

Suspicion in Consumer Choice:
Theoretical Concepts and New Empirical Evidence

A dissertation submitted in partial fulfilment of the requirements for
Doctorate of Philosophy in Management Research.

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Abstract

The present dissertation consists of three empirical papers, which focus on consumer suspicion as a concept and how it can be overcome with numerical brand claims. In contrast to previous research that predominantly looked at suspicion in a dichotomous fashion, overlooking different levels of intensity, this thesis investigates suspicion in a more empirically fine-grained way. Considering three levels of intensity of suspicion enables a novel finding: That suspicion can lead to positive outcomes, such as increased willingness to purchase. Drawing from research on number cognition, this thesis shows when, how, and which type of numerical brand claim is most instrumental in triggering purchase behaviour in the context of green consumption, a context which is prone to consumer suspicion.

Table of Contents

Declaration of Originality	6
Copyright Declaration.....	7
Acknowledgements.....	8
Introduction.....	9
Literature Review	17
Ethical Consumption.....	17
Ethical Decision-Making Process	19
Factors that influence the Ethical Decision-Making Process	21
Ethical Consumption and Consumer Suspicion.....	22
Consumer Suspicion	23
Definition of Consumer Suspicion and other related terms.....	26
State-level Suspicion versus Suspicion as a personality trait	29
State-level Suspicion.....	29
Antecedents of Consumer Suspicion	33
Consumer Factors	33
Business Factors.....	35
Consequences of Consumer Suspicion	39
Cognitive Consequences of Consumer Suspicion	39
Affective Consequences of Consumer Suspicion.....	40
Behavioural Consequences of Consumer Suspicion.....	40
Thesis Overview	50
Paper 1: The Bright Side of Consumer Suspicion: When Suspicion Leads to Product Information Search and Willingness to Purchase.	53
Paper 2: When less is more and more is less: How precise vs. round green product claims influence consumer preferences for green products.	71
Paper 3: Beware of the number: When number associations change with salient consumption goals.	105
Thesis Overview Implications and Limitations.....	122
References.....	128
Appendices.....	139
Appendix A: Paper 1.....	139
Study 1 Manipulation.....	139
Appendix B: Paper 1	140
Study 1 Stimulus	140
Appendix C: Paper 2.....	141
Study 1B Stimuli.....	141
Appendix D: Paper 2.....	142
Study 2 Stimuli	142

Appendix E: Paper 2	144
Study 3 Stimuli	144
Appendix F: Paper 2	145
Study 4 Stimuli	145
Appendix G: Paper 3.....	146
Study 1 Manipulation.....	146

List of Figures

FIGURE 1 - CONSUMER SUSPICION AND PRODUCT INFORMATION SEARCH	67
FIGURE 2 - CONSUMER SUSPICION AND WILLINGNESS TO PURCHASE	68
FIGURE 1 - PURCHASE PROBABILITY AS A FUNCTION OF NUMBER PRECISION IN NATURAL CLAIMS AND SALIENT CONSUMPTION GOALS (STRENGTH VS. GENTLENESS).....	90
FIGURE 2 - BUYING INTENTION AS A FUNCTION OF NUMBER PRECISION IN NATURAL CLAIMS AND SALIENT CONSUMPTION GOALS (STRENGTH VS. GENTLENESS).....	93
FIGURE 3 - BUYING INTENTION AS A FUNCTION OF NUMBER PRECISION IN NATURAL CLAIMS AND SALIENT CONSUMPTION GOALS WITH BRAND CLAIMS	100
FIGURE 1 - DURABILITY ASSOCIATIONS AS AN OUTCOME OF DIFFERENT GREEN CLAIMS	115
FIGURE 2 - CONCEPTUAL FLUENCY AS AN OUTCOME OF DIFFERENT GREEN CLAIMS	115

List of Tables

TABLE A - CONSUMER SUSPICION ANTECEDENTS SUMMARY.....	37
TABLE B - CONSUMER SUSPICION CONSEQUENCES SUMMARY.....	41
TABLE C - SUMMARY OF PREVIOUS LITERATURE ON SUSPICION	45
TABLE 1 – STUDY 3: ESTIMATION RESULTS.....	96
TABLE 1 - ESTIMATION RESULTS (CONCEPTUAL FLUENCY)	116
TABLE 2 - ESTIMATION RESULTS (DURABILITY).....	116
TABLE 3 - INDIRECT EFFECT OF NUMBER PRECISION ON WILLINGNESS TO PURCHASE.....	117
TABLE 4 - INDIRECT EFFECT OF NUMBER PRECISION ON WILLINGNESS TO PURCHASE.....	118

