as using maximisers on H&N claims, can violate linguistic expectations. Consumer

expectations surrounding food packaging are formed from their experiences of perceived standard or ideal communication. If consumers have not previously encountered high intensity language on packaging, they are then less likely to expect such language devices when they are used with H&N claims. Consumers' linguistic expectations of the marketing for a food product will hence be violated.

Linguistic expectations can be also formed based on the perceived congruence between a communicator and their message. For example, the expressions of informality from the use of maximisers may violate consumers' expectations surrounding a more formal product. In this case, violating consumer expectations of a food product would be seen as incongruence, and would result in an overall less positive product evaluation. When consumers perceive the match between a food product and the language used on H&N claims to be appropriate (i.e. informal situation with an informal message), this violation of language expectations is likely to lead to both a more positive product evaluation and an increased purchase intention. Therefore, food companies' strategies for implementing maximisers as part of their advertising claims is dependent on both the nature of the product and consumers expectations of the messaging surrounding that product (Jensen *et al.*, 2013).

To summarise, LET is concerned with explaining the role expectation plays in influencing consumers' attitudinal and behavioural changes in response to persuasive communications. Compared to other theories, such as role theory, LET has a particular focus on language-based influences. By placing consumers and the H&N claims at the centre of this concept, different factors including external (e.g. additional source, social and technological environment) and internal (e.g. i.e. food companies' sources, impression on personality traits and attitudes) are also essential in forming a congruent experience for consumers. The following section will explore different factors that influence perceived congruence in the context of food products, and will serve to explain why consumers' perceptions of congruence or incongruence can be affected by the maximiser cues used on H&N claims when evaluating and purchasing a product. This aims to build a good understanding on how brands can communicate with their consumers in building impression and fostering sales. It will also hypothesise the contingent role of perceived congruency on the effect of H&N claims on consumer purchase intentions towards food products.

Perceived Congruence with Retail Environment

As introduced in 2.4.1., consumers' perceived congruence can stem from both internal and external sources, and since consumers' real-world shopping experiences are typically in a retail stores, they

may process the product packaging as much as they process the retail environment, with both information sources impacting their behaviours (Bloch et al., 2003; Zhu and Meyers-Levy, 2009). Creating a congruent experience for retail visitors between the products that consumers purchase and their surrounding environment is essential for positive product evaluations, since both the retail environment and the choice of product packaging are used by food companies to showcase their brand personality and to attract consumers.

Since language cues, a key part of the product information, also play an important in shaping consumer's perceived congruence, it is thus critical to investigate how the retail environment interacts with product cues (e.g. language) to affect consumers' perceived congruence. In this thesis, the contingent role of consumers' perceived congruence between the packaging elements (e.g. maximiser) and retail environment on consumer product evaluation and purchase intention will be explored. From a role theory and LET perspective, food product refers to the set of dimensions associated with product characteristics from colour, material, and information to overall packaging, its advertisement, and retail environment they placed in, which all determine which role behaviours are expected for this product. It is overall favourable for food companies to provide a congruent or moderately incongruent experience between the packaging and retail environment for their consumers, as this promotes positive perceptions of a given product.

Consumers' anticipation of food companies' behaviours allows consumers to gauge food products relative to the predicted 'behaviour' of other products (Rose, 1962). These effects occur because consumers expect products to match their preconceived social norms, such that the use of an informal style is perceived to be appropriate for informal brands, and conversely such a style is inappropriate for formal brands. When perceived congruence is high, product evaluation increases, indicating that in order for consumers to experience a positive interaction with a product, companies must understand the nature of this relationship, and behave and position themselves accordingly (Schewe, 1973). Consumers expect food product packaging to match well with other information cues they observe, since these cues fulfil a number of duties and obligations as an occupant of a social position (Sarbin and Allen, 1968). A successful interaction between a consumer and a product depends on perceived congruence, more specifically, consumers evaluate whether the packaging design is congruent given the retail environment (Sarbin and Allen, 1968; Schewe, 1973; Solomon *et al.*, 1985; Gretry *et al.*, 2017).

As maximisers are often applied in informal contexts, as introduced 2.2.3.2., food products can be seen to be less formal by including maximisers within H&N claims on food packaging. These informal H&N claims on food packaging can have either a positive or negative effect on product evaluation depending on consumers' perceived congruence with the retail environment. If a

consumer perceives the retail store they are visiting as informal, a more positive product evaluation will be generated when products are advertised with claims that include a maximiser. However, this process is moderated by consumer's perceived congruence, which is guided by the role theory or LET, i.e. what behaviour or language strategy is expected under some given condition(s).

To draw conclusions from the preceding discussion, both role theory and LET aid in explaining the impact of including maximisers on product evaluation and on purchase intention, an impact which is contingent upon consumers' perceived congruence between the maximiser and other product features, in this case, retail environment. Furthermore, the perceived congruence (incongruence) will positively (negatively) influence the psychological distance. The following hypotheses are proposed as a result below:

Hypothesis 5a: The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.

Hypothesis 5b: The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.

Hypothesis 6a: The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.

Hypothesis 6b: The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.

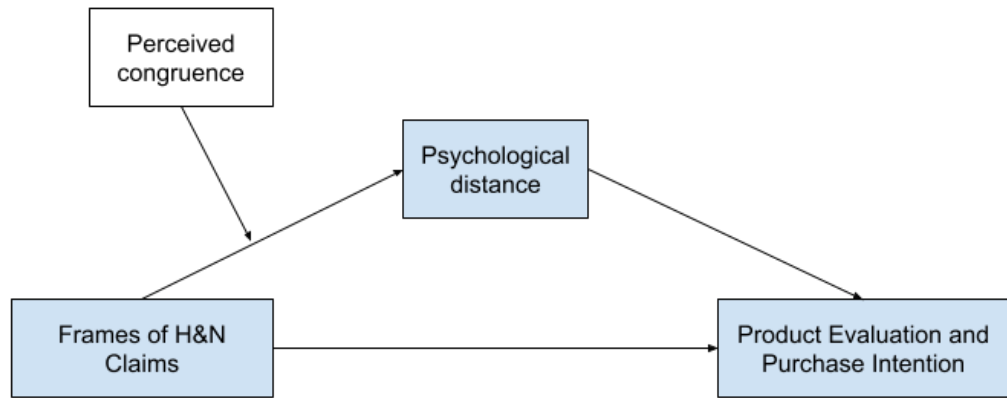


Figure 24 The Influence of maximiser-augmented H&N claims on product evaluation and purchase intention through mediator psychological distance moderated by perceived congruence

Perceived Congruence with Online Review

This section will explore another form of consumers' perceived congruence from an external source, and will aid in understanding the interaction between affirmative nature of maximisers and online reviews, and its impact on consumer's product evaluation. Where H&N claims are framed with maximisers, the sincerity and affirmation features of the maximisers can increase the certainty of the original message. In other words, it is important to understand how additional information interacts with this claim and affects consumers' product evaluation? Andersen and Blackburn (2004) suggested the relationship between maximisers and source credibility should be investigated to ascertain whether a message could yield more positive responses in the maximiser condition if the source were perceived as more or less credible.

The rising number of very public food safety scandals in past years (such as the UK horse meat crisis of 2013), along with societal concerns about obesity and new and developing production process technologies, modern consumers have a number trust issues with food companies (Viktoria Rampl *et al.*, 2012). Cues included in packaging designs can influence how credible a product appears to consumers, and framing H&N claims with maximisers is one of these cues. One function of maximisers is to make message appear affirmative and sincere, therefore gaining trust among consumers. Not only can this make a product appear more trustworthy, it can also shape consumer attitudes toward food technologies, production and process methods, and the origins / source of their chosen foods (Hobbs and Goddard, 2015).

There are two essential components of credibility: trustworthiness and expertise (Hovland and Weiss, 1951). Trustworthiness is "the degree of confidence in the communicator's intent to communicate the assertions s/he considers most valid", while expertise refers to "the extent to which a communicator is perceived to be a source of valid assertions" (Hovland, Janis and Kelley, 1953, p.21). Source credibility therefore means the extent to which consumers perceive information provided by a source as both informative and believable. For a food product to be credible, consumers should be confident with this product and easily accept the message without much scrutiny (Winterich, Gangwar and Grewal, 2018). In contrast, consumers will engage in greater message scrutiny to ascertain the validity of a food product with low credibility. This source credibility could come from the design of the food product itself without relying on additional information sources (i.e. news media) (Eisend and Langner, 2015). Online reviews are an additional information source and are known to have a compelling impact on consumer purchase preferences (Fornell and Westbrook, 1984; Liu, 2006; Allard, Dunn and White, 2020), with around 50% of consumers reporting that they refer to online reviews before making purchases (PwC 2016), and 78% report trusting online reviews as much as personal recommendations (BrightLocal, 2018). For

food companies to succeed in marketing their products, both their product design and understanding how online reviews affect their products are equally important.

Online product reviews are an emerging market force and are considered among the most influential types of electronic word of mouth (WOM) for shaping consumer attitudes and customers' purchase decision (Plummer, 2007). Practically, the information source may be from reviewer's personal website, it may be posted on a site that aggregates online product reviews, or it may be from quotes or comments by others on a given website that the original creator does not know, though it is difficult to identify the original creator of a message, and other cues, from a website, even when this information is important to consumers. Though the credibility of online reviews is important information to have, according to Dou *et al.*, (2012), in current online sources environment, it can be hard to evaluate a product reviewer's expertise or the source credibility. The anonymous nature of the internet and the vast numbers of online product reviews make it challenging for consumers to learn about and critically evaluate a reviewer's qualifications, as well as to identify relevant information and honest opinions about a product (Park & Lee, 2009). These factors can reduce consumer trust as it becomes harder for consumers to navigate and make inferences about product performance based on online reviews.

Despite the importance of online reviews in the consumer decision-making process, there exists a general high scepticism among consumers toward product reviews, which results from consumers' concerns regarding the credibility of review content and reviewer motivation. Compared with firm or marketer-generated communications, which are viewed as companies' efforts to sell, WOM from other consumers, i.e. consumer reviews, is considered more reliable, authentic, relevant, and unbiased (Friestad and Wright, 1994; Godes and Mayzlin, 2009; Allard, Dunn and White, 2020). The independence from a marketer's persuasive intent can ease consumers' scepticism towards the product (Shan, 2013), but in modern contexts this independence cannot always be guaranteed. Consumer-created information is likely to be more credible than seller-created information due to the trustworthiness dimension of the information source (Wilson and Sherrell, 1993), since individual reviewers generally have no incentive, financial or otherwise, to provide misleading information about a product. Additionally, a study found that the perceived source types (expertise vs. customers) does not affect consumers attitude toward a product, while positive reviews and negative reviews from the source are more influential (Haws, Reczek and Sample, 2017).

When considering the valence of a set of reviews, these online reviews vary in content as well as the valence of the success or failure of the product. Reviews for a product can be predominantly positive or negative, and both negative and positive reviews can significantly influence consumer decision making (Basuroy, Chatterjee and Ravid, 2003; Godes and Mayzlin, 2009; Trusov *et al.*, 2009)

with negative reviews often being the most impactful (Mizerski, 1982; Chen and Lurie, 2013). In general, negative reviews lead to less favourable product evaluations, and positive reviews lead to more favourable firm evaluations (e.g. Fornell and Westbrook, 1984; Chevalier and Mayzlin, 2018). Though exceptions exist to this general rule, they will not be discussed here.

Additional online comments can raise questions about the product credibility. When consumers read negative reviews of a product that includes maximisers on H&N claims, the presence of these maximisers can contradict with the affirmative nature of what is advocated by a product, i.e. good health, low sugar/fat. This perceived incongruence between online reviews and intensified claims that advocate some position can cause consumers to perceive maximisers as rhetorical, affecting product evaluations even more negatively than the case in which maximisers are not included in H&N claims. Given the above relationships between credibility and maximiser, the use of maximisers in H&N claims is likely to lead to consumers feeling sceptical toward products that use them, and worsen the impression of the product as a dishonest brand, while avoiding the use of maximisers will not cause consumers feelings of discomfort and opposition. Consumer exposure to positive product reviews helps to confirm the positive attributes of a product and leads to increased trust regarding H&N claims that include maximisers, while H&N claims that do not include maximisers do not lead to this effect on their brand image.

Therefore, based on the prior discussion, negative product reviews are likely to trigger consumers perceive maximisers being rhetorical or hyperbolic, leading to an overall negative product evaluation and purchase intention. Furthermore, positive product reviews will positively influence consumers' product evaluation and purchase intention as it matches with the message H&N claim framed with maximisers. Similar to hypothesis 6, this process is mediated by psychological closeness. The following hypotheses are therefore proposed:

Hypothesis 7a: The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews where negative reviews lead to a lower PE compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group with maximisers.

Hypothesis 7b: The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PI compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group with maximisers.

Hypothesis 8a: The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.

Hypothesis 8b: The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.

To conclude, even with all the speculation, the entire effect of additional information of the products (i.e. online reviews) on the generation of product attitude remains untested, especially the function of this additional information, i.e. being confirmative or a cue of the credibility of this food product. Therefore, it is important to understand the impact of customer reviews in the context on the consumer and product relationship, specifically whether this external information, product review will reinforce or contradict with the food product that carries the similar features, i.e. affirmative feature of maximisers due to consumers' perceived incongruence between the natures of H&N claims and reviews. Understanding the effect of additional product reviews will be tested to help bring insights on customer-generated content and credibility perception.

2.4.2. Cognitive Load

In real-world situations, distraction is known to influence language processing and also has an impact on persuasion (Petty, Wells and Brock, 1976). It is highly unlikely that consumers will ever process product information in sterile isolation, drawing into question studies that take this reductionist approach to evaluating cognitive load (Fox, Rinaldo and Amant, 2015). Consumers experience all kinds of distractions while they are in contact with a food product, especially with the increasing prevalence of multitasking and near-continuous distractions in modern society, causing consumers to consistently experience a high demand for their cognitive resources while processing such food product information.

All consumers experience relative inattention from a company's perspective, so managing and gaining customers' attention is foundational for building brand awareness (Lerman, Morais and Luna, 2017). In order to be noticed by the over-occupied modern consumer and to attract their attention, companies must break through the noise and information clutter barriers, with language devices are one of a number of useful tools that are suited to achieving this. The limitations of the human mind for processing some given piece of information are well-recognised, and it is understood that the availability of cognitive resources are likely to affect the effectiveness of

maximisers used on H&N claims on food packaging. The availability of cognitive resources, referred to as cognitive load in this thesis, is also an indicator of how much distraction consumers experience. This thesis will examine the moderating role of cognitive load on the effect of maximiser on consumers' product evaluation. Therefore, the aim of the present research is to hypothesise and test the contingent role of cognitive load against the effect of H&N claims on consumer purchase intention of food products.

Prior research has demonstrated that a wide variety of consumer behaviours that are affected by cognitive load, including individual memory (e.g. Khan, Sharma and Dixit (2008), speech recognition (e.g. Mattys, Brooks and Cooke, (2009), and people's ability to learn (Engle and Kane, 2004; Paas, Renkl and Sweller, 2004; Young *et al.*, 2014). Furthermore, cognitive load also negatively impacts consumers' performance on secondary tasks and individuals' choice-making (e.g. Rottenstreich, Sood and Brenner (2007), and the performance of people under greater cognitive loads was found to be diminished in tasks of cognitive control (Mani *et al.*, 2013), reasoning (De Neys, 2006), and decision-making (Hinson, Jameson and Whitney, 2002).

Prior studies have demonstrated the mechanisms behind the effects of increased cognitive load on consumers, i.e. a reduction in cognitive abilities (Argo and White, 2012). In these situations, consumers may struggle to cognitively elaborate on information provided to them and they may find difficult to apply available cognitive capacity on the crucial task (explained by Elaboration Likelihood Model¹²). As a result, consumers with a high cognitive load is likely to process information automatically and heuristically, with their comprehension of a message reduced and

¹² Elaboration likelihood model explains persuasion from an information-processing perspective and views persuasion primarily from a cognitive perspective, meaning that the receivers of persuasive messages engage with a variety of mental processes including reasoning to reach conclusions on whether to accept or reject such persuasive message (Petty and Cacioppo 1986). ELM explains the situations when receivers may think critically of a persuasive message and describes that the different types of information processing can depend on recipients' motivation and ability to process message. ELM suggests that when consumers have motivations and reasons and do not have distractions, they will process this persuasive message more comprehensively.

On the contrary (less motivated and more distracted), consumers may allow themselves to be affected by irrelevant factors rather than the focal task. In addition, the dual-process model of persuasion (similar to ELM) suggested that when consumers have distraction to scrutinise a message, source variables become a heuristic cue to assess this persuasive message.

with a greater reliance on their 'affect' to help them make decisions (Gilbert, Pelham and Krull, 1988; Shiv and Fedorikhin, 1999; White *et al.*, 2016). In contrast, consumers that are subject to a low cognitive load are more likely to engage in objective and systematic information processing that will draw their attention to the details of a message, minimising the impact of heuristics (Maheswaran and Chen, 2006). In a study focusing on consumers' eating behaviours, Ward and Mann (2000) showed that cognitive load disinhibited restrained dieters who ate significantly more while performing a high cognitive load task versus a low cognitive load task. This is because cognitive load suppressed dieters eating goals, resulting in overconsumption during the task.

Cognitive processes also moderate the impact of a communication (Wright, 1973; Wood, 2000). Cognitive load reflects a key element, noise, which was previously introduced in the communication process model, with past research showing that cognitive factors (e.g. capacity) moderate the language effect on persuasion (Lowrey and Shrum, 2007; Pogacar, Shrum and Lowrey, 2018). For example, Meng, Luna and Czellar, (2016) illustrated that when consumers are cognitively occupied, corresponding to a low-elaboration purchase situation, the use of verbs in marketing communications led to more immediate actions and product choice compared to low cognitive load. It is also demonstrated that with motivation, consumers process information more carefully (e.g. low in cognitive load), and they are more easily influenced by subtle communicational changes in the linguistic components (Meyers-Levy and Peracchio, 1995; Mcquarrie and Mick, 1996; Petty and Briñ Ol, 2008; Sela, Wheeler and Sarial-Abi, 2012).

Several theories have been used to underpin the impact of cognitive load and how it determines whether message receivers have the capacity and motivation to process a persuasive message, including the elaboration likelihood model, heuristic systematic model, information processing theory (IPT) and perceptual fluency, each of which help to predict the relationship between cognitive stress and attitude change. Perceptual fluency describes the match between situational conditions (e.g. duration of exposure to a stimulus) and a target, and has advantages over focussing exclusively on message content since an experience of perceptual fluency can increase the likeability of a target, in this case a message, which should enhance and improve product evaluations (Reber, Winkielman and Schwarz, 1998). This is because when consumers are under high cognitive load, messages presented to them are more deviant and therefore reduce product evaluation (Fox, Rinaldo and Amant, 2015).

Of key interest to this thesis is whether cognitive load affects consumer perceptions of psychological closeness and processing fluency, and consequently whether this can influence consumers' product evaluations. Decision-making is expected to change with and be dependent on whether consumers are under high or low cognitive loads (Argo and White, 2012). Individuals may

fail to appreciate or even notice the packaging as well as the implication of maximiser on H&N claims by diverting their attention away from viewing the product. Therefore, consumers are likely to process this product and the information contained thereon in a more heuristic fashion. The feeling of psychological closeness consumers experience about a product will be diminished and, as a result, responses will be less favourable for products that use H&N claims which include a maximiser. The effects of maximisers will instead be amplified when consumers are under a low cognitive load, since they can process product information more favourably, are more motivated and deliberative during their information processing and thus are more likely to detect, process and experience the features of maximisers.

On the contrary, psychological reactance theory suggests that consumers have been shown to exhibit less reactance behaviour as information overload increases, indicating that overloading can lead to higher acceptance of extremity language as this increases the processing fluency. However, it is arguable whether the use of maximisers can be a threat to a person's freedom, by triggering a person's urge to restore that freedom by exhibiting opposition to or resistance to these pressures to conform (Edwards, Li and Lee, 2002, p.83).

To summarise, this thesis proposes that when consumers experience a low cognitive load, they will favour the use of maximisers on H&N claims, whereas when consumers experience a high cognitive load, they will be less susceptible to the effects of H&N claims modified with a maximiser. Therefore, the presence of a maximiser has a negligible impact on product evaluation. The following hypotheses are proposed in line with the above information:

Hypothesis 9a: With a high cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are similar whether they use H&N claims framed with or without maximisers.

Hypothesis 9b: With a low cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are more positive when using H&N claims framed with maximisers than when using H&N claims without such framing.

Since cognitive load is proposed to be a critical variable for moderating the relationship between products and consumers, study 3 will test whether cognitive load affects consumers' perceptions of maximisers related to product evaluations via changes in psychological distance and processing fluency.

This thesis wishes to involve consumers' perceived congruency in the communication processing model and examine its role in a food retail context. The empirical investigations that follow will test whether including maximisers in H&N claims has an impact on consumers' purchase intentions. This

section describes literature on the boundary conditions of perceived congruence and cognitive load related to the use of maximisers. The next section summarises the conceptualisation of this thesis as a whole and provides a summary of the literature review.

2.5. Conceptualisation and Summary

In this literature review chapter, food packaging and its elements are introduced, along with a discussion on the concepts of communication and language in marketing, and a descriptive conceptualisation of a ‘maximiser’ is illustrated, including key discussion of its features and effects in a range of contexts. Finally, the effects of maximisers on product evaluations and mediating and moderating processes are explained, again in the context of the maximiser’s ability to modify attitudes towards a target.

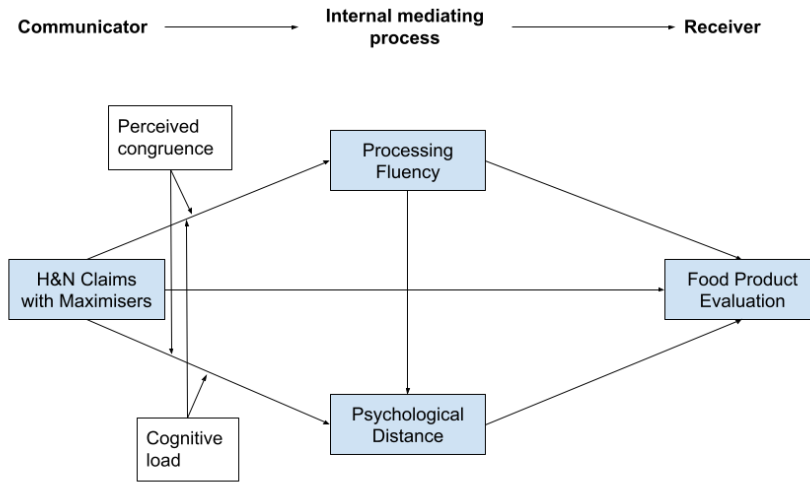


Figure 25 A conceptual model of the influence of maximiser on purchase product evaluation based on communication processing model and persuasion model with moderators

Following the above topics, the conceptualisation for the model tested in this thesis will then be set out. Figure 25 presents the two processes: processing fluency and psychological distance through which maximisers used on H&N claims can influence consumers’ product evaluation, and this both processes depend on consumers’ perceived congruence and their cognitive load. Having described the background necessary for understanding this work, the following section describes the methodology and approach for experimental work undertaken in this thesis.

3. Methodological Approach and Experimental Study

This chapter outlines the research philosophy and research methods applied in this thesis, including a discussion of the philosophy of research, identification of the best-suited research paradigm and most appropriate methods for the studies conducted in this thesis.

3.1. Research Philosophy

A research philosophy describes ‘a system of beliefs and assumptions about the development of knowledge’ (Saunders, Lewis and Thornhill, 2016, p.124). This process is important, with this decision largely determining the research strategies and assumptions made in empirical studies supported by it (Žukauskas, Vveinhardt and Andriukaitienė, 2018). A research paradigm involves thinking about the research at hand, the process of completion or accomplishment, and the method of implementation. This concept is summarised in three fundamental types of questions (Guba Yvonn and Lincoln, 1994; Thomas, 2004; Žukauskas, Vveinhardt and Andriukaitienė, 2018), which are stated below:

- 1) Ontological: What is reality?
- 2) Epistemological: What is the nature of the relationship between the knower and that which can be known?
- 3) Methodological: How can the inquirer go about finding out the things that they believe can be known?

Positivism and interpretivism (also known as constructionism) are the two dominant research paradigms in the social sciences (Burrell and Morgan, 1979; Thomas, 2004), and are widely applied to questions ranging from those that are very general (e.g. “What is the meaning of life?”) to those that fall within a tight niche (e.g. “How does X influence Y?”), and across all disciplines and focusses of study.

This thesis takes a positivist approach to research, in which generalised patterns within data are sought, and which consequently has a strong emphasis on the identification of causal lineages (Hudson and Ozanne, 1988). In contrast, interpretivism aims to understand and interpret the meanings pertaining to human behaviour in a specific context (Hudson and Ozanne, 1988), and explores the complexities of social phenomena (Gill and Johnson, 2010; Wilson, 2014). In terms of the research methodologies, an interpretivist approach participates in the use of qualitative research (i.e. it typically makes significant use of it). Qualitative purists typically hold a view that, since the research is in the domain of human science, researchers should be more concerned with understanding as opposed to explaining processes (Hunt, 1991b). In contrast, this thesis makes use of quantitative research, which follows directly from the positivist approach assumed in this work (Marvasti, 2004;

Johnson and Onwuegbuzie, 2016). Quantitative research advocates, which include the author of this thesis, typically believe that social science should follow the procedures typically found in the natural sciences where research is conducted objectively and where researchers should be independent from the research (Nagel, 1986). Quantitative research methods also enable this research to minimise inherent researcher-derived biases and to generalise patterns observed from a study's findings, which is often lacking in qualitative research, where investigator bias and conditioning can strongly influence findings (Thomas, 2004; Gill and Johnson, 2010; Wilson, 2014).

For this thesis, a positivist stance enables the testing of causal relationships between the variables considered in this work, while at the same time quantifying the effects under investigation (Thomas, 2004). In accordance with this positivist paradigm, a deductive approach has also been adopted, meaning a pre-conceived theory can be empirically tested, rather than searching for relationships and correlations that may have minimal significance (Hunt, 2014). The empirical studies in this thesis are quantitative studies with experimental designs that emphasise validity, reliability, and replicability (Åkestam, 2017), allowing for the application of chosen theories, and for hypotheses to be tested (Cameron and Price, 2009). Hypotheses in the present thesis are pre-determined and are constructed with reference to existing theories (Buchanan, 1998), and hypotheses testing is conducted through four experiments, of which one is a field experiment. Table 11 summarises the key differences between positivism and interpretivism on the basis of their ontological, epistemological, methodological and method-based qualities (This table is adapted from Marvasti, 2004; Thomas, 2004; Johnson and Onwuegbuzie, 2016).

To summarise, a positivist, quantitative, and deductive approach is used in this thesis to test, validate and contribute to extant theories, allowing the pre-determined hypotheses to be evaluated and generalisations to be made. Figure 26 presents schematically the general research design and summarises the whole investigation. The next section will further discuss the experimental design as part of this quantitative methodology.

Table 11 The comparison of positivism and constructionism in social science research

Aspects		Positivism	Constructionism/Interpretivism
Ontology	Nature of reality	Objective, tangible Single Fragmentable	Socially constructed Multiple Holistic

		Divisible	Contextual
Epistemology (theory of knowledge)	Nature of social beings	Deterministic Reactive	Voluntaristic Proactive
	Knowledge generated	Nomothetic Time-free Context-independent	Idiographic Time-bound Context-dependent
	View of causality	Real causes exist	Multiple, Simultaneous shaping
	Research relationship	Dualism, separation Privileged point of observation	Interactive, cooperative No privileged point of observation
Methodology	Advantages & Disadvantages	See Johnson and Onwuegbuzie (2004) for a comprehensive analysis of quantitative and qualitative research strengths and weaknesses (table 3 & 4)	
	Research strategies	Experiment, quasi-experiment, survey	Case study, ethnography, action research
	Research methods	Self-completion questionnaire, structured interview, structured observation, psychological tests	Unstructured interview, participant observation, personal documents
	Analytical method	Multivariate statistical analysis	Hermeneutics
Method	Methodological problems	Contextualisation, Internal validity	Generalisation, replication
	Selection of participants	Random sampling	Theoretical or purposive sampling
	Data collection	Pre-coded surveys or other formulaic techniques	Direct, fluid, observational techniques
	Data analysis	Statistical analysis aimed at highlighting universal causal relationship	Analysis focused on context-specific meanings and social practices
	The role of conceptual framework	Separates theory from methods	Views theory and methods as inseparable

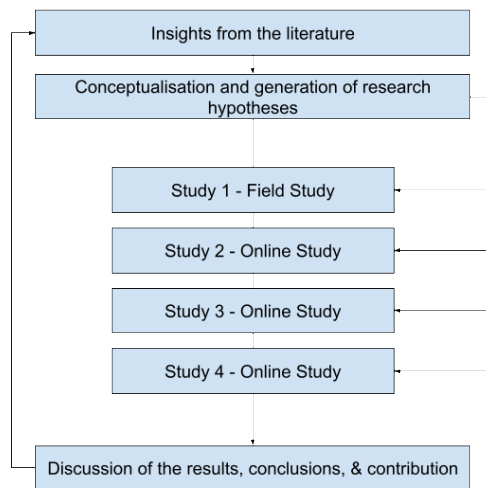


Figure 26 The Schema of This Research Design

3.2. Experimental Study

The previous section explained that this thesis assumes a positivist research paradigm and a quantitative approach to research, where phenomena can be translated into usable numerical values for carrying out meaningful statistical analysis (Gelo, Braakmann and Benetka, 2008). This experimental approach, manipulating variables to establish their effect on a dependent variable, was chosen to effectively investigate the causal relationships of interest (Priscilla Terungwa, 2017). These causal relationships are then determined by comparing respondents' answers across different treatment conditions (Lavrakas, 2008; Babin and Zikmund, 2015).

Experiments, as a quantitative method, are often considered to be more objective in comparison with qualitative methods (O'Dwyer and Bernauer, 2014; Barnham, 2015; Hair *et al.*, 2015), more independent from the studied phenomena (Hesse-Biber and Leavy, 2011), and better in capturing unconscious cognitive responses (Åkestam, 2017). To suitably answer the research questions in the present thesis, four experimental studies have been designed and conducted following the rigorous methodological procedures recommended for experiments (Lynn and Lynn, 2003), which are presented in Chapter 4. The advantages and disadvantages of both field and laboratory-type experimental research designs will be introduced first, followed by an exploration of the advantages and disadvantages for each research method. It is important that the reader keeps the above in mind when examining the empirical studies.

For both types of experiment, demand effects¹³ can decrease in an anonymous experiment, versus alternative interview formats (Lynn and Lynn, 2003). This anonymised approach encourages participants to express how they truly feel about a product, favouring this experimental research design. However, one of the most influential limitations of both experimental approaches is that experimental design restricts respondents to answer only the questions in the study. In addition, experimenter bias, i.e. a researcher's assumptions and prejudices, can also determine the experimental design and thus influence the experiment results (Sackett, 1979). Furthermore, although investigating causality is advantage of this experimental approach, it also limits the variables that can be included in an experiment, and risks omitting or overlooking potential explanations and mechanisms for the effects that would otherwise be identified through qualitative alternatives, in which respondents are often free to explain their reasoning (Kardes, 1996).

¹³ Meaning that participants' answers are given based on what they think the researchers want to hear, or what they consider is socially desirable

Finally, it is worth acknowledging that there are criticisms around the data-mining tendency feature of experimental designs (Lynn and Lynn, 2003). This is often caused by publication statistical significance requirements, known as confirmation bias (Jonas *et al.*, 2001), resulting in researchers to “mine” data in order to prove such significance. Examples of this include the tailoring of hypotheses to the findings from a dataset instead of stating the rejection of the original hypotheses, or excluding the study’s initial hypotheses simply because the data was not supporting these hypotheses. Manual or criteria-based manipulation of datasets, e.g. removal of outliers from a dataset, and collecting more data to a study to generate results of apparently greater significance, are two further examples of this. The examples and practices above should be avoided for good ethical practice.

3.2.1. Field experiment

External validity describes how much the specific components of one particular experiment can be generalised to broader settings (Shadish, Cook and Campbell, 2002; Vargas, Duff and Faber, 2017). Unlike laboratory-type experiments, respondents in field experiments are usually unknowingly participating a study (Charness, Gneezy and Kuhn, 2013), and even when they know, they engage in the activities that they usually do, disregarding the existence of monitoring or measurement equipment for an experiment. In other words, since a field study allows participants remain in a familiar situation, participants’ natural behaviours can be captured (Reips, 2000). Because of this nature of not knowing the manipulation, field studies typically offer greater external validity than laboratory experiments (Winer, 1999). Field experiments also offer improved ecological validity over other forms of experimentation, since the components of experiments are consistent and realistic with the situations and events encountered in real life situations (Vargas, Duff and Faber, 2017). However, it was pointed out by Lynch (1999) that simply having field experiments will not increase the generalisability. He proposed that to ‘have a theory that specifies moderator variables and boundary conditions and that specified what variables should not moderate the findings reported and to test for the asserted pattern of interaction.’ (Lynch, 1999, p.368). This point is seconded by Gneezy (2017), who further clarified that for experiments that are conducted in a real and natural environment, it helps to improve the applicability of existing theory and solidify the significance and the impact of this captured phenomena (Campbell, 1969; Lewin, 1997; Gneezy, 2017).

3.2.2. Laboratory-type experiment

Laboratory-type experiments allow for the isolation of effects and enable social scientists to investigate a variety of social processes including attitude formation and decision making (Webster and Sell, 2014). As the stimuli used in the four studies in this thesis will be similar, except for the manipulated variable – H&N claims, any observed differences between groups is most likely a result of the manipulation performed in this experiment (Perdue and Summers, 1986). This thesis uses controlled online experiments which are conducted in a known and well-controlled environment, since the use of a standardised procedure improves the ease of replicating these experiments later in follow-up studies. For practical and safety reasons related to the COVID-19 pandemic, experiments were not conducted in a laboratory setting, though the experimental approach and setting were designed and chosen such that accurate measurements are possible, thus allowing for clear conclusions to be drawn from each of the four studies. In detail, circumstances under which the experiments occur, including the location, time period, and the number and qualities of participants, are determined through a standardised procedure, with participants being randomly allocated to groups corresponding to the independent variables.

Laboratory-type experimental research offers high internal validity, which refers to the extent to which researchers can be confident of a cause-and-effect relationship (du Plooy, 1997). In other words, an experiment with high internal validity provides a greater certainty of causality in the findings since extraneous factors and other independent variables are controlled for, and any differences noticed or observed in the experimental results are highly likely to have been caused by manipulation of the treatments (Jugenheimer *et al.*, no date; Khan, 2011; Webster and Sell, 2014).

Table 12 Comparison of Field Experiment and Laboratory Experiment

FACTORS	LAB EXPERIMENT	FIELD EXPERIMENT
ENVIRONMENT	Artificial	Realistic
CONTROL	High	Low
INTERNAL VALIDITY	High	Low
EXTERNAL VALIDITY	Low	High
NUMBER OF SUBJECTS	Small	Large

However, a major issue with laboratory-type experiments is the artificiality of their setting, which may cause results that are unable to be generalised in the 'real world' (Martin, 1996). As argued by Heather (1976), results produced from a laboratory setting show how individuals behave in that laboratory setting, and do not reflect real-world behaviours.

However, as argued by (Coolican, 2017), it is difficult to observe certain phenomena in the real world, and thus it is important, and necessary, to artificially replicate situations in which a phenomenon may be seen, gathering experimental results to evidence a hypothesised effect. Laboratory-type experimentation is therefore essential for evidencing and testing the hypotheses of a scientific investigation. For each study in Chapter 4, the potential limitations and shortcomings of this chosen research method are discussed.

In trying to incorporate realism and behaviour into a research project, this thesis first used a field experiment to demonstrate the phenomenon and strengthen the external validity, and then followed a series of hypothetical laboratory-type experiments to underpin the process. This experimental strategy allowed the effects of maximiser or no maximiser framed H&N claims on consumers' responses to be accurately measured. This method was therefore chosen as the most appropriate for testing the proposed research framework and hypotheses.

Experimentation allows the study to control many variables while only changing the variable being studied, which allows researchers to elucidate and identify cause and effect relationships (Vargas, Duff and Faber, 2017). Scenario experiments provide a constructed description of a situation to participants in order to elicit judgment about these scenarios and participants complete the survey accordingly (Atzmüller and Steiner, 2010). It is an alternative for field experiment and lab experiment and by comparison, scenario experiment is not as realistic and does not provide actual consumer behaviour. However, scenario experiment can provide useful insights about the behaviours and decisions of consumers in real-life situations (Schoenberg and Ravdal, 2000).

This chapter has described the philosophical basis for this work, highlighting the positivist approach undertaken for gaining knowledge. This research philosophy is implemented throughout the experimental studies conducted in support of this thesis, which are described in the following chapter, investigating the effects of including maximisers in H&N claims used on food product packaging.

4. Experiments

This chapter describes and discusses the results of experimental research conducted in support of this thesis, focussing on how the inclusion of maximisers in H&N claims on food product packaging affect various types of consumer behaviour.

4.0. Overview

Study 1 (Field Experiment) examines the effectiveness of H&N claim framing on the likeability of a food product, and establishes the existence of a positive effect of including a maximiser in framing H&N claims on product packaging in order to alter consumer attitudes towards the chosen product, as measured by comparing the 'likes' for different versions of a product displayed via a Facebook page. The key result from this field experiment shows that a product that frames H&N claims with a maximiser is more likeable than a product that frames H&N claims without a maximiser, providing a basis for further investigation into the effects of maximisers.

Study 2 (Online Experiment 1) further investigates claim effectiveness in different retail scenarios. As maximisers can inspire or induce a feeling of an informal setting in customers due to their informal nature, the use of maximisers may only be positive on product evaluations when they are applied congruently, in which consumers are less likely to experience perceived incongruence. The results show that the framing of H&N claims on product packaging affects consumers' product evaluation, and changes how much they would like to purchase this product depending on the consumers' perceived congruence, where a high congruence induces a more positive attitude toward that product. Specifically, this study shows that product frames H&N claims with maximisers is evaluated more positively in an informal situation, highlight the informal feature of maximisers.

Study 3 (Online Experiment 2) continues from Study 2 to explore perceived congruence, specifically, other features of maximisers apart from informality. Through this study, it can find out if having high credibility is important to food companies, especially when they receive negative reviews, will they be legitimised to lay back. As maximisers can be interpreted as being sincere or affirmative, maximiser can inspire a feeling trust in customers. This study therefore examines the interaction of the frame of H&N claims and external information: customer reviews and its impact on consumers' product evaluations and purchase intention. The results demonstrate that how the frame of H&N claims is contingent upon online comments as a source of confirmation.

Study 4 (Online Experiment 3) is the final experimental study in this thesis and underpins the mechanism explaining the effect of H&N claims on product evaluations in a more realistic setting. Since cues like maximisers on packaging can be missed when customers experience a high cognitive

load, this study intends to examine whether these maximisers work in a more realistic setting. The well-demonstrated boundary effect, cognitive load, is apparent when consumers experience a high cognitive load, and (results show that) using maximisers on H&N claims did worsen product evaluations compared to use of H&N claims that do not include maximisers. The following table presents the hypotheses and the study these hypotheses will be tested.

Table 13 Summary of Hypotheses, Variables and the Studies in which Hypotheses are tested

	Independent Variable	Moderator Variable(s)	Mediator Variable(s)	Dependent Variable(s)	Hypothesis	Studies
H1a	Framing of H&N claims			Product evaluation (PE)	Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.	Field and online 1-3
H1b	Framing of H&N claims			Purchase intention (PI)	Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.	Online 1-3
H2a	Framing of H&N claims		Processing fluency	Product evaluation (PE)	The inclusion of maximisers in H&N claims increases the positivity of consumers' product evaluations through an increase in the associated processing fluency.	Online 3
H2b	Framing of H&N claims		Processing fluency	Purchase intention (PI)	The inclusion of maximisers in H&N claims increases the positivity of consumers' purchase intentions through an increase in the associated processing fluency.	Online 3
H3a	Framing of H&N claims		Psychological distance (PD)	Product evaluation (PE)	Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.	Online 1-3
H3b	Framing of H&N claims		Psychological distance (PD)	Purchase intention (PI)	Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.	Online 1-3
H4a	Framing of H&N claims		Processing fluency (PF)+ Psychological distance (PD)	Product evaluation (PE)	Maximisers used on H&N claims increase the positivity of a consumers' product evaluation through the serially linked mediators of perceived psychological distance and processing fluency.	Online 3
H4b	Framing of H&N claims		Processing fluency (PF)+ Psychological distance (PD)	Purchase intention (PI)	Maximisers used on H&N claims increase the positivity of a consumers' purchase intention through the serially linked mediators of perceived psychological distance and processing fluency.	Online 3
H5a	Framing of H&N claims	Perceived congruence		Product evaluation (PE)	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.	Online 1
H5b	Framing of H&N claims	Perceived congruence		Purchase intention (PI)	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.	Online 1

H6a	Framing of H&N claims	Perceived congruence	Psychological distance (PD)	Product evaluation (PE)	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.	Online 1
H6b	Framing of H&N claims	Perceived congruence	Psychological distance (PD)	Purchase intention (PI)	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.	Online 1
H7a	Framing of H&N claims	Perceived congruence (with comments)		Product evaluation (PE)	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PE compared to positive reviews. However, the use of maximisers in the negative reviews is likely to be viewed more negatively than the group without maximisers.	Online 2
H7b	Framing of H&N claims	Perceived congruence (with comments)		Purchase intention (PI)	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PI compared to positive reviews. However, the use of maximisers in the negative reviews is likely to be viewed more negatively than the group without maximisers.	Online 2
H8a	Framing of H&N claims	Perceived congruence (with comments)	Psychological distance (PD)	Product evaluation (PE)	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.	Online 2
H8b	Framing of H&N claims	Perceived congruence (with comments)	Psychological distance (PD)	Purchase intention (PI)	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.	Online 2
H9a	Framing of H&N claims	Cognitive load	Processing fluency (PF)+ Psychological distance (PD)	Product evaluation	With a high cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are similar whether they use H&N claims framed with or without maximisers.	Online 3
H9b	Framing of H&N claims	Cognitive load	Processing fluency (PF)+ Psychological distance (PD)	Product evaluation	With a low cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are more positive when using H&N claims framed with maximisers than when using H&N claims without such framing.	Online 3

Table 14 Summary of the Empirical Studies, Procedures, and Objectives

Study	Field Experiment	Online Experiment 1	Online Experiment 2	Online Experiment 3
Design	2(maximiser vs. no maximiser)	2(maximiser vs. no maximiser)*2(formal vs. informal)	2(maximiser vs. no maximiser)*2(positive reviews vs. negative reviews)	2(maximiser vs. no maximiser) vs. 2(cognitive load high vs. low)
Objective	Does framing H&N claims with maximiser increase the likeability towards this product?	Same as Field Experiment Does consumer's perceived congruence (between product with retail environment) moderate the impact maximiser has on the product evaluation and purchase intention, and how? What is the underlying process of maximisers on product evaluation and purchase intention?	Same as Field Experiment Does consumer's perceived congruence (product with online review) moderate the impact maximiser has on the product evaluation and purchase intention and how? Test the robustness of the mechanism: do maximisers work on a different product? New dependent variable is tested to understand the effect of maximiser.	Same as Field Experiment Does consumer's cognitive load influence the effect of maximiser on the product evaluation and purchase intention, and how? Test the robustness of the mechanism: do different maximisers/products/presentation formats have the same effect?
Stimuli (H&N claims)	(Absolutely) no sugar added	(Absolutely) no artificial preservatives	(Absolutely) no added sugar	Absolutely/entirely/completely no added sugar
Stimuli (food product)	Ice cream	Cupcake	Energy bar	Almond butter
Stimuli (Setting)	Facebook	Retail environment	Online environment	Advertisement video
Dependent Variables	Advert likes	Purchase intention	Product evaluation Information seeking Purchase intention	Product evaluation Purchase intention Recommendation intention
Moderator	n/a	Perceived congruence: retail setting	Perceived congruence: comment sentiment	Cognitive load
Mediator	n/a	Psychological distance	Psychological distance	Psychological distance Process fluency
Control variables	n/a	Age, eating goals, consumers health condition, gender, and hunger(*), involvement(*), expertise(*) and education level.	Negative emotions Involvement, expertise, hunger and other demographics	Attitude towards advert, attention, Involvement, expertise, hunger and other demographics
Analyses	Chi-square Logistic regression	ANOVA T-test Moderated mediation model	ANOVA/ANCOVA T-test Moderated mediation model	Moderated mediation model ANOVA/ANCOVA T-test
Key findings	Product used maximiser on its H&N claim received more likes than the product did not use maximiser	Product frames H&N claims with maximisers is evaluated more positively in an informal situation, highlight the informal feature of maximisers. Psychological distance mediated the moderation process on purchase intention.	The frame of H&N claims is contingent upon online comments as a source of confirmation. The inclusion of maximiser on H&N claims can help enhance the product evaluation when negative comments are shown.	When consumers experience a high cognitive load, using maximisers on H&N claims did worsen product evaluations compared to use of H&N claims that do not include maximisers. A reserved effect is revealed for consumers experience a low cognitive load.