Declaration of Originality

I, Artemis Panigyraki, hereby confirm that I am the author of this dissertation; its intellectual content is product of my own work based on original empirical research and all sources used have been acknowledged. The data collection for Paper 1 (Study 1) was in co-operation with Nikolas Kyriakopoulos from the Athens University of Economics and Business, Greece, and Athanasios Polyportis from the Technical University of Delft, Netherlands. The data collection for Paper 2 (Study 1B) was in collaboration with Professor Andre Marchand and Lukas Seifert from the University of Cologne, Germany. Parts excepted are corrections of form and content by the supervisor.

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Introduction

Deviations between companies' statements and actions in certain cases have led consumers to become quite suspicious about the authenticity of motives behind corporate practices (Xie, 2016). Business scandals such as the BP U.S. Gulf oil spills in 2010 (Nyilasy, Gangadharbatla, and Paladino, 2013), books that have become best sellers such as Naomi's Klein "No Logo" (Darke, 2004), documentaries such as "Enron: The Smartest Guys in the Room", as well as consumer resistance websites such as www.companyethics.com (Wagner, Lutz, and Weitz, 2009) have led to high mass media coverage uncovering more and more cases of corporate inconsistencies. These incidences of reported negative corporate behaviour has led to increased awareness of potential misconducts (Wagner, Lutz, and Weitz, 2009), which has made consumers suspicious towards companies and corporate practices (Darke and Ritchie, 2008). The present thesis focuses on addressing some conceptual and empirical shortcomings of current research on suspicion and potential outcomes that might arise.

Suspicion, defined as the psychological state under which individuals entertain multiple motives behind one's behaviour (e.g. Deutsch, 1958; Fein, 1996), is a recurrent psychological state that leads the perceiver to believe that another actor might be hiding something from him/her, which if it were to be uncovered, it would change the meaning of the actor's behaviour (Fein, 1996). It can arise due to different circumstances, such as when individuals are aware of certain levels of untrustworthiness and insincerity by an individual or a group, or when cues suggesting that there might be ulterior motives behind one's behaviour become salient (Fein, 1996). Extant research on the topic of suspicion shows that it is experienced when perceivers experience a certain degree of uncertainty (Deutsch, 1958), that another might act in a malevolent manner or when they believe that a certain communication might be deceptive (Fein, Hilton and Miller, 1990).

More particularly, uncertainty is a prerequisite for an individual in order to become suspicious of an actors' authenticity of motives since when one is certain about an actor's behaviour, suspicion will not arise (Kim and Levine, 2011). Thus, suspicion and uncertainty are related to each other since being suspicious implies being uncertain regarding the assessment of a certain communication interaction as honest or deceptive (Kim and Levine, 2011). Uncertainty though, defined as an aversive state of lack of information about a situation that individuals experience and aim to reduce (Bar-Anan, Wilson, and Gilbert, 2009), is a distinct notion than that of suspicion. The two notions are related to each other following an inverted curvilinear relationship since individuals under the state of suspicion, entertaining rival alternatives that could explain one's behaviour (Fein, 1996), reach the highest levels of uncertainty (Marchand and Vonk, 2005; Craig, Loureiro, Wood, and Vendemia, 2012).

Suspicion is a frequent psychological state, especially in the context of ethical consumption (Skarmeas and Leonidou, 2013). Ethical consumption, defined as consumers' decision-making striving for optimization of the environmental, social, and economic consequences of consumption for the overall social welfare (Luchs et al., 2011), has in several cases been exploited by certain corporate initiatives and used for proliferation. Recent examples such as Volkswagen's cheating emissions scandal (2015), while promoting the car model as an environmentally friendly, and the incident by the fashion brand Everlane on poor working conditions, (2020) while being positioned as an ethical fashion brand "striving for radical transparency" (Fast Company, 2020), challenge consumers' trust towards various corporate ethical claims, increasing consumer suspicion towards ethical consumption initiatives. Such corporate communication based on unsubstantiated brand claims (Jahdi and Acikdilli, 2009), lead consumers to relate corporate ethical behaviour with merely a persuasion attempt to create positive consumer associations (Vanhamme and Grobben, 2009).