4.1. Field Experiment

This section describes the development, design and results of the first study, a field experiment, with the associated discussion providing a basis for the online experimental studies that follow.

4.1.1. Introduction

This section presents a quasi-field study on the framing of H&N claims on front-of-package designs for food products, with the aim of understanding the influence and impact of the type of language used in framing H&N claims (Shadish, Cook and Campbell, 2002). To achieve this, this study planned to launch an advertisement on Facebook for an ice cream product that was promoted with two types of H&N claim framing on food product design, using the ‘likes’ of the corresponding posts for this advertised promotion to measure and evaluate the difference in appeal between the two conditions. Previous research regarding why a user “likes” something in social media has shown that “likes” for news articles on Facebook increase when they match the point of view of the user and that article is perceived as useful (Mattke *et al.*, 2020).

Although extant literature supports the notion that the use of maximiser increases consumers’ positive responses towards a product (Hovland and Pritzker, 1957b; Aune and Kikuchi, 1993b; Buller *et al.*, 2000; Andersen and Blackburn, 2004), the present study tested whether these effects of maximisers exist in the context of food product packaging. Thus, this field experiment aims to provide evidence on the positive effect of maximisers on consumer’s product evaluation in relation to an unknown food brand. The independent variable (H&N claim framing) is manipulated and the dependent variable (user likes) is measured to determine whether the effects of maximisers occur in this context.

The present field study tested hypothesis 1 below:

Hypothesis 1a: Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.

The present study also has the following research objectives: Identify a suitable brand/product name that can be used in the remainder of the study. Develop the study’s stimuli and create two versions of a healthy ice cream product in a promoted advert format, which are near-identical, being distinguished by the presence or absence of a maximiser in the claims used on the packaging. Develop a simple experimental method on Facebook to investigate if a H&N claim framed using maximisers makes the product more likeable than the product with a H&N claim that does not use such framing.

The analyses in this present study consist of two parts: Part 1 aims to test the effect of frames on H&N claims on product likes (Hypothesis 1) and Part 2 examines the robustness of this effect with

control variables such as devices. This field study does not test the processes that explain how maximisers affect product evaluations and purchase intentions due to the limitations of the quasi-field experiment in the Facebook online environment, which will be further explained later in this section.

4.1.2. Stimuli Development

To construct appropriate stimuli, the product design, specific claims and brand names were either pre-tested or adapted based on information gathered from a literature review. The selection of the brand name followed a pre-testing procedure to validate its suitability, and the other design elements were adapted from studies in prior literature.

Pre-test 1: Brand Name

Consumers make intentional inferences about products on the basis of cues such as the brand name (Dodds, Monroe and Grewal, 1991). In this study, a single brand name was selected for the design of the stimuli. The first pre-test had two clear purposes: (i) to examine a range of fictitious brand names and enable selection of a suitable brand name to be used in the remainder of the study, and (ii) to select a brand name that would not unduly influence perceptions of a product by triggering an existing brand memory effect for other, similar brands, either within or beyond the category of confectionary companies and retailers.

Method, Design and Procedure

With the two goals outlined above in mind, suitable brand names were generated using an online brand name generator found at Namelix.com, in a two-step procedure. Firstly, from the initial set of suggestions provided (n = 5000+), six of these suggestions were manually selected by the researcher that would satisfy the criteria of (i) authenticity, and (ii) being neutral in terms of evoking unrelated health and taste perceptions (e.g. brand names such as 'Tasty Cupcake' would not be selected, and names that include terms such as 'Green', 'Eco' would not be considered).

In the second step, 20 respondents were recruited from Amazon Mechanical Turk and were asked to evaluate the six fictitious brand names. On seven-point rating scales criteria included (a) the degree to which the brand name reminded respondents of other existing brands, (b) their perception of whether the brand name appears healthy (1 = not at all healthy, 7=very much healthy), (c) drives the perception of being tasty (1 = not at all tasty, 7 = very much tasty), and finally (d) their general attitude towards the brand name.

Pre-test Results

To select the most suitable brand name, the following procedure was implemented, in line with a protocol used by Logkizidou *et al.*, (2019). It was important to select the brand that would be most versatile and neutral for the majority of consumers, so those brands that were rated highest and lowest on any one of the four criteria were not taken forward. This was implemented by an iterative and qualitative process of first identifying the highest- and lowest-scoring brand for each criterion and then excluding it in turn. Formal statistical tests were not performed because of power restrictions caused by the small sample size (Button *et al.*, 2013; Robinson *et al.*, 2018). For example, *Made Gourmont* ($\bar{x} = 5.90$) scored highest in terms of brand name attitude and was therefore excluded. As shown in Table 15, none of the brand names differed particularly in terms of how strongly they were reminiscent of existing brands in the food category (Table 15, column 3). As none of the scores for the “West Harbour” brand name lay at the extremes of the dataset, the “West Harbour” brand name was chosen for use in the later product designs.

Table 15: Study one pre-test results (Brand Name)

Brand name	(a) Remind of existing brand	(b) Healthy	(c) Taste	(d) Attitude (brand name)
Midwater	3.85 (highest)	5.60	5.50	5.65
Peacoat	3.50	5.30	5.60	5.30 (lowest)
West Harbour	3.45	5.55	5.60	5.60
Made Gourmont	3.40 (lowest)	5.30	5.30 (lowest)	5.90 (highest)
Tummy Yums	3.75	5.25 (lowest)	5.65	5.50
Two Nutriient	3.85 (highest)	5.90 (highest)	5.75 (highest)	5.75

Overall Product Design

First, in terms of the selection of products, an ice cream product was used due to its ubiquity and popularity. This product category produces high interest and involvement among consumers and is likely to be purchased by the average consumer in the near future (Yorkston and Menon, 2004). In Yorkston and Menon (2004) pre-test, they found ice cream product evaluations were dependent on a small number of attributes: taste, cost and calorie content. Consumers’ concerns about calorie content are confirmed by the presence of various ice cream products and ice cream brands in the market, such as Häagen-Dazs and Magnum, that make use of H&N claims (e.g. calorie content, ingredient claims) on their packaging. These claims aim to specifically address consumers’ concerns, and seeking such claims has become the norm for during food shopping (Hieke *et al.*, 2016).

Therefore, a similar H&N claim ‘no added sugar’ was integrated in the product packaging material for the Facebook campaign in this study to produce a realistic product image and to match these commonly-seen claims.

The product design is created based on inspiration from a real-world ice cream tub (Figure 27). An example of how design elements were inspired includes the choice of colour combination (brown and yellow), which reflects the classic designs of many real brands (e.g. Magnum). In detail, the colour brown is used to indicate the chocolate flavour, and the colour yellow can often stimulate the appetite and is associated with a sweet taste (Saluja and Stevenson, 2018; Rosa *et al.*, 2019b). The size of the claim on the packaging ensures it is both easily readable and recognisable so participants can pay more attention to the detail of this claim (Kosinski *et al.*, 2015; Gai and Klesse, 2019). Since existing research has shown that the choice of typeface (also known as font) can have a strong effect on consumer product impressions, this study decided to apply a standard or common typeface to avoid evoking additional unwanted effects and attitudes towards the product (Henderson, Giese and Cote, 2004).



Figure 27 The 3D-rendered images displayed to the Experimental (left) and Control (right) groups, showing an ice cream product packaging which clearly displays a H&N that either does (left) or does not (right) include a maximiser within the H&N claim

4.1.3. Study Design and Procedure

This field study aims to demonstrate the main effect of the inclusion of maximisers in H&N claims on consumers’ responses to the product. This study was a one-factor with two level (with maximiser vs. without maximiser on H&N claims) between-participants design. Facebook was used as the platform to launch this study as an advert campaign format. Facebook is known as the largest and

most popular online social network, with more than 2 billion active Facebook accounts (Gordon et al. 2019), with its large size and range of advertising features enabling businesses to run experiments to measure their marketing campaign effectiveness, test out marketing tactics, and make more informed budgeting decisions (Gordon *et al.*, 2019, p 195). It is also a powerful research tool for the social sciences, since it is able to reach large and prescriptive audiences of users (Kosinski *et al.*, 2015).

Users are naturally exposed to adverts constantly as they scroll through their news feeds or view 'friend stories' using either a desktop or mobile device. In advertising campaigns, control group users are never exposed to the same stimuli as users in the experimental group (Facebook, 2014)(Facebook, 2014). Exposure to products through advertising, such as the one used in this study, is an ordinary part of the user experience on the Facebook platform. This perceived normality enables this study to test whether the inclusion of maximisers in H&N claims results in more effective advertising for the ice cream product.

In this study, Facebook users will see one of the two ice cream products from either experimental or control group in a promoted advert, where the advert invites the users to engage with the advert by clicking the 'Like' button to show their interest in the product. The number of likes given by Facebook users as a proportion of the total number of exposures (called 'reach' on Facebook Ad Manager), which are automatically counted by Facebook Ad Manager, is the dependent variable in this study. A greater number of likes for an advert may represent a stronger affection and hence preference for the product displayed, though a greater proportion of likes compared to the total reach ultimately determines the relative success of the advertisement.

In detail, this campaign was set up on Facebook for A/B testing with the objective of attaining post engagement. This campaign did not specify targeting criteria on Facebook users. The target demographic criteria were very wide, and included all users over 18 years old, both genders, and all ethnic backgrounds, with no limits on interests and behaviours, overall intending to minimise selection bias and with the assumption that anyone on Facebook may see this promotion. For practical purposes, the only requirement specified for Facebook users was to currently live in either the UK or the US, which helps to ensure the randomly-selected users understand the English language and/or are from a country where English is the main language (Facebook). To finish the advert setup and provide greater uniformity and control over the advertising display method, this study manually chose the online locations and contexts in which the advertisement would be shown. Display of this advert was limited to Facebook only, rather than also including other Facebook-owned platforms such as Instagram. The display or user interaction with the advertisement could change or be influenced by other external factors such as its visual framing on different social media platforms, which could potentially compromise the study.

Demographic make-up and types of online interactions vary with different social media platforms. Since the goal of this study is to reach as many people as equally as possible, the Facebook platform is the best-suited social media platform to use for this work, given its network that covers a wide range of users than other platforms, for example, the demographics of Instagram is skewed towards a younger user base (Statista, 2021). The advertisement appeared on Facebook news feeds, in articles, in video feeds, in the Facebook marketplace feed, and in general search results on both mobile and desktop platforms.

This study was conducted using Facebook Ad Manager, which provides an online environment in which users (consumers) are naturally exposed to one of the two possible advertisements through an A/B testing mechanism. The two advertisements that formed the campaign of this study were visible on users' Facebook pages for 3 days between the 26th and 28th January 2021, and the results of this campaign are discussed in the following section.

4.1.4. Results

The results presented in this section describe the analysis and breakdown of the advertising campaign, assessing the impact and significance of various factors on user responses to the two adverts.

The advertisements each reached a total of 1575 Facebook users during the 3-day advertising campaign, gathering 144 unique 'likes' during this period. A comparison between the two conditions revealed 82 post likes (out of 760 exposures) for the maximiser group (10.79%) compared with 62 post likes (815 exposures) reached for the control group (7.61%) (see Table 16). Though the 'likes' data was collected along with shares and comments, this analysis focuses on likes because (1) the Facebook 'like' function is the most prominent feature used for sponsored content, which enables a user to express positive sentiment through liking the content (Mattke *et al.*, 2020), and (2) because of insufficient data from comments and shares to conduct meaningful further analysis. As a result, Facebook users' 'likes' are used to represent the entirety of their post engagement. These likes can be translated as representing their attitudes and behaviours toward an advertised product (Zhang and Mao, 2016), and are found to have a positive causal effect on offline customer behaviour (Mochon *et al.*, 2017), i.e. they are more likely to purchase a given product having been exposed to and having interacted with related advertising. This difference in post likes between two conditions was statistically significant ($\chi = 4.79$, $p = 0.029$), indicating that individuals were significantly more likely to engage positively with the product advertised with H&N claims that include a maximiser than the product advertised without the use of a maximiser.

The result of this quasi-field study confirmed the hypothesis H1a that consumers a clear preference for a food product where its H&N claims are framed using a maximiser over those products which

do not use maximisers in H&N claim framing. This finding demonstrates that the language used on H&N claims can have a significant and measureable difference on how consumers perceive and evaluate products following exposure to product packaging (Kronrod, Grinstein and Wathieu, 2012b).

Table 16 Two groups' (Maximiser vs. No Maximiser) Post-Engagement Details and Significance

Engagement Form	Likes (attitude)	Shares	Comments
Maximiser group (760)	82	12	1
No maximiser group (815)	62	7	3
Chi-square results	$\chi = 4.79, \rho = 0.029$	$\chi = 1.71, \rho = 0.19$	Limited textual data

Facebook Ad Manager does not share raw data with advertisers in order to protect user’s privacy. Only frequency tables or pivot tables are provided, preventing further detailed and more correlative investigation into the effects of all variables on user post engagement. Instead, variables such as country/geolocation, device used, and time of day viewing the advert are all tested separately. More specifically, the reports provided by Facebook Ad Manager can only contain up to 3 dimensions of information, further limiting the insights that can be gathered from the advertising campaign. Reviewing certain combinations of selected variables in auto-generated reports are constrained, with limited options, such as age and gender, country, devices, the time of the day users viewed the advert etc. It is therefore not feasible to merge all individual tables due to the lack of raw data to link the insights together in a meaningful way. Therefore, separated logistic regressions were performed on each group of variables, providing insight into whether the findings were robust regardless of other factors influencing respondents’ exposure and response to the adverts.

The Impact of Device Used on Consumers Response to the Advert:

For the devices participants used to browse on Facebook, the Chi-square analysis (see Table 17) showed a significant difference on users clicking likes between two advert groups for consumers that view the adverts on a mobile device ($\chi = 4.446, p = 0.035$), while there is no significance between two advert groups for consumers that view the adverts on a desktop device ($\chi = 0.002, p = 0.968$). A logistic regression was performed with the ‘likes’ of the advert chosen as a binary dependent variable and with the framing of H&N claims (maximiser = 1, no maximiser = 0), choice of device (mobile = 1, desktop= 2), and framing of H&N claims * device as independent variables. The results only revealed a main effect based on the devices used ($b=1.048, \chi = 4.953, p = 0.026$), with framing of H&N claims and the variable combination found to be insignificant.

It is also worth noting the possibility that there could have been duplicate exposures in this audience, where registered Facebook users viewed the same advert with both their phone and computer, or multiple times using a mobile device, which caused a higher inflated reach number, greater than the number of unique individuals reached. This may explain why the use of maximisers is only significant for users viewing the advertisements on mobile devices, with the statistical insignificance from the manipulated group being caused by an insufficient amount of data in the desktop group (34 participants in control group and 52 participants in maximiser group). This is, however, entirely speculative since such information cannot be gathered via Facebook Ads Manager, and the design of their platform is meant to ensure that repeated interactions from the same users are not possible. The results may also be explained by the idea that maximiser framing of H&N claims could rely on the devices users are exposed to. For example, an eye-tracking study conducted by Djasasbi, Hall-Phillips and Yang (2013) showed that a larger number of people viewed ads on mobile phone (90%) than on the desktop (77%).

Table 17 Like*Group*Device Cross tabulation

Device (Mob / Desk)		Group		Total
		Control	Maximiser	
Mob	No like	745	658	1403
	Like	56	73	129
Total		801	731	1532
Desk	No like	28	43	71
	Like	6	9	15
Total		34	52	86
Total	No like	773	701	1474
	Like	62	82	144
Total		835	783	1618

The Impact of Time of the Day on Consumers Response to the Advert:

A logistic regression analysis was performed using 'likes' on the adverts, the framing of H&N claims, the time of the day, and (time of the day*framing of H&N claims) as independent variables. The 'day' of the day variable was coded as a nominal binary scale indicating whether exposure to the product advertisement occurred during the day (0: 9:00AM – 8:59PM) or night (1: 9:00PM-8:59AM). The result showed that there is a main effect of frame ($\beta = 0.882, \chi = 12.257, p < 0.000$) and time of the day ($\beta = 0.938, \chi = 12.160, p < 0.000$). Chi-square analysis result showed that the advert that included H&N claims framed with maximisers received significantly more 'likes' than the advert that included H&N claims framed without maximisers ($\chi = 12.909; p < 0.000$) during the day time, while no significant difference was observed between the two groups during the evening ($\chi = 0.594; p < 0.441$). This large difference in significance may be explained by the

change in consumers’ attention during the evening, since as users become more tired their cognitive processing abilities become more deficient.

Table 18 Like*Group*Time of the day Cross tabulation

COUNTRY (DAY / NIGHT)		GROUP		TOTAL
		Control	Maximiser	
DAY	No like	511	440	951
	Like	25	52	77
TOTAL		536	492	1028
NIGHT	No like	296	293	589
	Like	37	30	67
TOTAL		333	323	656
TOTAL	No like	807	733	1540
	Like	62	82	144
TOTAL		869	815	1684

The Impact of Nationality on Consumers Response to the Advert:

A logistic regression was performed with country and group as independent variables, revealing a main effect related to the H&N claim framing used ($\beta = 0.367, \chi = 4.324, p = 0.038$), with all other interactions measured as statistically insignificant. It is reasonable to conclude that effect of maximiser use on the attitudes toward the food product is only minimally influenced by participants’ nationality. The similarity in cultural attitudes towards advertising or towards online interactions with product advertisements explains the insignificance of the nationality and showing that all results can be grouped together.

Table 19 Like*Group*Country Cross tabulation

Country (US / UK)		Group		Total
		Control	Maximiser	
US	No like	535	527	1062
	Like	48	62	110
Total		583	589	1172
UK	No like	238	174	412
	Like	14	20	34
Total		252	194	446
Total	No like	773	701	1474
	Like	62	82	144
Total		835	783	1618

The Impact of Age and Gender on Consumers Response to the Advert:

To test the effect of age and gender on the promoted advert, a logistic regression was performed with 'likes' received on the adverts as a binary dependent variable and the H&N claim framing (with maximiser = 1, without maximiser = 0), gender (male = 1, female = 0), and age (over 35 = 1, under 35 = 2) as independent variables. The analysis revealed that the main effect of age was significant ($b = -1.087, \chi^2 = 22.571, p < 0.000$) and that the main effect of manipulated groups ($b = 0.344, \chi^2 = 3.734, p = 0.053$) was marginally significant, while gender was insignificant ($p > 0.05$). Consequently, these results indicated that age has an impact on the effectiveness of H&N claim framing, showing the use of maximiser is more effective for older users. Though the effect of maximiser may depend on the age of user, this study still observed that, in general, the group exposed to H&N claims framed with a maximiser received more likes than the group without maximisers.

In summary, this field study tested whether the inclusion of maximisers on H&N claims makes the food product more likeable, obtaining experimental results with high ecological validity. Though the main effect of including maximisers in H&N claim framing on post likes is significant, these individual logistic regression analyses help to further explain the dependence of this main effect of maximiser on demographic variables. The following section will discuss the robustness of the findings.

4.1.5. Discussion

An ice cream product was advertised with different framings on H&N claims using the Facebook platform, and the effectiveness of the different framings was evaluated by measuring the number of 'likes' for the two advertisement conditions. A single product was displayed as an advert on Facebook users' feeds, and through a quantitative empirical investigation, this experiment showed that food products using H&N claims framed with maximisers received more likes than food products that use H&N claims without maximisers.

This field study found the direct effect of maximiser on consumers post likes for promoted product. The findings (1) build upon persuasion theory, suggesting that a maximiser effect occurred, and (2) serve to increase knowledge about the effect of maximisers on consumers' product responses. The presence of a maximiser in H&N claims altered the perceptions of the food product (10.8% chance receiving likes when maximisers used on H&N claims vs. 7.6% chance receiving likes when maximisers not used on H&N claims). Having a positive effect on how consumers respond to the product indicates that the presence of a maximiser in the claim makes the product more attractive compared to an equivalent product advertised without maximisers, affirming hypothesis 1a.

Here, the potential reasons for maximiser-framed product claims receiving a more favourable response from users are discussed.

First, the features of maximisers, i.e. sincerity and affirmation, can lead Facebook users to believe and/or feel that a product advertised with maximisers is more trustworthy than a product advertised without maximisers (Chaiken, 1980; Axsom, Yates and Chaiken, 1987; Aronson, 1999; Campbell and Kirmani, 2000; Warlop and Alba, 2004; Briñol, Rucker and Petty, 2015). Thus, the inclusion of maximiser on H&N claim is more attractive than that in control group, resulting in more post likes.

Secondly, although maximisers such as 'absolutely' have been used on various product adverts over time (e.g. Cadbury's Cocoa, 1889, "It is Absolutely Pure."), H&N claims are most commonly used without maximisers in their presentation or framing. The novelty and unusual nature of using maximisers to frame a claim, being less familiar to consumers compared to other commonly used claims, can trigger the increased number of 'likes' as shown in the findings of this study.

This positive effect of framing H&N claims with maximisers is more pronounced with consumers who are older, who use mobile phones, and who are exposed to the advert during the daytime. At the same time, the positive effect of framing H&N claims with maximisers has no relationship with consumers' gender and nationality. Though these dependencies were evidenced in the literature and discussed in the results section, statistical biases can also contribute to the results of contingency variables. For example, as this advertising campaign had a greater reach among

women than men (75.5% female and 23.7% male) and received more likes from women, it raises a small but important question about whether this maximiser effect can be generalised to both genders. Therefore, future studies test whether gender plays a role, and if it does, the extent to which that role is significant.

The following three online experimental studies aim to address some of the limitations inherent to the use of the Facebook environment (and Facebook Ad Manager), and to further investigate whether consumers behave in the same way when participants' behaviours can be properly measured, and when participants know their actions and choices are under scrutiny. The features of maximisers will be examined, along with underlying the mechanism and boundary conditions. The following study aims to eliminate alternative explanations for the effect of maximisers observed in this first field experiment, and incorporates a variety of product designs to enhance the generalisability of the findings, including testing the effect across a range of products, across a range of commonly-seen claims, and using different combinations of maximisers and H&N claims. Though certain claims, products or maximisers may be preferred by consumers, the effect of maximiser should not differ and should remain readily observable. Since this field study observed a statistically significant difference between H&N claims framed with maximisers and claims without such framing, it is important to examine whether there are conditions for the application of maximisers, given the suggestions from literature sources about its differing usage in formal and informal contexts.

This study is the first step in exploring the maximiser effect on product evaluation and though the results of this first field experiment are reassuring, they are not conclusive due to the limited controls and the limitations of the Facebook platform used. Future studies are designed to address internal validity and generalisability, as well as to underpin the explanation of the maximiser effect.

In the current study, it is assumed that the food company has a good fit with the H&N claims (no priming materials presented). However, it is essential to understand if there is a boundary effect on this good fit based on consumer's perceived congruence on the frames of H&N claims and the environment H&N claims are applied. Therefore, the following study will first look at the congruence between the H&N claim and the retail environment to provide a boundary for the effects of including maximisers in H&N claims. Specifically, the following study tests whether participants respond to H&N claim frames on food product consistently regardless of the product and the environment in which the product is presented.

4.2. Online Experiment 1: The Impact of Maximisers on Product Evaluation Moderated by Perceived Congruence (Retail Environment)

This section describes the development of stimuli, design and results of the first online experiment, aimed at investigating the impact of maximiser based on different retail environment, following on from the field experiment, which found a clear link between the inclusion of maximiser and product likeability.

4.2.1. Introduction

The results of the previous field study show that food products using H&N claims framed with a maximiser are more popular, receiving more 'likes' than a food product using H&N claims framed without a maximiser. This finding agrees with and complements evidence from existing literature on language intensity.

However, the results from field study also showed that this maximiser effect is dependent on other variables too, such as the users' devices and the time of the day, which challenges the robustness of this maximiser effect. Additionally, a variety of studies have suggested that the use of maximisers can be situationally dependent, being affected by the communication medium (Danaher and Rossiter, 2011), and the characteristics of communicators, i.e. credibility, status or trustworthiness (Aune and Kikuchi, 1993b). This study examines the effectiveness of different H&N claim framings, and the communication processing model suggests the importance of the source and the content in this context (Lee and Kronrod, 2020), confirming that maximisers are reliant on these elements of the communication processing model to achieve a positive effect.

One feature of maximisers, informality, suggests that it is most appropriate to apply maximisers in an informal context, and conversely, that it is inappropriate to apply them in a formal context. Context in this case is represented by the characteristics of the source and therefore, it is important to understand whether the effectiveness of maximisers is dependent on perceived congruence between the message and the retail environment. This may involve investigation into whether the content works for all sources, i.e. different food retailers. Consumers' perceived congruence refers to consumer expectations about the H&N claim language based on the shopping situation, and the extent to which the real-world situation matches that expectation.

Literature on role theory has suggested that social interactions and their success are dependent on the knowledge of, and action in accordance with, situationally-appropriate behaviours stemming from relationship partners, and whether these partners do indeed behave appropriately and in accordance with their own expected social roles in that relationship (Sarbin and Allen, 1968; Schewe, 1973; Solomon *et al.*, 1985). Extending this idea, food companies must understand the nature of their relationship with their customers and apply language devices to position themselves and

behave accordingly (Schewe, 1973). When products and the language used around them appear inconsistent or unexpected to consumers, it can lead to individuals experience a feeling of incongruence between the product and language, which often has a negative impact on brands and their products.

Similarly, LET suggested the importance of understanding whether the language used on a food product violates consumer's expectation based on the situation, in this case, based on the food retail environment in which the product is encountered. Using LET as a foundation, this study proposes that the consumer's perceived congruence between the language used on product packaging and the retail environment can moderate the indirect influence of H&N claims that include maximisers on consumer's product evaluations and purchase intentions, by mediating the effectiveness of how a maximiser alters the psychological distance a consumer feels relative to a product. More specifically, consumers will form expectations about the packaging based on the retail environment they are placed in. When consumers perceive the packaging and retail environment to be congruent, a positive product evaluation will likely result from this, and when consumers perceive these cues as incongruent, a less positive product evaluation will result. Table 20 summarises the hypotheses that will be tested in this study.

The main objective in this study is to provide evidence surrounding the effects of framing H&N claims on product evaluations and purchase intentions, and to test whether the effectiveness of different types of language (with vs. without maximiser) used on H&N claims is contingent upon the types of retail environment (formal and informal settings), and whether this is related to the informality feature of maximisers. This study also intends to uncover a possible mechanism that explains how the inclusion of maximisers in H&N claims can impact consumers' product evaluations and purchase intentions toward a food product.

The present study has the following research objectives:

- (1) To design and develop the study's stimuli: scenario and cupcake material that can be used in the remainder of the study.
- (2) Beyond simple confirmation of the previous study's findings, and in order to understand and describe the conditional nature of a set of mechanisms, this study will test whether maximisers indirectly increase product evaluations and purchase intentions, and whether this depends positively on consumers perceived congruence.

Table 20 Summary of Hypotheses and List of Variables for Online Experiment 1

	Independent Variable	Moderator Variable(s)	Mediator Variable(s)	Dependent Variable(s)	Hypothesis
H1a	Framing of H&N claims			Product evaluation (PE)	Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.
H1b	Framing of H&N claims			Purchase intention (PI)	Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.
H3a	Framing of H&N claims		Psychological distance (PD)	Product evaluation (PE)	Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.
H3b	Framing of H&N claims		Psychological distance (PD)	Purchase intention (PI)	Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.
H5a	Framing of H&N claims	Perceived congruence		Product evaluation (PE)	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.
H5b	Framing of H&N claims	Perceived congruence		Purchase intention (PI)	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.
H6a	Framing of H&N claims	Perceived congruence	Psychological distance (PD)	Product evaluation (PE)	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.
H6b	Framing of H&N claims	Perceived congruence	Psychological distance (PD)	Purchase intention (PI)	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.

The analysis for this study is presented in two sections. The first section, intending to avoid the limitations of the Facebook platform and Facebook Ad Manager, uses a different sample and aims to replicate and confirm the findings of Study 1. Assuming the previous findings are confirmed, the second section builds upon the same mechanism of the indirect influence of maximisers on product evaluation, specifically, it will investigate whether the indirect positive effect of maximisers on product evaluations depends positively on consumer's perceived congruence between the product and the setting / environment, testing the conditional process model (moderated mediation models) presented in Figure 28.

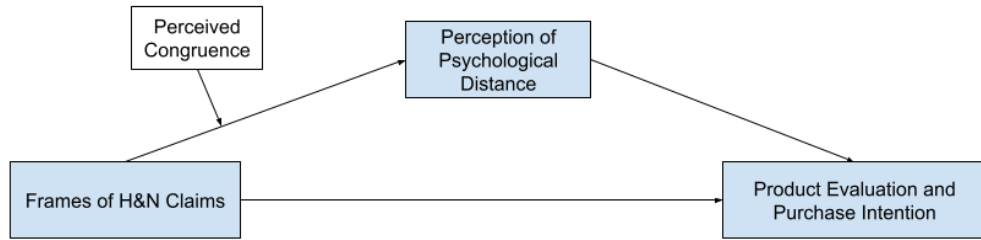


Figure 28 One moderated mediation model showing how maximisers are mediated by perceived psychological distance, and moderated by the perceived congruence between H&N claim framing and the mediator.

In summary, this study continues further investigation into both the underlying mechanism and the moderator to explore the relationship in more depth. This study also aims to increase the generalisability of the findings from this thesis and bring the analysis forward, testing and explaining how the indirect effect of psychological distance can be moderated by perceived congruence.

4.2.2. Study Design and Procedure

Online Experiment 1 was carried out online, presenting a food product (cupcake) displaying H&N claims either framed with a maximiser or without. In detail, a two-factor between-subjects design was used, with retail scenario style (informal vs. formal) and product H&N claim (with maximiser vs. without maximiser) serving as independent variables. Respondents participated in a 3-5 minute online experiment, and received \$0.40 USD as their payment, a figure which was estimated based on the current US minimum wage (Kees *et al.*, 2017). All participants have to be at least 18 years old to be able to complete tasks ([MTURK FAQs](#)), and all data was collected on the 4th of June 2020.

The survey was comprised of three sections. First, participants were randomly assigned in Qualtrics to one of the four conditions, in which the materials were the same as in the pre-test. Participants were informed of an ostensible purpose for the study at the briefing page, being told that they will be reviewing a retail shop's new cupcake design. General guidance about the questionnaire was also provided.

Respondents then entered the second section, the manipulation stage, where they were introduced with the scenario with either the formal or informal conditions and asked to review the cupcake product (same material as pre-test 2). After the exposure to the stimuli, at the beginning of the second section, the H&N claims and brand name were explicitly highlighted to avoid the impact of consumers' misunderstanding of the two concepts. Next, real products (i.e. a cereal bar and a can of coca cola) were used to test if consumer understood the difference between a claim and a brand name by asking participants to identify the claim, with participants who were unable to identify the claim from the brand name being eliminated from the study. Having this recognition test can increase the reliability of the data by identifying whether respondents' attention was present or absent when engaging with the scenario (Abbey and Meloy, 2017).

After confirming their understanding of the product design, respondents entered the third section, which contained questions on manipulation checks and the dependent variables. This study also inserted a verification question to eliminate participants who did not pay attention to the questionnaire to ensure participants paid attention to this study. All the questions are presented in Table 21 below in the order they were shown to participants (Mediator-Manipulation-DV-controls).

Finally, at the debriefing, participants were thanked for completing the studies, and the actual purpose of this study was then disclosed, including when and how participants were manipulated.

Participants and Characteristics

A new sample, operationalised in Amazon's Mechanical Turk (MTurk) online panel, was collected with a total of 259 individuals agreeing to take part in the survey. Participants were selected using

two clear criteria: (i) a worker task approval rate greater than 99%, and (ii) workers being from the US. The first criterion was applied to maintain data quality since these workers have a good track record on being approved. The second criterion was set to ensure the relevance of the product to the participants, as food products with H&N claims are commonly seen in developed countries such as the UK and the US. This relevance will help participants understand the study more clearly. Selection of US-based rather than UK-based respondents also ensured a larger possible pool of respondents, given the greater popularity of MTurk in the US. Data was distributed during the daytime in the US, which also provides a quality control, since participants are likely to pay sufficient attention when they are not tired and are thus more capable of correctly processing questions. Although 259 people agreed to the research, 65 failed various attention checks, details of which are outlined further below.

Whilst MTurk offers a cost-effective method for reaching respondents, researchers must implement a significant number of checks to ensure data validity, primarily due to the low barriers to entry for participants to take part. For example, of the 259 participants, 25 failed the attention check ('to verify that you are reading these questions, choose strongly agree on the scale'), which is an important step to flag those participants that do not carefully read the item, therefore ensuring that good quality data is collected. Another 40 respondents failed to identify a claim when asked to locate one on the food package, despite being given an example. In total, this attrition reflected a 9.7% and 15.4% rate for the direct query and memory recalls respectively. According to Abbey and Meloy (2017), the average percentage loss of data from individual attention checks was consistently between 13.96% and 19.56%. Many studies will combine a number of different attention checks, so the aggregate inattentive respondent rate averaged 35.79% in their work – this suggests that attention in this study was in line with their expectations. It is worth noting that even though the average time to look at the picture was also recorded as one of the quality controls ($M = 11.38$ seconds, $SD = 9.22$), participants were not removed based on this basis, but care was taken to ensure that nothing extraordinary was included (times of hours, for instance). In addition, a 7-point Likert scale was chosen not only because it is the most commonly used scale, but also because it is suggested for use in populations with high cognitive ability, verbal skills, and who have experience with questionnaires. This study found that the highest level of education for 165 of 194 respondents (85.1%) was for university/college, confirming the suitability of using a 7-point Likert scale for the questionnaire (Weijters, Cabooter and Schillewaert, 2010).

Method and Scales

The following variables were captured in the instrument but were measured rather than manipulated. The details of each scale can be found in Table 21 below.

Table 21 A summary of items used for measuring the scales

Variables	Items	Scale Anchors
Pre-test 1		
Shop character	I think this shop appears causal I think this shop appears formal	1 = strongly disagree 7 = strongly agree
Perceived congruence $\alpha = 0.69$	This claim fits the product The product fits this shop's character This claim fits the shop's character	
Online Experiment 1		
Independent variable	The frame of H&N claims, with maximiser vs. without maximiser.	
Moderator		
Perceived congruence between language used on H&N claims and retail environment scenario. ($\alpha = 0.67$)	The product matches with the shop's character I feel comfortable with the language used in the claim at this shop The language used in the claim is appropriate for this shop	1=strongly disagree, 7=strongly agree.
Dependent variables		
Product evaluation ($\alpha = 0.87$)	Quality, Appeal, Reliability, Attractiveness, Taste, Health, Interests, likeability (Erickson and Johansson, 1985; Petroschius and Monroe, 1987; Berens, van Riel and van Bruggen, 2005)	1=strongly disagree, 7=strongly agree.
Purchase intention	I would pay for this product.	
Mediators		
Psychological distance ($\alpha = 0.87$)	I feel connected to the product I feel close to the product	1=strongly disagree, 7=strongly agree
Controls		
Current hunger	I am currently hungry	1=strongly disagree, 7=strongly agree.
Involvement of the study ($\alpha = 0.56$)	I carefully thought about the information presented on the product I paid attention while reading the product information	
Involvement	I usually purchase cupcakes for myself	
Expertise	I think I am generally knowledgeable about food products	
Demographic		
Age, gender, health condition, weight and height, diet, education, eating goal.		

4.2.3. Stimuli Development: Pre-test 2 – Formal and Informal Situation Cues

In order to explore the role of consumer's perceived congruence between the presence of maximisers in H&N claims and the retail environment in which they are encountered, the suitability of the scenario and the packaging design are tested in the following pre-test (Pre-test 2). The main study will be introduced after the pre-test 2.

A second pre-test was conducted to clarify the appropriateness of the stimuli used in Online Experiment 1, and in particular to examine whether the stimuli (both products and retail scenarios) are perceived by participants as designed to be and cause participants either perceived congruence or incongruence. Consumers' perceived congruence were altered by the retail scenario and the packaging, and so it was determined by whether the language used to frame H&N claims was in line with consumer's expectations for the scenario.

Method and Design

180 participants were recruited from Amazon Mechanical Turk (MTurk) and were randomly assigned to each condition in a 2 (formal vs. informal) * 2 (maximiser on H&N claims vs. no maximiser on H&N claims) between-subjects design.

MTurk was chosen because it offers (1) a low-cost and convenient method of data collection, with (2) a large and heterogeneous respondent pool, (3) it has a good response rate, and (4) it allows for the random allocation of experimental conditions using Qualtrics (Berinsky, Huber and Lenz, 2012; Mason and Suri, 2012; Rand, 2012; Buhrmester, Kwang and Gosling, 2015; Shank, 2016). Qualtrics was used for the survey because of its rich feature set for experimental design, which allows the study conditions to be randomised and specific questions to be finely customised, and also provides a set of techniques to ensure the quality of the data, i.e. robot check, eye tracking, timers in blocks¹⁴.

The pre-test for this experiment is a scenario experiment. The scenarios below were influenced by Sela, Wheeler and Sarial-Abi (2012)'s relationship framing stimuli in their study of how different pronouns ('we' vs. 'you and I') influence consumers' attitudes on brands (their stimuli were used in Study 2 and 3). In the second study from this 2012 work, the authors tested whether brand customers would respond more favourably to marketing communications that use the pronoun 'we' rather than the 'you and the brand' phrasing when the relationship with the brand is expected to be close, using the stimuli to manipulate this expectation of closeness. The formal and informal situations, as presented to participants in this experiment, are stated below¹⁵:

¹⁴ See <https://www.qualtrics.com/> for more information

¹⁵ The bold text seen here was also displayed to the participants in the study.

Formal situation: *You are wandering in a shopping centre and see a new food retail shop. You have never seen this shop before. A staff member standing outside approaches you, and talks you through the heritage of the brand. They mention that **their products are made from quality materials and their design is both conventional and classic**. They are well known for their **formal and professional service**. The staff member offers you a sample of their new cupcake. You receive a small bag containing the product from the shop. After you leave the shopping centre, you open the bag and find the product displayed in the following image.*

Informal situation: *You are wandering in a shopping centre and see a new food retail shop. You have never seen this shop before. A staff member standing outside approaches you, and talks you through the brand biography. They mention that **their products are made with love and their design is both warm and inviting**. They are well known for their **caring and attentive service**. The staff member offers you a sample of new cupcake. You receive a small bag containing a new packaged food product from the shop. After you leave the shopping centre, you open the bag and find the product displayed in the following image.*

Both scenarios presented to participants included two versions of the cupcake stimuli with the following claims adorning the front of the packaging (1) 'absolutely no artificial preservatives', (2) 'no artificial preservatives' (images are shown in Figure 29). 'Absolutely' was randomly selected from a collection of context-appropriate maximisers, although it should be noted that this is also the type of maximiser that is the most popularly used on packaging. The choice of maximiser must be realistic, make grammatical sense and sound natural so that ecological validity is maintained (Vargas, Duff and Faber, 2017). i.e. low sugar/salt/fat (with maximiser: totally low sugar/salt/fat), fresh (with maximiser: completely fresh).

To narrow down the food product options, the first step was to choose the general food category that would be used. According to Statista, more than 42.1 million Americans consumed at least 1 individual servings of a cupcake snack per month in 2020 (Statista Research Department, 2020). Cupcakes (known in the UK as fairy cakes and in Ireland as buns) are familiar to respondents as a confectionary item, and are a frequently purchased and consumed confectionary product. However, confectionary brands are not known for the good quality of their nutrition, yet frequently make a wide range of H&N claims (Schwartz *et al.*, 2008; Hieke *et al.*, 2016), since consumers often look for foods that are both indulgent but appear relatively healthy. In keeping with this information, cupcakes were used as the food product under consideration for participants in this experiment. As the brand in the scenario does not play a role in the study, a fictional brand (previously tested and used in Field Experiment) was used to avoid potentially confounding effects of experience with or previous exposure to existing brands (Schneider and Cornwell, 2015).

The new cupcake product is presented with a health and nutrition claim (see Figure 29), and employs a minimalistic design to minimise external distractions for the viewer (Geuens and De Pelsmacker, 2017). Having a minimalistic design can at times appear unfinished or less than professional, potentially reducing external validity, but the aim here is to ensure a cleaner and clearer manipulation. The rest of the design details follow the design principles that can be found in Field Experiment stimuli development, for example, the colour yellow is chosen as the background for its commonality and benefits for both the stimulation of appetite and its association with sweet taste (Saluja and Stevenson, 2018; Rosa *et al.*, 2019b).



Figure 29 Two examples of the minimalist cupcake design used in the pre-test and in Online Experiment 1, showing product packaging with an H&N claim that includes a maximiser (left) or excludes a maximiser (right), while keeping all other features identical

Procedure

The pre-test data was collected on the 5th of May 2020. This study has ethical approval (ID: 46978), and respondents were briefed on the study purpose when beginning the questionnaire. Participants were first asked to read the scenario and check the product packaging design.

To clarify that participants understood the difference between the brand name and the claim, they were asked to identify whether they had seen or recognised the claim on the packaging, i.e. ‘what did the information on the packaging say?’ Following this, participants rated on 7-point scales (1=Strongly disagree; 7=Strongly agree) the extent to which they think the shop, as described, appeared casual (‘I think this shop appears casual’). Participants were also asked about their expectations towards seeing this food product in the corresponding scenario, i.e. this claim fits the product (see Table 21 for the list of items that this pre-test used for the manipulation check). A verification question was used to check whether participants paid attention to the survey (‘to verify that you are reading these questions, choose ‘strongly agree’ on the scale’’).

Results and Discussion

All analysis was carried out using IBM SPSS Statistics Version 27. In total, 147 out of 180 participants passed the attention check and recognition check on what a claim is on the packaging, and these remaining participants had an average age of 31.18, with 30.6% of participants responding that they are female.