Previous research (LaFrance and Hecht, 2000; Campbell and Kirmani, 2000; DeCarlo, 2005; Abel and Abel, 2007; Main, Dahl and Darke, 2007; DeCarlo, Laczniak and Leigh, 2013) in the area of consumer suspicion has tended to suggest that suspicion mainly leads to negative consequences, such as negative attitudes towards a salesperson (Campbell and Kirmani, 2000; DeCarlo, 2005). In addition, past researchers (Fein, Hilton and Miller, 1990; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000; DeCarlo, 2005; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011; DeCarlo, Laczniak and Leigh, 2012), have mostly overlooked the construct's continuous nature (McCornack and Levine, 1990), and has mostly operationalized it as a binary construct manipulating in low vs. high levels. The challenge that arises from such an all or nothing induction approach is that individuals under a low level of suspicion, have quite low uncertainty about the authenticity of motives of another actor's behaviour and is usually led to a truth-bias, believing each message as being truthful (Levine and McCornack, 1990). On the other hand, when individuals experience a highly suspicious stimulus, they also experience low uncertainty, leading to a *lie bias*, that is, when they interpret each message as a lie. (Levine and McCornack, 1990).

This thesis, in contrast to previous research (Fein, Hilton and Miller, 1990; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000; DeCarlo, 2005; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011; DeCarlo, Laczniak and Leigh, 2012), investigates different levels of intensity (low vs. moderate vs. high), of the state of suspicion and its effects on consumer behaviour. This operationalization approach of the psychological state of suspicion allows us to uncover how consumers behave when exposed to product claims actively entertaining multiple rival hypotheses regarding the authenticity of motives of one's behaviour (Fein, 1996) while experiencing increased levels of uncertainty (moderate suspicion), which has

largely been overlooked in previous literature so far, mostly focusing on inducing low vs. high suspicion leading to low levels of uncertainty (low and high suspicion).

The importance of investigating a moderate level of consumer suspicion lies in the fact that only under that intensity do individuals actually entertain multiple motives behind one's behaviour (e.g. Deutsch, 1958; Fein, 1996), as per suspicion's definition. The investigation of these highest levels of uncertainty (Marchand and Vonk, 2005), that individuals reach under moderate levels of suspicion, also lead to distinct consequences compared to those under low vs. high suspicion, such as highest levels of cognitive engagement at an attempt to be able to evaluate one's behaviour (Fein, 1990; Fein and Hilton, 1994; Fein, 1996; Sinaceur, 2010). This increased cognitive resource allocation that consumers experience under moderate levels of suspicion, in contrast to low and high levels, also leads to different effects in consumers' behaviour, such as different levels of attributional thinking and information processing (Fein, 1996). Thus, a three-level manipulation of the state of suspicion will allow a more in-depth investigation of the notion of suspicion and will provide a more thorough understanding of the effects of the state of suspicion on consumer behaviour (Paper 1).

Furthermore, this thesis focuses on the context of ethical consumption (Paper 2 and Paper 3), a context quite prone to consumer suspicion. In this context, the role of number precision in product claims is of significant importance taking into consideration past corporate scandals (Perks et al., 2013) and misconducts based on the proliferation of unsubstantiated brand claims (Jahdi and Acikdilli, 2009). Thus, I draw from research on number cognition (e.g., Thomas and Morwitz, 2009; King and Janiszewski, 2011), and investigate the effects of numerical precision in natural product claims on consumers preferences highlighting the significant role of consumers' consumption goals as well as the important role of conceptual fluency.

An overview of the thesis structure follows. First, I start with a thorough investigation of the notion of suspicion and its conceptualization follows, including a review of the literature so far in the areas of communication, social psychology and marketing, uncovering its antecedents, which I classify in a) consumer and b) business factors. Furthermore, I provide an overview of the consequences that can arise from the psychological state of suspicion. I classify them as a) cognitive, b) affective and c) behavioural consequences in an attempt to categorize central themes that arise in the literature and in order to uncover shortcomings that leave space for future research in the area of suspicion and provide fruitful contributions. A thesis overview follows, highlighting its main contributions. Three main papers are being discussed and finally a section on the thesis' overall theoretical and managerial implications, as well as its limitations summarizes the main takeaways. For the purpose of this thesis, the following three papers were completed:

- **Paper 1:** The Bright Side of Consumer Suspicion: When Suspicion Leads to Product Information Search and Willingness to Purchase.
- **Paper 2:** When less is more and more is less: How precise vs. round green product claims influence consumer preferences for green products.
- **Paper 3:** Beware of the number: When number associations change with salient consumption goals.

Paper 1 focuses on investigating potential positive outcomes that can arise from consumer suspicion. Previous research has mostly identified negative consequences of consumer suspicion, such as negative evaluations of the actor of which one is suspicious of. Upon reviewing the literature, I address methodological shortcomings (dichotomous manipulation of suspicion – i.e. low vs. high suspicion) that might explain why previous research findings mainly showcased negative consequences of the state. By applying a three-level manipulation of suspicion (low vs. moderate vs. high), I provide findings from one

study which show that moderate levels of suspicion can lead to positive outcomes, such as increased product information search and willingness to purchase.

This paper shows that suspicion can actually lead to positive outcomes, under conditions, becoming a communicational opportunity for managers rather than a threat. By investigating different levels of consumer suspicion intensity (low vs. moderate vs. high), I demonstrate that there is an inverted curvilinear relationship between suspicion and willingness to purchase and consumers' willingness to search for product information. I argue that moderate levels of suspicion can be turned into an opportunity for managers since under that state, individuals in their attempt to resolve their uncertainty, associated with suspicion (Bobko, Barelka and Hirshfield, 2013), they are motivated to seek out more information. This piece of research contributes to previous research on suspicion (e.g. Levine and McCornack, 1991; Campbell and Kirmani, 2000; DeCarlo, 2005; Main, Dahl and Darke, 2007; DeCarlo, Laczniak and Leigh, 2013) highlighting its potential to become a source of opportunities rather than threats to companies.

Paper 2, focuses on the effects of a common marketer tactic to overcome consumer suspicion, in the context of ethical consumption, a context quite prone to consumer suspicion. More particularly it investigates the effects of the use of precise vs. round numbers on consumer preferences for green products, such as natural products. While there has been extensive research on message framing in the context of green consumption, the role of number precision in consumers' way of processing and ultimately purchase behaviour has not yet been investigated. Previous research focusing on the role of number precision suggests a roundness advantage over precise claims leading to enhanced consumer preferences. However, I provide findings from one field experiment and four experimental studies, which show that the effects of number precision are based on consumers' uncertainty in regards to whether the presence of natural ingredients in the composition of a product will help them to

achieve their consumption goals. More specifically, I illustrate that when consumers are uncertain that a green product can assist them to fulfil their goal (i.e. gentleness vs. strength), precise green claims will be more effective in comparison to round green claims.

This is explained by the more analytical information processing that individuals undergo when identifying a potential product shortcoming, which leads to increased fluency of precise numbers over round ones. By contrast, when there is no uncertainty that a consumption goal can be achieved by using a green product consisting of natural ingredients, a round green claim relative to a precise one will lead to higher probability of purchase. This happens because, in that case, consumers undergo a more intuitive way of processing, which instead increases the fluency of round numbers. Furthermore, I show that these effects can be reversed through specific marketing communications that emphasize the consumption benefit that consumers feel less certain about in a green product.

Paper 3, also focuses on the context of ethical consumption and investigates the effects of the communication strategy of using numerical information to promote product features aiming to overcome consumer suspicion. More specifically, it investigates the relationship between numerical information and fixed associations that previous research on numerical cognition has identified (e.g. Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargave, 2016; Yan and Marin, 2017). Through one experimental study, I challenge the assumption regarding the presence of fixed numerical associations by showing that they change across different salient consumption goals (strength vs. gentleness). In this paper I present evidence showing that precise numerical claims are associated with a green product's durability under a gentleness-related consumption goal, whereas round ones are associated with durability under a strength-related consumption goal.