For the manipulation check, a Student's t-test was performed under the null hypothesis on the level of informality in both scenarios, showing that informal and formal situations are significantly different ($M_{formal}(N = 75) = 4.27, SD = 1.30$; $M_{informal}(N = 72) = 4.78, SD = 1.40, t = -2.3, p = 0.023$). All of the measures used in this pre-test (and in the Online Experiment 1) are provided in Table 21.

An index was created for the perceived congruence variable by creating a composite variable from the three items ($\alpha = 0.69$). Consumers' perceived congruence among the 4 conditions showed that when H&N claims are framed with maximisers, consumers' perceived congruence is significantly higher in informal situations compared to formal situation ($M_{formal\ with\ m}(N = 37) = 4.90, SD = 0.842$; $M_{informal\ with\ m}(N = 39) = 5.38, SD = 0.847, t = -2.496, p = 0.015$). There is no significant difference in consumers' perceived congruence where H&N claims are presented to participants without maximisers in both scenarios ($M_{formal\ without\ m}(N = 38) = 5.37, SD = 0.751$; $M_{informal\ without\ m}(N = 33) = 5.09, t = 1.46, p = 0.149$). H&N claims without maximisers have no clear characteristics that indicate the appropriateness of their use in either formal or informal situations, though such claims on the product packaging did show a higher congruence when used in a formal situation.

A two-way ANOVA on perceived congruence revealed a non-significant main effect of language ($F(1, 147) = 0.409, p = 0.524$) and scenario ($F(1, 147) = 0.575, p = 0.450$), as well as a significant interaction between language and scenario (language*scenario) ($F(1, 147) = 7.835, p = 0.006$). These results demonstrated there was a successful manipulation of both the perceived formality of the environment and of consumers' perceived congruence between the environment and H&N claim framing based on the formality. Specifically, a different perceived congruence is evident based on the two scenarios and frames used, and this pre-test provides preliminary evidence that a change in perceived congruence can cause a change in product purchase intention. Online Experiment 1 hence used these scenarios as the initial stimuli.

4.2.4. Results and Analysis

The analyses aim to test whether the assumption that the inclusion of a maximiser in H&N claims can increase consumers' purchase intention (main effect) is still valid in this online study. In addition, this study tests how the moderation affects consumers' product evaluations and purchase intentions towards a product framed with or without maximisers. Therefore, the analysis starts by (1) the manipulation check of the study materials, (2) the main effect of maximiser on PE and PI, (3) the moderation effect of perceived congruence, (4) the two simple mediation models and the two-step mediation model.

Before presenting all the results of this analysis, a summary of descriptive statistics is presented in Table 22, which describes all the dependent measures used in this study for both H&N claims with maximiser and without maximiser condition.

Table 22 Summary of descriptive statistics for the three dependent measures and the two experimental conditions used in Online Experiment 1

Dependent variable	H&N claims with maximiser n=97			H&N claims without maximiser n=98		
	M	SD	Skew	M	SD	Skew
Purchase intention	5.27	1.350	-1.048	5.40	1.002	-0.748
Processing fluency	5.90	0.823	-0.894	5.93	0.808	-0.798
Psychological distance	4.62	1.302	-0.466	4.54	1.252	-0.304

Measurement Checks

In order to carry on the next step in this analysis, the suitability of each measure for measuring the target concepts was tested, followed by validity and reliability tests for each item and scale used in this study.

First, the data collected from MTurk was tested for its suitability for principal component analysis (PCA) using Bartlett's tests of the null hypothesis (H_0 : the original correlation matrix is an identity matrix), the result of which was highly significant ($p < 0.000$) for all measures. Thus, the null hypothesis is rejected. Therefore, some relation is identified among the measured variables, showing PCA is appropriate. In addition, the Kaiser-Meyer-Olkin (KMO) test is used to evaluate sample adequacy and is helpful for indicating the whether the correlation patterns identified are robust or not, the result of which suggests there are distinct and reliable components to the measure ($KMO > 0.5$; Kaiser, 1974). Finally, Cronbach's alpha testing was used to show the reliability of each measure ($\alpha > 0.7$) (Pallant, 2020).

The PCA loadings from Table 23 (see Eigenvalues column) show that the three scales (psychological distance, perceived congruence and product evaluation) can each be described by a single measure as for each scale there exists only one eigenvalue greater than 1 (Kaiser, 1974). Therefore, these measures are therefore appropriate for measuring the one-dimensional concept under consideration.

K-M-O (>0.5) showed all the measures are adequate for factor analysis. The correlation within each scale describes whether the items capture a single construct under the measurement. The Cronbach alphas are >0.65, showing a satisfactory internal consistency in each measure (Brown, 1997). Moreover, the reliability of these measures is confirmed by the inter-item correlation, which is >0.3 for all scales. Overall, the measurement checks enable the analysis to proceed, the reliability and validity analysis indicate that the measures are unidimensional, and the factor analysis confirmed a single factor was extracted. As a result, a composite factor was calculated based on these items under each measure and used to represent the scale (see Table 23).

Table 23 Reliability outputs and PCA for the one component measures in Online Experiment 1

One component construct	K-M-O	Eigenvalues	Number of items	EFA loading	Cronbach's alpha	Inter item correlations
Psychological distance	0.50	1.776	2	0.942	0.874	0.776
Perceived congruence	0.64	1.814	3	0.716-0.825	0.668	0.326-0.494
Product evaluation	0.892	4.338	8	0.587-0.802	0.865	0.297-0.638

Manipulation Checks

Within the questionnaire, the following variables were manipulated: (i) recognition of the H&N claim, (ii) participant's perception of retail environment, and (iii) perceived congruence between the product and retail environment.

First, participants in different conditions rated the characteristics of the retail scenario (formal vs. informal). A t-test confirmed that, as expected, there was a significant difference in perceptions between the two types of scenarios (I think this shop appears casual: $M_{formal}(N = 99) = 4.85, SD = 1.313$; $M_{informal}(N = 95) = 5.20, SD = 1.032$; $t = -2.066, p = 0.040$; I think this shop appears formal (reversed item): $M_{formal}(N = 99) = 5.02, SD = 1.237$; $M_{informal}(N = 95) = 4.54, SD = 1.398$; $t = 2.553, p = 0.011$), which suggested once again that the retail scenario is designed successfully for the purpose of this manipulation.

Moreover, the perceived congruence manipulation showed H&N claims framed with a maximiser had greater perceived congruence with the informal condition ($M_{formal\ with\ maximiser}(N =$

46) = 5.38, $SD = 0.87$; $M_{informal\ with\ maximiser}(N = 51) = 5.73, SD = 0.69$; $t = -2.216, p = 0.029$). In contrast, the perceived congruence manipulation showed H&N claims without a maximiser had a greater perceived congruence with the formal condition ($M_{formal\ without\ maximiser}(N = 53) = 5.68, SD = 0.70$; $M_{informal\ without\ maximiser}(N = 44) = 5.43, SD = 0.78$; $t = 1.62; p = 0.11$). This indicates the success of the manipulation especially with the informal condition, since consumers expect to see maximisers on H&N claims more often under informal conditions, and expect not to see maximisers on H&N claims under formal conditions.

Main Effect of Maximiser on Dependent Variables (T-Test)

The main effect of the framing of H&N claims on product evaluation and purchase intention is not found in this study ($F(1,193) = 0.091, p = 0.763$; $F(1,193) = 0.583, p = 0.446$), and no effect was found of language used on H&N claims on psychological distance ($F(1,193) = 0.209, p = 0.648$). The hypotheses 1a and 1b are rejected.

Though no main effect was observed, further analyses are needed to elucidate the process and conditions in which consumers' perceptions of a product may change based on its H&N claim framing and retail environment. Therefore, the moderating effect of the retail environment will be examined in the following section.

Moderation Effect on Dependent Variables (ANOVA)

Hypothesis 5a and 5b suggests that consumers tend to have a positive product evaluation or purchase intention when they perceive the language used on packaging to be congruent with the retail environment. A two-way analysis of variance (ANOVA) was performed, with language and retail scenario both as the independent variable, to examine how the interaction of scenario and language affect product evaluation (PE) and purchase intention (PI).

First, ANOVA on PE revealed an interaction with language used on H&N claim ($F(1, 194) = 8.11, p = 0.005$). There was no main effect of scenario ($F(1,194) = 1.31, p = 0.254$) nor of language used on claims ($F(1, 194) = 0.075, p = 0.785$). The language used on a H&N claim leads to a more positive product evaluation toward the product when the perceived congruence is also higher (Figure 30).

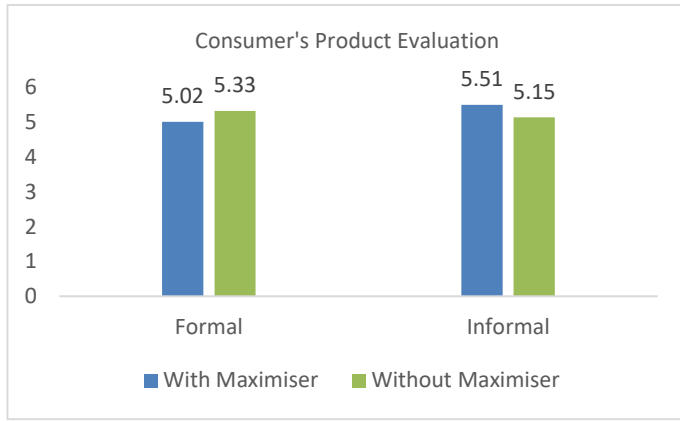


Figure 30 Effect of language and retail scenario on product evaluation

Two-way ANOVA was performed on PI as another dependent variable. There was no main effect from scenario ($F(1, 194) = 2.370, p = 0.125$) nor from language ($F(1, 194) = 0.703, p = 0.403$), but there was an interaction of scenario and language ($F(1, 194) = 7.539, p = 0.007$). The results show consistency compared to the results of PE, that consumers' PI is moderated by the perceived congruence of the language and scenario (Figure 31). When the perceived congruence is high, consumers have a higher purchase intention.

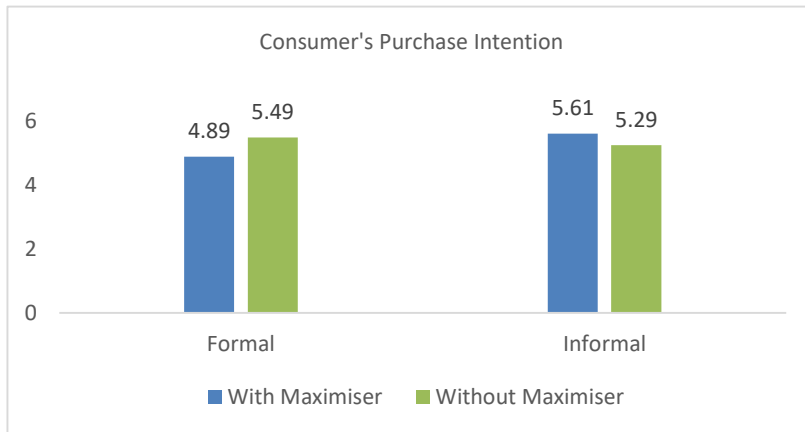


Figure 31 Effect of language and retail scenario on purchase intention

Moderation Effect on Dependent Variables with Control Variables (ANCOVA)

The purpose of ANCOVA is to eliminate alternative explanations for the captured effect by including covariates in ANOVA. These covariates are confounding variables, such as customer involvement in a food product, and have potential to influence the outcomes of this study, affecting the measures of product evaluation and purchase intention.

The variables were chosen for the potential correlation they can have with the independent variables. At the same time, demographic information, including gender, age and education level,

was also measured due to its potential interactions with the results. Certain demographic groups may be more affected by H&N claims and ANCOVA will statistically control these variables and focus on the interaction between frames and retail environment after removing the effect of the control variable.

Furthermore, to ensure this experiment controls for relatable variables, this study measured participants' current hunger, involvement, and their expertise in the subject area. Consumers' eating behaviours may also vary significantly, e.g. those with a greater interest in healthy eating may intrinsically have a greater interest in H&N claims (Cavaliere, De Marchi and Banterle, 2017). Therefore, eating goals were measured, since consumers' eating goals can help predict their food behaviours (André, Chandon and Haws, 2019). For example, consumers with weight-loss goals can behave significantly differently to consumers aiming simply to eat healthily, and their behaviours related to on H&N claims presented on the food packaging may be affected as their evaluation of the healthiness of a food product is more calorie-focused (Liu *et al.*, 2019). These variables are correlated with consumers' diet choices and their health condition, which are also measured in the study.

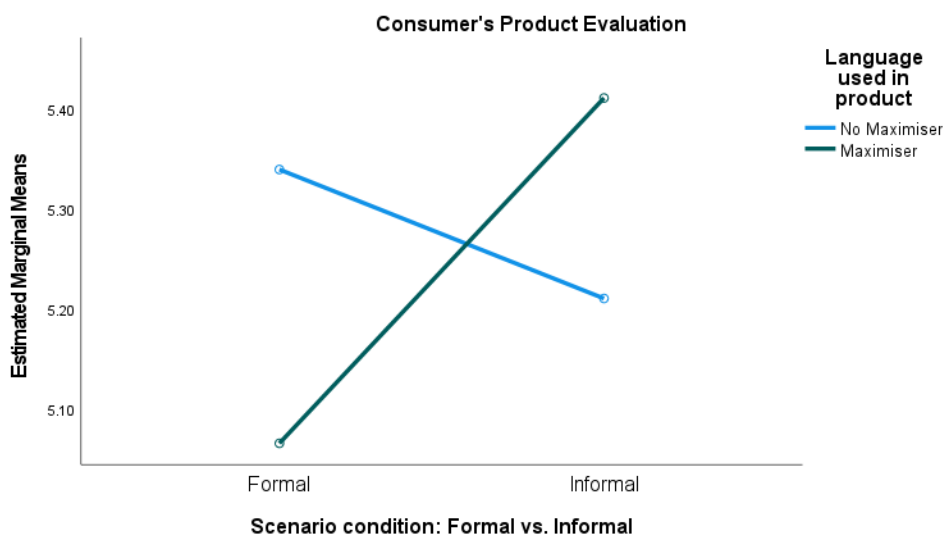
Participants' expertise is taken into account, though it is argued that underestimation bias occurs regardless of consumers' weight and nutrition expertise (Chandon and Wansink, 2007; Ordabayeva and Chandon, 2016). However, good levels of consumer knowledge and expertise in nutrition help in interpreting certain attitudes consumers may have toward a product, but it is also possible that respondents who believe they have a higher than average nutritional knowledge may pay less attention to H&N claims.

Summary statistics were measured on dependent variables (attitude, intention to recommend and buy) based on the framing of H&N claims, since a person's age, weight, hunger level etc. have an added influence on their attitudes toward a product, as well as their intention to buy, all of which can be influenced by the H&N claims used on the product. The ANVOCA results shows the effect of the independent variable after the effects of the covariates have been removed/accounted for.

The potential alternative accounts related to hunger, expertise, and involvement are other potential drivers of the effects of language and scenario related to product attitudes, and will be tested. ANCOVA was conducted to compare the effectiveness of frames and retail environment on product evaluation whilst controlling for age, eating goals, consumers' health condition, gender, and hunger (*), involvement (*), expertise (*) and education level. The result showed that there was a significant interaction between H&N claim framing and the retail environment ($F(1, 193) = 4.782, p=0.03$), whilst only two control variables, health condition ($F(1,193) = 6.698, p = 0.010$) and expertise ($F(1,193) = 17.783, p < 0.000$), are significant in the model. This means that both

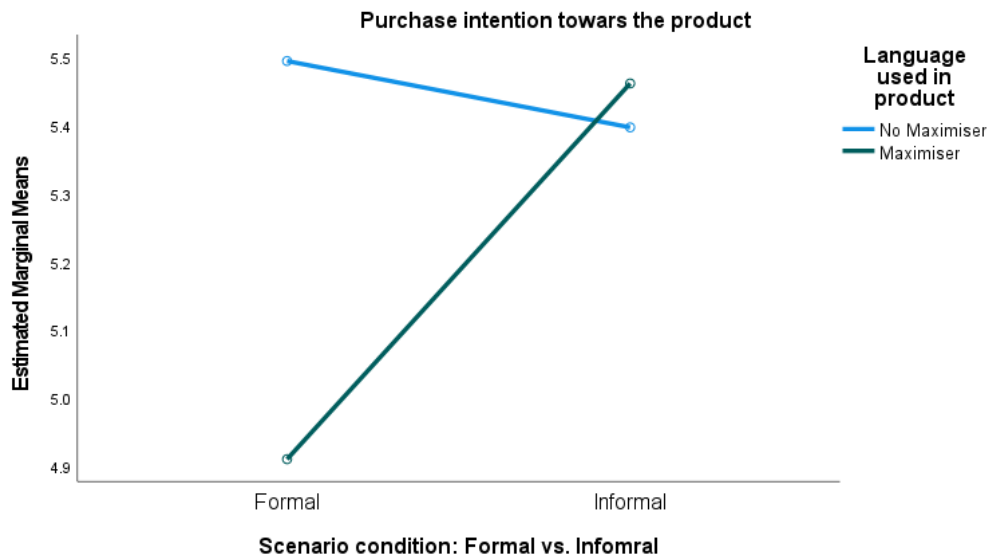
the extent to which consumers are involved with purchasing similar products and the exact nature of consumers' health conditions can affect their product evaluations.

Similarity, ANCOVA was conducted on purchase intention whilst controlling the same covariables and results showed that there was a significant interaction between the independent variables ($F(1,193) = 4.499, p = 0.035$) while hunger ($F(1,193) = 4.903, p = 0.028$), involvement ($F(1,193) = 19.756, p < 0.000$), and expertise ($F(1,193) = 4.360, p = 0.038$) also have a significant impact on consumer's purchase intention. These variables are thus likely to account for the observed effects with either language or scenario. The findings suggested that the interaction between the frames and retail environment is still significant regardless of the impact of some control variables.



Covariates appearing in the model are evaluated at the following values: I am currently hungry = 4.70, I usually purchase cupcakes for myself = 4.64, I think I am generally knowledgeable about food products = 5.51, How old are you this year (in years)? = 32.9948, In general, would you say your health is: = 3.60, Please indicate your gender. = 1.44, Please select the highest level of education you have completed: = 20.73, What is your eating goal? = 1.55

Figure 32 The interactive effect of H&N claim framing and the retail environment on product evaluation, adjusted by covariance



Covariates appearing in the model are evaluated at the following values: I am currently hungry = 4.70, I usually purchase cupcakes for myself = 4.64, I think I am generally knowledgeable about food products = 5.51, How old are you this year (in years)? = 32.9948, In general, would you say your health is: = 3.60, Please indicate your gender: = 1.44, Please select the highest level of education you have completed: = 20.73, What is your eating goal? = 1.55

Figure 33 The interactive effect of H&N claim framing and the retail environment on purchase intention, adjusted by covariance

In addition, post-hoc analysis was performed as it is worth to further uncover the effect of maximiser has when it is applied in different retail settings. A post hoc Tukey test demonstrated the frame of H&N claims with or without maximiser under a formal retail setting differed significantly ($F(1,97) = 4.827, p = 0.03$). While the difference between the use of maximiser and the use of plain language on H&N claims under an informal retail setting did not have a big statistical difference ($F(1,94) = 2.808, p = 0.097$). The results indicate that when maximiser framed H&N claims applied in an informal environment, the food products are perceived with no statistical difference on purchase intention to the products did not use maximiser. However, under a formal situation, the use of maximiser on H&N claim can negatively affect consumer's purchase intention towards a food product.

Moderated Mediation Analysis (PROCESS model)

Because a moderation effect of perceived congruence was demonstrated from the ANOVA results, the study can move forward to a conditional process analysis. The mediation effect will be examined again with retail environment used as a moderator in this process. A one-step mediation model will be used, with the indirect effect deconstructed into a mechanism through which maximisers affect product purchase intention via psychological distance with the product. The results for product evaluation and purchase intention are similar, i.e. both prove the conditional

model. This results section will focus on an explanation of the model for purchase intentions as it is a more impactful outcome for this thesis.

A moderated mediation analysis was run using the PROCESS macro in SPSS (Hayes, 2015) to estimate the direct and indirect effects of maximiser framed H&N claims on participant's PI of the product on display through psychological distance (Hayes, 2015; Model 4) and testing hypothesis 3a and 3b. No significance was found for the direct and indirect effects using 5000 bootstrap samples, thus rejecting the hypotheses 3a and 3b.

A moderated mediation analysis was run using the PROCESS macro in SPSS (Hayes, 2015) to estimate the direct and indirect effects of maximiser framed H&N claims on participant's PI of the product on display through psychological distance as moderated by retail environment types (Hayes, 2015; Model 7). The significance of the direct and indirect effects was evaluated by means of 5000 bootstrap samples to create bias-corrected confidence intervals (95%).

Evidence from the estimation of the model suggests (1) an insignificant direct effect of maximiser framed H&N claims on purchase intention ($\beta = -0.167; p = 0.268$), (2) a significant retail environment conditional indirect effect via psychological distance (moderator index = 0.566, $se=0.189$, $LLCI = 0.230$, $ULCI = 0.974$), (3) a significant interactive effect between the independent variable the use of maximiser and moderator retail environment ($\beta = 1.280; p < 0.000$), (4) a significant effect of psychological distance on purchase intention ($\beta = 0.442; p < 0.000$). This shows that the use of maximiser on H&N claims does not directly decrease a person's psychological distance or lead to higher purchase intention. While as expected, the interaction between the maximiser and perceived congruence affects the consumer's perceived psychological distance and purchase intention. In detail, consumers' perceived congruence between the language used on H&N claims and retail environment significantly moderates the effect of maximiser on psychological distance, for example consumers perceived congruence leads to a more proximal psychological distance ($B = 1.280, p < 0.000$). This is an indirect-only mediation effect (as known as full mediation in Baron and Kenny's paper) as the direct effect (c) is insignificant while the mediated effect (a*b) is significant (Zhao, Lynch and Chen, 2010).

Furthermore, it is worth to point out that the psychological distance is effective in purchase intention (0.442), but it is dependent on high or low perceived congruence. The high purchase intention and closer psychological distance are observed for participants who perceive the frame of H&N claims congruent with the retail environment they were situated in. In other words, the findings showed that when maximiser is used on H&N claims, psychological distance for the product decrease (i.e. participants perceive a closer towards the product) when consumers perceived the language congruent with the retail environment. In sum, the findings from the full model support

the role of the types of retail environment as moderator. The results have the same effect on consumers' product evaluation, hypothesis 6a and 6b are supported.

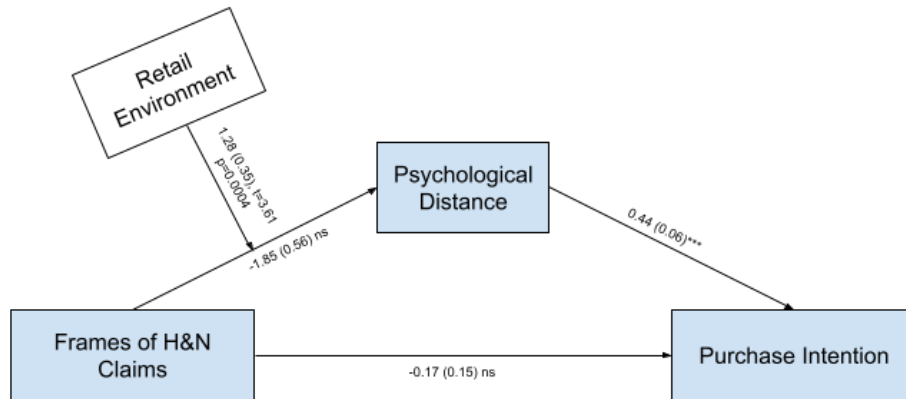


Figure 34 Illustration of results of the full model estimation

Table 24 Summary of Study Results

Pre-test				
Manipulation check	Formal scenario		Informal scenario	
	With Maximiser	Without Maximiser	With Maximiser	Without Maximiser
Casual shop	4.27 (1.298)		4.78 (1.396)	
Perceived fit	4.90 (0.842)	5.37 (0.751)	5.38 (0.847)	5.09 (0.851)
Study 1				
DV	Formal scenario		Informal scenario	
	With Maximiser	Without Maximiser	With Maximiser	Without Maximiser
Casual shop	4.84 (1.315)		5.19 (1.034)	
Formal shop	5.02 (1.237)		4.54 (1.398)	
Perceived fit	5.38 (0.87)	5.68 (0.69)	5.73 (0.70)	5.43 (0.78)
Product attitude	5.02 (0.97)	5.33 (0.87)	5.51 (0.77)	5.13 (0.77)
Purchase intention	4.89 (1.58)	5.49 (1.12)	5.61 (1.00)	5.29 (0.84)

4.2.5. Discussion

This Online Experiment 1 builds upon the Field Study. The scenarios and framing of H&N claims were manipulated, reflecting marketers' real-world practices. In general, this study illustrates through an empirical investigation that a state of perceived congruence leads to a more positive product evaluation and increases purchase intentions in comparison with a state of perceived incongruence. This indicates that this effect is contingent upon the consumer's perceived congruence of H&N claims used in the shopping situation. Specifically, the results revealed that the use of maximisers is better-suited to an informal setting due to the informality of maximisers through the manipulation of this study.

When an H&N claim is framed with a maximiser in an informal setting, consumers perceive that product as being of higher evaluative outcomes comparing to when maximisers are used in a formal setting. It is important to highlight that the use of maximisers on H&N claims in an informal retail environment, though there is a better congruence compared to claims with no maximiser, does not contribute to a significantly higher purchase intention. In contrast, the use of maximisers can damage consumer purchase intentions when the retail environment is formal compared to the case in which no maximiser is used.

This study suggested an underlying mechanism, demonstrating a conditional effect of perceived congruence between the product and the retail environment to increase purchase intention through a mediated effect, a decrease of consumer's perceived psychological distance towards the displayed product. However, this online experiment did not find a direct effect of maximiser on consumer's purchase intentions. Thus, hypotheses 6 and 7 are supported, while hypotheses 1 and 5 are rejected.

Drawing upon the notion that a consumer perceiving a product and its environment as congruent is beneficial to the product evaluation, but does not increase significantly on purchase intention, this study can aid marketers who intend to use the design of their products or shopping environments to attract more customers. Building on this logic, possible boundary effects could be proposed from the present study, which will further inform the real-world marketing industry about the benefits and limitations of the use of maximisers. As will be elaborated in the discussion chapter, a number of different boundary effects can emerge based on several combinations of cues related to perceived congruence.

Further analysis then indicated the differences in food companies' communication strategies, in which their resource investments varied, such as the design elements of a store environment, to target customers. This online experiment demonstrated the importance for food companies to manage consumers' perceived congruence among product information cues by showing that the use of maximisers does not always increase purchase intentions, especially when consumers do not perceive the use of maximiser on H&N claims as congruent with the retail environment. The use of maximisers on H&N claims is damaging in incongruent settings, but does not bring a significant positive effect when applied in a more congruent setting. This information serves to warn advertisers not to ignore the match between their product and the retail environment, as a poor match can negatively impact product perceptions, and ultimately product sales.

This study primarily ensured its internal validity, demonstrating the cases in which maximiser should or should not be included in H&N claims based on the retail setting. Control variables were tested and the robustness of the conditional effect of perceived congruence on maximisers for product evaluation and purchase intention was confirmed. However, as the direct effect was not found, it raises a concern that the maximisers have negative associations due to its feature of hyperbole. Consumers can be sceptical of a company's intentions, which generally are to attract consumers and optimise their profits, and as such, consumers may be sceptical of a company's intentions when using maximisers in their product branding and advertising. The maximisers applied in some circumstances can evoke consumers' knowledge about persuasion, such that they become suspicious and question the motives of a merchant and as well as the validity and purpose of promoting a product (Friestad and Wright, 1994; Chen, Monroe and Lou, 1998). Consumers encountering maximisers on food products may experience some form of negative associations, such as 'marketing gimmick', or 'deception' and, as a result, these products can devalue compared to the original H&N claims used on food products.

Therefore, the next study will further investigate the reasons why the direct effect was not captured for maximisers, and will examine other features of maximisers – affirmation and sincerity – by

testing the congruence with online comments, which act as additional information about the opinions on the products and have a confirmative effect. There are some alternative explanations that will be controlled in the following study, such as the nature of the products, the product's nature as hedonic and/or utilitarian, and the reflection of customers' perceived congruence. The next study will also examine these effects in more diversified setting, investigating the underlying mechanisms to further enhance the robustness of its findings.

4.3. Online Experiment 2: The Impact of Maximisers on Product Evaluation Moderated by Perceived Congruence (Online Reviews)

This section describes the development, design and results of the second online experiment. This follows from the field experiment and from Online Experiment 1, which found that the effect of maximisers is dependent on consumers' perceived congruence between the H&N claim framing and the formality of the retail setting, demonstrating the impact of the informality feature of maximisers. This experiment aims to further explore consumers' perceived congruence, investigating the relationship between H&N claim framing and sentiments expressed in online comments and reviews, and to test other features of maximisers, which can also impact consumer product evaluations and purchase intentions.

4.3.1. Introduction

Findings from the previous study (Online Experiment 1) indicate that when consumers' perceived congruence is high between the use of maximiser and its retail environment, maximisers have an increased positive effect on purchase intention. Results also confirmed the informal nature of maximisers, matching well with environments that are perceived as more informal. A perception of incongruence was found to have a less positive effect on consumer's purchase intentions towards a product. The indirect effect of psychological distance was also tested and found to be adequate to explain the underlying mechanism.

In this present study, other features of maximiser – affirmation and sincerity – will be tested with regard to consumers' perceptions of congruence between the use of maximisers and other factors. Common shopping behaviours among modern consumers indicate consumers have found that information from traditional venues no longer meets their needs (e.g. Boberg *et al.*, no date), and thus they proactively and independently seek information to obtain answers to their questions rather than relying exclusively on the information provided to them on a product packaging. Through online shopping, consumers are instantly offered other customer reviews as an additional source of information beyond product packaging itself. The phenomenon of consumers seeking such information and/or confirmation can contradict food companies' efforts to modify the extent of the truthfulness of their H&N claims through the use of language intensity modifiers, such as maximisers. Consumer's product evaluations and purchase intentions when exposed to negative reviews will understandably be significantly lower than evaluations and purchase intentions following exposure to positive reviews. However, this study proposes that when product packaging information and additional information (e.g. online reviews and comments) are perceived as congruent by consumers (i.e. positive review with maximiser, negative review with no maximiser),

consumers' product evaluations and purchase intentions will be more positive than when consumers perceive the two information sources as incongruent.

This thesis proposes that the use of H&N claims framed with maximisers can cause consumers to focus on its affirmation and sincerity, enabling exploration of the interaction between the frame of H&N claim (representing instilled trust) and the variance of customer comments as an additional information source, and revealing the impact of this on consumers' product evaluations. Negative comments can trigger more systematic information processing, where maximisers may not only lose their impact but also damage a product's image. On the other hand, positive comments can act as a source of confirmation, and thus may increase the attractiveness of products advertised with maximisers. Therefore, this study examines the effect of online comments and reviews as a source of information that can affect the relation between the framing of H&N claims and purchase intentions. The hypotheses tested in this present study (H1, H3, H7, H8) are shown in Table 25 below.

Table 25 Hypotheses tested in Online Experiment 2

	Independent Variable	Moderator Variable(s)	Mediator Variable(s)	Dependent Variable(s)	Hypothesis
H1a	Framing of H&N claims			Product evaluation (PE)	Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.
H1b	Framing of H&N claims			Purchase intention (PI)	Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.
H3a	Framing of H&N claims		Psychological distance (PD)	Product evaluation (PE)	Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.
H3b	Framing of H&N claims		Psychological distance (PD)	Purchase intention (PI)	Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.
H7a	Framing of H&N claims	Perceived congruence (with comments)		Product evaluation (PE)	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews where negative reviews lead to a lower PE compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group without maximisers.
H7b	Framing of H&N claims	Perceived congruence (with comments)		Purchase intention (PI)	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PI compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group without maximisers.
H8a	Framing of H&N claims	Perceived congruence (with comments)	Psychological distance (PD)	Product evaluation (PE)	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.
H8b	Framing of H&N claims	Perceived congruence	Psychological distance (PD)	Purchase intention (PI)	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a

This study aims to explore what happens when consumers experience cognitive dissonance on its sincerity and affirmation aspects triggered by the type of comments, how it interacts with the frames of H&N claims.

The present study also has the following research objectives:

- (1) Develop stimuli and create two versions of a healthy energy bar product in an online shopping environment
- (2) The use of another product, online scenario will increase the generalisability of the study further
- (3) Eliminate alternative explanations such as to enhance the robustness of the findings

In order to further understand conditional nature of a set of mechanisms, psychological distance will be tested as mechanism again in this study. After testing each mediator and its effects in isolation, both moderators and mediators will be combined in the same model. This approach is aimed at testing whether perceived congruence influences and/or determines the indirect effect of maximisers on product evaluation and purchase intentions.

The analysis that follows is presented in two parts: (1) testing the moderator and its influence on the effect of maximisers, and (2) examining the indirect, positive effect of maximisers on product evaluations and purchase intention using two conditional process models (also termed moderated mediation models). In this latter part, this positive effect of maximisers on product evaluations and purchase intention will be investigated, to determine whether it depends positively on consumer's perceived congruence.

In sum, this study continues the investigation into both the underlying mechanisms supporting and explaining the action of maximisers, and the moderator that affect their action, exploring this relationship in more depth. This study also aims to increase the generalisability of the findings from this thesis, testing and explaining how the indirect effect of psychological distance can be moderated by the nature of online review.

4.3.2. Stimuli Development

To construct the appropriate stimuli, product design and specific claim were adapted based on study purpose, reality, and literature review. As the study intends to test how purchase intention is

affected by maximisers and its dependence on customer reviews, this study used a 'real' website structure to present the food product and to demonstrate the application of realistic materials for this experiment (Figure 35). Online reviews were selected from real comments found on online grocery sites', to ensure their realistic nature, and were manually selected from identical and near-identical product categories based on two criteria: (1) the positive/negative review has either five/one star(s); (2) the reviews have a reasonably vivid description of the issues encountered, meeting the criteria of Anderson (1998), who suggested that positive reviews come from positive experience and those are characterised by enjoyable and vivid descriptions of experiences, whereas negative reviews contain some complains, or unpleasant shopping experience or denigrating product descriptions. In this case, reviews are selected from the comments made about energy bars from one of the biggest online UK grocery-shopping site – Ocado.

The previous experiments in this thesis used more hedonic food products, i.e. ice cream and cupcakes, so an energy bar was instead chosen, as it is often seen as utilitarian product, to increase the generalisability of the findings from this study. It is important to broaden the tested products as from this thesis's observation, H&N claims are widely applied in this type food product. The design used is minimalistic and simple which, as previously described, creates minimal distraction in the manipulation exposure (Geuens and De Pelsmacker, 2017). The test design for this product also adapts features from real-world product designs, which are aimed at increasing the external validity of this experiment. The H&N claims are presented in the centre of the packaging and in a large font to ensure participants can clearly read the claim. The overall design aims to provide simple, but at the same time realistic, stimuli under well controlled conditions and embedded in a realistic advertising context (Geuens and De Pelsmacker, 2017). Both the product designs as well as associated positive or negative reviews were viewed by participants.

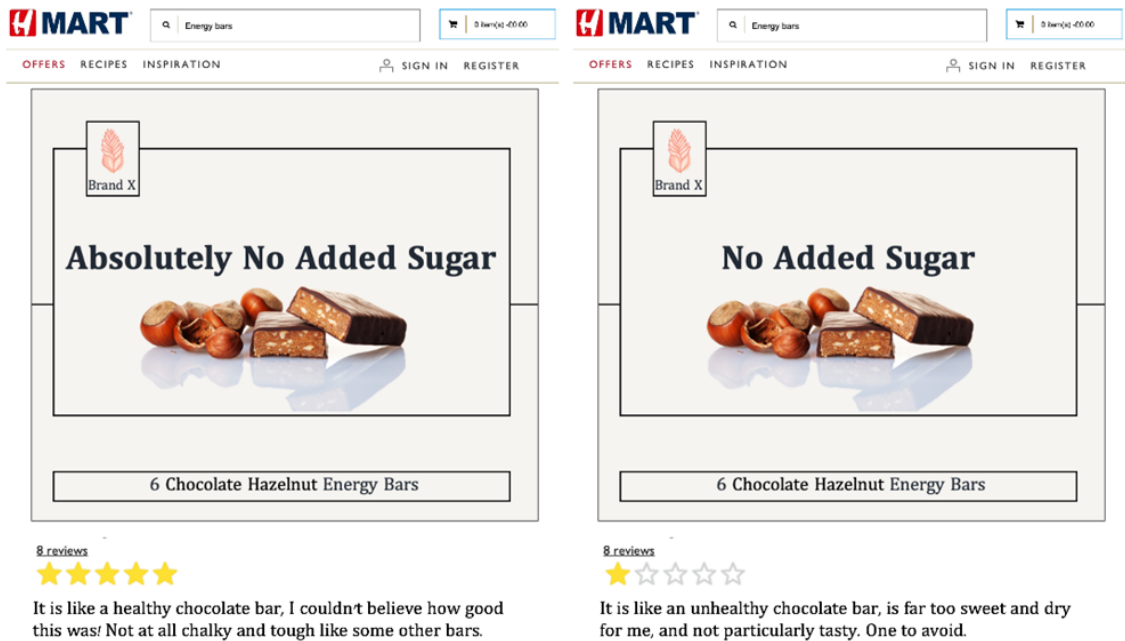


Figure 35 A demonstration of the materials used in Online Experiment 2, showing two cases: Inclusion of maximiser in H&N claim with positive reviews (left), and a H&N claim presented without maximisers with negative reviews (right).

4.3.3. Study Design and Procedure

Online Experiment 2 is a between subject experiment: 2 frames of H&N claims (maximisers vs. no maximiser) * 2 online website reviews (positive vs negative reviews). The retailing setting is informal since Online Experiment 1 showed a high congruence between informal settings and products that include maximisers in H&N claims. Respondents participated in a 5-8 minute online experiment, and were paid \$0.70 USD as their payment, based on the current US minimum wage (Kees *et al.*, 2017).

The study started with briefing the participants, welcoming them and informing them of the duration of the study and an ostensible purpose, as well as general guidance about the questionnaire. In addition, before proceeding to the manipulation stage, participants were asked if they are allergic to hazelnuts as the examined food product contains hazelnuts, with participants choosing 'yes' being automatically excluded from the study. Next, at the stage of exposing participants to the manipulation, all participants were told that they are being introduced to a brand-new product and, for reasons of confidentiality, the brand is referred to as Brand X. This no-brand action avoids possible external effects related to brand perceptions that could otherwise influence participants' attitudes towards the product under consideration. Participants were told they are expected to help a retailer decide whether to stock this product. The informal nature of

the retailer is also given, adapted from the scenario for informal a retail environment in Online Experiment 1. Participants were also asked to take a look at an image showing one page of the online grocery shopping website where one default customer review is included in positive and negative review experimental groups, being told that before making their evaluation they may optionally see additional information about each bar. In detail, and linked to the positive and negative review conditions, participants are told that they could read up to 10 reviews from experts, and asked to select one of the two following options: (a) ‘Please show me a review of these protein bars’ or (b) ‘I do not need to see any reviews, I am ready to evaluate these protein bars now’.

As it is important to ensure participants read the website and reviews carefully to ensure successful execution of this study, a verification question was used to eliminate participants who did not pay attention to the questionnaire.

All questions posed to the participants are presented in Table 26 below in the order they were shown to participants (DV-Mediator-controls-Manipulation-confounds). Before finishing the survey, respondents are asked whether they believe the stated purpose of the study, which acted as a suspicion probe. Finally, at the debriefing, they are thanked for completing the studies and the actual purpose of this study was disclosed, including when and how they are manipulated.

Participants and Characteristics

Data was collected between 20th and 21st January 2021. The same Amazon Mechanical Turk procedure and standard were performed with the two criteria used in Online Experiment 1. In total, 275 participants entered the study, with 39 (10%) participants reporting themselves as allergic to hazelnuts – which the product used in this study contains, with 20 people failing to pass the attention check, and with 27 participants dropping the survey without completing. These participants were eliminated from the study, resulting in 189 participants successfully completing the study ($M_{age} = 38.02, 49.2\% \text{ female}$).

Method and Scales

The following variables were captured in the instrument but were measured rather than manipulated. The details of each scale can be found in Table 26.

Table 26 Scales for Online Experiment 2

Variables (follow the order)	Items	Scale Anchors
Dependent variables		
Purchase intention ($\alpha = 0.957$)	I can imagine buying this energy bar from this brand.	

(Holzwarth, Janiszewski and Neumann, 2006; Chiu, Hsieh and Kuo, 2012)	The next time I buy cereal, I will take this brand into consideration. I am very interested in buying this energy bar from this brand.	1=strongly disagree; 7=strongly agree
Product evaluation of this energy bar (Haws and Winterich, 2013)	Eating this cereal would be pleasurable; I would enjoy eating this cereal; This cereal would be satisfying; This cereal would taste good. Alpha 0.977 ----- This energy bar looks attractive/healthy/good quality to me. Healthy/good/nutritious/wholesome (Hagen, Aradhna, and McFerran 2017, Rejecting responsibility: low physical involvement in obtaining food promotes unhealthy eating.) Alpha=0.960	
Information seeking (link to reviews customers read)	How many reviews did you read? (1-10)	
Credibility of the information presented in the product ($\alpha = 0.901$) (Koo and Suk, 2020)	1=very inaccurate, unclear, vague, unreliable, untrustworthy, undependable; (CHANGE – scale that fit, 3 items) 7=very accurate, clear, explicit, reliable, trustworthy, dependable More of a DV, there will be a main effect from the comments. And using maximiser is likely to not affect credibility of a product (shown from a control group) but perceived trust of a product.	
Mediators		
Psychological distance (Mende, Bolton and Bitner, 2013a) Alpha: 0.957	I feel connected to the product I feel close to the product I am comfortable having a close relationship with brand X. It's easy for me to feel warm and friendly toward brand X. ----- I feel instantly emotionally attached to this product I feel instantly connected to this product I feel immediately close to this product	Strongly disagree (1) and strongly agree (7) as the extreme verbal anchors.
Controls		
Current hunger	I am currently hungry	1=strongly disagree, 7=strongly agree.
Involvement of the study $\alpha = 0.56$	I carefully thought about the information presented on the product I paid attention while reading the product information	
Involvement	I usually purchase energy bar for myself	
Familiarity (Zhou, Yang and Hui, 2010)	high familiarity – more immune to H&N claims low familiarity – rely on H&N claims to navigate Indicate your familiarity with the type of product presented Brand familiarity: This brand is [very unfamiliar/ familiar] to me I am [not at all knowledgeable/very knowledgeable] about this type of product I [have never seen/have seen many] other brands of this type of product in the online/psychical shop	1=very unfamiliar; 7=very familiar
Customer expertise Alpha=0.833 (Gleim <i>et al.</i> , 2013)	I am generally knowledgeable about food products; I have a great deal of knowledge about food products I consider myself an expert on food products I have a great deal of experience with food products I generally know more than my friends about food products	1=strongly disagree, 7=strongly agree.
Negative associations Maximiser group can be perceived more deceiving when comments are negative – mediator (Koo and Suk, 2020) JR 'Is \$0 better than free?'	This product is deceiving This product is a sales gimmick There could be some reasons for the retailers to use this product design This product might be a cheap item This product is probably of low quality This product is more likely low cost Alpha=0.827 1=strongly disagree; 7=strongly agree	1=strongly disagree, 7=strongly agree.
Use of maximiser Use often, the H&N with maximiser can be not noticeable (or opposite) Use less – noticeable?	Indicate how often you use words such as maximiser, 100%, completely in daily life. Always – sometimes – never Rarely / frequently	
Manipulation (Stimuli was shown again)		

4.3.4. Results and Analysis

The analyses for this experiment will, as for Online Experiment 1, again test whether the assumption that maximisers can increase consumer product evaluation and purchase intention (main effect) is valid in this online study, since Online Experiment 1 did not find a main effect (H1a and H1b). In addition, the possible mediators will be tested again, as well as the moderation effect on the effect of maximisers. The moderation is the same as Online Experiment 1 but with different elements being examined, i.e. the language used on H&N claims and additional information customers acquired.