This paper is distinct from previous research (e.g. Schindler and Yalch 2006; Welsh, et al. 2011; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Pena-Marin and Bhargave, 2016; Yan and Pena-Marin, 2017) assuming stable numerical associations. It contributes to the research stream focusing on the effectiveness of numerical precision in the context of green message framing (e.g. Hsuan-Hsuan, Kuo, Wu, and Wu, 2012) by providing evidence that the effects of numerical precision on consumer preferences are context-dependent and more specifically contingent on levels of conceptual fluency according to the salient consumption goal (strength vs. gentleness).

Literature Review

Ethical Consumption

Ethical consumption, is not a new phenomenon (Yeow et al., 2014), but has become mainstream during the last three decades (Skarmeas and Leonidou, 2013), attracting more and more academic interest in various disciplines such as psychology, sociology, business and anthropology. The notion of ethical consumption, includes consumers' expression of ethical concerns by engaging in consumption of products using marketing communication claims such as *sustainable*, *green*, *organic*, *ethical*, *bio*, *fairtrade* and *socially responsible* (De Pelsmacker, Driesen, and Rayp, 2005). Such product claims signal to customers high levels of humanitarian considerations and ethical standards (Mazar and Zhong, 2010).

According to previous research (Yeow et. al, 2014, p. 88), ethical consumption is defined as “decision-making, purchases and other consumption experiences that are affected by the consumer’s ethical concerns” and is based on consumers’ overall evaluations of personal and social impact derived from the consumption of products (Frestone and McGoldrick, 2008).

The concept of “Ethics” in general originates from the subject of philosophy and has its roots approximately 2,500 years ago, when well-known philosophers such as Socrates, Plato, and Aristotle became interested in issues of human conduct (Brickley, Smith and Zimmerman, 2002). Since then, the notion of ethicality remains still relevant as it has been widely accepted that it affects both companies and consumers (Ghosh, 2011). The process of taking that ethical criterion into consideration under a consumption choice has been termed Ethical Consumption, and is defined as the consumers’ choice which is morally driven and matches their ethical concerns (Vogel, 2005).

Ethical consumption reflects a new approach to the Earth’s natural resources and individuals’ personal resources. Consumers who choose a more ethical consumption lifestyle

allow themselves, in comparison to the past, more self-expression in terms of identities or desired identities, since it is a way for them to satisfy their individual needs contributing, at the same time, to the preservation of the natural habitat (Black et. al., 2010). As a result, a new type of consumer arises, one who is acting more like an “ethical watchdog” rather than a hungry consumer (Roddick, 2002, p.5). A more responsible consumer, who is more considerate of future generations, tempers his/her desires and occasionally is prepared to sacrifice his/her personal pleasure for the overall social well-being (Gabriel and Lang, 1995).

The adoption of a more ethical consumption standard is part of an overall shift in consumers’ lifestyle. Lifestyle, as part of a person’s identity, is a way for people to express their social position, political preferences and psychological aspirations to others. A particular lifestyle is influenced by a society’s economic, political, cultural and religious conditions. In other words, it describes life practices, either individual or collective, which have a double function of distinguishing and at the same time unifying groups of people or individuals. As a result, the specific lifestyle that a consumer follows can both define and differentiate him/her (Putnam, 2000). In many cases, it is expressed in the consumption of a certain commodity. Such consumption decisions include choices concerning entertainment, ways of transportation, nutrition and general product purchases, which may be associated with values revealing a society’s structure, trends, values and habits. Thus, consumers become more and more aware and conscious of such issues, and terms as for instance “green consumer” (Autio and Heinonen, 2004), “sustainable consumption” (Young et al., 2010), “anticonsumption” (Black and Cherrier, 2010), “sustainable lifestyle” (Jackson, 2005) and “ethical consumption” (Tustin and de Jongh, 2008) become increasingly important.

More specifically, the notion of ethical consumption has several dimensions (De Pelsmacker, Driesen, and Rayp, 2005) and includes many of the consumers’ choices considering, among others, energy use, animal welfare and employee rights (Fassin, Van

Rossem, and Buelens, 2011). Such choices form an overall behaviour of ethically-minded consumers, who feel responsible not only for the environment, but also for the society as a whole (Harrison et. al, 2005; Newholm and Shaw, 2007; Freestone et. al, 2008; Sebastiani et. al, 2013). The ethical consumer gets involved in various kinds of behaviour from ethical buying to boycotting and ethical simplification (Loureiro et al, 2002). Thus, modern consumers turn into “ecological citizens” with more environmental awareness and more moral restraints than self-interested attitudes (Carter and Huby, 2005).