The analysis starts with (1) a manipulation check of the study materials, and follows with (2) checking the confounding effect, (3) the main effect of maximiser on PE and PI, (4) interaction effect between the framing language on H&N claims and customer reviews, and finally (5) the two simple mediation models and (6) the two-step mediation model, both of which use a different sample from Amazon MTurk with perceived congruence acting as a moderator.

Descriptive statistics for the three dependent measures used in this study (purchase intention, healthiness, tastiness) are summarised in Table 27. These measures are related to H&N claims both with maximiser and without maximiser conditions, with key results to mention that maximiser groups have a high value on the three dependent variables compared to no maximiser groups. However, it is not statistically significant difference between the two conditions. This will be discussed later in further detail.

Table 27 Descriptive statistics summary for the three dependent measures across both experimental conditions

Dependent variable	H&N claims with maximiser n=93			H&N claims without maximiser n=96		
	M	SD	Skew	M	SD	Skew
Purchase intention	5.41	2.653	-1.048	4.91	2.846	-0.748
Healthiness	6.08	2.121	-0.746	5.58	2.072	-0.325
Tastiness	5.56	2.523	-0.558	4.93	2.813	-0.081

Measurement Check

The same measures that were used in Online Experiment 1 are used in this study and, therefore, are discussed here in brief detail. New measures considered for the analysis in this experiment, such as negative emotions, are described in this section. A summary of psychometric results for each of the measures considered in this experiment are presented in Table 28.

Table 28 Summary of reliability outputs and PCA for 12 one-component measures (Online Experiment 2)

One component construct	K-M-O	Eigenvalues	Number of items	EFA loading	Cronbach's alpha	Inter item correlations
Psychological distance	0.50	1.776	2	0.942	0.874	0.776
Perceived congruence	0.64	1.814	3	0.716-0.825	0.668	0.326-0.494
Product evaluation	0.892	4.338	8	0.587-0.802	0.865	0.297-0.638
Perceived tastiness	0.868	3.825	4	0.973-0.982	0.985	0.944-0.953
Perceived healthiness	0.877	3.628	4	0.946-0.961	0.966	0.856-0.899
Psychological distance	0.914	4.328	5	0.891-0.948	0.961	0.766-0.869
Processing fluency	0.775	2.758	3	0.954-0.965	0.956	0.884-0.891
Negative emotions	0.776	3.316 and 1.018	6	n/a	0.828	0.068-0.711
Familiarity – Knowledge	0.816	3.119	5	0.535-0.901	0.838	0.274-0.659
Importance	0.756	2.566	3	0.917-0.936	0.915	0.754-0.803
Purchase intention	0.780	2.832	3	0.965-0.975	0.970	0.907-0.933
Involvement	0.500	1.655	2	0.910	0.790	0.655

The factor loading on negative emotion measure adapted from Koo and Suk (2020) showed more than one factor, showing more than one dimension of the scale.

Manipulation Check and Confound Check

As one factor of this experiment is the framing of H&N claims either with or without a maximiser, it is important to check if participants were successfully exposed to the manipulation. This experiment measured the features of the phrases of H&N claims (sincerity and affirmation) and used this measure to represent the manipulation check, since participants in maximiser group are suggested to rank the characteristics of the H&N claim phrases differently to participants in the no maximiser group. An independent-measure t-test on the characteristics of H&N claim phrases was performed, confirming that the manipulation worked as intended, and the participants considered the two phrases as different ($t = 2.078, p = 0.039$). Furthermore, the manipulation check also confirmed that both frames are seen by participants as standard ($t = -1.251, p = 0.213$), which removes the possible explanation that the observed effect on dependent variables is caused by maximisers being perceived as non-standard or abnormal.

The product space ratio is also another alternative explanation for the observed effect, in order to eliminate the effect from the product space ratio on consumer's product evaluation, a confound check is performed on the product space ratio (i.e. this product design has too much/too little space, too empty/too packed). The independent measure t-test confirms that the effect of space ratio is

significant ($t = 2.422, p = 0.016$) and thus, the effect observed could possibly result from the differences of the product space ratio.

Finally, a one-way ANOVA was performed on the believability of this study, and the results showed that there is no difference between all the experimental groups on their beliefs regarding the purpose of the study ($F(3,185) = 0.886, p = 0.449$).

Main Effect of Maximiser on Dependent Variables (T-Test)

This online experiment extends the dependent variables from the previous study to better understand the range of effects that result from the use of maximisers. A t-test was performed on the effect of maximiser on purchase intention and other key dependent variables. The Table 29 summarised the frame of H&N claims effect on all key dependent variables. For example, the results show that though this retail environment is set to provide perceived congruence on the use of maximiser on product H&N claims, no main effect on purchase intention was found ($M_{maximiser} = 5.41, M_{nomaximiser} = 4.91; t(187) = 1.237, p = 0.218$). Similar effect was found on the perceived tastiness: ($M_{max} = 5.56, M_{nomax} = 4.93; t(185.91) = 1.641, p = 0.102$) The result again showed hypotheses 1a and 1b are rejected. Though the t-test results were not statistically significant, some variables such as tastiness had a marginal significance. There is consistently higher positive feedback from the maximiser group in comparison to the feedback from the no-maximiser group, demonstrating the benefits of including maximisers in H&N claims on food products. Interestingly, the amount of customer online reviews viewed is also higher for the maximiser group than no-maximiser group, suggesting a possible need to confirm the claims encountered on the food product using further information sources.

Table 29 The Main Effect of Maximiser on Dependent Variables (in Online Experiment 2)

Dependent variables	PI	IF	Tastiness	Healthiness	Credibility
T-test results	$t(187) = 1.237,$ $p = 0.218$	$t(175.876)$ $= 1.627,$ $p = 0.106$	$t(185.910)$ $= 1.641,$ $p = 0.102$	$t(187) = 1.638,$ $p = 0.103$	$t(187) = 1.226,$ $p = 0.222$

Moderation Effect on Dependent Variables with / without Control Variables (ANOVA or ANCOVA)

The interactive effect of online reviews and frames on purchase intention, tastiness and healthiness was analysed next. Even though the main effect of frames of H&N claims is not significant, ANOVA and ANCOVA are carried out to test the interaction between the food product H&N claim framing and customer reviews acting as an additional source of information.

As the results of all dependent variables are consistent, this study will use purchase intention as an example to provide explanation of the results. First, ANOVA results found, unsurprisingly, that

participants were more likely to purchase the energy bar when it has positive online reviews than negative online reviews ($M_{positive} = 7.067, M_{negative} = 3.048; F(1,188) = 216.855, p < 0.000$). There was also a significant interactive effect between the reviews and frames on purchase intentions ($F(1, 188) = 5.212, p = 0.024$), but no main effect was observed for the framing of H&N claims ($F(1, 188) = 2.352, p = 0.127$). It is important to highlight the difference between the use of maximiser and use of no maximiser when online comments are comparatively negative ($M_{neg+maximiser} = 3.59, M_{neg+no-maximiser} = 2.55; F(1,89) = 5.428, p = 0.022$).

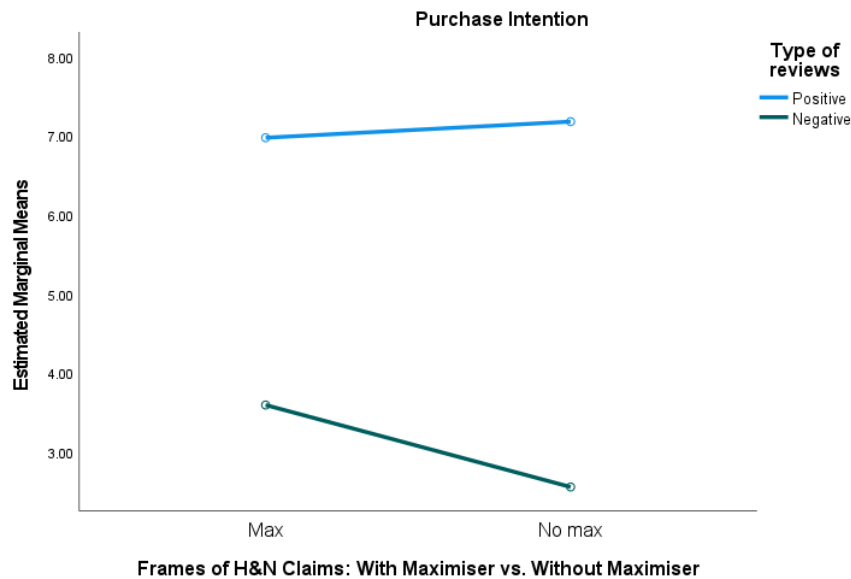
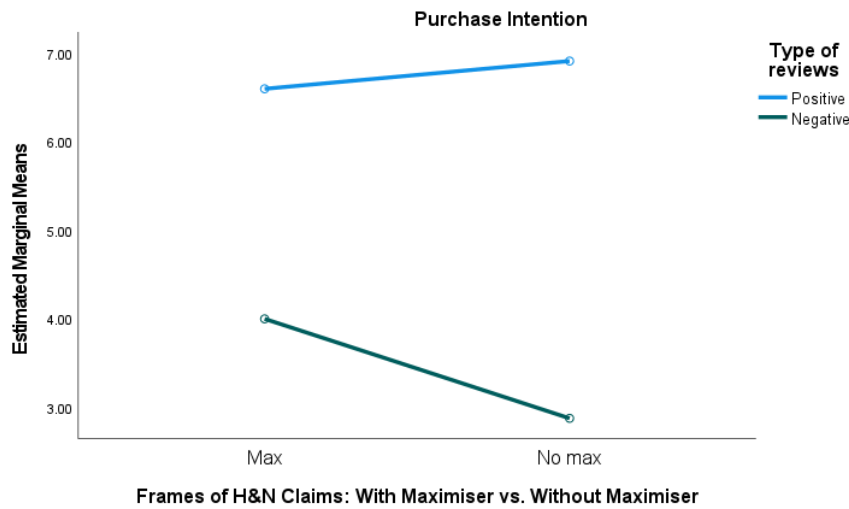


Figure 36 The interaction effect between the framing of H&N claims and review sentiment (positive/negative) on consumer purchase intension (from ANOVA)

The results showed that, in general, if the product reviews are positive, the framing of an H&N claim with or without maximiser does not significantly affect purchase intention. However, if the reviews are negative, the framing of an H&N claim a maximiser is significantly more beneficial for the product under consideration. Stated simply, the effect of a maximiser is minimal when the comments are predominantly positive, whereas the effect of the maximiser is more pronounced when the comments are negative. This shows that the use of maximisers can shield a product from some of the impact of negative comments compared to products that do not make use of maximisers in their H&N claims. This partially supports / rejects hypothesis 7a and 7b.

Continue from Online Experiment 1's effort on testing and eliminating alternative explanations, ANCOVA is performed to further investigate some control variables such as negative emotions, importance and familiarity or knowledge. The results revealed that negative emotions, importance and gender have a significant association with the outcome purchase intention ($F(1,188) = 3.299, p = 0.071; F(1,188) = 25.478, p < 0.000; F(1,188) = 3.180, p = 0.071$). An alternative

explanation for the results from the controlled variables cannot be ruled out and will be suggested to further test their effect to find out their relationship with the dependent variables.



Covariates appearing in the model are evaluated at the following values: Familiar_Knowledge_0 = 4.4571, Importance_0 = 3.9700, NS_0 = 3.9859, How old are you this year (in years)? = 38.0159, Please indicate your gender: = 1.51, Please select the highest level of education you have completed: = 20.39

Figure 37 The interaction effect between the framing of H&N claims and review sentiment (positive/negative) on consumer purchase intension, adjusted for covariants (from ANCOVA)

Moderated Mediation Analysis (PROCESS model)

The same procedure as Online Experiment 1 was conducted to demonstrate the same conditional process model in the current study, i.e. a mediated model and one step moderated mediation models on the effect of frames of H&N claims on purchase intention mediated by psychological distance and moderated by online comments.

First, a moderated mediation analysis was run using the PROCESS macro model 4 in SPSS (Hayes, 2015) assess again the direct and indirect effects of maximiser framed H&N claims on participant’s PI of the product on display through psychological distance. No significant of the direct and indirect effects were found by means 5000 bootstrap samples, rejecting the hypotheses 3a and 3b. However, the result showed a significant effect of maximiser on psychological distance ($\beta = 0.975, t = 19.04, p < 0.000$).

Because the results for product evaluation and purchase intention are similar, i.e. both prove the conditional model. This result section will focus on explanation of the model on purchase intention as it is more impactful outcome of the thesis. Evidence from the estimation of the model suggests (1) an insignificant direct effect of maximiser framed H&N claims on purchase intention ($\beta = 0.1576; p = 0.506$), (2) online comments conditional indirect effect via psychological distance was not significant (moderator index = -0.903, se=0.534, LLCI = -1.9619, ULCI = 0.1430), however, when

the comments are negative, the difference of the frames of H&N claims is significant ($effect = -1.056, se = 0.411, LLCI = -1.8735, ULCI = -0.2463$), (3) a marginal significant interactive effect between the independent variable the use of maximiser and moderator online comments ($\beta = -0.927; p = 0.0912$), (4) a significant effect of psychological distance on purchase intention ($\beta = 0.975; p < 0.000$). Similar to Online Experiment 1, this mediation model is an indirect-only mediation as the direct effect (c) is insignificant and the mediated effect (a*b) exists and is significant (Zhao, Lynch and Chen, 2010).

This shows that the use of maximiser on H&N claims does not directly decrease a person's psychological distance or lead to higher purchase intention. While as expected, the interaction between the maximiser and online comments affects the consumer's perceived psychological distance and purchase intention. In detail, the nature of the online reviews moderates the effect of maximiser on psychological distance, consumers perceived congruence leads to a more proximal psychological distance. Furthermore, it is worth to point out that the psychological distance is effective in purchase intention. In addition, there is a conditional effect which only affects negative comments. When reviews are negative, the use of maximisers on H&N claims can alter the less favourable purchase intention via psychological distance, in comparison with H&N claims that are not framed with maximisers. Furthermore, the findings reject hypothesis 8a and 8b. When online reviews are positive, the effect of framing H&N claims with maximiser has no significant impact on product evaluation or purchase intention. When the online reviews are negative, maximisers have a more favourable effect than no maximiser, contradicting hypothesis 8.

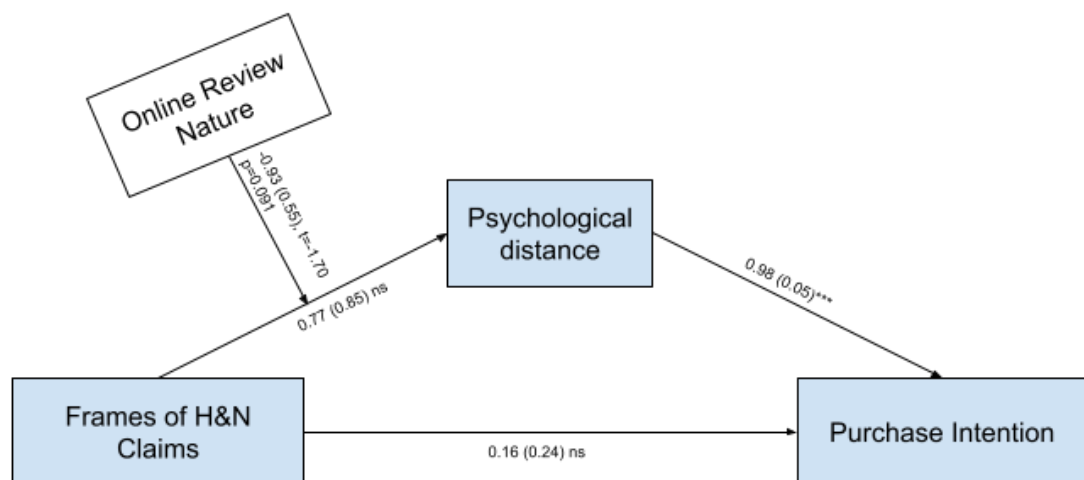


Figure 38 Illustration of results of the full model estimation

4.3.5. Discussion

Building on the previous field study and Online Experiment 1, the present study reveals that consumers have similar product evaluations and purchase intentions towards both products that use H&N claims framed with or without maximisers when the consumers encounter positive customer reviews about the product.

This finding is different to the main finding from Online Experiment 1, which shows that the inclusion of maximisers on H&N claims can damage product evaluation when used in an incongruent setting. In this study, the results are surprising since when customer reviews are negative (which is incongruent with the affirmative feature of maximisers), participants evaluated the food product using H&N claims framed with a maximiser with a more positive attitude and higher purchase intention compared with products using H&N claims framed without a maximiser. This finding rejects hypothesis 8, where the use of H&N claims framed with a maximiser while online comments are negative is damaging to product evaluations. As the manipulation of this study confirms that the presence of a maximiser improves the sincerity of an H&N claim, this study's finding demonstrates the sincerity feature of maximisers is more dominant than its hyperbole feature. In addition, maximisers used in the positive review conditions do not show any advantage or disadvantage compared to no maximiser group, again under positive review conditions. It is important to note that the manipulation potentially had a confounding effect on credibility, as negative reviews are associated with a low credibility and vice versa, which may explain the results observed in this study. However, though negative reviews overall were linked to a statistically less favourable product evaluation and purchase intention, this study focusses on the differences between the maximiser group and no maximiser group.

Considering consumers' information-seeking behaviours, though the results are not statistically different between experimental groups regarding their likelihood to search for more information, consumers generally chose to view more online reviews when exposed to advertisement images containing a negative review, and also in the maximiser group. It is possible that some participants did perceive the product and review combination to be incongruent, so would be more likely to view more reviews to resolve their uncertainty, a possibility that requires future investigation. However, even when products advertised using maximisers are seen alongside positive reviews/comments, participants were more likely to choose to read more reviews.

This online experiment tested alternative explanations for the effects observed, including the perceived importance on consuming the advertised product and consumers' knowledge of the food products. The results showed that these variables were associated with the purchase intention and product evaluation, demonstrating the importance of segmentation in marketing and highlighting

the necessity of exploring the specific effects of different customer categories on product evaluations.

This study repeated the moderated mediation model from Online Experiment 1 and confirmed the mediation effect of psychological distance. Such a finding would, in fact, be consistent with past work, which suggested that consumers who perceive a more proximal psychological distance with a product will evaluate that product more positively. However, the moderation effect on the relation of H&N claim frames and product evaluation is only observed when comments are negative. Until now, different advert presentation forms, products and H&N claims have been implemented in order to demonstrate the generalisability of maximisers across studies. The features of maximisers have been explored, however, it is important also to recognise the nature of a customer's shopping experience and decision making, and the effects of the constant distractions in real life. Therefore, the next study will be set up to examine whether the effect of maximisers is observable when consumers are subject to a high cognitive load.

4.4. Online Experiment 3: The Impact of Maximisers on Product Evaluation Moderated by Cognitive Load

This section describes the development, design and results of the third online experiment, following from Online Experiments 1 and 2 which found that the use of maximisers in H&N claims has a clear situational dependence related to formality, and is affected by customer product reviews. This study seeks to uncover how cognitive load affects information processing when consumers evaluate H&N claims framed with intensive language, and aims to test this using realistic stimuli to ensure the external validity of the results, and hence maximise the impact of the findings.

4.4.1. Introduction

The previous studies demonstrated the moderated effect of consumer's perceived congruence on consumers' evaluations of a product with differing framings of H&N claims. Online Experiment 1 showed that the inclusion of maximisers in H&N claims in an informal situation had a positive effect on consumer's purchase intention, since the language was perceived congruence with the informal situation presented. Online Experiment 2 showed that in the negative consumer review group, a positive effect is captured from the product framed H&N claims with maximiser. These two studies reflected the key features of maximisers discussed in the literature review, and though the main effect of maximisers is not consistently observed, these two studies have shown clearly that maximisers can have a specific, if circumstantial, effect on consumers' product evaluations and purchase intentions. However, these previous studies both focused on establishing the internal effect around the framing of H&N claims. Therefore, this current study, Online Experiment 3, intends to further increase the external validity of these findings by testing the effect of moderator cognitive load on consumers' responses of a product that is framed with maximiser.

Real-world shopping environments have strong potential to cause information overload for consumers, which occurs when the finite cognitive capacity of the consumer is burdened with too much information, leading to poorer and less effective decision-making. Since consumers' minds are occupied at various levels, their shopping experience and ability to process information displayed on product packaging are both likely to differ (Argo and White, 2012). As discussed in 2.4.2., cognitive capacity is known to affect consumers' dietary choices because consumers need sufficient capacity to invest their effort to assess what food products meet their goals (e.g. consuming less energy dense food in order to meet their weight-loss goal) (Carroll, Samek and Zepeda, 2018). When consumers experience high cognitive load, they are less likely to notice the details of the food product packaging, more likely to select unhealthy foods. In this case, the way H&N claims are framed does not matter much. Therefore, more heuristic processing of the food product information is likely to occur and perceived psychological distance towards the product, which is cued by maximisers, is likely to be increased.

Cognitive overload may negatively affect consumer's purchase intention by preventing them from focussing on the details of the product or their purchasing goals (Walsh and Mitchell, 2010; Moon, Costello and Koo, 2017). In contrast, when consumers are under a low cognitive load, maximisers used on H&N claims are more likely to be noticed, and can influence consumers' decision-making. Consumers are able to process the product package information more favourably and may agree more with information presented to them. In addition, as this thesis proposes, H&N claims framed with maximiser may cause consumers to focus on the affirmative and sincere properties of a claim, though there does exist the possibility that under a customer's scrutiny, the use of maximisers may be perceived as hyperbolic, and thus may backfire and reverse the otherwise positive effects of the maximiser. Hence, cognitive load can moderate the impact of maximisers on consumers' product evaluations and purchase intentions (Hall *et al.*, 2008; Dohle, Diel and Hofmann, 2018). A product with an H&N claims that either does or does not include a maximiser may be viewed similarly by consumers when they are under a high cognitive load, but under a low cognitive load these consumers will have the capacity to process the product information further. This further processing of the product information, namely the maximiser on H&N claims, can lead to a more positive evaluation by the consumer.

The hypotheses that are tested in this study are presented in Table 30 below:

Table 30 Summary of hypotheses tested in Online Experiment 3, showing the independent, moderator, mediator and dependent variables used in each case

	Independent Variable	Moderator Variable(s)	Mediator Variable(s)	Dependent Variable(s)	Hypothesis
H1a	Framing of H&N claims			Product evaluation (PE)	Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.
H1b	Framing of H&N claims			Purchase intention (PI)	Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.
H9a	Framing of H&N claims	Cognitive load	Processing fluency (PF)+ Psychological distance (PD)	Product evaluation	With a high cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are similar whether they use H&N claims framed with or without maximisers.
H9b	Framing of H&N claims	Cognitive load	Processing fluency (PF)+ Psychological distance (PD)	Product evaluation	With a low cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are more positive when using H&N claims framed with maximisers than when using H&N claims without such framing.
H2a	Framing of H&N claims		Processing fluency	Product evaluation (PE)	The inclusion of maximisers in H&N claims increases the positivity of consumers' product evaluations through an increase in the associated processing fluency.
H2b	Framing of H&N claims		Processing fluency	Purchase intention (PI)	The inclusion of maximisers in H&N claims increases the positivity of consumers' purchase intentions through an increase in the associated processing fluency.
H3a	Framing of H&N claims		Psychological distance (PD)	Product evaluation (PE)	Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.
H3b	Framing of H&N claims		Psychological distance (PD)	Purchase intention (PI)	Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer

				purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.
H4a	Framing of H&N claims	Processing fluency (PF)+ Psychological distance (PD)	Product evaluation (PE)	Maximisers used on H&N claims increase the positivity of a consumers' product evaluation through the serially linked mediators of perceived psychological distance and processing fluency.
H4b	Framing of H&N claims	Processing fluency (PF)+ Psychological distance (PD)	Purchase intention (PI)	Maximisers used on H&N claims increase the positivity of a consumers' purchase intention through the serially linked mediators of perceived psychological distance and processing fluency.

This study aims to provide evidence for the underlying process of the effect of maximisers, examining whether cognitive load has a moderating effect, and how, and also by demonstrating whether psychological distance and processing fluency have a mediating role, and the extent of this role. Both of these cases intend to answer the question: how does cognitive load affect consumers' product evaluations between products that use a maximiser to frame H&N claims and products that do not use a maximiser to frame H&N claims?

The present study also has the following research objectives:

- (1) To develop the study's stimuli in a video advert format, since the use of another product and a video advertisement scenario will further increase the generalisability of the study
- (2) To eliminate alternative explanations such as to enhance the robustness of the findings
- (3) To test and demonstrate whether there the same effect exists across a range of different maximisers

Therefore, to address all the objectives, the analyses for this study are presented in two key sections:

(1) The first section aims to test the main effect of maximisers and the effect of the moderator cognitive load, as well as its effectiveness in altering the effect of maximisers, and (2) the second section investigates whether the indirect, positive effect of maximisers on product evaluations depends positively on consumers' cognitive load, building upon the indirect influence of maximisers on product evaluation using psychological distance and processing fluency.

In order to further understand the nature of the underlying mechanisms, which are conditionally-dependent on cognitive load, psychological distance and processing fluency will both be tested as the underlying mechanism in this study. The final part of the investigation, which follows testing of the effects of each mediator in isolation, involves using both moderators and mediators in the same model. This final step tests whether cognitive load influences and determines the indirect effect of maximisers on purchase intention. A diagram of the two conditional process models (alternatively called moderated mediation models) tested in this experiment are presented in Figure 39.

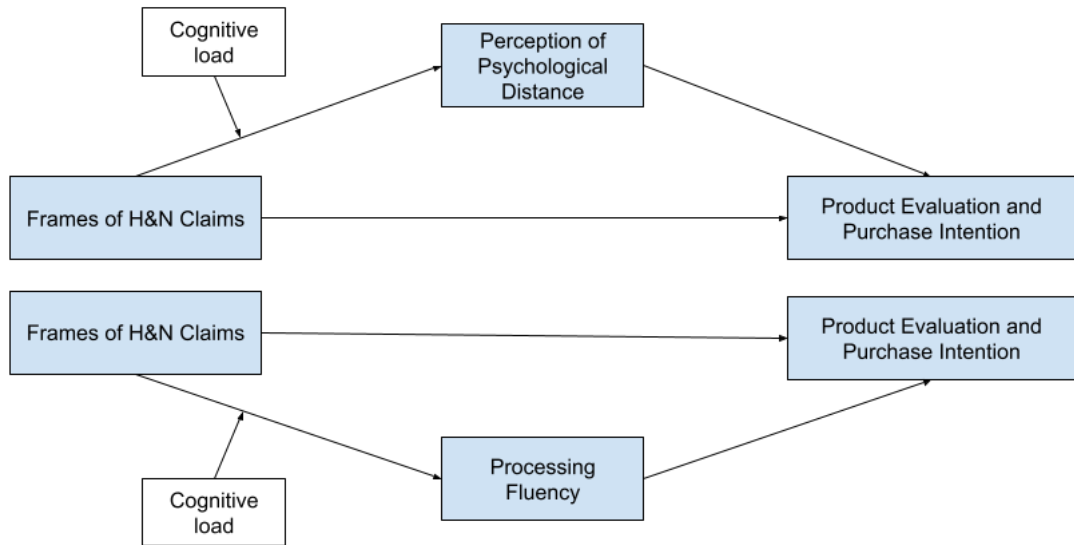


Figure 39 Two moderated mediation models showing how maximisers are mediated by perceived psychological distance and processing fluency, and moderated by the cognitive load between H&N claim framing and the mediator.

This study further investigates both the underlying mechanism and associated moderators to explore the relationship between maximiser and consumer responses in more depth. This study also aims to increase the generalisability of the findings from this thesis, testing and explaining how the indirect effect of psychological distance and processing fluency can be moderated by cognitive load in a real-world setting.

4.4.2. Stimuli Development

To construct appropriate and realistic stimuli, a fictional brand name was used in Field Experiment and Online Experiment 1. Unlike the previous studies, this study uses a new video ‘advertainment’ format (a portmanteau of advert and entertainment) to present the product to study participants which further increases the external validity of this study, since it represents customer exposure to adverts in real world. This advert is 19 seconds long, and contains the slogan and the product.

In terms of the product design itself, similar to the previous studies, a minimalistic and simple product design is the objective in order to create minimal distraction in the manipulation exposure (Geuens and De Pelsmacker, 2017). Because the brand name is not the focus of this study, the 3D design allows a minimal presentation of the brand name, which is less likely to trigger customers’ reactions towards it.

Next, almond butter is chosen due to the popularity of H&N claims used on such products, and since it can further increase the generalisability of this study. The H&N claims used remained the same as in the previous study, but different maximisers were used to test the stability of the findings. The H&N claim is placed prominently in centre of the packaging, but is not the largest element in the design to ensure the H&N claims contribute to a realistic food product design. Figure 40 shows a static image of the example product, though participants viewed this in a video advertisement format. The overall design aims to provide a simple stimulus which is simultaneously well-controlled and embedded in a realistic advertising context (Geuens and De Pelsmacker, 2017).

Finally, the scenario is adapted from the pre-test materials in Online Experiment 1: Vignette on manipulating expectation [informal]:

You have come across an advert when you are browsing on the internet. You have seen this brand before in a (general) supermarket. Overall, their products (are known to be made with care and attention) and their product is (designed with customers’ needs in mind, personalised, contemporary and inviting).

You know that people are happy with their (caring and attentive) manner on their food making process. They seem to be a (approachable, attentive, and customer-oriented company). Their online shopping service is known for its (understanding of customer’s needs, their customer care and personalisation). They offer (online interaction and personal service) to select products you like. Overall, West Harbour is considered an excellent food company.



Figure 40 Example of the Material used in Online Experiment 3 (manipulated group: with maximiser). A photorealistic 3D model of the product was created to minimise possible questions of professionalism that could be raised by participants

Overall, appropriate stimuli were developed that fulfil the requirements of the study while also remaining appealing to participants. The next section describes the study design and study procedure for this third and final online experiment.

4.4.3. Study Design and Procedure

Online Experiment 3 employed a 5 H&N claims framing (maximisers: absolutely, completely, entirely, contains. no maximiser - control) *2 cognitive load (high vs. low) between-subject design. No pre-test is used in this study. For participants who accepted the task on Amazon MTurk, a briefing is first shown to introduce the survey, and that they would be completing multiple separate surveys. Participants took part in a 6-8 minute online experiment, receiving \$0.65 USD as their payment, and were informed that a memory task was involved in the first study and that the second study requires their evaluation of a food product. Next, participants were asked if their audio is working to ensure the participants can be exposed to manipulation stimuli properly. As the food product under consideration contains almonds, which can be a potential allergy hazard and may affect product evaluation results (Mandalari and Mackie, 2018), participants were asked whether they are allergic to almonds, with participants choosing 'yes' being automatically excluded from the study.

Cognitive load tasks are commonly used to determine the level of effort involved in a cognitive process (e.g. Shiv and Fedorikhin, 1999; Shiv and Huber, 2000; Argo and White, 2012). Participants were required to memorise two shopping items for the low-load condition, whereas they were required to memorise a list of eight shopping if subjected to a high-load condition. Following this, participants were presented with another survey to complete, irrelevant to the task at hand, in which they gave their evaluations of a food product presented in an advert.

In the second survey, participants were first shown a description of the brand personality with an advert of a new food product as the manipulation of this study. Because this study focuses on a high perceived congruence between the product and the brand personality, it only adapts the informal description from Online Experiment 1 for this context (brand personality for an advertised product). In the maximiser group, participants were shown an almond butter product advertised with an H&N claim that includes a maximiser (i.e. absolutely no added sugar), whereas in the no maximiser group, participants were shown an almond butter product advertised with an H&N that does not include a maximiser (i.e. no added sugar).

Following exposure to the stimuli, participants' purchase intentions, evaluation, and likelihood to recommend a product were assessed, with the mediator of psychological distance to the product assessed after the dependent variables. Alternative explanations for the effect were accounted for through this last measure, each of which was based on processing fluency. Next, control variables were measured including attitudes toward the advertisement, current hunger, expertise on nutrition, eating goals, involvement of the task, and frequency of using maximisers¹⁶. Similar to the previous studies, for manipulation checks and the dependent variables, this study also inserted a verification question to ensure the attention of participants was not lost in this study, with participants who did not pay attention being eliminated. All questions are presented in Table 31 below in the order they were shown to.

The manipulation check on the second part of the experiment was not included since the manipulation is shown clearly on the food product. At the end of the study, the shopping list item recall of each participant was tested. For this they were asked to memorise and state the difficulty they had in recalling these items, with their performance in this test serving as an effective manipulation check for cognitive load. Demographic information was collected from participants (age, education, gender) before finishing the survey, and a further question was asked of them, finding whether or not they believed the originally-stated purpose of the study. Finally, participants were thanked for completing the studies and the true purpose of this study was disclosed.

¹⁶ i.e. How often do participants use the terms 'absolutely', 'completely', 'entirely', etc. in their own text and speech? 'Always', 'sometimes', 'never'; I would use these types of words... 1=never, 7=very often.

Participants and Characteristics

To ensure the quality of the survey, this study eliminated participants who were unable to play audio sounds (598 participants remained out of 617), and who are allergic to almonds (product for evaluation an almond butter) (449 participants remained out of 598).

After removing participants who did not finish the survey (410 participants remained) and participants who failed verification questions, failed to listen to the shopping list and/or watched the video used to ensure participants were exposed to the manipulation, 374 Amazon Mechanical Turk workers remained and completed the study (42.8% female, $M_{age} = 35.5$ years). Participants took part in a 5 (maximisers: absolutely, completely, entirely, contains. no maximiser - control) *2 (cognitive load: high vs. low) between-subject experiment, where the set condition is an informal scenario adapted from Online Experiment 1.

Because only one variable, maximisers, was changed between the adverts, the differences between groups should be attributable to this change in maximisers. However, the length of the H&N claims was not uniform throughout, which can affect information processing, overall aesthetics and product evaluation by space-to-product ratio (Sevilla and Townsend, 2016). To rule out this explanation, this thesis included a group using 'contains' to form H&N claims, substituting a non-maximiser word and retaining the same claim meaning and similar text length.

Method and Scales

To summarise from the procedure, the following variables were captured in the instrument but were measured rather than manipulated and the details of each scale can be found in Table 31.

Table 31 Scales for Online Experiment 3

Variables (follow the order)	Items	Scale Anchors
Dependent variables		
Purchase intention	I would pay for this product	1=strongly disagree; 7=strongly agree
Product evaluation of this almond butter ($\alpha = 0.$) (Haws and Winterich, 2013)	I think this product is ... This product's quality/appeal/reliability/likeability is...	1=not at all healthy/ tasty/ attractive/ interesting, 7=very healthy/ tasty/ attractive/ interesting 1=extremely bad, 7=extremely good
Mediators		
Processing fluency (Ketrn, 2018)	I feel confident that this product is a healthy choice based on the information on the package; It is easy to determine how healthy the product is;	Strongly disagree (1) and strongly agree (7) as the extreme verbal anchors.
Psychological distance (Mende, Bolton and Bitner, 2013b)	I instantly feel emotionally attached to this product; I feel comfortable about choosing this product; I feel good about choosing this product in the advert; I experience negative emotions when choosing this product; I immediately feel close to this product; I instantly connected with this product.	Strongly disagree (1) and strongly agree (7) as the extreme verbal anchors.
Controls		
	I understand the meaning of the words in this advertisement	1=strongly disagree, 7=strongly agree.
	How knowledgeable you consider you are about food products?	Not knowledgeable at all
	I am hungry right now I often purchase almond butter for myself I am trying to lose weight I have carefully thought about the information presented on the product I am trying to eat healthy	1=strongly disagree, 7=strongly agree.

4.4.4. Results and Analysis

The analysis for this experiment tests again whether the assumption that maximisers can increase consumer purchase intention (main effect) is valid in this online study, since Online Experiment 1 and 2 did not find a main effect. A new possible mediator processing fluency and psychological distance will be tested, as well as the moderation effect on the effect of maximisers. A new moderation cognitive load will be being examined.

Measurement Checks

The same measures that were used in Online Experiment 1 are used in this study and, therefore, are discussed here in brief detail.

A summary of the psychometric results for each of the measures used in Online Experiment 3 are found in Table 32. This section describes only the measures which are new to this analysis, such as processing fluency. For the scale processing fluency, one item used different scale anchors to the rest two items, and the results from factor analysis and reliability analysis suggested removing this item. After removal, Cronbach alpha increases to 0.786 indicating the internal items is consistent.

Table 32 Reliability outputs and PCA of one-component measures (Online Experiment 3)

One-component construct	K-M-O	Eigenvalues	Number of items	EFA loading	Cronbach's alpha score	Inter-item correlation
Psychological distance	0.748	2.470	3	0.898-0.915	0.843	0.715-0.758
Processing fluency	0.503	1.657	3	-0.132-0.906	0.320	-0.043-0.650
Product evaluation	0.905	4.411	8	0.675-0.795	0.882	0.382-0.622

Manipulation checks and controls

The study has used two different ways to measure if cognitive load manipulation worked. An examination of participants' recall of the memorised items was recoded into a binary variable, with 1=remembered, 0=did not remember. The result indicated that there was 41.6% and 51.8% accuracy in the high and low load conditions respectively ($t=-1.988$, $p=0.48$). Another manipulation check on cognitive load measured the difficulty participants experienced in completing Study B (1=very easy; 7=very difficult), which showed a significant difference between the high and low cognitive load states ($M_{high} = 3.31$, $M_{low} = 2.93$; $t = 2.183$, $p = 0.03$).

Participants found it more difficult to focus on the second study under high cognitive load than under a low cognitive load. This provides evidence that participants under a high cognitive load had a greater likelihood to try to memorise the items while completing the study, using up cognitive

capacity, resources and effort. Following on from previous work, more lenient guidelines were used to assess cognitive load, and data analysis included all participants (Pontari and Schlenker, 2000; White and Willness, 2009). Both the pattern of the results and their significance remained near-identical whether or not participants who did not demonstrate correct recall were excluded.

This study next proposed a reason for maximisers receiving a more positive evaluation from participants under a low cognitive load, which should have less to do with its longer length or takes more visual space on the package. To rule out H&N claim length as an explanation, a control group was exposed to H&N claim framed with an extra word, 'contains', which does not change the claim's meaning while minimising the change to the text length. When examining the possible explanation that H&N claim length, rather than the maximiser itself, caused a difference in product attitude, willingness to recommend (WTR) and purchase intention, independent t-tests were performed using WTR as dependent variable to test this possible confounding effect.

For participants placed under a high cognitive load, an independent t-test result shows no difference between the group using 'contains' and the control group ($t = -0.554, p = 0.582$), whereas a significant difference was observed between the 'contains' group and a maximiser group ('absolutely') ($t = -2.184, p = 0.032$), with a similar significant effect observed for other maximiser groups. For participants under a low cognitive load, this trend does not change, with no difference observed between the control group and the 'contains' group ($t = 0.925, p = 0.358$), and a significant difference observed between a maximiser group ('absolutely') and the 'contains' group ($t = 2.039, p = 0.045$). To conclude, the length of H&N claim does not determine the likelihood to recommend, as the group using 'contains' to frame H&N claim, such that its length is similar to those in the maximiser group, works similarly to the control group (shorter), but remains distinct from the maximiser groups which have a longer text length. Hence, the control group and the 'contains' are merged for further analysis.

Another purpose of this study is to show that the same effect of WTR exists across different maximisers. A one-way ANOVA with post-hoc tests showed no significant difference ($F(2, 224) = 0.178, 0.837$) on dependent variables between the maximisers used in this study: 'absolutely', 'completely', and 'entirely' (details in Table 33). Therefore, in the following analyses, a combined maximiser group is used to understand the overall effect of maximisers on the dependent variables.

Table 33 Descriptive data of participants measures on WTR across all maximiser groups based on cognitive load

Groups	Absolutely	Completely	Entirely
High in cognitive load	5.22 (1.084)	5.19 (1.411)	5.21 (1.398)
Low in cognitive load	5.64 (0.986)	5.66 (0.966)	5.85 (1.065)

Finally, there is no significant difference across groups for participants' beliefs about the ostensible purpose of the study ($F(9, 363) = 0.859, p = 0.562$), with the mean of this variable showing the participants largely believed the study purpose.

Main Effect of Maximiser on Dependent Variables

Similar to the Online Experiment 1 and 2, a t-test was again performed to understand the main effect of maximisers on product evaluations and purchase intention, both dependent variables. No main effect on purchase intention was found in the independent t-test ($M_{maximiser} = 5.55$, $M_{nomaximiser} = 5.60$; $t(372) = 1.237, p = 0.692$). As shown by the measurement check, all dimensions of product evaluation are loaded on one factor, therefore, a composite score was created for the product 'appeal', 'attractiveness', 'liking', 'quality', 'reliability' and 'interesting' measures to provide an overall product evaluation (similar to Online Experiment 1). The results also show the insignificance between the groups with and without maximisers on this overall product evaluation. Therefore, hypotheses 1a and 1b are again rejected.

Interaction Effect of the Maximiser on Dependent Variables, with Control Variables

An analysis of PE with H&N claim framing, cognitive load, and their interactions as independent variables reveals that there were no significant main effects of maximiser ($M_{maximiser} = 5.61, SD = 0.85$; $M_{no\ maximiser} = 5.64, SD = 0.78$; $F(1,373) = 0.153, p = 0.696$) nor of cognitive load ($M_{high} = 5.55, SD = 0.85$; $M_{low} = 5.70, SD = 0.78$; $F(1,373) = 1.067, p = 0.302$). However, there is a significant interaction among these variables ($F(1,373) = 10.483; p = 0.001$). Consistent with hypothesis 9b, when consumers are not cognitively occupied, consumers reported more favourable evaluations of the product when maximisers are used in the H&N claim ($M_{maximiser+low} = 5.79, SD = 0.72$) than when using H&N claims that do not include a maximiser ($M_{no\ maximiser+low} = 5.55, SD = 0.86$; $t = 2.023, p = 0.045$). Inconsistent with hypothesis 9a, when consumers are under cognitive load, consumers reported more favourable evaluations when maximisers are not used on H&N claims ($M_{no\ maximiser+high} = 5.74, SD = 0.69$) than when maximisers are used ($M_{maximiser+high} = 5.43, SD = 0.93$; $t = 2.023, p = 0.01$). Thus hypothesis 9a is rejected while hypothesis 9b is accepted.



Figure 41 An interactive effect between H&N claim framing and consumers' cognitive load

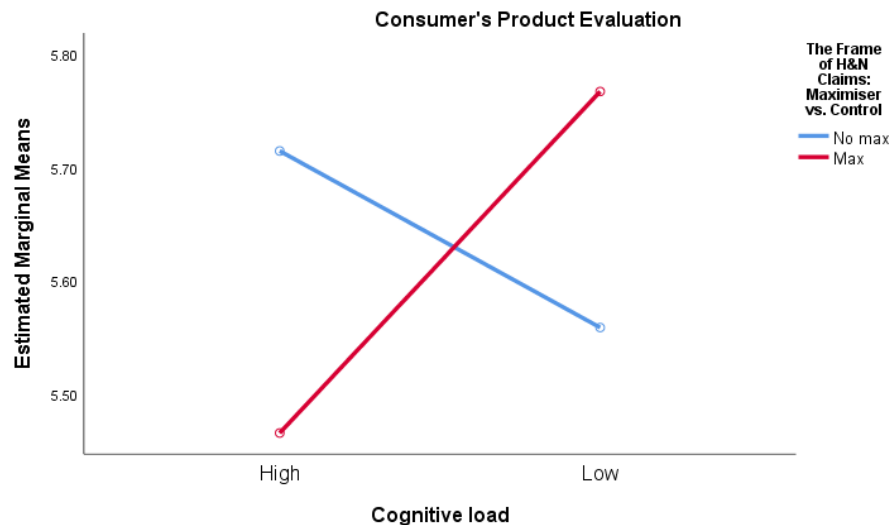
Another two-way ANOVA on purchase intention and WTR reveals a significant interaction between cognitive load and H&N claim framing (details Table 34), consistent with the result from ANOVA on product evaluation. The results revealed a significant two-way interaction effect between H&N claims and cognitive load on both dependent variables, PI and WTR, though the main effects for cognitive load and H&N claim frames were found to be insignificant (details Table 34). Therefore, the results showed that the inclusion of a maximiser in H&N claims increased the product evaluation and consumer purchase intention when consumers are cognitively available to assess the product. However, this effect was reversed when consumers are not cognitively available, i.e. under a high cognitive load.

Table 34 Summary of results from ANOVA on PI and WTR

	H&N claims with Maximiser (Mean (SD))	H&N claims without maximiser	Total	Significance
PI				
High in cognitive load	5.33 (1.351)	5.72 (1.027)	5.49 (1.243)	F(1,373)=0.47, p=0.493
Low in cognitive load	5.75 (1.193)	5.48 (1.324)	5.65 (1.249)	Interaction:
Total	5.55 (1.287)	5.60 (1.186)	F(1,373)=0.183, p=0.669	F(1,373)=6.206, p=0.013
WTR				
High in cognitive load	5.21 (1.294)	5.66 (0.911)	5.39 (1.175)	F(1,373)=0.154, p=0.695
Low in cognitive load	5.72 (1.003)	5.25 (1.188)	5.53 (1.099)	Interaction:
Total	5.47 (1.180)	5.46 (1.074)	F(1,373)=0.003, p=0.953	F(1,373)=15.246, p<0.000

As previously discussed in Online Experiment 1, the use of ANCOVA helps to reveal the effects of independent variables after discounting the covariates. Therefore, this online experiment continues to use this to measure and identify variables which can affect how consumers evaluate a product under consideration.

An ANCOVA analysis was performed on PE with H&N claim framing, cognitive load, and their interactions as independent variables, and with (1) Participants' understanding of the words used in the advertisements, (2) attention, (3) health condition, (4) diet, (5) use of maximisers, (6) age, (7) gender, and (8) education as covariates. This analysis revealed that no significant main effects were observed for maximisers ($M_{maximiser} = 5.61, SD = 0.84; M_{no\ maximiser} = 5.64, SD = 0.78; F(1,373) = 0.074, p = 0.79$) and cognitive load ($M_{high} = 5.55, SD = 0.85; M_{low} = 5.70, SD = 0.78; F(1,373) = 0.949, p = 0.33$). However, this ANCOVA did suggest a significant effect from covariates, (1), (2), (3), and (8), on PE.



Covariates appearing in the model are evaluated at the following values: I am hungry right now = 4.78, In general, would you say your health is: = 3.56, Are you on a diet? = 1.52, Please select the highest level of education you have completed: = 3.20, How often do you use words such as absolutely, completely, entirely in daily life? = 1.68, I have carefully thought about the information presented on the product = 5.70, I understand the meaning of the words in this advertisement = 5.88

Figure 42 Interaction effect of cognitive load and H&N claim framing on product evaluation, adjusted for covariance (ANCOVA)

Moderated Mediation Analysis (PROCESS model)

This study conducted mediation analysis to determine whether psychological distance is still effective in underpinning this effect; in addition, processing fluency will also be tested separately as a one-step mediation analysis (Zhao, Lynch and Chen, 2010). The moderated mediation model aims to provide evidence that the mechanism through which the H&N claim framing can increase product evaluation or purchase intentions, that is, via its positive effect on psychological distance or processing fluency, depends positively on cognitive load.

Table 35 Mediated mediation model for the effect of maximisers on purchase intention via processing fluency, mediated by cognitive load

Mediator: Processing Fluency					
Mediator model	B	SE	T	Bootstrapping 95% CI	
				LL	UL
Frames of H&N claims	-1.08**	0.38	-2.83	-1.8308	-0.3296
Cognitive load	-0.18	0.19	-0.95	-0.5475	0.1912
Interaction term	0.70**	0.24	2.88	0.2210	1.1692
Dependent variable: Consumers' Product Evaluation					
Outcome model	B	SE	T	Bootstrapping 95% CI	
				LL	UL
Frames of H&N claims	-0.03	0.11	0.30	0.2589	0.1898
Processing fluency	0.54**	0.05	11.32	0.4527	0.6430
Cognitive load	0.38	0.151	n/a	0.1128	0.7004

The estimation of the moderated mediation model above suggested that there was a significant indirect effect of maximiser on PI through processing fluency, index=0.38, 95% CI [0.1128, 0.7004]. This index of moderated mediation is an essential feature that directly quantifies the linear association between the indirect effect (a*b) and the putative moderator, cognitive load, of that effect (Hayes, 2015).

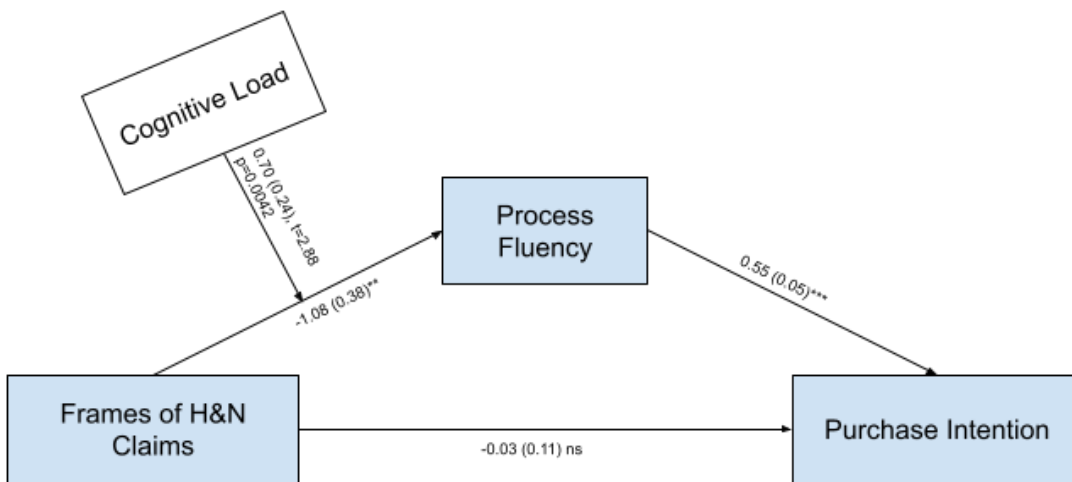


Figure 43 Illustration of the results of the Indirect Moderated Mediation Model via Process Fluency

The results demonstrate the moderation effect of cognitive load on the effect of maximiser on purchase intention. There is also a significant effect of processing fluency on purchase intention ($\beta = 0.548; p < 0.000$). A significant indirect effect is evident and the use of maximiser does not directly increase a participant’s processing fluency or lead to higher purchase intention, it is through the interaction of cognitive load and the use of language. This means that processing fluency affects positively purchase intention, but is depends on the interaction of participants’ cognitive load and the H&N claim frame. Similar to Online Experiment 1 and 2, this moderated mediation model

(Figure 43) is an indirect-only mediation as the path c, the direct effect, is insignificant and the path a*b, the mediated effect, is statistically significant (Zhao, Lynch and Chen, 2010).

Table 36 Mediated mediation model for the effect of maximisers on purchase intention via psychological distance, mediated by cognitive load

Mediator: Psychological Distance					
Mediator model	B	SE	T	Bootstrapping 95% CI	
				LL	UL
Frames of H&N claims	-1.47**	0.48	-3.04	-2.4261	-0.5209
Cognitive load	-0.25	0.24	-1.04	-0.7168	0.2206
Interaction term	0.89**	0.24	2.88	0.2210	1.1692
Dependent variable: Consumers' Product Evaluation					
Outcome model	B	SE	T	Bootstrapping 95% CI	
				LL	UL
Frames of H&N claims	0.007	0.11	0.067	-0.2040	0.2184
Psychological distance	0.50**	0.04	13.90	0.4280	0.5690
Cognitive load	0.45	0.16	n/a	0.1374	0.7669

Another moderated mediation model focuses on the mediator psychological distance, the detailed estimation can be found in Table 36. The model estimation indicated that there was a significant indirect effect of maximiser on purchase intention through psychological distance moderated by cognitive load. Similar to the analysis above, this moderated mediation model is an indirect-only mediation (Zhao, Lynch and Chen, 2010).

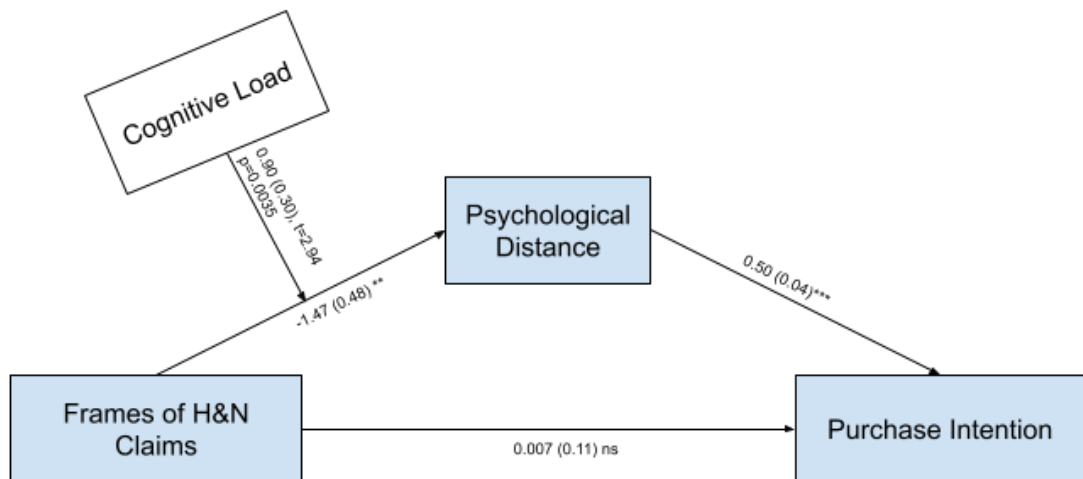


Figure 44 Illustration of the results of the Indirect Moderated Mediation Model via Psychological Distance

Moderated Serial Multiple Mediation

A moderated serial mediation model is proposed on the assumption that the effect of maximiser indirectly positively affects product evaluation and purchase intention via its positive effect of processing fluency and psychological distance. This moderated serial mediation analysis was run using the PROCESS macro in SPSS (Hayes, 2013; Model 85) to estimate the direct and indirect effects of maximiser framed H&N claims on participant's PI of the product on display through processing fluency and psychological distance and testing hypothesis 9a and 9b, processing fluency serving as the stage-one mediator, psychological distance as the stage-two mediator, and cognitive load as the moderator. Figure 45 indicates the estimation of all path coefficients for this model.

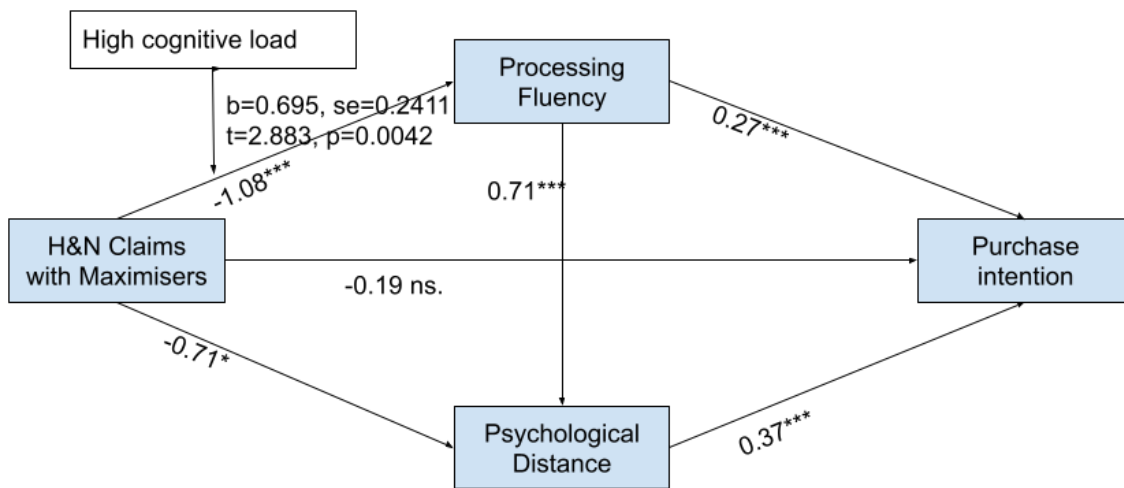


Figure 45 The illustration of Moderated Serial Mediation Model via Process Fluency and Psychological Distance

This model can indicate (a) the specific indirect effect through processing fluency, (b) the specific indirect effect through psychological distance, and (c) the indirect effect through processing fluency and psychological distance in serial. Therefore, it demonstrates the relationship between the two mediator variables. The indirect effects of the language used on H&N claims on product through processing fluency and psychological distance were both significant (processing fluency: coefficient = 0.275, 95% CI [0.1689, 0.3812]; psychological distance: coefficient = 0.372, 95% CI [0.2885, 0.4558]). The moderated mediation indices were significant for processing fluency, boot SE= 0.089, 95% CI [0.0466, 0.3915], but not so for psychological distance, boot SE= 0.097, 95% CI [-0.0279, 0.3521]). The analysis further revealed a significant indirect effect through processing fluency and psychological as serial mediators when cognitive load is high, boot SE = 0.048, 95% CI [-0.2053, -0.0159], and no significant found at low cognitive load, boot SE = 0.047, 95% CI [-0.0070, 0.1814].

Importantly, the overall moderated mediation index was significant, boot SE= 0.071, 95% CI [0.0551, 0.3351]. In sum, the findings from the full model show consistency with the hypotheses, demonstrating the role of cognitive load on the effect of language used on H&N claims through both mediators in sequence.

4.4.5. Discussion

Online Experiment 3 aimed to explain and describe the process underlying the effect of framing H&N claims with maximisers in a more realistic context for consumers. The preceding experiments identified internal boundaries to explain how maximisers may affect product evaluations. The first (The field study) suggested an effect of maximisers that could make consumers feel instantly attached to the product because of its affirmative and sincerer communication. Online Experiment 1 suggested that the environment in which maximisers are used affects product evaluation, as consumers may perceive an incongruence between the environment and the use of a maximiser. Online Experiment 2 suggested that the inclusion of maximisers on H&N claims implies that the product is trustworthy and is what it claims to be, but at the same time this is dependent on the nature of and presence of consumers' reviews. This inconsistent information creates a negative effect for consumers (Scott et al. 2008). This experiment, Online Experiment 3, extends this prior work by exploring the possibility that more effortful cognition can play a role in consumer evaluation of H&N claim framing on food Products.

Consistent with hypothesis 9b, this study found that when consumers are not cognitive occupied, H&N claims framed with maximisers increased product evaluations compared with H&N claims that were not framed with maximisers. Consumers under a low cognitive load have a more proximal psychological distance with a product, as well as increased processing fluency. Consumers with such cognitive availability may assume that the product is more sincere and affirmative, features which are translated across from the features of maximisers. Such a two-step process is consistent with the notion that maximisers can act as a persuasive cue, increasing the intention for consumers to recommend and purchase this product. This effect is reversed when consumers are placed under a high cognitive load. Given these findings, the effectiveness of using maximisers in H&N claims is highly likely to be cognitively driven.

The results show a counterintuitive effect: participants like the products without maximiser more than with maximisers when placed under a greater cognitive load. Importantly, this finding provides evidence for the notion that maximisers went unnoticed or even a mere notice of maximiser has potential negative effect on product evaluation. The results of mediation analysis also suggest that cognitive load simply distracts participants in a way that inhibits information processing and prevents consumers from being influenced by the marketing techniques used on packaging.

A key strength of this study its investigation of the maximiser effect in a realistic setting, determining whether and how cognitive load affects consumers' product evaluations. The stimuli used in this study were aimed at creating a sense of reality for participants involved in the study, who were tasked with watching a video advertisement rather than simply reading a post. A statistically significant mediation effect was observed and is consistent with the previous studies,

giving further strength to this study. However, though the manipulation check was successful, the study lacked controls determining whether participants could hear the audio, highlighting a limitation of online experimentation as well as of the study design, as a better controlled environment would have been ensured to a greater extent in a laboratory setting.

The following chapter will discuss the results from the four experimental studies in isolation and as a whole, summarising and discussing the key findings, the relevance and implications of these findings for this thesis, and their wider impact for third parties and for future work.

5. Discussion and Conclusions

This chapter presents a discussion of the results and findings obtained through the four experiments conducted in support of this thesis. A table of all accepted and rejected hypotheses is presented in the summary, providing brief details regarding the acceptance or rejection with reference to particular analyses. Implications for practice and contributions to theory are outlined, and the limitations of the research are discussed, with a particular focus on the lack of in-person experimental data, which was prevented due to the COVID-19 pandemic. Future directions for the research are also discussed, providing a brief insight into how the findings of this research can be used for future impact.

5.0. An Overview of the Findings: Addressing Research Question and Objectives

The present thesis was initially motivated by:

- (1) Offline and online observations, predicated upon the increasing use of maximiser on H&N claims; and,
- (2) Prior empirical findings from extant literature on H&N claims, which by categorising H&N claims in different ways suggested that consumers react differently towards H&N claims and products on display.

Based on the reasons above that motivated this research and the extant gaps in the literature, the main research question is:

Does the inclusion of maximiser language in H&N claims affect consumer product evaluations and purchase intentions across a range of products and for a range of maximisers? Furthermore, how does this affect consumer responses, and does this effect work under realistic conditions?

The results of the four studies in this thesis suggested that there is a significant effect of maximiser on consumer's product evaluations and purchase intentions, with a reliance on consumer's high-perceived congruence with the environment, and/or consumers being subject to a low cognitive load. It is important to mention that although the use of maximisers may not effect product evaluations when related comments are positive, these reviews increase the positivity of product evaluations significantly when related comments are negative.

Along with the main research questions, the studies also addressed the other research objectives. Table 37 provides a summary of the research hypotheses that have been tested in order to answer the research question and address the individual objectives.

The **first objective** was to investigate the impact of the inclusion of maximisers in H&N claims on product evaluation and purchase intention. The empirical findings from the four studies suggested there is an effect of maximiser on consumers' product evaluation and purchase intention.

The **second objective** was to test the boundary conditions on (1) whether the effect of maximisers on consumer's product evaluation is contingent upon the consumers' perceived congruence between the frames of H&N claims and retail settings, (2) the consumers' perceived congruence between the frames of H&N claims and online reviews, (3) cognitive load or mental preoccupation. Online experiments 1, 2 and 3 tested each condition. It is important to mention that for participants exposed to positive reviews of a product, a product with maximiser framed H&N claims has no effect on their purchase intention.

The **third objective** of this study was to understand why and how maximisers may or may not have an impact on product evaluation and purchase intention. Online experiment 1, 2 and 3 examined the features of maximisers and uncovered a process that explains that maximisers can increase consumers' product evaluations and purchase intentions by reduced their perceived psychological distance with the product, an effect which is moderated by perceived congruence between the product and its setting, among other factors. The effect from a linguistic perspective demonstrates that using maximisers in a high-fit and positive review situation can enable better connection with consumers. Maximisers foster a proximal psychological distance between consumers and products, whether or not the use of maximisers leads to more favourable product perceptions. Online Experiment 3 also uncovered a further mechanism that explains this process, processing fluency.

The **fourth objective** was to demonstrate the robustness of effect of maximisers included within H&N claims in real-world situations. Not only was the field study conducted to demonstrate customers' real behaviours, online experiments also implemented different products in a variety of formats to increase the generalisability of the maximiser effect observed. Additionally, online Experiment 3 tested the maximisers effect across different maximisers, with the results clearly showing the same effect when different maximiser words are used.

The results of the experimental studies conducted in support of this thesis have addressed key gaps in the existing literature, i.e. investigating different boundary effect of maximisers, extending the application of psychological distance in commercial relationship, and providing the more robust results from a variety of studies. The thesis also provides clear answers to the main research

questions, on whether the inclusion of maximisers in H&N claims affects consumers' product evaluations and intentions, with its mediation by psychological distance being replicated in all three studies. Though the direct maximiser effect was attenuated by moderators and was statistically non-significant (see details in Online Study 1, 2 and 3), the main effect was still proven through the initial field study. This finding indicates that further research is needed to understand the significance of the maximiser effect, whether it is observable in small sample populations, whether other larger effects 'drown out' the effect of the maximiser in real-world settings, and whether the maximiser could have an observable and meaningful effect in a useful range of contexts. More discussion on this main effect will be found in the discussion on study limitations in 5.3.

This thesis showed that in some cases (congruent with the environment and negative comments), the use of maximisers for framing H&N claims appears to be highly persuasive and attractive. However, using maximiser on H&N claims as a strategy to differentiate products from the competition could also be harmful to a company's prospects when consumers are cognitively unavailable or when maximisers are applied in an incongruent setting. The next section will discuss the contributions made to theory and practice by this thesis.

Table 37 Summary of the Results of Research Hypotheses

	Hypothesis	Supported / Partially Supported / Rejected
H1a	Food products that include H&N claims framed with maximisers are viewed more positively than H&N claims framed without maximisers.	Partial supported by field study
H1b	Food products that include H&N claims framed with maximisers have a higher purchase intention than H&N claims framed without maximisers.	Rejected
H2a	The inclusion of maximisers in H&N claims increases the positivity of consumers' product evaluations through an increase in the associated processing fluency.	Rejected
H2b	The inclusion of maximisers in H&N claims increases the positivity of consumers' purchase intentions through an increase in the associated processing fluency.	Rejected
H3a	Products that are framed with H&N claims that include maximisers experience an indirect increase in the positivity of consumer product evaluations due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.	Rejected
H3b	Products that are framed with H&N claims that include maximisers experience an indirect increase in consumer purchase intention due to a proximal psychological distance relative to the product on display compared to equivalent products framed with H&N claims that do not include maximisers.	Rejected
H4a	Maximisers used on H&N claims increase the positivity of a consumers' product evaluation through the serially linked mediators of perceived psychological distance and processing fluency.	Supported
H4b	Maximisers used on H&N claims increase the positivity of a consumers' purchase intention through the serially linked mediators of perceived psychological distance and processing fluency.	Supported
H5a	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.	Supported
H5b	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment. Specifically, unaltered H&N claims (vs. H&N claims that include maximisers) are perceived as more congruent with a formal (vs. informal) retail environment.	Supported
H6a	The effect of including maximisers within H&N claims on consumer's product evaluation is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.	Supported
H6b	The effect of including maximisers within H&N claims on consumer's purchase intention is dependent on consumer's perceived congruence between a maximiser and a retail environment via a decrease in psychological distance.	Supported
H7a	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews where negative reviews lead to a lower PE compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group without maximisers.	Partially Supported / Rejected
H7b	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews, where negative reviews lead to a lower PI compared to positive reviews. The product with maximiser in the negative reviews is likely to be viewed more negatively than the group without maximisers.	Partially Supported / Rejected
H8a	The effect of using H&N claims that include maximisers on consumers' product evaluation is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.	Rejected
H8b	The effect of using H&N claims that include maximisers on consumers' purchase intention is dependent on consumer's perceived congruence between the maximiser and a product's online reviews via a proximal psychological distance.	Rejected
H9a	With a high cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are similar whether they use H&N claims framed with or without maximisers.	Rejected
H9b	With a low cognitive load state, consumers' psychological closeness, processing fluency and product evaluations towards products are more positive when using H&N claims framed with maximisers than when using H&N claims without such framing.	Supported

5.1. Contributions

By addressing the research question and objectives, this study provided useful and useable empirical findings, drawing conclusions that extend beyond the knowledge of literature on language intensity and H&N claims on food packaging, and the effect of language use on perceptions in commercial relationships. This section discusses both the main contextual and methodological contributions of this research.

Many studies in food packaging design focus on H&N claims, investigating their impact and compared different claim types (Carrillo, Varela and Fiszman, 2012b; Newman, Howlett and Burton, 2016; André, Chandon and Haws, 2019). This present thesis offers new theoretical insight into H&N claim framing with the 'maximiser' language device, combining both linguistic and psychological perspectives to understand consumers' food evaluations and purchase intentions. Drawing from persuasion theory, CAT and IPT (McGuire, 1968; Giles and Ogay, 2007; Craig and Blankenship, 2011), the importance of considering H&N claims framing was highlighted from a communicative perspective and for its impact on consumer responses.

In particular, the results of the **Field Study** showed that the inclusion of maximisers on H&N claims, compared to exclusion of maximisers from H&N claims, resulted in a higher chance to receive post likes from consumers, confirming the positive persuasive effect in a new context (Andersen and Blackburn, 2004). These findings also supported the predictions made in this thesis regarding the moderating roles of cognitive load and perceived congruence, indicating the importance of these boundary effects on consumers' responses. Since maximisers were perceived as congruent with an informal environment, this perceived congruence could help to reduce psychological distance between consumers and the products in the right contexts.

Perceived congruence was also tested in the context of food product and comments online, with the purpose of investigating the sincerity and affirmation features of maximisers (Online Experiment 2). The result of this study showed that compared to H&N claims without maximisers H&N claims that include maximisers have no effect on product evaluations when related comments are positive, while the inclusion of a maximiser has a significant positive effect when the associated comments are negative. In Online Experiment 3, cognitive load was shown to affect the ability of consumers to notice maximisers. This study showed maximisers have a positive effect on consumers' responses when they are cognitively available, but a reversed effect was found when consumers are not cognitively available, impacting the possible utility of maximisers in all contexts. The results from these Online Experiments in the present thesis showed that maximisers have a mixed effect that is dependent on many external factors.

Drawing from literature on processing fluency (Whittlesea, 1993; Lee and Labroo, 2004), Online Experiment 3 examined the role of mediation, identifying processing fluency as an important mechanism that underlies the impact of maximisers on consumer's food product evaluations, intention to purchase and willingness to recommend. This finding, combined with other results in this thesis, collectively suggests that processing fluency appears to be mediating the impact of maximiser on the consumer's product evaluation. This provides a clear extension to the literature on language intensity and demonstrates a potential mechanism for explaining the influence of language intensity.

The findings of this thesis extended previous research on CAT and relationship literature (Aaker, 1997; Fitzsimons and Kay, 2004; Sela, Wheeler and Sarial-Abi, 2012) by using psychological distance to explain the impact of language devices in a food context. Sela, Wheeler and Sarial-Abi (2012) demonstrated that the choice of pronouns can alter consumer's perception of distance towards a brand. This thesis similarly showed that the provision of maximisers on H&N claims can influence consumers' product evaluations and, ultimately, their purchase intentions. It can be argued that the use of maximisers on H&N claims makes products more informal, sincere and, at the same time, approachable, building a psychological bond between consumer and product. The findings are strengthened by the fact that they were tested across a range of products, especially since the effects largely held across multiple types of food product and a range of experimental settings.

Online Experiments 1 and 2 provided evidence on the features of maximisers that were discussed in the literature. This thesis contributes to literature by exploring the features and effects of maximiser that could influence the effectiveness of food product messaging, achieved through the identification and exploration of previously unidentified features of maximisers from linguistic literature. The results presented in this thesis build on the existing literature in several ways. First, it conceptualised and unified the concept of the 'maximiser' language device; second, it investigated the H&N claim framing with this language device and contributed to literature on the effects of H&N claims; third, it uncovered the processes underpinning the effects of maximisers on consumer product evaluations; and fourth, this thesis tested different boundary conditions to demonstrate the effectiveness of maximisers, and overall showed the potential for useful application of this knowledge in other fields.

Lastly, the present thesis made methodological contribution by obtaining data through field experiments (Gneezy, 2017). The field study sampled a general population in a real Facebook environment to investigate and empirically demonstrate the effects of maximisers. This enables an understanding of maximisers as a behavioural phenomenon, highlighting the significance and the impact that maximisers likely to have (Campbell, 1969; Lewin, 1997), while at the same time

increase the ecological validity of the results (Geuens and De Pelsmacker, 2017; Vargas, Duff and Faber, 2017). The field experiment was conducted using Facebook Ad Manager, demonstrating how this can be a powerful research tool for the social sciences and offering insights into individual behaviours with the potential to improve researchers' understanding of human psychology (Lazer *et al.*, 2009; Kosinski *et al.*, 2015).

5.2. Implications for Management and Food Labelling Regulation

As the beginning of this thesis, it was discussed that an increasing number of products are now advertised with health claims, ranging from functional food health claims (Aschemann-Witzel, Maroscheck and Hamm, 2013) to a variety of claims intended to signal the healthy (or 'healthy') aspects of foodstuffs (Kozup, Creyer and Burton, 2003; Rowlands and Hoadley, 2006; Liu *et al.*, 2014). From a practical perspective, consumers now face numerous situations in which they need to choose between near-identical food products, where it is near-impossible to distinguish between the ambiguous and closely-related claims presented. Consumers need to encode information for each product they consider, which can be a difficult and time-consuming task given the overwhelming nature of such decision-making processes in a grocery store environment with multiple choices (Iyengar and Lepper, 2000). As a result, companies have experimented with different types of H&N claim framing to attract consumers, though without necessarily understanding how their framings can affect their sales potential.

This thesis showed how and why the inclusion of maximisers on H&N claims can alter consumers' perceptions of a product and their purchase intentions toward that product. The findings of this thesis have timely and important implications for the food and retail industry, and for public policy. EU laws and regulations on consumer food information aim to provide 'accurate and honest information', in order to safeguard and protect consumers and consumers' interests. However, companies have almost complete autonomy in phrasing and framing their H&N claims as long as they do not contravene these regulations.

The results of these four studies suggest that claim regulation has not been effective in preventing companies from using H&N claims to compete between each other and to manipulate consumer product perceptions in their favour. Consumers reported significantly different purchase intentions across groups, including those exposed to maximisers on H&N claims and groups where maximisers were excluded from H&N claims. Consumers may be drawn to such framing when the product fits well with its design or environment, or when consumers have the cognitive capacity to assess the product in detail. The findings suggest that using maximisers is more likely to reduce the psychological distance between a product and a consumer and therefore lead to a higher purchase intention when the use of maximiser is perceived as congruent. More surprisingly, the use of maximisers on H&N claims can alleviate consumers' otherwise negative perceptions of bad review comments, highlighting a potential concern for policy makers to be aware of, as well as a marketing concern for companies to be aware of.

This thesis aims to make consumers and public policy makers aware of the fact that framing of H&N claims is used by marketers to promote products and influence consumers' purchase intentions towards them. This thesis suggests that policymakers, in order to help consumers to be not misled by the variety of H&N claims, should consider the critical differences maximisers impose on the original H&N claims as well as other types of H&N claims formats currently in the marketing (and the ones that are being developed). Policy makers must guard against unscrupulous use of ambiguous health claims and nutrition claims on products, and provide a legal solution for this grey area. It is important they make an active effort to reduce the framing effect found in this thesis. The implementation of a more standardised H&N claims system will be more beneficial to consumers, and they can make decisions with less effect from the framing of H&N claims.

The findings of this thesis may bring insights on the benefits of including maximisers on H&N claims, especially to combat negative comments. However, Online Experiment 3 also demonstrated a negative effect for using maximisers when consumers are cognitively occupied. Marketers who care about improving their food expectations on the healthiness and attractiveness can choose to implement maximiser on H&N claims. Understanding how H&N claim framing can influence product evaluation and purchase intention is key for marketers to stay competitive, as using it as part of an organisation's wider marketing strategy can help increase the impact of these H&N claims on consumers' attitude toward a product.

Finally, the findings from this thesis also showed that maximisers have a clear reliance on customer demographics, personal characteristics, and other external factors. Therefore, marketers are advised to be cautious when applying maximisers on their products, especially when targeting particular audiences. It is worth mentioning that the long-term effects of the use of maximisers are unclear, since some terms, including maximiser words, can go out of fashion very quickly. Marketers who care about the strict regulatory implications or the ethics of their decisions are suggested not to participate in framing H&N claims with maximisers, and instead may provide additional, readily-accessible supporting information for their products both on-package and online to protect consumer's welfare.

The next section will discuss the limitations of the research conducted in support of the current thesis, and future research directions.

5.3. Research Limitations and Future Research Directions

The studies conducted as part of the thesis had several limitations which may have restricted the extent to which the questions were fully addressed e.g. the lack of certain types of controls in the online experiments may result in a low applicability of the findings in a real-world setting. Despite this, these limitations can offer future research opportunities, and are discussed in detail below.

5.3.1. Research limitations

There were several limitations in this thesis, which may reduce the extent to which the research question was fully answered or the extent to which research objectives were addressed.

Reactance theory (Dillard and Shen, 2005; Quick and Stephenson, 2007) suggests that people will react differently to persuasive messages that promote a particular behaviour, indicating there are individual-based differences among consumers that affect how consumers perceive the use of maximisers on H&N claims. It would be useful to extend these experiments to additional consumer segments, additional product categories and additional consumption context. For example, poor nutrition knowledge might lead consumers to focus on fat or sugar content more than the holistic nutrient information (Wansink and Chandon, 2006). Furthermore, as the hyperbolic feature of maximisers was not identified through the experiments, this study speculates that including the cynicism level of participants, as another moderator, may uncover this feature of maximiser as it can interact with the use of maximiser on products. In detail, cynicism is a consumer's disbelief of a brand or company stated or implied motives (van Dolen and de Ruyter, 2002) and the inclusion of maximisers on H&N claims can lead to some consumers questioning or feeling suspicious about the intentions behind this inclusion of a maximiser. In particular, more cynical participants may perceive the use of maximisers to be more hyperbolic and less trustworthy (Chylinski and Chu, 2010). Similar to cynicism, participant's attitudes towards a brand's advertisement skills can also make a difference in how they perceive framing H&N claims with maximisers. The current limitation of focussing only on this one narrow topic limits the applicability of the findings to other claim types, or to other claim framing methods.

One of the strengths of this current study is its high external validity, because this research was conducted in naturally occurring settings and presented the actual behaviour from Facebook users (Calder, Phillips and Tybout, 1982). Studies based on Facebook usually enable people to participate in a time and place of their own choice, yielding favourable effects on the generalisability and external validity of the results (Reips, 2000). However, the field experiment suffers from a relatively low internal validity, meaning its precision is sacrificed. This is caused by the fact that there is less control over the experiment conditions, i.e. it is not possible to know when or in what conditions participants are exposed to the promoted posts on Facebook. They may view the adverts while

walking, talking on the phone, while listening to music, or may have any other type of distraction in their personal environment, such as young children or a pet, that will divert their attention away from processing the information contained in the advert. Beyond these potential sources of distractions, there is also a lack of randomisation between participant groups (Geuens and De Pelsmacker, 2017), though this is mitigated in part by the very large user base. Although online field experiments do capture customer's real behaviour, offline experiments would be more impactful with real purchase behaviours. In addition, other outcome variables would be beneficial to investigate, including consumers' eating behaviours, though these were not conducted in this thesis. Future studies will benefit from extending dependent variables to real behaviours to investigate the impact of the application of maximisers.

Furthermore, it is important to highlight an external limitation from Facebook data restrictions. The Field Experiment is unable to retain raw information from participants, i.e. collecting additional data on the eating habits users have, how hungry they were, how knowledgeable they are with food, also the perceived credibility of the product, perceived familiarity of the product, negative feelings associated with the product etc. This is a simple limitation of the Facebook Ad Manager platform, and cannot be circumvented unless changes to the platform and its data-gathering capabilities are made by Facebook itself. These variables were controlled in the following online experiments, which used the Amazon Mechanical Turk platform.

Next, the direct effect of maximiser was only found in the Field Experiment, but was not observed in the three online experiments. One potential explanation is that the conditional moderator in the three online experiments attenuated this main effect, such that it was indistinguishable from noise sources, though there was also a cost-based limitation, i.e. finite funds were available for paying participants. The promoted advert in the Field Experiment was only live online for three days, which consequently led to a small number of interactions and thus data points for analysis. The lack of a sufficiently large dataset can potentially explain why an effect was observed for the time of the day during which users were exposed to the campaign, but it could also be the ways users' attention to adverts differs throughout the day (Jacoby, Szybillo and Berning, 1976). The limited data might also lead to the imbalanced results observed from the devices with which users engaged with the advert and the countries users are from. A difference in popularity of using and responding to maximisers between the two countries may also explain the nationality difference observed. These factors may explain the lack of a main effect in the Online Experiments, though further investigation would be required to be sure of this, ideally with added controls to account for other potential explanations.

Alternative explanations potentially include an activity bias, which was first identified by Lewis, Rao and Reiley (2011), which may explain the main effect from the Field Experiment. This activity bias arises because a user must visit Facebook during the study advert to be exposed. This could lead to

endogeneity, especially for some users who may be less likely to engage in any online activities, such as scrolling on Facebook. It is also known that consumers who are more attached to social media are also more likely to engage in more C2B supportive communication behaviours (VanMeter, Grisaffe and Chonko, 2015). Finally, it appears that some participants use “warmth vs. competence” to distinguish between scenario settings, as opposed to the intended distinction of “informal vs. formal”. Using a multitude of scenario manipulations is suggested (i.e. other products and different scenarios) to improve the validity of the results.

Next, the competition on Facebook Ads Manager may induce endogeneity, as explained below

“ads are delivered if the advertiser wins the auction for a particular impression. Winning the auction implies the advertiser outbid other advertisers competing for the same impression. Therefore, an advertiser’s ads are more likely to be shown to users the advertisers values highly, most often those with a higher expected post engagement probability.” - Gordon et al., 2019, p199

This reveals that even though the Field Experiment did not produce a selection bias (i.e. age and gender skewness), the advertiser can nevertheless end up with a selection bias in exposures because of the actions of other advertisers, who may target particular demographics, geographic areas, age groups, or other such distinguishing factors. This study addressed the potential selection bias by controlling these variables in logistic regressions.

Selection bias can occur across all studies conducted in this thesis. In the Field Experiment, it is not entirely clear what type of Facebook user profile the promoted advert reached. Even though the created campaign did not custom audiences (users’ particular interests or behaviours), the selection bias cannot be fully minimised (evidenced from more women reached than men). Despite this selection bias, maximisers may change the H&N claim message intensity, place an emphasis on the healthy aspect of H&N claims. This may simply activate users’ health consciousness or attract people who have health-driven eating goals to like the post. For the online experiments, the use of MTurk may lead to specific demographics of workers engaging with the materials, raising questions about the quality of the data obtained (Kees *et al.*, 2017).

This thesis also acknowledges the inconsistent use of scales across the studies, reducing the study’s ability to replicate, though not to be replicated. Lastly, while this thesis conducted one Field Experiment that offers a somewhat more realistic and impactful results than many online experimental setting, it is acknowledged that actual retail store environments (offline field study) offer more opportunities for further data collection of potentially much greater quality and significance.

5.3.2. Directions for Future Research

Three key avenues were identified for exploration that directly follow from these results:

- (1) Subsequent research may also seek to manipulate both maximiser and mediators to make sure each path can be tested casually (Pieters, 2017).
- (2) Research may be conducted on a broader array of maximisers, and can consider investigating the relationship of H&N claims that include maximisers with other types of packaging cues, such as quality, taste, and the font of the claims.
- (3) Future research can further examine the effects of maximiser in a broader environment, ensuring enhanced generalisability from observation of the effect in a wider variety of contexts.

Additionally, while the findings in this thesis provided some initial support for the features of maximiser, more research is needed to further refine these measures and to assess their reliability and predictive validity in other contexts.

While this thesis tested several maximisers, future research could also assess potential difference or similarity in other untested wordings, such as framing with “100%”, emojis or other symbols, to find out if the same effect can be found with more abstract concepts. Examining how maximisers operate under a more complex set of food consumption goals would also be useful and informative, and would provide an understanding of the types of trade-offs consumers often make when navigating food decision-making (Wertenbroch, 1998), specifically their efforts to make healthy choices in real-world contexts, and especially when tempted with unhealthy alternatives.

This thesis considered maximisers in the context of a variety of products, but future research could further assess the effects of different product types more systematically. This thesis examined several outcome variables, and future research should further address the effect of maximisers with additional outcomes, including actual purchases and repeated purchases, given that it clearly impacts consumer food product evaluations and purchase intentions. Future research could also explore whether the effect of maximisers varies across cultures (or perhaps languages), for example, in countries where the use of maximiser can be perceived by consumers more as a hyperbolic phrase with a low trust than sincere phrase. Each of the proposed routes of exploration stated above have great potential to inform companies about the use of language intensity modifiers in their advertising, knowledge of which ultimately benefits product sales.

5.3.3. COVID statement

This section will briefly summarise the impact of COVID-19 on this thesis and this research project.

I had originally planned to conduct in-person experiments, conducting a range of interviews with in-person participants and testing how the inclusion of maximisers on product advertising can affect a variety of in-person interactions with them. This would have enabled the completion of a greater range of studies which would have aimed to demonstrate the significance of the maximiser effect in real-world scenarios.

Given the restrictions on in-person experimental work from March 2020 onwards, I was unable to carry out this experimental work, all of which was designed for an in-person laboratory setting in a relatively close-quarters environment. Instead, I took the opportunity to redesign the studies for my thesis, attempting to achieve a similar level of knowledge and understanding about the effects of maximisers, but using an entirely online experimental setting.

The limitations of this approach are discussed in the previous section in detail. One significant limitation was the inability to test whether the maximiser effect is readily observable in real-world and in-person situations, and the extent to which that effect may be statistically significant. I was unable to use modern information-gathering techniques, such as eye-tracking, for which I had begun feasibility planning, timing, data collection method and costing. There were some advantages to this entirely online approach however beyond its relative simplicity, such as participants not knowing the true reasons why they were being studied or tested in the beginning, meaning they were more likely to provide honest feedback.

Even with this more limited approach, I was able to conduct a number of online experiments that were sufficient to measure a number of statistically significant effects related to the use of maximisers. Novel steps taken in this work include the design and use of an 'advertainment' style video advert for investigating participants' reactions to the maximiser effect with a more real-world setting.

Though the COVID-19 pandemic, the associated lockdown and disruptions to life affected the initial experimental design, it did not prevent the design and execution of a series of experimental studies aimed at developing current knowledge of how language devices can be used to influence and manipulate consumer purchase decisions.

5.4. Final Thoughts

This final chapter presents a critical discussion of the experimental studies performed in aid of this thesis, and summarises the key objectives and findings derived from this research, and:

- (1) reflects upon the main findings,
- (2) provides a critical discussion of each experimental study both individually and as a whole, and,
- (3) indicates how the results from this research can be used and applied in real-world contexts

This chapter also provides a clear statement of the contributions made in this thesis, both contextual and methodological, and outlines the theoretical understanding of the use of maximiser on H&N claims and food product packaging design, as well as to the potential directions for future research resulting from this work.

Limitations of the research presented in this thesis are presented in this chapter, which aids in directly identifying directions for future research, which range from refinements of the studies presented here, to promising extensions beyond the scope of this thesis. Beyond the contributions made to theory and literature, the practical utility of this work for real-world marketing and advertising professionals was also highlighted. The utility of this work is also apparent for policy makers, whose interests are aimed at protecting consumers and consumer interests.

The variety of knowledge gained in this thesis, not just of the subject matter – the effects related to framing H&N claims with the ‘maximiser’ language device – but also of the skills I developed along the way to create 3D models of test products, in critical statistical analysis, and in the design and conduct of quantitative experiments, has contributed immensely to my personal development and my expertise in this field, which I consider to be a very open and interesting specialty for further future investigations.

List of References

- *Global packaged food sales, 2014-2019* | Statista (no date). Available at: <https://www.statista.com/statistics/420252/global-packaged-food-retail-sales-value/> (Accessed: 25 September 2021).

A SECOND LOOK AT COVID-19'S IMPACT ON FOOD PURCHASING, EATING BEHAVIORS, AND PERCEPTIONS OF FOOD SAFETY (no date).

Aaker, J., Fournier, S. and Brasel, S. A. (2004) 'When Good Brands Do Bad', *Journal of Consumer Research*, 31(1), pp. 1–16. doi: 10.1086/383419.

Aaker, J. L. (1997) 'Dimensions of Brand Personality', *Journal of Marketing Research*, 34(3), pp. 347–356. doi: 10.1177/002224379703400304.

Abbey, J. D. and Meloy, M. G. (2017) 'Attention by design: Using attention checks to detect inattentive respondents and improve data quality', *Journal of Operations Management*, 53–56, pp. 63–70. doi: 10.1016/j.jom.2017.06.001.

Aggarwal, P. and McGill, A. L. (2012) 'When Brands Seem Human, Do Humans Act Like Brands? Automatic Behavioral Priming Effects of Brand Anthropomorphism', *Journal of Consumer Research*, 39(2), pp. 307–323. doi: 10.1086/662614.

Ailawadi, K. L., Ma, Y. and Grewal, D. (2018) 'The Club Store Effect: Impact of Shopping in Warehouse Club Stores on Consumers' Packaged Food Purchases', *Journal of Marketing Research*, 55(2), pp. 193–207. doi: 10.1509/jmr.16.0235.

Åkestam, N. (2017) 'Understanding Advertising Stereotypes Understanding Advertising Stereotypes Social and Brand-Related Effects of Stereotyped versus Non-Stereotyped Portrayals in Advertising'.

Albarracin, D. (2002) 'Cognition in Persuasion: An Analysis of Information Processing in Response to Persuasive Communications'.

Allan, G. (1989) *Friendship, Developing a Sociological Perspective*. New York: Harvester Wheatheaf.

Allard, T., Dunn, L. H. and White, K. (2020) 'Negative Reviews, Positive Impact: Consumer Empathetic Responding to Unfair Word of Mouth', *Journal of Marketing*, 84(4), pp. 86–108. doi: 10.1177/0022242920924389.

Allerton, D. J. (1987) 'English intensifiers and their idiosyncrasies', in *Language Topics*. Amsterdam: John Benjamins Publishing Company, p. 15. doi: 10.1075/z.lt1.46all.

List of References

- Allison, R. I. and Uhl, K. P. (1964) 'Influence of Beer Brand Identification on Taste Perception', *Journal of Marketing Research*, 1(3), p. 36. doi: 10.2307/3150054.
- Altenberg, B. (1991) 'Amplifier collocations in spoken English', in *English Computer Corpora*. Berlin, Boston: DE GRUYTER MOUTON. doi: 10.1515/9783110865967.127.
- Alter, A. L. and Oppenheimer, D. M. (2006) 'Predicting short-term stock fluctuations by using processing fluency', *Proceedings of the National Academy of Sciences*, 103(24), pp. 9369–9372. doi: 10.1073/PNAS.0601071103.
- Alter, A. L. and Oppenheimer, D. M. (2008) 'Effects of Fluency on Psychological Distance and Mental Construal (or Why New York Is a Large City, but New York Is a Civilized Jungle)';, <https://doi.org/10.1111/j.1467-9280.2008.02062.x>, 19(2), pp. 161–167. doi: 10.1111/J.1467-9280.2008.02062.X.
- Ampuero, O. and Vila, N. (2006) 'Consumer perceptions of product packaging', *Journal of Consumer Marketing*, 23(2), pp. 100–112. doi: 10.1108/07363760610655032.
- Andersen, P. A. and Blackburn, T. R. (2004) 'An experimental study of language intensity and response rate in e mail surveys', *Communication Reports*, 17(2), pp. 73–84. doi: 10.1080/08934210409389377.
- Anderson, E. W. (1998) 'Customer Satisfaction and Word of Mouth', *Journal of Service Research*, 1(1), pp. 5–17. doi: 10.1177/109467059800100102.
- André, Q., Chandon, P. and Haws, K. (2019) 'Nature or Science? A Framework for Understanding Front-of-Package Food Claims', *Journal of Public Policy & Marketing*, 38(2), pp. 172–191. doi: 10.1177/0743915618824332.
- Andrews, J. C. *et al.* (2014) 'Consumer Research Needs from the Food and Drug Administration on Front-of-Package Nutritional Labeling', *Journal of Public Policy & Marketing*, 33(1), pp. 10–16. doi: 10.1509/jppm.33.1.10.
- Andrews, J. C., Burton, S. and Cook, L. A. (2017) 'Nutrition Labeling in the United States and the Role of Consumer Processing, Message Structure, and Moderating Conditions', in *Oxford Research Encyclopedia of Communication*. Oxford University Press. doi: 10.1093/acrefore/9780190228613.013.546.
- Andrews, J. C., Netemeyer, R. G. and Burton, S. (1998) 'Consumer Generalization of Nutrient Content Claims in Advertising', *Journal of Marketing*, 62(4), pp. 62–75. doi: 10.1177/002224299806200405.

List of References

- Annunziata, A., Mariani, A. and Vecchio, R. (2019) 'Effectiveness of sustainability labels in guiding food choices: Analysis of visibility and understanding among young adults', *Sustainable Production and Consumption*, 17, pp. 108–115. doi: 10.1016/j.spc.2018.09.005.
- Ares, G. and Deliza, R. (2010) 'Studying the influence of package shape and colour on consumer expectations of milk desserts using word association and conjoint analysis', *Food Quality and Preference*, 21(8), pp. 930–937. doi: 10.1016/J.FOODQUAL.2010.03.006.
- Argo, J. J. and White, K. (2012) 'When do consumers eat more? The role of appearance self-esteem and food packaging cues', *Journal of Marketing*, 76(2), pp. 67–80. doi: 10.1509/jm.09.0512.
- Aronson, E. (1999) 'The power of self-persuasion.', *American Psychologist*, 54(11), pp. 875–884. doi: 10.1037/h0088188.
- Aschemann-Witzel, J., Maroscheck, N. and Hamm, U. (2013) 'Are organic consumers preferring or avoiding foods with nutrition and health claims?', *Food Quality and Preference*, 30(1), pp. 68–76. doi: 10.1016/j.foodqual.2013.04.011.
- Atzmüller, C. and Steiner, P. M. (2010) 'Experimental Vignette Studies in Survey Research', <http://dx.doi.org/10.1027/1614-2241/a000014>. doi: 10.1027/1614-2241/A000014.
- Aune, R. K. and Kikuchi, T. (1993a) 'Effects of Language Intensity Similarity on Perceptions of Credibility Relational Attributions, and Persuasion', *Journal of Language and Social Psychology*, 12(3), pp. 224–238. doi: 10.1177/0261927X93123004.
- Aune, R. K. and Kikuchi, T. (1993b) 'Language Intensity Similarity on Perceptions of Credibility, Relational Attributions, and Persuasion'.
- Axson, D., Yates, S. and Chaiken, S. (1987) 'Audience Response as a Heuristic Cue in Persuasion', *Journal of Personality and Social Psychology*, 53(1), pp. 30–40. doi: 10.1037/0022-3514.53.1.30.
- Babin, B. J. and Zikmund, W. (2015) *Marketing research Marketing research characteristics*.
- Bäcklund, U. (1973) 'The collocation of adverbs of degree in English', *Acta Universitatis Upsaliensis*.
- Balaji, M. S., Roy, S. K. and Lassar, W. M. (2017) 'Language divergence in service encounters: Revisiting its influence on word-of-mouth', *Journal of Business Research*, 72, pp. 210–213. doi: 10.1016/J.JBUSRES.2016.07.015.
- Baltas, G. (2001) *Nutrition labelling: issues and policies*, *European Journal of Marketing*. # MCB University Press. Available at: <http://www.emerald-library.com/ft> (Accessed: 6 April 2021).

List of References

- Barnham, C. (2015) 'Quantitative and Qualitative Research: Perceptual Foundations', <https://doi.org/10.2501/IJMR-2015-070>, 57(6), pp. 837–854. doi: 10.2501/IJMR-2015-070.
- Basuroy, S., Chatterjee, S. and Ravid, S. A. (2003) 'How Critical Are Critical Reviews? The Box Office Effects of Film Critics, Star Power, and Budgets', *Source: Journal of Marketing*, 67(4), pp. 103–117.
- Beattie, G. and Ellis, A. (2017) *The Psychology of Language and Communication*. Routledge. doi: 10.4324/9781315187198.
- Becker, L. et al. (2011) 'Tough package, strong taste: The influence of packaging design on taste impressions and product evaluations', *Food Quality and Preference*, 22(1), pp. 17–23. doi: 10.1016/J.FOODQUAL.2010.06.007.
- Beeman, W. O. (2001) 'Emotion and sincerity in Persian discourse: Accomplishing the representation of inner states', *International Journal of the Sociology of Language*, 148(148), pp. 31–57. doi: 10.1515/ijsl.2001.013.
- Belei, N. et al. (2012) 'The Best of Both Worlds? Effects of Attribute-Induced Goal Conflict on Consumption of Healthful Indulgences', *Journal of Marketing Research*, 49(6), pp. 900–909. doi: 10.1509/jmr.10.0155.
- Bellizzi, J. A. and Hite, R. E. (1992) 'Environmental color, consumer feelings, and purchase likelihood', *Psychology and Marketing*, 9(5), pp. 347–363. doi: 10.1002/mar.4220090502.
- Bender, M. M. and Derby, B. M. (1992) 'Prevalence of reading nutrition and ingredient information on food labels among adult Americans: 1982–1988', *Journal of Nutrition Education*, 24(6), pp. 292–297. doi: 10.1016/S0022-3182(12)80861-2.
- Berens, G., van Riel, C. B. M. and van Bruggen, G. H. (2005) 'Corporate Associations and Consumer Product Responses: The Moderating Role of Corporate Brand Dominance', *Journal of Marketing*, 69(3), pp. 35–48. doi: 10.1509/jmkg.69.3.35.66357.
- Berinsky, A. J., Huber, G. A. and Lenz, G. S. (2012) 'Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk', *Political Analysis*, 20(3), pp. 351–368. doi: 10.1093/pan/mpr057.
- Berscheid, E., Snyder, M. and Omoto, A. M. (1989) 'The Relationship Closeness Inventory: Assessing the closeness of interpersonal relationships.', *Journal of Personality and Social Psychology*, 57(5), pp. 792–807. doi: 10.1037/0022-3514.57.5.792.
- Bialkova, S. et al. (2014) 'Attention mediates the effect of nutrition label information on consumers'

List of References

- choice. Evidence from a choice experiment involving eye-tracking', *Appetite*, 76, pp. 66–75. doi: 10.1016/j.appet.2013.11.021.
- Bialkova, S., Grunert, K. G. and van Trijp, H. (2013) 'Standing out in the crowd: The effect of information clutter on consumer attention for front-of-pack nutrition labels', *Food Policy*, 41, pp. 65–74. doi: 10.1016/J.FOODPOL.2013.04.010.
- Bialkova, S., Sasse, L. and Fenko, A. (2016) 'The role of nutrition labels and advertising claims in altering consumers' evaluation and choice', *Appetite*, 96, pp. 38–46. doi: 10.1016/j.appet.2015.08.030.
- Bialkova, S. and van Trijp, H. (2010) 'What determines consumer attention to nutrition labels?', *Food Quality and Preference*, 21(8), pp. 1042–1051. doi: 10.1016/J.FOODQUAL.2010.07.001.
- Biber, D. (1988) *Variation Across Speech and Writing*. Cambridge: Cambridge University Press . Available at: https://www.google.co.uk/books/edition/Variation_Across_Speech_and_Writing/CVTPaSSYEroC?hl=en&gbpv=1&dq=Biber,+D.+1988+Variation+across+speech+and+writing.&pg=PP13&printsec=frontcover (Accessed: 22 June 2021).
- Blanco-Suarez, Z. (2011) 'Grammaticalisation and subjectification of death-related intensifiers in the history of English', in *18th ELC Research Seminar*, pp. 1–2.
- Block, L. G. *et al.* (2011) 'From Nutrients to Nurturance: A Conceptual Introduction to Food Well-Being', *Journal of Public Policy & Marketing*, 30(1), pp. 5–13. Available at: <http://casafamilyday.org/familyday/> (Accessed: 14 July 2019).
- Boberg, E. W. *et al.* (2003) 'Assessing the unmet information, support and care delivery needs of men with prostate cancer', *Patient Education and Counseling*, 49(3), pp. 233–242. doi: 10.1016/S0738-3991(02)00183-0.
- Bolinger, D. (1972) *Degree Words*.
- Bossard, J. H. S. (1932) 'Residential Propinquity as a Factor in Marriage Selection', *American Journal of Sociology*, 38(2), pp. 219–224. doi: 10.1086/216031.
- Bottomley, P. A. and Doyle, J. R. (2006) 'The interactive effects of colors and products on perceptions of brand logo appropriateness', *Marketing Theory*, 6(1), pp. 63–83. doi: 10.1177/1470593106061263.
- Bove, L. L. and Johnson, L. W. (2001) 'Customer relationships with service personnel: Do we

List of References

measure closeness, quality or strength?', *Journal of Business Research*, 54(3), pp. 189–197. doi: 10.1016/S0148-2963(00)00122-3.

Bowers, J. W. (1963) 'Language intensity, social introversion, and attitude change', *Speech Monographs*, 30(4), pp. 345–352. doi: 10.1080/03637756309375380.

Bradac, J. J., Bowers, J. W. and Courtright, J. A. (1979) 'Three Language Variables in Communication Research: Intensity, Immediacy, and Diversity', *Human Communication Research*, 5(3), pp. 257–269. doi: 10.1111/j.1468-2958.1979.tb00639.x.

Bradac, J. J., Courtright, J. A. and Bowers, J. W. (1980) *Effects of Intensity, Immediacy and Diversity Upon Receiver Attitudes Toward a Belief-Discrepant Message and Its Source, Language*. Pergamon Press Ltd. doi: 10.1016/b978-0-08-024696-3.50037-5.

Bradac, J. J., Hosman, L. A. and Tardy, C. H. (1978) 'Reciprocal disclosures and language intensity: Attributional consequences', *Communication Monographs*, 45(1), pp. 1–17. doi: 10.1080/03637757809375947.

Brambilla, M. *et al.* (2013) 'Morality and intergroup relations: Threats to safety and group image predict the desire to interact with outgroup and ingroup members', *Journal of Experimental Social Psychology*, 49(5), pp. 811–821. doi: 10.1016/J.JESP.2013.04.005.

BrightLocal (2018) *Local Consumer Review Survey 2022: Customer Reviews and Behavior*. Available at: <https://www.brightlocal.com/research/local-consumer-review-survey/> (Accessed: 6 February 2022).

Briñol, P., Rucker, D. D. and Petty, R. E. (2015) 'Naïve theories about persuasion: implications for information processing and consumer attitude change', *International Journal of Advertising*, 34(1), pp. 85–106. doi: 10.1080/02650487.2014.997080.

Brown, P. and Levinson, S. (1987) *Politeness some universals language usage*. Cambridge University Press. Available at: <https://www.cambridge.org/gb/academic/subjects/languages-linguistics/sociolinguistics/politeness-some-universals-language-usage?format=PB> (Accessed: 8 September 2021).

Bublitz, M. G., Peracchio, L. A. and Block, L. G. (2010) 'Why did I eat that? Perspectives on food decision making and dietary restraint', *Journal of Consumer Psychology*, 20(3), pp. 239–258. doi: 10.1016/J.JCPS.2010.06.008.

Bublitz, W. (1998) "' I entirely dot dot dot": copying semantic features in collocations with up-scaling intensifiers', in Schulze, R. (ed.) *Making Meaningful Choices in English On Dimensions*,

List of References

Perspectives, Methodology, and Evidence. Gunter Narr Verlag, pp. 11–32.

Buchanan, D. R. (1998) 'Beyond positivism: humanistic perspectives on theory and research in health education', *Health Education Research*, 13(3), pp. 439–450. doi: 10.1093/HER/13.3.439.

Buhrmester, M., Kwang, T. and Gosling, S. D. (2015) 'Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality data?', in *Methodological issues and strategies in clinical research (4th ed.)*. American Psychological Association, pp. 133–139. doi: 10.1037/14805-009.

Buller, D. B. *et al.* (2000) 'Using Language Intensity to Increase the Success of a Family Intervention to Protect Children from Ultraviolet Radiation: Predictions from Language Expectancy Theory', *Preventive Medicine*, 30(2), pp. 103–113. doi: 10.1006/pmed.1999.0600.

Buller, D. B., Borland, R. and Burgoon, M. (1998) 'Impact of behavioral intention on effectiveness of message features: Evidence from the family sun safety project', *Human Communication Research*, 24(3), pp. 433–453. doi: 10.1111/j.1468-2958.1998.tb00424.x.

Bulmer, S. and Buchanan-Oliver, M. (2006) 'Visual Rhetoric and Global Advertising Imagery', <http://dx.doi.org/10.1080/13527260500289142>, 12(1), pp. 49–61. doi: 10.1080/13527260500289142.

Burgers, C. and De Graaf, A. (2013) 'Language intensity as a sensationalistic news feature: The influence of style on sensationalism perceptions and effects', *Communications*, 38(2), pp. 167–188. doi: 10.1515/commun-2013-0010.

Burgoon, J. K. *et al.* (1989) *The Nature of Arousal and Nonverbal Indices*, *Human Communication Research*.

BURGOON, J. K. and WALTHER, J. B. (1990) 'Nonverbal Expectancies and the Evaluative Consequences of Violations', *Human Communication Research*, 17(2), pp. 232–265. doi: 10.1111/j.1468-2958.1990.tb00232.x.

Burgoon, M. (1995) 'Language expectancy theory: Elaboration, explication, and extension', *Communication and social influence processes*, pp. 29–52.

Burgoon, M. and Chase, L. J. (1973) 'The effects of differential linguistic patterns in messages attempting to induce resistance to persuasion', *Speech Monographs*, 40(1), pp. 1–7. doi: 10.1080/03637757309375774.

BURGOON, M., DILLARD, J. P. and OORAN, N. E. (1983) 'FRIENDLY OR UNFRIENDLY PERSUASION', *Human Communication Research*, 10(2), pp. 283–294. doi: 10.1111/J.1468-2958.1983.TB00018.X.

List of References

Burgoon, M., Jones, S. B. and Stewart, D. (1975) 'Toward a Message-Centered Theory of Persuasion: Three Empirical Investigations of Language Intensity', *Human Communication Research*, 1(3), pp. 240–256. doi: 10.1111/j.1468-2958.1975.tb00271.x.

Burgoon, M. and Miller, G. R. (1971) 'Prior attitude and language intensity as predictors of message style and attitude change following counterattitudinal advocacy.', *Journal of Personality and Social Psychology*, 20(2), pp. 246–253. doi: 10.1037/h0031678.

Burgoon, M., Pauls, V. and Roberts, D. L. (2002) 'Language Expectancy Theory', in *The Persuasion Handbook: Developments in Theory and Practice*. 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc., pp. 117–136. doi: 10.4135/9781412976046.n7.

Burrell, G. and Morgan, G. (1979) *Sociological Paradigms and Organisational Allalysis*. Heinemann Edfu. Available at: <http://www.ashgate.com> (Accessed: 15 June 2019).

Buss, D. . (1991) 'Conflict in married couples: personality predictors of anger and upset', *Journal of personality*, 59(4), pp. 663–688. doi: 10.1111/J.1467-6494.1991.TB00926.X.

Button, K. S. *et al.* (2013) 'Power failure: Why small sample size undermines the reliability of neuroscience', *Nature Reviews Neuroscience*, 14(5), pp. 365–376. doi: 10.1038/nrn3475.

Calder, B. J., Phillips, L. W. and Tybout, A. M. (1982) 'The Concept of External Validity', *Journal of Consumer Research*, 9(3), pp. 240–244. doi: 10.1086/208920.

Cameron, S. and Price, D. (2009) *Business Research Methods : a Practical Approach*. Kogan Page.

Campbell, D. T. (1969) 'Reforms as experiments.', *American Psychologist*, 24(4), pp. 409–429. doi: 10.1037/H0027982.

Campbell, M. C. and Kirmani, A. (2000) 'Consumers' Use of Persuasion Knowledge: The Effects of Accessibility and Cognitive Capacity on Perceptions of an Influence Agent', *Journal of Consumer Research*, 27(1), pp. 69–83. doi: 10.1086/314309.

Campbell, R. S. and Pennebaker, J. W. (2003) 'The Secret Life of Pronouns', *Psychological Science*, 14(1), pp. 60–65. doi: 10.1111/1467-9280.01419.

Campelo, A., Aitken, R. and Gnoth, J. (2010) 'Visual Rhetoric and Ethics in Marketing of Destinations', <http://dx.doi.org/10.1177/0047287510362777>, 50(1), pp. 3–14. doi: 10.1177/0047287510362777.

Carpenter, G. S., Glazer, R. and Nakamoto, K. (2018) 'Meaningful Brands from Meaningless Differentiation: The Dependence on Irrelevant Attributes',

List of References

<https://doi.org/10.1177/002224379403100302>, 31(3), pp. 339–350. doi: 10.1177/002224379403100302.

Carrillo, E., Varela, P. and Fiszman, S. (2012a) 'Effects of food package information and sensory characteristics on the perception of healthiness and the acceptability of enriched biscuits', *Food Research International*, 48(1), pp. 209–216. doi: 10.1016/j.foodres.2012.03.016.

Carrillo, E., Varela, P. and Fiszman, S. (2012b) 'Packaging information as a modulator of consumers' perception of enriched and reduced-calorie biscuits in tasting and non-tasting tests', *Food Quality and Preference*, 25(2), pp. 105–115. doi: 10.1016/j.foodqual.2012.02.005.

Carroll, K. A., Samek, A. and Zepeda, L. (2018) 'Food bundling as a health nudge: Investigating consumer fruit and vegetable selection using behavioral economics', *Appetite*, 121, pp. 237–248. doi: 10.1016/J.APPET.2017.11.082.

Cavaliere, A., De Marchi, E. and Banterle, A. (2017) 'Investigation on the role of consumer health orientation in the use of food labels', *Public Health*, 147, pp. 119–127. doi: 10.1016/j.puhe.2017.02.011.

CFR - Code of Federal Regulations Title 21 (2020).

Chafe, W. (1985) 'Linguistic differences produced by differences between speaking and writing', in Hildyard, A., Olson, D. R., and Torrance, N. (eds) *Literacy, Language and Learning: The Nature and Consequences of Reading and Writing*. Cambridge University Press, pp. 105–123.

Chafe, W. and Danielewicz, J. (1987) 'Properties of spoken and written language', in Horowitz, R. and Samuels, S. J. (eds) *Comprehending oral and written language*. Academic Press, pp. 83–113.

Chaiken, S. (1980) 'Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion', *Journal of Personality and Social Psychology*, 39(5), pp. 752–766. Available at: <https://pdfs.semanticscholar.org/82f3/bd71f38a7b8d2269f1e471e2e8bc300fb880.pdf> (Accessed: 30 August 2019).

Chandler, D. (1994) 'Transmission Model of Communication'. Available at: <http://visual-memory.co.uk/daniel/Documents/short/trans.html#D> (Accessed: 6 January 2022).

Chandon, P. (2013) 'How Package Design and Packaged-based Marketing Claims Lead to Overeating', *Applied Economic Perspectives and Policy*, 35(1), pp. 7–31. doi: 10.1093/aep/pps028.

Chandon, P. and Ordabayeva, N. (2009) 'Supersize in One Dimension, Downsize in Three

List of References

Dimensions: Effects of Spatial Dimensionality on Size Perceptions and Preferences', *Journal of Marketing Research*, XLVI, p. 739. doi: doi.org/10.1509/jmkr.46.6.739_JMR6C.

Chandon, P. and Wansink, B. (2007) 'The Biasing Health Halos of Fast-Food Restaurant Health Claims: Lower Calorie Estimates and Higher Side-Dish Consumption Intentions', *Journal of Consumer Research*, 34(3), pp. 301–314. doi: 10.1086/519499.

Chandon, P. and Wansink, B. (2011) 'Is Food Marketing Making Us Fat? A Multi-Disciplinary Review', *SSRN Electronic Journal*. doi: 10.2139/ssrn.1854370.

Chang, C.-T., Chu, X.-Y. (Marcos) and Kao, S.-T. (2021) 'How Anthropomorphized Brand Spokescharacters Affect Consumer Perceptions and Judgments', *Journal of Advertising Research*, 61(2), pp. 225–244. doi: 10.2501/JAR-2020-025.

Chang, T. Z. and Wildt, A. R. (1994) 'Price, product information, and purchase intention: An empirical study', *Journal of the Academy of Marketing Science: Official Publication of the Academy of Marketing Science*, 22(1), pp. 16–27. doi: 10.1177/0092070394221002.

Chang, Y. *et al.* (2019) 'Getting more likes: the impact of narrative person and brand image on customer–brand interactions', *Journal of the Academy of Marketing Science*, 47(6), pp. 1027–1045. doi: 10.1007/S11747-019-00632-2/FIGURES/10.

Charness, G., Gneezy, U. and Kuhn, M. A. (2013) 'Experimental methods: Extra-laboratory experiments-extending the reach of experimental economics', *Journal of Economic Behavior & Organization*, 91(C), pp. 93–100. doi: 10.1016/j.jebo.2013.04.002.

Charpentier, A. (1891) 'Analyse expérimentale: De quelques éléments de la sensation de poids. [Experimental analysis: On some of the elements of sensations of weight]', *Archives de Physiologie Normale et Pathologique*, 3, pp. 122–135.

Cheema, A. and Patrick, V. M. (2008) 'Anytime versus Only: Mind-Sets Moderate the Effect of Expansive versus Restrictive Frames on Promotion Evaluation', *Journal of Marketing Research*, 45(4), pp. 462–472. doi: 10.1509/jmkr.45.4.462.

Chen, S. F. S., Monroe, K. B. and Lou, Y. C. (1998) 'The effects of framing price promotion messages on consumers' perceptions and purchase intentions', *Journal of Retailing*, 74(3), pp. 353–372. doi: 10.1016/S0022-4359(99)80100-6.

Chen, Z. and Lurie, N. H. (2013) 'Temporal Contiguity and Negativity Bias in the Impact of Online Word of Mouth', <https://doi.org/10.1509/jmr.12.0063>, 50(4), pp. 463–476. doi: 10.1509/JMR.12.0063.

List of References

- Cherry, C. (1974) *On Human Communication*. Third Edition. Available at: <https://mitpress.mit.edu/books/human-communication-third-edition> (Accessed: 24 March 2021).
- Chevalier, J. A. and Mayzlin, D. (2018) 'The Effect of Word of Mouth on Sales: Online Book Reviews', <https://doi.org/10.1509/jmkr.43.3.345>, 43(3), pp. 345–354. doi: 10.1509/JMKR.43.3.345.
- Chiu, H. C., Hsieh, Y. C. and Kuo, Y. C. (2012) 'How to Align your Brand Stories with Your Products', *Journal of Retailing*, 88(2), pp. 262–275. doi: 10.1016/J.JRETAI.2012.02.001.
- Cho, Y.-N. (2015) 'Different Shades of Green Consciousness: The Interplay of Sustainability Labeling and Environmental Impact on Product Evaluations', *Journal of Business Ethics*, 128(1), pp. 73–82. doi: 10.1007/s10551-014-2080-4.
- Choi, J. *et al.* (2019) 'The Influence of Health Motivation and Calorie Ending on Preferences for Indulgent Foods', *Journal of Consumer Research*. Edited by V. G. Morwitz, M. C. Campbell, and L. E. Bolton, 46(3), pp. 606–619. doi: 10.1093/jcr/ucz002.
- Chylinski, M. and Chu, A. (2010) 'Consumer cynicism: antecedents and consequences', *European Journal of Marketing*, 44(6), pp. 796–837. doi: 10.1108/03090561011032720.
- Claridge, C., Jonsson, E. W. A. and Kytö, M. (2019) 'Entirely innocent: A historical sociopragmatic analysis of maximizers in the Old Bailey Corpus', *English Language and Linguistics*, (May 2016), pp. 25–29. doi: 10.1017/S1360674319000388.
- Clementson, D. E., Pascual-Ferrá, P. and Beatty, M. J. (2016a) 'How Language Can Influence Political Marketing Strategy and a Candidate's Image: Effect of Presidential Candidates' Language Intensity and Experience on College Students' Ratings of Source Credibility', *Journal of Political Marketing*, 15(4), pp. 388–415. doi: 10.1080/15377857.2014.959689.
- Clementson, D. E., Pascual-Ferrá, P. and Beatty, M. J. (2016b) 'When Does a Presidential Candidate Seem Presidential and Trustworthy? Campaign Messages Through the Lens of Language Expectancy Theory', *Presidential Studies Quarterly*, 46(3), pp. 592–617. doi: 10.1111/psq.12299.
- Coolican, H. (2017) 'Research methods and statistics in psychology', *Research Methods and Statistics in Psychology*, pp. 1–773. doi: 10.4324/9780203769836/RESEARCH-METHODS-STATISTICS-PSYCHOLOGY-HUGH-COOLICAN-HUGH-COOLICAN.
- Coupland, N. (1985) "'Hark, hark, the lark": Social motivations for phonological style-shifting', *Language and Communication*, 5(3), pp. 153–171. doi: 10.1016/0271-5309(85)90007-2.
- Craig, T. Y. and Blankenship, K. L. (2011) 'Language and persuasion: Linguistic extremity influences

List of References

message processing and behavioral intentions', *Journal of Language and Social Psychology*, 30(3), pp. 290–310. doi: 10.1177/0261927X11407167.

Creusen, M. E. H. and Schoormans, J. P. L. (2005) 'The different roles of product appearance in consumer choice', *Journal of Product Innovation Management*. John Wiley & Sons, Ltd, pp. 63–81. doi: 10.1111/j.0737-6782.2005.00103.x.

Dainton, M. and Zelley, E. D. (2004) 'Explaining Theories of Persuasion', in *Applying Communication Theory for Professional Life*. Available at: https://www.sagepub.com/sites/default/files/upm-binaries/4985_Dainton_Chapter_5.pdf (Accessed: 20 September 2019).

Danaher, P. J. and Rossiter, J. R. (2011) 'Comparing perceptions of marketing communication channels', *European Journal of Marketing*, 45(1/2), pp. 6–42. doi: 10.1108/03090561111095586.

Darke, P. R. *et al.* (2016) 'Feeling Close From Afar: The Role of Psychological Distance in Offsetting Distrust in Unfamiliar Online Retailers', *Journal of Retailing*, 92(3), pp. 287–299. doi: 10.1016/J.JRETAI.2016.02.001.

Darley, W. K. and Smith, R. E. (1993) 'Advertising Claim Objectivity: Antecedents and Effects', *Journal of Marketing*, 57(4), pp. 100–113. doi: 10.1177/002224299305700408.

Davis, D. F., Bagchi, R. and Block, L. G. (2016) 'Alliteration Alters: Phonetic Overlap in Promotional Messages Influences Evaluations and Choice', *Journal of Retailing*, 92(1), pp. 1–12. doi: 10.1016/J.JRETAI.2015.06.002.

Davis, F. D. (1989) 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS Quarterly: Management Information Systems*, 13(3), pp. 319–339. doi: 10.2307/249008.

Deliza, R., Macfie, H. and Hedderley, D. (2003) 'Use of computer-generated images and conjoint analysis to investigate sensory expectations', *Journal of Sensory Studies*, 18(6), pp. 465–486. doi: 10.1111/j.1745-459x.2003.tb00401.x.

Deng, X. and Kahn, B. E. (2009) 'Is Your Product on the Right Side? The "Location Effect" on Perceived Product Heaviness and Package Evaluation:', *Journal of Marketing Research*, 46(6), pp. 725–738. doi: https://doi.org/10.1509/jmkr.46.6.725_JMR6B.

Deng, X. and Srinivasan, R. (2013) *When Do Transparent Packages Increase (or Decrease) Food Consumption?*, *Source: Journal of Marketing*.

Deval, H. *et al.* (2013) 'How naive theories drive opposing inferences from the same information',

List of References

Journal of Consumer Research, 39(6), pp. 1185–1201. doi: 10.1086/668086.

Dillard, J. P. and Shen, L. (2005) 'On the nature of reactance and its role in persuasive health communication', *Communication Monographs*, 72(2), pp. 144–168. doi: 10.1080/03637750500111815.

Dodds, W. B., Monroe, K. B. and Grewal, D. (1991) 'Effects of Price, Brand, and Store Information on Buyers' Product Evaluations', *Journal of Marketing Research*, 28(3), p. 307. doi: 10.2307/3172866.

Dohle, S., Diel, K. and Hofmann, W. (2018) 'Executive functions and the self-regulation of eating behavior: A review', *Appetite*, 124, pp. 4–9. doi: 10.1016/J.APPET.2017.05.041.

van Dolen, W. and de Ruyter, K. (2002) 'Moderated group chat: an empirical assessment of a new e-service encounter', *International Journal of Service Industry Management*, 13(5), pp. 496–511. Available at: <https://core.ac.uk/download/pdf/6818615.pdf> (Accessed: 25 March 2021).

Dou, X. *et al.* (2012) 'Does source matter? Examining source effects in online product reviews', *Computers in Human Behavior*, 28(5), pp. 1555–1563. doi: 10.1016/j.chb.2012.03.015.

Drichoutis, A. C., Lazaridis, P. and Nayga, R. (2006) 'Consumers' use of nutritional labels: A review of research studies and issues', *Academy of Marketing Science Review*, 9. Available at: <http://www.amsreview.org/articles/drichoutis09-2006.pdf> (Accessed: 30 May 2019).

Dubois, D., Bonezzi, A. and De Angelis, M. (2016) 'Sharing with Friends versus Strangers: How Interpersonal Closeness Influences Word-of-Mouth Valence', *Journal of Marketing Research*, 53(5), pp. 712–727. doi: 10.1509/jmr.13.0312.

Ducrot, P. *et al.* (2016) 'Impact of different front-of-pack nutrition labels on consumer purchasing intentions: A randomized controlled trial', *American Journal of Preventive Medicine*, 50(5), pp. 627–636. doi: 10.1016/j.amepre.2015.10.020.

Duncan, T. and Moriarty, S. E. (1998) 'A Communication-Based Marketing Model for Managing Relationships', *Journal of Marketing*, 62(2), pp. 1–13. doi: 10.1177/002224299806200201.

EC Directive 94/62 (1994) *On Packaging and Packaging Waste*. Available at: https://www.compostnetwork.info/wordpress/wp-content/uploads/CELEX_01994L0062-20180704_EN_TXT.pdf (Accessed: 30 March 2021).

Edell, J. A. and Staelin, R. (1983) 'The Information Processing of Pictures in Print Advertisements', *Journal of Consumer Research*, 10(1), p. 45. doi: 10.1086/208944.

List of References

- Edwards, S. M., Lee, J. K. and Ferle, C. La (2009) 'Does Place Matter When Shopping Online? Perceptions of Similarity and Familiarity as Indicators of Psychological Distance', *Journal of Interactive Advertising*, 10(1), pp. 35–50. doi: 10.1080/15252019.2009.10722161.
- Edwards, S. M., Li, H. and Lee, J.-H. (2002) 'Forced Exposure and Psychological Reactance: Antecedents and Consequences of the Perceived Intrusiveness of Pop-Up Ads', *Journal of Advertising*, 31(3), pp. 83–95. doi: 10.1080/00913367.2002.10673678.
- Egan, J. (2014) *Marketing Communications*. SAGE Publications.
- Eisend, M. and Langner, T. (2015) 'Immediate and delayed advertising effects of celebrity endorsers' attractiveness and expertise', <http://dx.doi.org/10.2501/S0265048710201336>, 29(4), pp. 527–546. doi: 10.2501/S0265048710201336.
- Eisend, M. and Stokburger-Sauer, N. E. (2013) 'Brand personality: A meta-analytic review of antecedents and consequences', *Marketing Letters* 2013 24:3, 24(3), pp. 205–216. doi: 10.1007/S11002-013-9232-7.
- Enax, L. et al. (2015) 'Food packaging cues influence taste perception and increase effort provision for a recommended snack product in children', *Frontiers in Psychology*, 6, p. 882. doi: 10.3389/fpsyg.2015.00882.
- Engels, S. V., Hansmann, R. and Scholz, R. W. (2010) 'Toward a Sustainability Label for Food Products: An Analysis of Experts' and Consumers' Acceptance', *Ecology of Food and Nutrition*, 49(1), pp. 30–60. doi: 10.1080/03670240903433154.
- Engle, R. W. and Kane, M. J. (2004) 'EXECUTIVE ATTENTION, WORKING MEMORY CAPACITY, AND A TWO-FACTOR THEORY OF COGNITIVE CONTROL'.
- Epley, N., Waytz, A. and Cacioppo, J. T. (2007) 'On seeing human: A three-factor theory of anthropomorphism.', *Psychological Review*, 114(4), pp. 864–886. doi: 10.1037/0033-295X.114.4.864.
- Erdem, T. and Swait, J. (1998) 'Brand Equity as a Signaling Phenomenon', *Journal of Consumer Psychology*, 7(2), pp. 131–157. doi: 10.1207/S15327663JCP0702_02.
- Erdem, T. and Swait, J. (2004) 'Brand Credibility, Brand Consideration, and Choice', *Journal of Consumer Research*, 31(1), pp. 191–198. doi: 10.1086/383434.
- Erickson, G. M. and Johansson, J. K. (1985) 'The Role of Price in Multi-Attribute Product Evaluations', *Journal of Consumer Research*, 12(2), p. 195. doi: 10.1086/208508.

List of References

- Escalas, J. E. and Bettman, J. R. (2005) 'Self-Construal, Reference Groups, and Brand Meaning', *Journal of Consumer Research*, 32(3), pp. 378–389. doi: 10.1086/497549.
- Etang, A., Fielding, D. and Knowles, S. (2011) 'Does trust extend beyond the village? Experimental trust and social distance in Cameroon', 14, pp. 15–35. doi: 10.1007/s10683-010-9255-3.
- European Commission, E. (2006) *Nutrition and Health Claims, Regulation (EC) No 1924/2006*. Available at: https://ec.europa.eu/food/safety/labelling_nutrition/claims_en.
- Facebook (no date) *About reaching new audiences | Facebook Business Help Centre, Facebook*. Available at: [https://www.facebook.com/business/help/717368264947302?id=176276233019487&helpref=search&sr=9&query=Custom Audiences](https://www.facebook.com/business/help/717368264947302?id=176276233019487&helpref=search&sr=9&query=Custom%20Audiences) (Accessed: 4 February 2021).
- Fairclough, N. (2003) 'Conversationalization of public discourse and the authority of the consumer', in *The Authority of the Consumer*. Routledge, pp. 245–259. doi: 10.4324/9780203392867-26.
- Fajardo, T. M. and Townsend, C. (2016) 'Where you say it matters: Why packages are a more believable source of product claims than advertisements', *Journal of Consumer Psychology*, 26(3), pp. 426–434. doi: 10.1016/j.jcps.2015.11.002.
- Faro, D. (2010) 'Changing the Future by Reshaping the Past: The Influence of Causal Beliefs on Estimates of Time to Onset', *Journal of Consumer Research*, 37(2), pp. 279–291. doi: 10.1086/651234.
- FDA Takes on Deceptive Labeling* (1993). Available at: https://reports.mintel.com/trends/#/observation/524337?fromSearch=%3Ffreetext%3Dfront%2520package%2520label%26last_filter%3Dstrategic-topic (Accessed: 10 February 2021).
- Fehr, B. (1996) *Friendship processes*. Thousand Oaks California: Sage Publications.
- Fenko, A., Lotterman, H. and Galetzka, M. (2016) 'What's in a name? The effects of sound symbolism and package shape on consumer responses to food products', *Food Quality and Preference*, 51, pp. 100–108. doi: 10.1016/j.foodqual.2016.02.021.
- Feucht, Y. and Zander, K. (2017) 'Consumers' Willingness to Pay for Climate-Friendly Food in European Countries', *Proceedings in Food System Dynamics and Innovation in Food Networks*, pp. 360–377. doi: 10.18461/pfsd.2017.1738.
- Fiedler, K. (ed.) (2007) *Social Communication*. New York: Psychology Press.
- Finkelstein, S. R. and Fishbach, A. (2010) 'When Healthy Food Makes You Hungry', *Journal of*

List of References

Consumer Research, 37(3), pp. 357–367. doi: 10.1086/652248.

Fitzsimons, G. M. and Kay, A. C. (2004) 'Language and Interpersonal Cognition: Causal Effects of Variations in Pronoun Usage on Perceptions of Closeness', *Personality and Social Psychology Bulletin*, 30(5), pp. 547–557. doi: 10.1177/0146167203262852.

Fleck, N. D. and Quester, P. (2007) 'Birds of a feather flock together...definition, role and measure of congruence: An application to sponsorship', *Psychology & Marketing*, 24(11), pp. 975–1000. doi: 10.1002/MAR.20192.

Fletcher, G. J. O. *et al.* (1999) 'Ideals in intimate relationships.', *Journal of Personality and Social Psychology*, 76(1), pp. 72–89. doi: 10.1037/0022-3514.76.1.72.

Folkes, V. and Matta, S. (2004) 'The effect of package shape on consumers' judgments of product volume: Attention as a mental contaminant', *Journal of Consumer Research*, 31(2), pp. 390–401. doi: 10.1086/422117.

Food Standards Agency (2021) *Packaging and labelling*. Available at: <https://www.food.gov.uk/business-guidance/packaging-and-labelling> (Accessed: 29 January 2022).

Fornell, C. and Westbrook, R. A. (1984) 'The Vicious Circle of Consumer Complaints', *Journal of Marketing*, 48(3), p. 68. doi: 10.2307/1251330.

Fournier, S. (1994) *A Consumer-Brand Relationship Framework for Strategy Brand Management*. University of Florida.

Fox, G. L., Rinaldo, S. B. and Amant, K. St. (2015) 'The Effects of Rhetorical Figures and Cognitive Load in Word-of-Mouth Communications', *Psychology & Marketing*, 32(10), pp. 1017–1030. doi: 10.1002/MAR.20839.

Fries, C. C. (1940) *American English Grammar*. New York: Appleton, Century, Crofts. Available at: https://scholar.google.co.uk/scholar?hl=en&as_sdt=0%2C5&q=fries+american+english+grammar&btnG=&oq=fries+american+english+ (Accessed: 22 June 2021).

Friestad, M. and Wright, P. (1994) 'The Persuasion Knowledge Model: How People Cope with Persuasion Attempts', *Journal of Consumer Research*, 21(1), pp. 1–31. doi: 10.1086/209380.

Fromkin, V., Rodman, R. and Hyams, N. (2019) 'An Introduction to Language'. Cengage, p. 301.

Gabaix, X. and Laibson, D. (2006) 'Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets', *The Quarterly Journal of Economics*, 121(2), pp. 505–540. doi: 10.1162/qjec.2006.121.2.505.

List of References

- Gai, P. J. and Klesse, A.-K. (2019) 'Making Recommendations More Effective Through Framings: Impacts of User- Versus Item-Based Framings on Recommendation Click-Throughs', *Journal of Marketing*, 83(6), pp. 61–75. doi: 10.1177/0022242919873901.
- Gallois, C., Ogay, T. and Giles, H. (2005) 'Communication Accommodation Theory A Look Back and a Look Ahead', in *Theorizing about intercultural communication*². Thousand Oaks: Sage, pp. 121–148.
- Garber, L. L. (Jr), Burke, R. R. and Jones, J. M. (2000) *The Role of Package Color in Consumer Purchase Consideration and Choice*, MSI. Cambridge, MA.
- Garretson, J. A. and Burton, S. (2000) 'Effects of Nutrition Facts Panel Values, Nutrition Claims, and Health Claims on Consumer Attitudes, Perceptions of Disease-Related Risks, and Trust', *Journal of Public Policy & Marketing*, 19(2), pp. 213–227. doi: 10.1509/jppm.19.2.213.17133.
- Gelo, O., Braakmann, D. and Benetka, G. (2008) 'Quantitative and Qualitative Research: Beyond the Debate', *Integrative Psychological and Behavioral Science 2008* 42:3, 42(3), pp. 266–290. doi: 10.1007/S12124-008-9078-3.
- Geuens, M. and De Pelsmacker, P. (2017) 'Planning and Conducting Experimental Advertising Research and Questionnaire Design', *Journal of Advertising*, 46(1), pp. 83–100. doi: 10.1080/00913367.2016.1225233.
- Ghosh, A. (2017) 'Dove's "Body Positive Bottles" Literally Turn Women's Bodies Into Objects', *Feminism in India*. Available at: <https://feminismindia.com/2017/05/12/dove-body-positive-bottles/> (Accessed: 4 July 2021).
- Gilbert, D. T., Pelham, B. W. and Krull, D. S. (1988) 'On Cognitive Busyness: When Person Perceivers Meet Persons Perceived'.
- Giles, H. (1979) 'Accommodation theory: Optimal levels of convergence', *Language and social psychology*, pp. 45–65.
- Giles, H. and Ogay, T. (2007) 'Communication accommodation theory', in Whaley, B. B. and Samter, W. (eds) *Explaining communication: Contemporary theories and exemplars*. 1st edn. Taylor & Francis, pp. 293–310.
- Gill, J. and Johnson, P. (2010) *Research Methods for Managers*. Fourth. SAGE Publications.
- Gino, F. and Galinsky, A. D. (2012) 'Vicarious dishonesty: When psychological closeness creates distance from one's moral compass', *Organizational Behavior and Human Decision Processes*,

List of References

119(1), pp. 15–26. doi: 10.1016/j.obhdp.2012.03.011.

Glanz, K., Hewitt, A. M. and Rudd, J. (1992) 'Consumer behavior and nutrition education: An integrative review', *Journal of Nutrition Education*, 24(5), pp. 267–277. doi: 10.1016/S0022-3182(12)81244-1.

Gleim, M. R. *et al.* (2013) 'Against the Green: A Multi-method Examination of the Barriers to Green Consumption', *Journal of Retailing*, 89(1), pp. 44–61. doi: 10.1016/J.JRETAI.2012.10.001.

Gneezy, A. (2017) 'Field Experimentation in Marketing Research', *Journal of Marketing Research*, 54(1), pp. 140–143. doi: 10.1509/jmr.16.0225.

Godes, D. and Mayzlin, D. (2009) 'Firm-Created Word-of-Mouth Communication: Evidence from a Field Test', *Marketing Science*, 28(4), pp. 721–739. doi: 10.1287/mksc.1080.0444.

Golan, E. *et al.* (2001) 'Economics of Food Labeling', *Journal of Consumer Policy* 2001 24:2, 24(2), pp. 117–184. doi: 10.1023/A:1012272504846.

Gordon, B. R. *et al.* (2019) 'A Comparison of Approaches to Advertising Measurement: Evidence from Big Field Experiments at Facebook', *Marketing Science*, 38(2), pp. 193–225. doi: 10.1287/mksc.2018.1135.

Graf, L. K. M. and Landwehr, J. R. (2015) 'A Dual-Process Perspective on Fluency-Based Aesthetics: The Pleasure-Interest Model of Aesthetic Liking', *Personality and Social Psychology Review*, 19(4), pp. 395–410. doi: 10.1177/1088868315574978.

Gravel, K. *et al.* (2012) "'Healthy," "diet," or "hedonic". How nutrition claims affect food-related perceptions and intake?', *Appetite*, 59(3), pp. 877–884. doi: 10.1016/J.APPET.2012.08.028.

Greenbaum, S. (1970) *Verb-Intensifier Collocations in English*. DE GRUYTER. doi: 10.1515/9783110886429.

Greenberg, B. S. (1976) 'The effects of language intensity modification on perceived verbal aggressiveness', *Communication Monographs*, 43(2), pp. 130–139. doi: 10.1080/03637757609375923.

Gretry, A. *et al.* (2017) "'Don't pretend to be my friend!" When an informal brand communication style backfires on social media', *Journal of Business Research*, 74, pp. 77–89. doi: 10.1016/j.jbusres.2017.01.012.

Grice, P. (1975) 'Logic and Conversation'. Available at: <https://www.ucl.ac.uk/lis/studypacks/Grice-Logic.pdf> (Accessed: 9 January 2022).

List of References

- Grimes, A. and Doole, I. (1998) 'Exploring the Relationships Between Colour and International Branding: A Cross Cultural Comparison of the UK and Taiwan', *Journal of Marketing Management*, 14(7), pp. 799–817. doi: 10.1362/026725798784867581.
- Grohmann, B., Giese, J. L. and Parkman, I. D. (2013) 'Using type font characteristics to communicate brand personality of new brands', *Journal of Brand Management*, 20(5), pp. 389–403. doi: 10.1057/bm.2012.23.
- Grunert, K. G., Bolton, L. E. and Raats, M. M. (2012) *Transformative Consumer Research for Personal and Collective Well-Being*. Edited by D. G. Mick et al. Routledge. doi: 10.4324/9780203813256.
- Grunert, K. G. and Wills, J. M. (2007) 'A review of European research on consumer response to nutrition information on food labels', *Journal of Public Health*, 15(5), pp. 385–399. doi: 10.1007/s10389-007-0101-9.
- Guba Yvonn, E. G. and Lincoln, A. S. (1994) 'Competing Paradigms in Qualitative Research', in Denzin, N. K. and Lincoln, Y. S. (eds) *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage, pp. 105–117.
- Gürhan-Canli, Z. and Maheswaran, D. (2000) 'Determinants of country-of-origin evaluations', *Journal of Consumer Research*, 27(1), pp. 96–108. doi: 10.1086/314311.
- Gvili, Y. et al. (2015) 'Fresh from the tree: Implied motion improves food evaluation', *Food Quality and Preference*. Elsevier Ltd, pp. 160–165. doi: 10.1016/j.foodqual.2015.07.015.
- Hagtvedt, H. (2015) 'Promotional phrases as questions versus statements: An influence of phrase style on product evaluation', *Journal of Consumer Psychology*, 25(4), pp. 635–641. doi: 10.1016/j.jcps.2014.12.005.
- Hair, J. et al. (2015) 'Essentials of Business Research Methods', *Essentials of Business Research Methods*. doi: 10.4324/9781315704562.
- Hall, P. A. et al. (2008) 'Executive function moderates the intention-behavior link for physical activity and dietary behavior', <http://dx.doi.org/10.1080/14768320701212099>, 23(3), pp. 309–326. doi: 10.1080/14768320701212099.
- Hamilton, M. A. and Hunter, J. E. (1998) 'The effect of language intensity on receiver evaluations of message, source, and topic', *Persuasion: Advances Through Meta-Analysis*, pp. 99–138.
- Hamilton, M. A., Hunter, J. E. and Boster, F. J. (1993) 'The Elaboration Likelihood Model as a Theory of Attitude Formation: A Mathematical Analysis', *Communication Theory*, 3(1), pp. 50–65. doi:

List of References

10.1111/j.1468-2885.1993.tb00056_3_1.x.

Hamilton, M. A., Hunter, J. E. and Burgoon, M. (1990) 'An Empirical Test of an Axiomatic Model of the Relationship Between Language Intensity and Persuasion', *Journal of Language and Social Psychology*, 9(4), pp. 235–255. doi: 10.1177/0261927X9094002.

Hamilton, M. A. and Stewart, B. L. (1993) 'Extending An Information Processing Model of Language Intensity Effects', *Communication Quarterly*, 41(2), pp. 231–246. doi: 10.1080/01463379309369882.

Hammond, D. *et al.* (2009) 'Cigarette pack design and perceptions of risk among UK adults and youth', *The European Journal of Public Health*, 19(6), pp. 631–637. doi: 10.1093/eurpub/ckp122.

Harwood, J. and Lin, M.-C. (2000) 'Affiliation, pride, exchange, and distance in grandparents' accounts of relationships with their college-aged grandchildren', *Journal of Communication*, 50(3), pp. 31–47. doi: 10.1111/J.1460-2466.2000.TB02851.X.

Hawkes, C. (2004) *Nutrition Labels and Health Claims: The Global Regulatory Environment*. World Health Organization.

Haws, K. L., Reczek, R. W. and Sample, K. L. (2017) 'Healthy Diets Make Empty Wallets: The Healthy = Expensive Intuition', *Journal of Consumer Research*, 43, pp. 992–1007. doi: 10.1093/jcr/ucw078.

Haws, K. L. and Winterich, K. P. (2013) 'When Value Trumps Health in a Supersized World', <https://doi.org/10.1509/jm.11.0261>, 77(3), pp. 48–64. doi: 10.1509/JM.11.0261.

Hayes, A. F. (2015) 'An Index and Test of Linear Moderated Mediation', <http://dx.doi.org/10.1080/00273171.2014.962683>, 50(1), pp. 1–22. doi: 10.1080/00273171.2014.962683.

Heather, N. (1976) *Radical perspectives in psychology*. Methuen.

Heckler, S. E. and Childers, T. L. (1992) 'The Role of Expectancy and Relevancy in Memory for Verbal and Visual Information: What is Incongruity?', *Journal of Consumer Research*, 18(4), p. 475. doi: 10.1086/209275.

Henderson, C. M., Mazodier, M. and Sundar, A. (2019) 'The Color of Support: The Effect of Sponsor–Team Visual Congruence on Sponsorship Performance', <https://doi.org/10.1177/0022242919831672>, 83(3), pp. 50–71. doi: 10.1177/0022242919831672.

Henderson, P. W., Giese, J. L. and Cote, J. A. (2004) 'Impression Management using Typeface Design', *Journal of Marketing*, 68(4), pp. 60–72. doi: 10.1509/jmkg.68.4.60.42736.

List of References

- Herrmann, A. *et al.* (2013) 'The Power of Simplicity: Processing Fluency and the Effects of Olfactory Cues on Retail Sales', *Journal of Retailing*, 89(1), pp. 30–43. doi: 10.1016/J.JRETAI.2012.08.002.
- Hess, J. A. (2002) 'Distance Regulation in Personal Relationships: The Development of a Conceptual Model and a Test of Representational Validity', *Journal of Social and Personal Relationships*, 19(5), pp. 663–683. doi: 10.1177/0265407502195007.
- Hesse-Biber, S. N. and Leavy, P. (2011) *The practice of qualitative research*. 2nd ed., *The Practice of Qualitative Research Second Edition*. 2nd ed. Los Angeles: SAGE Publications.
- Hesse, B. W., Werner, C. M. and Altman, I. (1988) 'Temporal aspects of computer-mediated communication', *Computers in Human Behavior*, 4(2), pp. 147–165. doi: 10.1016/0747-5632(88)90023-4.
- Hieke, S. *et al.* (2016) 'Prevalence of nutrition and health-related claimson pre-packaged foods: A five-country study in europe', *Nutrients*. doi: 10.3390/nu8030137.
- Hine, T. (1995) *The Total Package, The Shakespeare First Folios: A Descriptive Catalogue*. doi: 10.1057/9780230360341.0163.
- Hinson, J. M., Jameson, T. L. and Whitney, P. (2002) 'Somatic markers, working memory, and decision making', *Cognitive, Affective and Behavioral Neuroscience*, 2(4), pp. 341–353. doi: 10.3758/CABN.2.4.341.
- Hobbs, J. E. and Goddard, E. (2015) 'Consumers and trust', *Food Policy*, 52, pp. 71–74. doi: 10.1016/j.foodpol.2014.10.017.
- Hoegg, J. and Alba, J. W. (2007) 'Taste Perception: More than Meets the Tongue', *Journal of Consumer Research*, 33(4), pp. 490–498. doi: 10.1086/510222.
- Holbrook, M. B. (1978) 'Beyond Attitude Structure: Toward the Informational Determinants of Attitude', *Journal of Marketing Research*, 15(4), pp. 545–556. doi: 10.1177/002224377801500404.
- Holmes, C. B. and Buchanan, J. A. (1984) 'Color preference as a function of the object described', *Bulletin of the Psychonomic Society*, 22(5), pp. 423–425. doi: 10.3758/BF03333865.
- Holzwarth, M., Janiszewski, C. and Neumann, M. M. (2006) 'The Influence of Avatars on Online Consumer Shopping Behavior', *Journal of Marketing*, 70(4), pp. 19–36. doi: 10.1509/jmkg.70.4.019.
- Hovland, C. I., Janis, I. L. and Kelley, H. H. (1953) *Communication and persuasion; psychological studies of opinion change*. New Haven, CN: Yale University Press.

List of References

Hovland, C. I. and Pritzker, H. A. (1957a) 'Extent of opinion change as a function of amount of change advocated.', *The Journal of Abnormal and Social Psychology*, 54(2), pp. 257–261. doi: 10.1037/h0042867.

Hovland, C. I. and Pritzker, H. A. (1957b) 'Extent of opinion change as a function of amount of change advocated.', *The Journal of Abnormal and Social Psychology*, 54(2), pp. 257–261. doi: 10.1037/h0042867.

Hovland, C. I. and Weiss, W. (1951) 'The Influence of Source Credibility on Communication Effectiveness', *Public Opinion Quarterly*, 15(4), p. 635. doi: 10.1086/266350.

Howlett, E. A. *et al.* (2009) 'Coming to a Restaurant Near You? Potential Consumer Responses to Nutrition Information Disclosure on Menus', *Journal of Consumer Research*, 36(3), pp. 494–503. doi: 10.1086/598799.

Hu, T. and Shi, B. (2020) 'More Proximal, More Willing to Purchase: The Mechanism for Variability in Consumers' Purchase Intention Toward Sincere vs. Exciting Brands', *Frontiers in Psychology*, 11(June). doi: 10.3389/fpsyg.2020.01258.

Huang, L. and Lu, J. (2016) 'The Impact of Package Color and the Nutrition Content Labels on the Perception of Food Healthiness and Purchase Intention', *Journal of Food Products Marketing*, 22(2), pp. 191–218. doi: 10.1080/10454446.2014.1000434.

Hudson, L. A. and Ozanne, J. L. (1988) 'Alternative Ways of Seeking Knowledge in Consumer Research', *Journal of Consumer Research*. Available at: https://www.jstor.org/stable/pdf/2489157.pdf?casa_token=C1teslJJRusAAAAA:81z7musS-eb2IzEPiVgh8GmEVOBxgZJdECmRiWIkUeAkBskOxyXb_LVKLnVAjd1CdU-vnzKkcblv5OwisUyxrE-KZqfwYQwsPb7JNwbWLSRr3o9ZDnPd (Accessed: 12 August 2021).

Hunt, E. and Agnoli, F. (1991) *The Whorfian Hypothesis: A Cognitive Psychology Perspective*, *Psychological Review*.

Hunt, S. D. (2014) *Marketing theory: Foundations, controversy, strategy, and resource-advantage theory*, *Marketing Theory: Foundations, Controversy, Strategy, and Resource-advantage Theory*. Taylor and Francis. doi: 10.4324/9781315702537.

Hurley, J. and Schmidt, S. (1992) 'Food Labels Get Healthy', *Nutrition Action Healthletter*, 19, pp. 8–9.

Hutchings, J. B. (2003) *Expectations and the Food Industry - The Impact of Color and Appearance*. New York. Available at: <https://www.springer.com/gp/book/9780306472916> (Accessed: 10 May

List of References

2021).

Innovation in Unilever (no date) *Unilever*. Available at: <https://www.unilever.co.uk/about/innovation/innovation-in-unilever/> (Accessed: 10 February 2021).

'Intensifiers (very, at all) - English Grammar Today - Cambridge Dictionary' (no date) *Cambridge Dictionary*. Available at: <https://dictionary.cambridge.org/grammar/british-grammar/intensifiers-very-at-all> (Accessed: 14 July 2021).

Irmak, C., Block, L. G. and Fitzsimons, G. J. (2005) 'The Placebo Effect in Marketing: Sometimes you Just Have to Want it to Work', *Journal of Marketing Research*, 42(4), pp. 406–409. doi: 10.1509/jmkr.2005.42.4.406.

Ito, R. and Tagliamonte, S. (2003) 'Well weird, right dodgy, very strange, really cool: Layering and recycling in English intensifiers', *Language in Society*, 32(2), pp. 257–279. doi: 10.1017/S0047404503322055.

Ivanic, A. S. (2016) 'To Choose (Not) to Eat Healthy: Social Norms, Self-affirmation, and Food Choice', *Psychology & Marketing*, 33(8), pp. 595–607. doi: 10.1002/mar.20902.

Iyengar, S. S. and Lepper, M. R. (2000) 'When choice is demotivating: Can one desire too much of a good thing?', *Journal of Personality and Social Psychology*, 79(6), pp. 995–1006. doi: 10.1037/0022-3514.79.6.995.

Jacoby, J., Szybillo, G. J. and Berning, C. K. (1976) 'Time and Consumer Behavior: An Interdisciplinary Overview', *Journal of Consumer Research*, 2(4), p. 320. doi: 10.1086/208644.

Jacoby, L. L., Woloshyn, V. E. and Kelley, C. (1989) 'Becoming Famous Without Being Recognized: Unconscious Influences of Memory Produced by Dividing Attention', *Article in Journal of Experimental Psychology General*. doi: 10.1037/0096-3445.118.2.115.

Jensen, M. L. *et al.* (2013) 'Credibility of Anonymous Online Product Reviews: A Language Expectancy Perspective', *Journal of Management Information Systems*, 30(1), pp. 293–324. doi: 10.2753/MIS0742-1222300109.

Jespersen, O. (1922) *Language Its Nature, Development, and Origin*. Available at: https://www.gutenberg.org/files/53038/53038-h/53038-h.htm#Page_237.

Johnson, R. B. and Onwuegbuzie, A. J. (2016) 'Mixed Methods Research: A Research Paradigm Whose Time Has Come':, <http://dx.doi.org/10.3102/0013189X033007014>, 33(7), pp. 14–26. doi:

List of References

10.3102/0013189X033007014.

Johnston, R. E. and Smith, G. V. (1980) 'Communication in today's engineering environment', *SAWE Journal*, 3, pp. 33–41.

Jonas, E. *et al.* (2001) 'Confirmation bias in sequential information search after preliminary decisions: an expansion of dissonance theoretical research on selective exposure to information', *Journal of personality and social psychology*, 80(4), pp. 557–571. doi: 10.1037//0022-3514.80.4.557.

Jugenheimer, D. W. *et al.* (no date) *Advertising and public relations research*.

Kaiser, H. F. (1974) 'An index of factorial simplicity', *Psychometrika* 1974 39:1, 39(1), pp. 31–36. doi: 10.1007/BF02291575.

Kaitz, M. *et al.* (2004) 'Adult attachment style and interpersonal distance', *Attachment and Human Development*, 6(3), pp. 285–304. doi: 10.1080/14616730412331281520.

Kardes, F. R. (1996) 'In Defense of Experimental Consumer Psychology', *Journal of Consumer Psychology*, 5(3), pp. 279–296. doi: 10.1207/S15327663JCP0503_04.

Karnal, N. *et al.* (2016) 'Healthy by design, but only when in focus: Communicating non-verbal health cues through symbolic meaning in packaging', *Food Quality and Preference*, 52, pp. 106–119. doi: 10.1016/j.foodqual.2016.04.004.

Kauppinen-Räsänen, H. and Luomala, H. T. (2010) 'Exploring consumers' product-specific colour meanings', *Qualitative Market Research: An International Journal*, 13(3), pp. 287–308. doi: 10.1108/13522751011053644.

Kees, J. *et al.* (2017) 'An Analysis of Data Quality: Professional Panels, Student Subject Pools, and Amazon's Mechanical Turk', *Journal of Advertising*, 46(1), pp. 141–155. doi: 10.1080/00913367.2016.1269304.

Kees, J., Burton, S. and Andrews, J. C. (2015) *Government Efforts to Aid Consumer Well-being: Understanding Federal Health Warnings and Disclosures*.

Kennedy, G. (2003) 'Amplifier Collocations in the British National Corpus: Implications for English Language Teaching', *TESOL Quarterly*, 37(3), p. 467. doi: 10.2307/3588400.

Kessler, D. A. (2010) *The End of Overeating: Taking Control of the Insatiable American Appetite*. Rodale Books.

Ketron, S. (2018) 'Perceived Product Sizes in Visually Complex Environments', *Journal of Retailing*,

List of References

94(2), pp. 154–166. doi: 10.1016/j.jretai.2018.04.001.

Khan, A., Sharma, N. K. and Dixit, S. (2008) 'Cognitive load and task condition in event- and time-based prospective memory: An experimental investigation', *Journal of Psychology: Interdisciplinary and Applied*, 142(5), pp. 517–532. doi: 10.3200/JRLP.142.5.517-532.

Khan, J. (2011) 'Validation in marketing experiments revisited', *Journal of Business Research*, 64(7), pp. 687–692. doi: 10.1016/J.JBUSRES.2010.08.009.

Kiesel, K., McCluskey, J. J. and Villas-Boas, S. B. (2011) 'Nutritional Labeling and Consumer Choices', *Annual Review of Resource Economics*, 3(1), pp. 141–158. doi: 10.1146/annurev.resource.012809.103957.

Klimchuk, M. R. and Krasovec, S. (2018) *Packaging Design Successful Product Branding from Concept to Shelf, Packaging*.

Koo, J. and Suk, K. (2020) 'Is \$0 Better than Free? Consumer Response to "\$0" versus "Free" Framing of a Free Promotion', *Journal of Retailing*, 96(3), pp. 383–396. doi: 10.1016/j.jretai.2019.11.006.

Kosinski, M. *et al.* (2015) 'Facebook as a research tool for the social sciences: Opportunities, challenges, ethical considerations, and practical guidelines', *American Psychologist*, 70(6), pp. 543–556. doi: 10.1037/a0039210.

Kozup, J. C., Creyer, E. H. and Burton, S. (2003) 'Making Healthful Food Choices: The Influence of Health Claims and Nutrition Information on Consumers' Evaluations of Packaged Food Products and Restaurant Menu Items', *Journal of Marketing*. doi: 10.1509/jmkg.67.2.19.18608.

Kreilkamp, T. (1984) 'Psychological Closeness', *American Behavioral Scientist*, 27(6), pp. 771–784. doi: 10.1177/000276484027006008.

Krishna, A. and Morrin, M. (2008) 'Does Touch Affect Taste? The Perceptual Transfer of Product Container Haptic Cues', *Journal of Consumer Research*, 34(6), pp. 807–818. doi: 10.1086/523286.

Kronrod, A. *et al.* (2020) 'Linguistic Delight Promotes Eating Right: Figurative Language Increases Perceived Enjoyment and Encourages Healthier Food Choices', *Health Communication*, 00(00), pp. 1–11. doi: 10.1080/10410236.2020.1805231.

Kronrod, A., Grinstein, A. and Wathieu, L. (2012a) 'Enjoy! Hedonic Consumption and Compliance with Assertive Messages', *Journal of Consumer Research*, 39(1), pp. 51–61. doi: 10.1086/661933.

Kronrod, A., Grinstein, A. and Wathieu, L. (2012b) 'Go Green! Should Environmental Messages Be So Assertive?', *Journal of Marketing*, 76(1), pp. 95–102. doi: 10.1509/jm.10.0416.

List of References

Krystallis, A. and Ness, M. (2004) 'Motivational and cognitive structures of greek consumers in the purchase of quality food products', *Journal of International Consumer Marketing*, 16(2), pp. 7–36. doi: 10.1300/J046v16n02_02.

Labov, W. (1963) 'The Social Motivation of a Sound Change', *WORD*, 19(3), pp. 273–309. doi: 10.1080/00437956.1963.11659799.

Lähteenmäki, L. *et al.* (2010) 'Impact of health-related claims on the perception of other product attributes', *Food Policy*, 35(3), pp. 230–239. doi: 10.1016/J.FOODPOL.2009.12.007.

Landwehr, J. R., McGill, A. L. and Herrmann, A. (2011) 'It's Got the Look: The Effect of Friendly and Aggressive "Facial" Expressions on Product Liking and Sales', *Journal of Marketing*, 75(3), pp. 132–146. doi: 10.1509/jmkg.75.3.132.

Lavrakas, P. (2008) *Encyclopedia of Survey Research Methods*. 2455 Teller Road, Thousand Oaks California 91320 United States of America: Sage Publications, Inc. doi: 10.4135/9781412963947.

Lawson, B. (2006) *How Designers Think: The Design Process Demystified*. Illustrate. Elsevier/Architectural, 2006.

Lazer, D. *et al.* (2009) 'Social science: Computational social science', *Science*, 323(5915), pp. 721–723. doi: 10.1126/SCIENCE.1167742/SUPPL_FILE/LAZER.SOM.REV2.PDF.

Lea, E. J., Crawford, D. and Worsley, A. (2006) 'Consumers' readiness to eat a plant-based diet', *European Journal of Clinical Nutrition*, 60(3), pp. 342–351. doi: 10.1038/sj.ejcn.1602320.

Lea, E. and Worsley, A. (2008) 'Australian consumers' food-related environmental beliefs and behaviours', *Appetite*, 50(2–3), pp. 207–214. doi: 10.1016/j.appet.2005.07.012.

Leach, C. W., Ellemers, N. and Barreto, M. (2007) 'Group virtue: The importance of morality (vs. competence and sociability) in the positive evaluation of in-groups.', *Journal of Personality and Social Psychology*, 93(2), pp. 234–249. doi: 10.1037/0022-3514.93.2.234.

Leathwood, P. D. *et al.* (2007) 'Consumer understanding of nutrition and health claims: sources of evidence', *British Journal of Nutrition*, 98(3), pp. 474–484. doi: 10.1017/S000711450778697X.

Lee, A. Y. and Aaker, J. L. (2004) 'Bringing the Frame Into Focus: The Influence of Regulatory Fit on Processing Fluency and Persuasion.', *Journal of Personality and Social Psychology*, 86(2), pp. 205–218. doi: 10.1037/0022-3514.86.2.205.

Lee, A. Y. and Labroo, A. A. (2004) 'The Effect of Conceptual and Perceptual Fluency on Brand Evaluation', *Journal of Marketing Research*, 41(2), pp. 151–165. doi: 10.1509/jmkr.41.2.151.28665.

List of References

- Lee, B. Y. (2016) *Grocery Stores Taking More Active Roles in Health Promotion*, *Forbes*. Available at: <https://www.forbes.com/sites/brucelee/2016/03/28/grocery-stores-taking-more-active-roles-in-health-promotion/#6ad8838053d8> (Accessed: 30 August 2019).
- Lee, J. K. and Kronrod, A. (2020) 'The Strength of Weak-Tie Consensus Language', *Journal of Marketing Research*, 57(2), pp. 353–374. doi: 10.1177/0022243720904957.
- Lee, L., Frederick, S. and Ariely, D. (2016) 'Try It, You'll Like It: The Influence of Expectation, Consumption, and Revelation on Preferences for Beer', <https://doi.org/10.1111/j.1467-9280.2006.01829.x>, 17(12), pp. 1054–1058. doi: 10.1111/J.1467-9280.2006.01829.X.
- Lee, N. Y., Noble, S. M. and Biswas, D. (2018) 'Hey big spender! A golden (color) atmospheric effect on tipping behavior', *Journal of the Academy of Marketing Science*, 46(2), pp. 317–337. doi: 10.1007/s11747-016-0508-3.
- Lee, Y. H. and Mason, C. (1999) 'Responses to information incongruity in advertising: The role of expectancy, relevancy, and humor', *Journal of Consumer Research*, 26(2), pp. 156–169. doi: 10.1086/209557.
- Leek, S., Szmigin, I. and Baker, E. (2015) 'Consumer confusion and front of pack (FoP) nutritional labels', *Journal of Customer Behaviour*, 14(1), pp. 49–61. doi: 10.1362/147539215X14267608004087.
- Lerman, D., Morais, R. and Luna, D. (2017) *The Language of Branding: Theory, Strategies, and Tactics*.
- Levin, I. P. and Gaeth, G. J. (1988) *How Consumers Are Affected by the Framing of Attribute Information Before and After Consuming the Product*. Available at: <https://about.jstor.org/terms> (Accessed: 3 August 2019).
- Levy, A. S. and Fein, S. B. (1998) 'Consumers' ability to perform tasks using nutrition labels', *Journal of Nutrition Education and Behavior*, 30(4), pp. 210–217. doi: 10.1016/s0022-3182(98)70321-8.
- Levy, D. E. et al. (2012) 'Food choices of minority and low-income employees: A cafeteria intervention', *American Journal of Preventive Medicine*, 43(3), pp. 240–248. doi: 10.1016/j.amepre.2012.05.004.
- Lewin, K. (1997) *Resolving social conflicts and field theory in social science.*, *Resolving social conflicts and field theory in social science*. Washington: American Psychological Association. doi: 10.1037/10269-000.

List of References

Lewis, R. A., Rao, J. M. and Reiley, D. H. (2011) 'Here, There, and Everywhere: Correlated Online Behaviors Can Lead to Overestimates of the Effects of Advertising'.

Li, X. and Sung, Y. (2021) 'Anthropomorphism brings us closer: The mediating role of psychological distance in User–AI assistant interactions', *Computers in Human Behavior*, 118, p. 106680. doi: 10.1016/J.CHB.2021.106680.

Lieberman, N. and Trope, Y. (2014) 'Traversing psychological distance', *Trends in Cognitive Sciences*, 18(7), pp. 364–369. doi: 10.1016/j.tics.2014.03.001.

Lii, Y.-S. *et al.* (2013) 'The challenges of long-distance relationships: the effects of psychological distance between service provider and consumer on the efforts to recover from service failure', *Journal of Applied Social Psychology*, 43(6), pp. 1121–1135. doi: 10.1111/jasp.12077.

Liu, P. J. *et al.* (2014) 'Using Behavioral Economics to Design More Effective Food Policies to Address Obesity', *Applied Economic Perspectives and Policy*, 36(1), pp. 6–24. doi: 10.1093/AEPP/PPT027.

Liu, P. J. *et al.* (2019) 'The Primacy of “What” over “How Much”: How Type and Quantity Shape Healthiness Perceptions of Food Portions', *Management Science*, 65(7), pp. 3353–3381. doi: 10.1287/mnsc.2018.3098.

Liu, Y. (2006) 'Word of Mouth for Movies: Its Dynamics and Impact on Box Office Revenue', *Source: Journal of Marketing*, 70(3), pp. 74–89.

Loebnitz, N. and Grunert, K. G. (2018) 'Impact of self-health awareness and perceived product benefits on purchase intentions for hedonic and utilitarian foods with nutrition claims', *Food Quality and Preference*. doi: 10.1016/j.foodqual.2017.09.005.

Logkizidou, M. *et al.* (2019) 'Why Museological Merchandise Displays Enhance Luxury Product Evaluations: An Extended Art Infusion Effect', *Journal of Retailing*, 95(1), pp. 67–82. doi: 10.1016/j.jretai.2018.11.001.

Loudon, D. L. and Della Bitta, A. J. (1993) *Consumer Behavior Concepts and Applications: Volume 1*. McGraw-Hill.

Low, G. S. and Fullerton, R. A. (1994) 'Brands, Brand Management, and the Brand Manager System: A Critical-Historical Evaluation', *Journal of Marketing Research*, 31(2), pp. 173–190. doi: 10.1177/002224379403100203.

Lowrey, T. M. and Shrum, L. J. (2007) 'Phonetic Symbolism and Brand Name Preference', *Journal of Consumer Research*, 34(3), pp. 406–414. doi: 10.1086/518530.

List of References

- Luangrath, A. W., Peck, J. and Barger, V. A. (2017) 'Textual paralanguage and its implications for marketing communications', *Journal of Consumer Psychology*, 27(1), pp. 98–107. doi: 10.1016/j.jcps.2016.05.002.
- Lucy, J. A. (1992) *Language Diversity and Thought: A Reformulation of the Linguistic Relativity Hypothesis*. Cambridge University Press.
- Luna, D., Peracchio, L. A. and De Juan, M. D. (2003) 'The impact of language and congruity on persuasion in multicultural e-marketing', *Journal of Consumer Psychology*, 13(1–2), pp. 41–50. doi: 10.1207/s15327663jcp13-1&2_04.
- Lynch, J. G. (1999) 'Theory and External Validity', *Journal of the Academy of Marketing Science*, 27(3), pp. 367–376. doi: 10.1177/0092070399273007.
- Lynn, A. and Lynn, M. (2003) 'Experiments and quasi-experiments: Methods for evaluating marketing options', *The Cornell Hotel and Restaurant Administration Quarterly*, 44(2), pp. 75–84. doi: 10.1016/S0010-8804(03)90020-6.
- Lyons, S. J. and Wien, A. H. (2018) 'Evoking premiumness: How color-product congruency influences premium evaluations', *Food Quality and Preference*, 64, pp. 103–110. doi: 10.1016/j.foodqual.2017.10.006.
- Maat, H. P. and de Jong, C. (2013) 'How newspaper journalists reframe product press release information', *Journalism*, 14(3), pp. 348–371. doi: 10.1177/1464884912448914.
- MacInnis, D. J. and Price, L. L. (1987) 'The Role of Imagery in Information Processing: Review and Extensions', *Journal of Consumer Research*, 13(4), p. 473. doi: 10.1086/209082.
- Madden, T. J., Hewett, K. and Roth, M. S. (2000) 'Managing images in different cultures: A cross-national study of color meanings and preferences', *Journal of International Marketing*, 8(4), pp. 90–107. doi: 10.1509/jimk.8.4.90.19795.
- Madzharov, A. V. and Block, L. G. (2010) 'Effects of product unit image on consumption of snack foods', *Journal of Consumer Psychology*, 20(4), pp. 398–409. doi: 10.1016/j.jcps.2010.06.007.
- Madzharov, A. V., Ramanathan, S. and Block, L. G. (2016) 'The Halo Effect of Product Color Lightness on Hedonic Food Consumption', *Journal of the Association for Consumer Research*, 1(4), pp. 579–591. doi: 10.1086/688221.
- Maheswaran, D. and Chen, C. Y. (2006) 'Nation Equity: Incidental Emotions in Country-of-Origin Effects', *Journal of Consumer Research*, 33(3), pp. 370–376. doi: 10.1086/508521.

List of References

- Mai, R., Symmank, C. and Seeberg-Elverfeldt, B. (2016) 'Light and Pale Colors in Food Packaging: When Does This Package Cue Signal Superior Healthiness or Inferior Tastiness?', *Journal of Retailing*, 92(4), pp. 426–444. doi: 10.1016/j.jretai.2016.08.002.
- Malam, S. *et al.* (2009) *Comprehension and use of UK nutrition signpost labelling schemes*. London.
- Mandalari, G. and Mackie, A. R. (2018) 'Almond Allergy: An Overview on Prevalence, Thresholds, Regulations and Allergen Detection', *Nutrients* 2018, Vol. 10, Page 1706, 10(11), p. 1706. doi: 10.3390/NU10111706.
- Mandler, G. (1981) 'The structure of value: Accounting for taste', in *Affect and Cognition*. 1st Editio. Psychology Press, p. 34.
- Mani, A. *et al.* (2013) 'Poverty impedes cognitive function', *Science*, 341(6149), pp. 976–980. doi: 10.1126/SCIENCE.1238041/SUPPL_FILE/MANI-SM.PDF.
- Marchiori, D., Corneille, O. and Klein, O. (2012) 'Container size influences snack food intake independently of portion size', *Appetite*, 58(3), pp. 814–817. doi: 10.1016/j.appet.2012.01.015.
- Marckhgott, E. and Kamleitner, B. (2019) 'Matte matters: when matte packaging increases perceptions of food naturalness', *Marketing Letters*, 30(2), pp. 167–178. doi: 10.1007/s11002-019-09488-6.
- Mariotti, F. *et al.* (2010) 'Potential pitfalls of health claims from a public health nutrition perspective', *Nutrition Science*, 68(10), pp. 624–638. doi: 10.1111/j.1753-4887.2010.00322.x.
- Marsh, K. and Bugusu, B. (2007) 'Food Packaging?Roles, Materials, and Environmental Issues', *Journal of Food Science*, 72(3), pp. R39–R55. doi: 10.1111/j.1750-3841.2007.00301.x.
- Marshall, D., Stuart, M. and Bell, R. (2006) 'Examining the relationship between product package colour and product selection in preschoolers', *Food Quality and Preference*, 17(7–8), pp. 615–621. doi: 10.1016/j.foodqual.2006.05.007.
- Marvasti, A. B. (2004) '[Amir_Marvasti]_Qualitative_Research_in_Sociology_(Bookos.org)'
- Mason, W. and Suri, S. (2012) 'Conducting behavioral research on Amazon's Mechanical Turk', *Behavior Research Methods*, 44(1), pp. 1–23. doi: 10.3758/s13428-011-0124-6.
- Massaro, D. W. (1975) 'Language and Information Processing', *Understanding Language*, pp. 3–28. doi: 10.1016/B978-0-12-478350-8.50006-4.
- Mattke, J. *et al.* (2020) 'Herd behavior in social media: The role of Facebook likes, strength of ties,

List of References

- and expertise', *Information and Management*, 57(8), p. 103370. doi: 10.1016/j.im.2020.103370.
- Mattys, S. L., Brooks, J. and Cooke, M. (2009) 'Recognizing speech under a processing load: dissociating energetic from informational factors', *Cognitive psychology*, 59(3), pp. 203–243. doi: 10.1016/J.COGLPSYCH.2009.04.001.
- Mayer, N. D. and Tormala, Z. L. (2010) "'Think" versus "Feel" framing effects in persuasion', *Personality and Social Psychology Bulletin*, 36(4), pp. 443–454. doi: 10.1177/0146167210362981.
- Mazodier, M. and Merunka, D. (2012) 'Achieving brand loyalty through sponsorship: the role of fit and self-congruity', *Journal of the Academy of Marketing Science*, 40(6), pp. 807–820. doi: 10.1007/s11747-011-0285-y.
- McArthur, T. (1992) *Oxford Companion to the English Language*. Oxford University Press. Available at:
https://www.google.co.uk/books/edition/Oxford_Companion_to_the_English_Language/eRRbDwAAQBAJ?hl=en&gbpv=1&pg=PT64&printsec=frontcover#v=onepage&q&f=false (Accessed: 21 June 2021).
- Mcglone, M. S. and Tofighbakhsh, J. (2000) 'BIRDS OF A FEATHER FLOCK CONJOINTLY (?): Rhyme as Reason in Aphorisms'.
- McGuire, W. (1968) 'Personality and Attitude Change: An Information-Processing Theory', in *Psychological Foundations of Attitudes*. Available at:
https://www.google.co.uk/books/edition/Psychological_Foundations_of_Attitudes/doJGBQAAQB AJ?hl=en&gbpv=1&dq=mcguire+1968+information+processing+model&pg=PA171&printsec=front cover (Accessed: 30 July 2021).
- McGuire, W. J. (1969) 'The Nature of Attitudes and Attitude Change', in Aronson, E. and Lindzey, G. (eds) *The Handbook of Social Psychology*. 2nd Ed. Cambridge, MA: Addison-Wesley, pp. 136–314.
- Mcquarrie, E. F. and Mick, D. G. (1996) *Figures of Rhetoric in Advertising Language*, *Journal of Consumer Research*. Available at: <https://www.jstor.org/stable/2489791> (Accessed: 22 February 2021).
- Mead, J. A. and Richerson, R. (2018) 'Package color saturation and food healthfulness perceptions', *Journal of Business Research*, 82, pp. 10–18. doi: 10.1016/j.jbusres.2017.08.015.
- Mende, M., Bolton, R. N. and Bitner, M. J. (2013a) 'Decoding Customer–Firm Relationships: How Attachment Styles Help Explain Customers' Preferences for Closeness, Repurchase Intentions, and Changes in Relationship Breadth:', <https://doi.org/10.1509/jmr.10.0072>, 50(1), pp. 125–142. doi:

List of References

10.1509/JMR.10.0072.

Mende, M., Bolton, R. N. and Bitner, M. J. (2013b) 'Decoding Customer–Firm Relationships: How Attachment Styles Help Explain Customers' Preferences for Closeness, Repurchase Intentions, and Changes in Relationship Breadth', *Journal of Marketing Research*, 50(1), pp. 125–142. doi: 10.1509/jmr.10.0072.

Méndez-Naya, B. (2008) 'Special issue on English intensifiers', *English Language and Linguistics*, 12(2), pp. 213–219. doi: 10.1017/S1360674308002591.

Meng, Y., Luna, D. and Czellar, S. (2016) *From Language to Behaviour: Verbs Lead to Consumer Action*. Available at: <http://www.acrwebsite.org/volumes/1021816/volumes/v44/NA-44http://www.copyright.com/>. (Accessed: 18 February 2021).

Merolla, A. J. (2014) 'Forgive like You Mean It: Sincerity of Forgiveness and the Experience of Negative Affect', <http://dx.doi.org/10.1080/01463373.2013.860903>, 62(1), pp. 36–56. doi: 10.1080/01463373.2013.860903.

Meyerhoff, M. (1998) *Accommodating your data: the use and misuse of accommodation theory in sociolinguistics*, *Language & Communication*.

Meyers-Levy, J. and Peracchio, L. A. (1995) 'Understanding the Effects of Color: How the Correspondence between Available and Required Resources Affects Attitudes', *Journal of Consumer Research*, 22(2), pp. 121–138. doi: 10.1086/209440.

Meyers-Levy, J. and Tybout, A. M. (1989) 'Schema Congruity as a Basis for Product Evaluation', *Journal of Consumer Research*, 16(1), pp. 39–54. doi: 10.1086/209192.

Mizerski, R. (1982) 'An attribution explanation of the disproportionate influence of unfavourable information', *Journal of Consumer Research*. doi: 10.1086/208925.

Mochon, D. *et al.* (2017) 'What Are Likes Worth? A Facebook Page Field Experiment', *Journal of Marketing Research*, 54(2), pp. 306–317. doi: 10.1509/jmr.15.0409.

Mollin, S. (2009) "'I entirely understand" is a Blairism', *International Journal of Corpus Linguistics*, 14(3), pp. 367–392. doi: 10.1075/ijcl.14.3.04mol.

Moon, S.-J., Costello, J. P. and Koo, D.-M. (2017) 'The impact of consumer confusion from eco-labels on negative WOM, distrust, and dissatisfaction', *International Journal of Advertising*, 36(2), pp. 246–271. doi: 10.1080/02650487.2016.1158223.

Moorman, C. (1990) 'The Effects of Stimulus and Consumer Characteristics on the Utilization of

List of References

- Nutrition Information', *Journal of Consumer Research*, 17(3), p. 362. doi: 10.1086/208563.
- Muller, L. and Prevost, M. (2016) 'What cognitive sciences have to say about the impacts of nutritional labelling formats', *Journal of Economic Psychology*. doi: 10.1016/j.joep.2016.01.005.
- Nagel, T. (1986) *The View From Nowhere*. Oxford university Press. Available at: <https://global.oup.com/academic/product/the-view-from-nowhere-9780195056440> (Accessed: 7 January 2022).
- Nestle, M. and Nesheim, M. (2019) *Why Calories Count*. University of California Press. doi: 10.1525/9780520952171.
- Newman, C. L. *et al.* (2018) 'Marketers' use of alternative front-of-package nutrition symbols: An examination of effects on product evaluations', *Journal of the Academy of Marketing Science*, 46(3), pp. 453–476. doi: 10.1007/s11747-017-0568-z.
- Newman, C. L., Howlett, E. and Burton, S. (2014) 'Shopper Response to Front-of-Package Nutrition Labeling Programs: Potential Consumer and Retail Store Benefits', *Journal of Retailing*, 90(1), pp. 13–26. doi: 10.1016/j.jretai.2013.11.001.
- Newman, C. L., Howlett, E. and Burton, S. (2016) 'Effects of Objective and Evaluative Front-of-Package Cues on Food Evaluation and Choice: The Moderating Influence of Comparative and Noncomparative Processing Contexts', *Journal of Consumer Research*, 42(5), pp. 749–766. doi: 10.1093/jcr/ucv050.
- De Neys, W. (2006) 'Dual processing in reasoning: Two systems but one reasoner', *Psychological Science*, 17(5), pp. 428–433. doi: 10.1111/j.1467-9280.2006.01723.x.
- Ngo, M. K., Misra, R. and Spence, C. (2011) 'Assessing the shapes and speech sounds that people associate with chocolate samples varying in cocoa content', *Food Quality and Preference*, 22(6), pp. 567–572. doi: 10.1016/j.foodqual.2011.03.009.
- Nickels, W. G. and Jolson, M. A. (1976) 'Packaging: the fifth "p" in the marketing mix?', *SAM advanced management journal*, 41(1), pp. 13–21.
- Nørgaard, M. K. and Brunsø, K. (2009) 'Families' use of nutritional information on food labels', *Food Quality and Preference*, 20(8), pp. 597–606. doi: 10.1016/j.foodqual.2009.07.005.
- Novemsky, N. *et al.* (2007) 'Preference Fluency in Choice', *Journal of Marketing Research*, XLIV(3), pp. 347–356. doi: 10.1509/JMKR.44.3.347.
- Núñez Pertejo, P. and Palacios Martínez, I. M. (2014) 'That's absolutely crap, totally rubbish',

List of References

Functions of Language, 21(2), pp. 210–237. doi: 10.1075/fol.21.2.03pal.

O'Dwyer, L. M. and Bernauer, J. A. (2014) *Quantitative research for the qualitative researcher*.

Oppenheimer, D. M. (2006) 'Consequences of erudite vernacular utilized irrespective of necessity: problems with using long words needlessly', *Applied Cognitive Psychology*, 20(2), pp. 139–156. doi: 10.1002/acp.1178.

Ordabayeva, N. and Chandon, P. (2016) 'Drivers, Consequences, and Remedies of Biased Size Perceptions in Marketing', pp. 1–36.

Orth, U. R., Campana, D. and Malkewitz, K. (2010) 'Formation of consumer price expectation based on package design: Attractive and quality routes', *Journal of Marketing Theory and Practice*, 18(1), pp. 23–40. doi: 10.2753/MTP1069-6679180102.

Orth, U. R. and Malkewitz, K. (2008) 'Holistic Package Design and Consumer Brand Impressions', *Journal of Marketing*, 72(3), pp. 64–81. doi: 10.1509/JMKG.72.3.064.

Orth, U. R., Rose, G. M. and Merchant, A. (2019) 'Preservation, rejuvenation, or confusion? Changing package designs for heritage brands', *Psychology & Marketing*, 36(9), pp. 831–843. doi: 10.1002/MAR.21215.

Osman, M. and Thornton, K. (2019) 'Traffic light labelling of meals to promote sustainable consumption and healthy eating', *Appetite*, 138, pp. 60–71. doi: 10.1016/J.APPET.2019.03.015.

Ottati, V., Rhoads, S. and Graesser, A. C. (1999) *The Effect of Metaphor on Processing Style in a Persuasion Task: A Motivational Resonance Model*, *Journal of Personality and Social Psychology*.

Paas, F., Renkl, A. and Sweller, J. (2004) 'Cognitive Load Theory: Instructional Implications of the Interaction between Information Structures and Cognitive Architecture', *Instructional Science* 2004 32:1, 32(1), pp. 1–8. doi: 10.1023/B:TRUC.0000021806.17516.D0.

Packard, G. and Berger, J. (2021) 'How Concrete Language Shapes Customer Satisfaction', *Journal of Consumer Research*. Edited by J. J. Inman and A. T. Stephen, 47(5), pp. 787–806. doi: 10.1093/jcr/ucaa038.

Pallant, J. (2020) *SPSS Survival Manual*. Routledge. doi: 10.4324/9781003117452.

Paradis, C. (1997) *Degree modifiers of adjectives in spoken British English*, *Lund Studies in English*. Lund: Lund University Press.

Partington, A. (1993) 'Corpus evidence of language change', *Text and Technology. In Honour of John*

List of References

Sinclair, pp. 177–192.

Pennebaker, J. W., Mehl, M. R. and Niederhoffer, K. G. (2003) 'Psychological Aspects of Natural Language Use: Our Words, Our Selves', *Annual Review of Psychology*, 54(1), pp. 547–577. doi: 10.1146/annurev.psych.54.101601.145041.

Peracchio, L. A. and Meyers-Levy, J. (1997) 'Evaluating persuasion-enhancing techniques from a resource-matching perspective', *Journal of Consumer Research*, 24(2), pp. 178–191. doi: 10.1086/209503.

Peracchio, L. A. and Tybout, A. M. (1996) 'The Moderating Role of Prior Knowledge in Schema-Based Product Evaluation', *Journal of Consumer Research*, 23(3), pp. 177–192.

Perdue, B. C. and Summers, J. O. (1986) 'Checking the Success of Manipulations in Marketing Experiments', *Journal of Marketing Research*, 23(4), p. 317. doi: 10.2307/3151807.

Peters, H. (1994) 'Degree adverbs in Early Modern English', in *Studies in Early Modern English*. Berlin, Boston: DE GRUYTER, pp. 269–288. doi: 10.1515/9783110879599.269.

Petroshius, S. M. and Monroe, K. B. (1987) 'Effect of Product-Line Pricing Characteristics on Product Evaluations', *Journal of Consumer Research*, 13(4), p. 511. doi: 10.1086/209084.

Petrucelli, P. J. (1996) 'Consumer and Marketing Implications of Information Provision: The Case of the Nutrition Labeling and Education Act of 1990', *Journal of Public Policy & Marketing*, 15(1), pp. 150–153. doi: 10.1177/074391569601500116.

Petty, R. E. and Briñ Ol, P. (2008) 'Persuasion From Single to Multiple to Metacognitive Processes', 3(2).

Petty, R. E., Wells, G. L. and Brock, T. C. (1976) 'Distraction can enhance or reduce yielding to propaganda: Thought disruption versus effort justification', *Journal of Personality and Social Psychology*, 34(5), pp. 874–884. doi: 10.1037/0022-3514.34.5.874.

Pieters, R. (2017) 'Meaningful Mediation Analysis: Plausible Causal Inference and Informative Communication', *Journal of Consumer Research*, 44(3), pp. 692–716. doi: 10.1093/jcr/ucx081.

Pilditch, J. (1973) *The Silent Salesman: How to Develop Packaging that Sells*. Available at: https://scholar.google.co.uk/scholar?hl=en&as_sdt=0%2C5&q=Pilditch%2C+J.%2C+1973.+The+Silent+Salesman%3A+How+to+Develop+Packaging+That+Sells.+Business+Books%2C+London%2C&btnG= (Accessed: 4 July 2021).

du Plooy, G. M. (1997) *Introduction to Communication*. Available at:

List of References

https://books.google.ws/books?id=54oceJfEV0kC&printsec=copyright&source=gbs_pub_info_r#v=onepage&q&f=false (Accessed: 5 February 2022).

Plummer, J. T. (2007) 'Editorial: Word of Mouth—A New Advertising Discipline?', *Journal of Advertising Research*, 47(4), pp. 385–386. doi: 10.2501/S0021849907070390.

Pogacar, R., Shrum, L. J. and Lowrey, T. M. (2018) 'The Effects of Linguistic Devices on Consumer Information Processing and Persuasion: A Language Complexity × Processing Mode Framework', *Journal of Consumer Psychology*. Edited by D. R. John, 28(4), pp. 689–711. doi: 10.1002/jcpy.1052.

Pontari, B. A. and Schlenker, B. R. (2000) 'The influence of cognitive load on self-presentation: Can cognitive busyness help as well as harm social performance?', *Journal of Personality and Social Psychology*, 78(6), pp. 1092–1108. doi: 10.1037/0022-3514.78.6.1092.

Prabhaker, P. R. and Sauer, P. (1994) 'Hierarchical heuristics in evaluation of competitive brands based on multiple cues', *Psychology and Marketing*, 11(3), pp. 217–234. doi: 10.1002/mar.4220110303.

Prendergast, G. and Pitt, L. (1996) *Packaging, marketing, logistics and the environment: are there trade-offs?*

Priscilla Terungwa, M. (2017) 'THE PLACE OF EXPERIMENTAL RESEARCH IN ADVERTISING AND PUBLIC RELATION PRACTICE'.

Quick, B. L. and Stephenson, M. T. (2007) 'Further evidence that psychological reactance can be modeled as a combination of anger and negative cognitions', *Communication Research*, 34(3), pp. 255–276. doi: 10.1177/0093650207300427.

Quirk, R. et al. (1985) *A Comprehensive Grammar of the English Language, English World-Wide. A Journal of Varieties of English* / *English World-Wide / A Journal of Varieties of English* World-Wide. doi: 10.1075/eww.8.1.10wei.

Raghubir, P. and Greenleaf, E. A. (2006) 'Ratios in Proportion: What Should the Shape of the Package Be?', *Journal of Marketing*, 70(2), pp. 95–107. doi: 10.1509/jmkg.70.2.095.

Raghubir, P. and Krishna, A. (1999) 'Vital dimensions in volume perception: Can the eye fool the stomach?', *Journal of Marketing Research*, 36(3), pp. 313–326. doi: 10.2307/3152079.

Raghunathan, R., Naylor, R. W. and Hoyer, W. D. (2006) 'The Unhealthy = Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products', *Journal of Marketing*. doi: 10.1509/jmkg.70.4.170.

List of References

- Rand, D. G. (2012) 'The promise of Mechanical Turk: How online labor markets can help theorists run behavioral experiments', *Journal of Theoretical Biology*, 299, pp. 172–179. doi: 10.1016/j.jtbi.2011.03.004.
- Reber, R. and Schwarz, N. (1999) 'Effects of Perceptual Fluency on Judgments of Truth', *Consciousness and Cognition*, 8(3), pp. 338–342. doi: 10.1006/ccog.1999.0386.
- Reber, R., Winkielman, P. and Schwarz, N. (1998) 'Effects of Perceptual Fluency on Affective Judgments', *Psychological Science*, 9(1), pp. 45–48. doi: 10.1111/1467-9280.00008.
- Recski, L. J. (2004) "'... It's Really Ultimately Very Cruel ...": contrasting English intensifier collocations across EFL writing and academic spoken discourse', *DELTA: Documentação de Estudos em Lingüística Teórica e Aplicada*, 20(2), pp. 211–234. doi: 10.1590/S0102-44502004000200002.
- Reimann, M. *et al.* (2010) 'Aesthetic package design: A behavioral, neural, and psychological investigation', *Journal of Consumer Psychology*, 20(4), pp. 431–441. doi: 10.1016/j.jcps.2010.06.009.
- Reips, U.-D. (2000) 'The web experiment: advantages, disadvantages, and solutions', *Psychology experiments on the Internet*, (January 2000), pp. 89–117. doi: 10.5167/uzh-19760.
- Reis, H. T. and Patrick, B. C. (1996) 'Attachment and Intimacy: Component Processes', in Higgins, E. T. and A.W., K. (eds) *Social psychology: Handbook of Basic principles*. The Guilford Press, pp. 523–563. Available at: <https://psycnet.apa.org/record/1996-98402-018>.
- Rettie, R. and Brewer, C. (2000) 'The verbal and visual components of package design', *Journal of Product & Brand Management*, 9(1), pp. 56–70. doi: 10.1108/10610420010316339.
- Richardson, P. S., Dick, A. S. and Jain, A. K. (1994) 'Extrinsic and Intrinsic Cue Effects on Perceptions of Store Brand Quality', *Journal of Marketing*, 58(4), p. 28. doi: 10.2307/1251914.
- Robins, R. W., Caspi, A. and Moffitt, T. E. (2000) 'Two personalities, one relationship: Both partners' personality traits shape the quality of their relationship.', *Journal of Personality and Social Psychology*, 79(2), pp. 251–259. doi: 10.1037/0022-3514.79.2.251.
- Robinson, E. *et al.* (2018) 'Reprint of "Methodological and reporting quality in laboratory studies of human eating behavior"', *Appetite*, 130, pp. 321–326. doi: 10.1016/j.appet.2018.06.037.
- Rogers, E. M. and Agarwala-Rogers, R. (1980) 'Three schools of organizational behaviour', in Ferguson, S. and Ferguson, S. D. (eds) *Intercom : readings in organizational communication*. Hayden Book Co, p. 412.
- Rogers, E. M., Roger, G. and Agarwala-Rogers, R. (1976) *Communication in Organizations*. Free Press.

List of References

Rosa, V. M. da *et al.* (2019a) 'Influences of visual attributes of food packaging on consumer preference and associations with taste and healthiness', *International Journal of Consumer Studies*, 43(2), pp. 210–217. Available at: <https://onlinelibrary.wiley.com/doi/full/10.1111/ijcs.12500> (Accessed: 20 April 2021).

Rosa, V. M. da *et al.* (2019b) 'Influences of visual attributes of food packaging on consumer preference and associations with taste and healthiness', *International Journal of Consumer Studies*, 43(2), pp. 210–217.

Rose, A. M. (1962) 'A Systematic Summary of Symbolic Interaction Theory', in *Human Behavior and Social Processes: An Interactionist Approach*. Available at: [https://www.google.co.uk/books/edition/Human_Behavior_and_Social_Processes/fSJeAgAAQBAJ?hl=en&gbpv=1&dq=Rose,+Arnold+M.+\(1962\),+%22A+Systematic+Summary+of+Symbolic+Interaction+Theory,%22+in&pg=PA3&printsec=frontcover](https://www.google.co.uk/books/edition/Human_Behavior_and_Social_Processes/fSJeAgAAQBAJ?hl=en&gbpv=1&dq=Rose,+Arnold+M.+(1962),+%22A+Systematic+Summary+of+Symbolic+Interaction+Theory,%22+in&pg=PA3&printsec=frontcover) (Accessed: 23 July 2021).

Ross, Jr., W. T. and Creyer, E. H. (1992) 'Making Inferences About Missing Information: The Effects of Existing Information', *Journal of Consumer Research*, 19(1), p. 14. doi: 10.1086/209282.

Rottenstreich, Y., Sood, S. and Brenner, L. (2007) 'Feeling and Thinking in Memory-Based versus Stimulus-Based Choices', *Journal of Consumer Research*, 33(4), pp. 461–469. doi: 10.1086/510219.

Rowlands, J. C. and Hoadley, J. E. (2006) 'FDA perspectives on health claims for food labels', *Toxicology*, 221(1), pp. 35–43. doi: 10.1016/J.TOX.2005.10.023.

Rozin, P., Fischler, C. and Shields-Argelès, P. C. (2009) 'Additivity dominance: Additives are more potent and more often lexicalized across languages than are "subtractives"', *Judgment and Decision Making*, 4(5), pp. 475–478.

Rundh, B. (2009) 'Packaging design: creating competitive advantage with product packaging', *British Food Journal*, 111(9), pp. 988–1002. doi: 10.1108/00070700910992880.

Ruzeviciute, R., Kamleitner, B. and Biswas, D. (2020) 'Designed to S(m)ell: When Scented Advertising Induces Proximity and Enhances Appeal', *Journal of Marketing Research*, 57(2), pp. 315–331. doi: 10.1177/0022243719888474.

Sackett, D. L. (1979) 'BIAS IN ANALYTIC RESEARCH', *J Chron Dis*, 32, pp. 51–63.

Saluja, S. and Stevenson, R. J. (2018) 'Cross-modal associations between real tastes and colors', *Chemical Senses*, 43(7), pp. 475–480. doi: 10.1093/CHEMSE/BJY033.

Sara, R. (1993) *Packaging as a Retail Marketing Tool*.

List of References

- Sarbin, T. R. and Allen, V. L. (1968) 'Increasing Participation in a Natural Group Setting: A Preliminary Report', *The Psychological Record*, 18(1), pp. 1–7. doi: 10.1007/bf03393733.
- Saunders, M. N. K., Lewis, P. and Thornhill, A. (2016) *Research Methods for Business Students*, Pearson Education, Limited, 2015. ProQuest Ebook Central, 7th edn. Pearson.
- Schachter, P. (1977) 'Constraints on Coordination', *Language*, 53(1), p. 86. doi: 10.2307/413057.
- Schewe, C. D. (1973) 'Selected Social Psychological Models for Analyzing Buyers', *Journal of Marketing*, 37(3), pp. 31–39. doi: 10.1177/002224297303700305.
- Schirato, T. and Yell, S. M. (2000) *Communication and Cultural Literacy*. St. Leonards NSW Australia: Allen & Unwin. Available at: <https://research.monash.edu/en/publications/communication-and-cultural-literacy> (Accessed: 25 March 2021).
- Schmitt, B. H. and Zhang, S. (1998) 'Language Structure and Categorization: A Study of Classifiers in Consumer Cognition, Judgment, and Choice', *Journal of Consumer Research*, 25(2), pp. 108–122. doi: 10.1086/209530.
- Schneider, L. P. and Cornwell, T. B. (2015) 'Cashing in on crashes via brand placement in computer games', <http://dx.doi.org/10.1080/02650487.2005.11072928>, 24(3), pp. 321–343. doi: 10.1080/02650487.2005.11072928.
- Schoenberg, N. E. and Ravidal, H. (2000) 'Using vignettes in a awareness and attitudinal research', *International Journal of Social Research Methodology*, 3(1), pp. 63–74. doi: 10.1080/136455700294932.
- Schoormans, J. et al. (2010) 'Designing Packages that Communicate Product Attributes and Brand Values: An Exploratory Method', *The Design Journal*, 13(1), pp. 31–47. doi: 10.2752/146069210X12580336766329.
- Schramm, W. (1973) *Men, messages, and media: A look at human communication*. Harper & Row Barnes & Noble Import Division.
- Schuldt, J. P. and Schwarz, N. (2010) *The 'organic' path to obesity? Organic claims influence calorie judgments and exercise recommendations*, *Judgment and Decision Making*.
- Schulte-Holierhoek, A. et al. (2017) 'Sensory expectation, perception, and autonomic nervous system responses to package colours and product popularity', *Food Quality and Preference*, 62, pp. 60–70. doi: 10.1016/j.foodqual.2017.06.017.
- Schwartz, M. B. et al. (2008) 'Examining the Nutritional Quality of Breakfast Cereals Marketed to

List of References

Children', *Journal of the American Dietetic Association*, 108(4), pp. 702–705. doi: 10.1016/j.jada.2008.01.003.

Schwartz, S. (2013) 'Value priorities and behavior: Applying a theory of integrated value systems', in Seligman, C., Olson, J. M., and Zanna, M. P. (eds) *The Psychology of Values: The Ontario Symposium, Volume 8*. Taylor & Francis, pp. 1–24.

Schwarz, N. (2004) 'Metacognitive experiences in consumer judgment and decision making', *Journal of Consumer Psychology*, 14(4), pp. 332–348. doi: 10.1207/s15327663jcp1404_2.

Scissors, L. E., Gill, A. J. and Gergle, D. (2008) 'Linguistic mimicry and trust in text-based CMC', *Proceedings of the ACM Conference on Computer Supported Cooperative Work, CSCW*, pp. 277–280. doi: 10.1145/1460563.1460608.

Scott, M. L. *et al.* (2008) 'The Effects of Reduced Food Size and Package Size on the Consumption Behavior of Restrained and Unrestrained Eaters', *Journal of Consumer Research*, 35(3), pp. 391–405. doi: 10.1086/591103.

Seel, N. M. (2012) 'Persuasion and Learning', *Encyclopedia of the Sciences of Learning*, pp. 2600–2604. doi: 10.1007/978-1-4419-1428-6_1928.

Sela, A., Wheeler, S. C. and Sarial-Abi, G. (2012) 'We Are Not the Same as You and I : Causal Effects of Minor Language Variations on Consumers' Attitudes toward Brands', *Journal of Consumer Research*, 39(3), pp. 644–661. doi: 10.1086/664972.

Semin, G. R. (2011) *Social Communication, Social Communication*. Edited by K. Fiedler. Psychology Press. doi: 10.4324/9780203837702.

Sevilla, J. and Townsend, C. (2016) 'The space-to-product ratio effect: How interstitial space influences product aesthetic appeal, store perceptions, and product preference', *Journal of Marketing Research*, 53(5), pp. 665–681. doi: 10.1509/jmr.13.0601.

Shadish, W. R., Cook, T. D. and Campbell, D. T. (2002) *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*, Houghton, Mifflin and Company. Boston, MA: Houghton, Mifflin and Company. doi: 10.1198/jasa.2005.s22.

Shank, D. B. (2016) 'Using Crowdsourcing Websites for Sociological Research: The Case of Amazon Mechanical Turk', *The American Sociologist*, 47(1), pp. 47–55. doi: 10.1007/s12108-015-9266-9.

Shannon, B. (1994) 'Nutrition Labelling: Putting the Consumer First', *British Food Journal*, 96(4), pp. 40–44. doi: 10.1108/00070709410061087.

List of References

- Shannon, C. E. (1948) 'A Mathematical Theory of Communication', *Bell System Technical Journal*, 27(3), pp. 379–423. doi: 10.1002/j.1538-7305.1948.tb01338.x.
- Shannon, C. E. and Weaver, W. (1949) 'The mathematical theory of communication', *Urbana: University of Illinois Press*, 96.
- Shih, E. and Wang, T. (2017) 'Different Effects of Utilitarian and Hedonic Benefits of Retail Food Packaging on Perceived Product Quality and Purchase Intention', *Journal of Food Products Marketing*, 23(3), pp. 239–250. doi: 10.1080/10454446.2014.885867.
- Shimp, T. A. (1983) 'Evaluative verbal content and deception in advertising: A review and critical analysis', in. Hillsdale, NJ, USA.: Lawrence Erlbaum, pp. 195–216.
- Shin, J. E. *et al.* (2019) 'Darling, Get Closer to Me: Spatial Proximity Amplifies Interpersonal Liking', *Personality and Social Psychology Bulletin*, 45(2), pp. 300–309. doi: 10.1177/0146167218784903.
- Shiv, B., Carmon, Z. and Ariely, D. (2018) 'Placebo Effects of Marketing Actions: Consumers May Get What They Pay For', <https://doi.org/10.1509/jmkr.2005.42.4.383>, 42(4), pp. 383–393. doi: 10.1509/JMKR.2005.42.4.383.
- Shiv, B. and Fedorikhin, A. (1999) 'Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making', *Journal of Consumer Research*, 26(3), pp. 278–292. doi: 10.1086/209563.
- Shiv, B. and Huber, J. (2000) 'The Impact of Anticipating Satisfaction on Consumer Choice', *Journal of Consumer Research*, 27(2), pp. 202–216. doi: 10.1086/314320.
- Silayoi, P. and Speece, M. (2004) 'Packaging and purchase decisions: An exploratory study on the impact of involvement level and time pressure', *British Food Journal*. Emerald Group Publishing Limited, pp. 607–628. doi: 10.1108/00070700410553602.
- Silayoi, P. and Speece, M. (2007) 'The importance of packaging attributes: a conjoint analysis approach', *European Journal of Marketing*, 41(11/12), pp. 1495–1517. doi: 10.1108/03090560710821279.
- Silverglade, B. A. (1991) 'A Comment on "Public Policy Issues in Health Claims for Foods"', *Journal of Public Policy & Marketing*, 10(1), pp. 54–62. doi: 10.1177/074391569101000105.
- Simms, C. and Trott, P. (2014) 'Conceptualising the management of packaging within new product development', *European Journal of Marketing*, 48(11/12), pp. 2009–2032. doi: 10.1108/EJM-12-2012-0733.

List of References

- Sirieux, L. *et al.* (2013) 'Consumers' perceptions of individual and combined sustainable food labels: a UK pilot investigation', *International Journal of Consumer Studies*, 37(2), pp. 143–151. doi: 10.1111/j.1470-6431.2012.01109.x.
- Solomon, M. R. *et al.* (1985) 'A Role Theory Perspective on Dyadic Interactions: The Service Encounter', *Journal of Marketing*, 49(1), pp. 99–111. doi: 10.1177/002224298504900110.
- Spaargaren, G. *et al.* (2013) 'Consumer Responses to the Carbon Labelling of Food: A Real Life Experiment in a Canteen Practice', *Sociologia Ruralis*, p. n/a-n/a. doi: 10.1111/soru.12009.
- Spence, C. (2012) 'Managing sensory expectations concerning products and brands: Capitalizing on the potential of sound and shape symbolism', *Journal of Consumer Psychology*, 22(1), pp. 37–54. doi: 10.1016/j.jcps.2011.09.004.
- Spence, C. and Gallace, A. (2011) 'Tasting shapes and words', *Food Quality and Preference*, 22(3), pp. 290–295. doi: 10.1016/j.foodqual.2010.11.005.
- Statista Research Department (2020) *U.S.: servings of Hostess Cupcakes snack cakes eaten in the U.S. 2020*. Available at: <https://www.statista.com/statistics/289377/servings-of-hostess-cupcakes-snack-cakes-eaten-in-the-us/> (Accessed: 7 February 2021).
- Stephan, E., Liberman, N. and Trope, Y. (2010) 'Politeness and Psychological Distance: A Construal Level Perspective', *Journal of Personality and Social Psychology*, 98(2), pp. 268–280. doi: 10.1037/a0016960.
- Stevens, S. S. (1950) 'Introduction: A Definition of Communication THE ACOUSTICAL Volume 22 JOURNAL OF THE SOCIETY OF AMERICA Proceedings of the Speech Communication', *Citation: The Journal of the Acoustical Society of America*, 22, p. 689. doi: 10.1121/1.1906670.
- Stoffel, C. (1901) *Intensives and Down-toners: A study in English Adverbs*.
- Story, J. and Hess, J. (2006) 'Segmenting customer-brand relations: beyond the personal relationship metaphor', *Journal of Consumer Marketing*, 23(7), pp. 406–413. doi: 10.1108/07363760610712948.
- Sugrue, M. and Dando, R. (2018) 'Cross-modal influence of colour from product and packaging alters perceived flavour of cider', *Journal of the Institute of Brewing*, 124(3), pp. 254–260. doi: 10.1002/jib.489.
- Sundar, A. and Noseworthy, T. J. (2014) 'Place the Logo High or Low? Using Conceptual Metaphors of Power in Packaging Design', *Journal of Marketing*, 78(5), pp. 138–151. doi: 10.1509/jm.13.0253.

List of References

- Swaminathan, V., Stilley, K. M. and Ahluwalia, R. (2009) 'When Brand Personality Matters: The Moderating Role of Attachment Styles', *Journal of Consumer Research*, 35(6), pp. 985–1002. doi: 10.1086/593948.
- Swinburn, B. A. *et al.* (2011) 'The global obesity pandemic: shaped by global drivers and local environments', *The Lancet*, 378(9793), pp. 804–814. doi: 10.1016/S0140-6736(11)60813-1.
- Tagliamonte, S. A. (2016) *So sick or so cool? the language of youth on the internet*, *Language in Society*. doi: 10.1017/S0047404515000780.
- Tangari, A. H. *et al.* (2019) 'That's Not So Bad, I'll Eat More! Backfire Effects of Calories-per-Serving Information on Snack Consumption', *Journal of Marketing*, 83(1), pp. 133–150. doi: 10.1177/0022242918815895.
- Teisl, M. F. and Roe, B. (1998) 'The Economics of Labeling: An Overview of Issues for Health and Environmental Disclosure', *Agricultural and Resource Economics Review*, 27(2), pp. 140–150. doi: 10.1017/S1068280500006468.
- Temple, J. L. *et al.* (2011) 'Influence of simplified nutrition labeling and taxation on laboratory energy intake in adults', *Appetite*, 57(1), pp. 184–192. doi: 10.1016/j.appet.2011.04.018.
- Thomas, A. (2004) 'Research Skills for Management Studies', *Research Skills for Management Studies*, pp. 1–269. doi: 10.4324/9780203006146.
- Thomsen, M., Karsten, S. and Oort, F. J. (2016) 'School Effectiveness and School Improvement An International Journal of Research, Policy and Practice Distance in schools: the influence of psychological and structural distance from management on teachers' trust in management, organisational commitment, and organisational citizenship behaviour'. doi: 10.1080/09243453.2016.1158193.
- Thomson, R. (2006) 'The Effect of Topic of Discussion on Gendered Language in Computer-Mediated Communication Discussion', *Journal of Language and Social Psychology*, 25(2), pp. 167–178. doi: 10.1177/0261927X06286452.
- Thomson, R., Murachver, T. and Green, J. (2001) 'Where is the gender in gendered language?', *Psychological Science*, 12(2), pp. 171–175. doi: 10.1111/1467-9280.00329.
- Tormala, Z. L., Clarkson, J. J. and Henderson, M. D. (2011) 'Does Fast or Slow Evaluation Foster Greater Certainty?', *Article Personality and Social Psychology Bulletin*, 37(3), pp. 422–434. doi: 10.1177/0146167210397378.

List of References

- Triandis, H. C., Loh, W. D. and Levin, L. A. (1966) 'Race, status, quality of spoken English, and opinions about civil rights as determinants of interpersonal attitudes', *Journal of Personality and Social Psychology*, 3(4), pp. 468–472. doi: 10.1037/h0023031.
- Trope, Y., Liberman, N. and Wakslak, C. (2007) 'Construal Levels and Psychological Distance: Effects on Representation, Prediction, Evaluation, and Behavior', *Journal of Consumer Psychology*, 17(2), pp. 83–95. doi: 10.1016/S1057-7408(07)70013-X.
- Trusov, M. *et al.* (2009) 'Effects of Word-of-Mouth versus Traditional Marketing: Findings from an Internet Social Networking Site', <https://doi.org/10.1509/jmkg.73.5.90>, 73(5), pp. 90–102. doi: 10.1509/JMKG.73.5.90.
- Twede, D. (2016) 'History of packaging', in *The Routledge Companion to Marketing History*. Routledge Handbooks Online. doi: 10.4324/9781315882857.CH07.
- Underwood, R. L. and Klein, N. M. (2002) 'Packaging as Brand Communication: Effects of Product Pictures on Consumer Responses to the Package and Brand', *Journal of Marketing Theory and Practice*, 10(4), pp. 58–68. doi: 10.1080/10696679.2002.11501926.
- VanMeter, R. A., Grisaffe, D. B. and Chonko, L. B. (2015) 'Of "Likes" and "Pins": The Effects of Consumers' Attachment to Social Media', *Journal of Interactive Marketing*, 32, pp. 70–88. doi: 10.1016/j.intmar.2015.09.001.
- Varey, R. J. (2002) *Marketing Communication: Principles and Practice*. Routledge.
- Vargas, P. T., Duff, B. R. L. and Faber, R. J. (2017) 'A Practical Guide to Experimental Advertising Research', *Journal of Advertising*, 46(1), pp. 101–114. doi: 10.1080/00913367.2017.1281779.
- Velasco, C. *et al.* (2014) 'Predictive packaging design: Tasting shapes, typefaces, names, and sounds', *Food Quality and Preference*, 34, pp. 88–95. doi: 10.1016/j.foodqual.2013.12.005.
- Velasco, C. and Spence, C. (2019a) *Multisensory Packaging*. Edited by C. Velasco and C. Spence.
- Velasco, C. and Spence, C. (2019b) 'Multisensory Product Packaging: An Introduction', in *Multisensory Packaging*.
- Velasco, C., Woods, A. T. and Spence, C. (2015) 'Evaluating the orientation of design elements in product packaging using an online orientation task', *Food Quality and Preference*, 46, pp. 151–159. doi: 10.1016/j.foodqual.2015.07.018.
- Viktoria Rampl, L. *et al.* (2012) 'Consumer trust in food retailers: Conceptual framework and empirical evidence', *International Journal of Retail & Distribution Management*, 40(4), pp. 254–272.

List of References

doi: 10.1108/09590551211211765.

Wallendorf, M. and Arnould, E. J. (1988) “‘My Favorite Things’: A Cross-Cultural Inquiry into Object Attachment, Possessiveness, and Social Linkage”, *Journal of Consumer Research*, 14(4), p. 531. doi: 10.1086/209134.

Walsh, G. and Mitchell, V. W. (2010) ‘The effect of consumer confusion proneness on word of mouth, trust, and customer satisfaction’, *European Journal of Marketing*, 44(6), pp. 838–859. doi: 10.1108/03090561011032739/FULL/PDF.

Wandel, M. (1997) ‘Food labelling from a consumer perspective’, *British Food Journal*, 99(6), pp. 212–219. doi: 10.1108/00070709710181559.

Wang, H.-C. and Fussell, S. R. (2010) ‘Groups in Groups: Conversational Similarity in Online Multicultural Multiparty Brainstorming’, *Proceedings of the 2010 ACM conference on Computer supported cooperative work - CSCW '10*. doi: 10.1145/1718918.

Wansink, B. and Chandon, P. (2006) ‘Can “Low-Fat” Nutrition Labels Lead to Obesity?’, *Journal of Marketing Research*, XLIII, pp. 605–617. Available at: <https://journals.sagepub.com/doi/pdf/10.1509/jmkr.43.4.605> (Accessed: 30 May 2019).

Wansink, B. and van Ittersum, K. (2003) ‘Bottoms Up! The Influence of Elongation on Pouring and Consumption Volume’, *Journal of Consumer Research*, 30(3), pp. 455–463. doi: 10.1086/378621.

Wansink, B., Sonka, S. T. and Hasler, C. M. (2004) ‘Front-label health claims: when less is more’, *Food Policy*, 29(6), pp. 659–667. doi: 10.1016/J.FOODPOL.2004.10.004.

Ward, A. and Mann, T. (2000) ‘Don’t Mind If I Do: Disinhibited Eating Under Cognitive Load’, *Journal of Personality and Social Psychology*, 78(4), pp. 75–763.

Warlop, L. and Alba, J. W. (2004) ‘Sincere Flattery: Trade-Dress Imitation and Consumer Choice’, *Journal of Consumer Psychology*, 14(1–2), pp. 21–27. doi: 10.1207/s15327663jcp1401&2_4.

Webster, M. and Sell, J. (2014) *Laboratory Experiments in the Social Sciences: Second Edition*, *Laboratory Experiments in the Social Sciences: Second Edition*. doi: 10.1016/C2011-0-07562-2.

Weijters, B., Cabooter, E. and Schillewaert, N. (2010) ‘The effect of rating scale format on response styles: The number of response categories and response category labels’, *International Journal of Research in Marketing*, 27(3), pp. 236–247. doi: 10.1016/j.ijresmar.2010.02.004.

Weitz, B. A. (1981) ‘Effectiveness in Sales Interactions: A Contingency Framework’, *Journal of Marketing*, 45(1), p. 85. doi: 10.2307/1251723.

List of References

Welkowitz, J. and Kuc, M. (1973) 'Interrelationships among warmth, genuineness, empathy, and temporal speech patterns in interpersonal interaction.', *Journal of Consulting and Clinical Psychology*, 41(3), pp. 472–473. doi: 10.1037/h0035328.

Wertenbroch, K. (1998) 'Consumption Self-Control by Rationing Purchase Quantities of Virtue and Vice', <https://doi.org/10.1287/mksc.17.4.317>, 17(4), pp. 317–337. doi: 10.1287/MKSC.17.4.317.

White, K. et al. (2016) 'When Do Consumers Avoid Imperfections? Superficial Packaging Damage as a Contamination Cue', *Journal of Marketing Research*, 53(1), pp. 110–123. doi: 10.1509/jmr.12.0388.

White, K. and Willness, C. (2009) 'Consumer reactions to the decreased usage message: The role of elaborative processing', *Journal of Consumer Psychology*, 19(1), pp. 73–87. doi: 10.1016/J.JCPS.2008.12.010.

Whittlesea, B. W. A. (1993) 'Illusions of Familiarity', *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 19(6), pp. 1235–1253. doi: 10.1037/0278-7393.19.6.1235.

Whorf, B. L. (1956) *Language, Thought, and Reality*. 1st edn. Cambridge, MA: MIT Press.

Whorf, B. L. (2012) *Language, Thoughts, and Reality, The M.I.T. Press*. doi: 10.5840/eps201650481.

Wieman, H. N. and Walter, O. M. (1957) 'Toward an analysis of ethics for rhetoric', *Quarterly Journal of Speech*, 43(3), pp. 266–270. doi: 10.1080/00335635709382245.

Wilson, E. J. and Sherrell, D. L. (1993) 'Source effects in communication and persuasion research: A meta-analysis of effect size', *Journal of the Academy of Marketing Science* 1993 21:2, 21(2), pp. 101–112. doi: 10.1007/BF02894421.

Wilson, J. (2014) *Essentials of business research : a guide to doing your research project*. London: Sage.

Winer, R. S. (1999) 'Experimentation in the 21st Century: The Importance of External Validity', *Journal of the Academy of Marketing Science*, 27(3), pp. 349–358. doi: 10.1177/0092070399273005.

Winterich, K. P., Gangwar, M. and Grewal, R. (2018) 'When Celebrities Count: Power Distance Beliefs and Celebrity Endorsements', *Journal of Marketing*, 82(3), pp. 70–86. doi: 10.1509/jm.16.0169.

Woisetschläger, D. M., Backhaus, C. and Cornwell, T. B. (2017) 'Inferring Corporate Motives: How Deal Characteristics Shape Sponsorship Perceptions', *Journal of Marketing*, 81(5), pp. 121–141. doi: 10.1509/jm.16.0082.

List of References

- Wood, W. (2000) 'Attitude change: persuasion and social influence.', *Annual review of psychology*, 51, pp. 539–570. doi: 10.1146/annurev.psych.51.1.539.
- Wortman, J. and Wood, D. (2011) 'The personality traits of liked people', *Journal of Research in Personality*, 45(6), pp. 519–528. doi: 10.1016/J.JRP.2011.06.006.
- Wright, P. L. (1973) 'The Cognitive Processes Mediating Acceptance of Advertising', *Journal of Marketing Research*, 10(1), pp. 53–62. doi: 10.1177/002224377301000108.
- Wu, B. T. and Newell, S. J. (2003) 'The Impact of Noise on Recall of Advertisements', *Journal of Marketing Theory and Practice*, 11(2), pp. 56–65. doi: 10.1080/10696679.2003.11658496.
- Yan, D., Sengupta, J. and Wyer, R. S. (2014) 'Package size and perceived quality: The intervening role of unit price perceptions', *Journal of Consumer Psychology*, 24(1), pp. 4–17. doi: 10.1016/j.jcps.2013.08.001.
- Yang, S. and Raghurir, P. (2005) 'Can bottles speak volumes? The effect of package shape on how much to buy', *Journal of Retailing*, 81(4), pp. 269–281. doi: 10.1016/j.jretai.2004.11.003.
- Ye, N., Morrin, M. and Kampfer, K. (2020) 'From Glossy to Greasy: The Impact of Learned Associations on Perceptions of Food Healthfulness', *Journal of Consumer Psychology*, 30(1), pp. 96–124. doi: 10.1002/jcpy.1126.
- Yeager, J. and Sommer, L. (2012) 'Language symmetry: A force behind persuasion', *Qualitative Report*, 17(14), pp. 1–10.
- Yeager, J. and Sommer, L. (2015) 'How Linguistic Frames Affect Motivational Profiles and the Roles of Quantitative versus Qualitative Research Strategies', *The Qualitative Report*. doi: 10.46743/2160-3715/2005.1838.
- Yorkston, E. and Menon, G. (2004) 'A Sound Idea: Phonetic Effects of Brand Names on Consumer Judgments', *Lapolla*, 31. Available at: <https://academic.oup.com/jcr/article/31/1/43/1812051> (Accessed: 9 September 2021).
- Young, J. Q. et al. (2014) 'Cognitive Load Theory: implications for medical education: AMEE Guide No. 86', *Medical teacher*, 36(5), pp. 371–384. doi: 10.3109/0142159X.2014.889290.
- Young, S. (2010) 'Breaking Down the Barriers to Packaging Innovation', *Design Management Review*, 15(1), pp. 68–73. doi: 10.1111/j.1948-7169.2004.tb00152.x.
- Zegler, J. (2021) *2021 Global Food & Drink Trends*, *Mintel*. Available at: <https://clients.mintel.com/report/2021-global-food-drink->

List of References

trends?fromSearch=%3Ffilters.strategic-topic%3D108%26freetext%3Dfood%2520packaging

(Accessed: 10 February 2021).

Zeithaml, V. A. (1988) 'Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence', *Journal of Marketing*, 52(3), p. 2. doi: 10.2307/1251446.

Zhang, J. and Mao, E. (2016) 'From Online Motivations to Ad Clicks and to Behavioral Intentions: An Empirical Study of Consumer Response to Social Media Advertising', *Psychology & Marketing*, 33(3), pp. 155–164. doi: 10.1002/mar.20862.

Zhang, S., Schmitt, B. H. and Haley, H. (2003) 'Language and culture: linguistic effects on consumer behavior in international marketing research', in *Handbook of research in international marketing*, p. 228.

Zhao, X., Lynch, J. G. and Chen, Q. (2010) 'Reconsidering Baron and Kenny: Myths and truths about mediation analysis', *Journal of Consumer Research*, 37(2), pp. 197–206. doi: 10.1086/651257.

Zhou, L., Yang, Z. and Hui, M. K. (2010) 'Non-local or local brands? A multi-level investigation into confidence in brand origin identification and its strategic implications', *Journal of the Academy of Marketing Science*, 38(2), pp. 202–218. doi: 10.1007/S11747-009-0153-1.

Žukauskas, P., Vveinhardt, J. and Andriukaitienė, R. (2018) 'Philosophy and Paradigm of Scientific Research', *Management Culture and Corporate Social Responsibility*. doi: 10.5772/INTECHOPEN.70628.