As a result of that trend, consumers nowadays not only expect ethical behaviour from companies, but also explicitly demand it (Yoon, Gürhan-Canli, and Schwarz, 2006). Empowered consumers demand more ethical products that are produced under fair conditions, respecting the employees, the environment, the animals, the local community and the society as a whole (Knight, 2008). This is one of the main reasons that has led to the increasing importance of ethical consumption, which appears to have gained a significant market share and has led to the development of a relevant market segment (the “ethical consumer”). In this regard, it seems that the ethicality of a product or service has turned into an important criterion for consumers when making their consumption decisions.

Ethical Decision-Making Process

Previous research on the process of ethical decision-making, has heavily relied on decision-making theories and frameworks from the consumer behaviour, business ethics and social psychology literatures (Newholm and Shaw, 2007). For example, the ethical consumption literature often refers to Ajzen and Fishbein (1977) who addressed the relationship between individuals’ attitudes and behaviours. Based on the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1980), the Theory of Planned Behaviour (TPB) (Ajzen, 1991) was developed to outline how individuals’ behaviour is formed by their intentions.

According to this particular theoretical framework, individuals' intentions drive their behaviour. More specifically, these intentions are based on a) their attitude toward the behaviour (evaluation of a suggested behaviour), b) their subjective norms (social influence from peer groups, family and society) and c) perceived behavioural control (individual's control over behaviour).

Based on such theories focusing on the relationship between individuals' intentions and behaviours, more recent research shows that the main ethical consumer behaviour models rely on a cognitive process consisting of a three levels process: (a) the consumers' beliefs determine their attitudes (positive vs. negative), then (b) the consumers' attitudes lead their intentions, which drive motivation for a certain behaviour and finally, (c) their intentions result to their actual behaviour (De Pelsmacker and Janssen, 2007).

The ambiguity and complexity of the meaning of ethical consumption have led to several attempts to conceptualize it (Bray, 2010). Hunt and Vitell (1986) proposed one of the most respected theories in the literature, describing the process of ethical consumption decision-making. According to this theory, consumers first perceive an ethical problem. When they are then confronted with numerous possible alternatives to solve it, they assess them deontologically (focusing on evaluating an alternative based on deontological norms, such as personal values and moral beliefs; Hunt and Vitell, 2006) or teleologically (focusing mostly on the consequences of a certain alternative; Chatzidakis et al., 2006) in order to arrive at an overall ethical judgment that guides their intentions and actual behaviour. As this model suggests, experiencing the consequences of the final decision or actual behaviour results in a learning process, which is an important aspect of ethical consumption (Bray, 2010). Possible consequences of the final decision, or actual behaviour to solve the ethical dilemma, can be either enhanced satisfaction, when preferring the ethical choice, or guilt, when choosing the less ethical alternative (Chatzidakis et al., 2006).

Factors that influence the Ethical Decision-Making Process

There have been several attempts to summarize and classify the factors that influence ethical consumption. For example, Carrington et al. (2010) proposed the following categories: Physical Surroundings (including: general store interior and exterior, price displays, store location and surroundings and temporary pricing), Social Surroundings (such as interaction between staff and customers and crowd in the store), Temporal Perspective (time of day and time constraints), Task Definition (for whom the shopper is buying, the purpose of the product to be purchased and consumed), and, finally, Antecedents States (including momentary moods and conditions). Bray's et al. (2011) summary of the factors impeding ethical consumption includes price sensitivity, personal experience, ethical obligation, lack of information, and quality. They also investigated other factors, such as: gender, moral maturity, education level, and age (Bray et al., 2011). Despite these summaries and analyses, Carrington et al. (2010) and Bray et al. (2011) conclude that all of these factors need further individual examination for a better understanding of the gap between consumers' attitudes and actual behaviour towards ethical consumption.

Furthermore, many factors seem to affect ethical consumption and lead to a certain attitude-behaviour gap. As one such factor, Forte (2004) points to the perceived locus of control of individuals. With external locus of control, people are led to believe that ethical dilemmas are "beyond their control", while people who have an internal locus of control are more likely to be engaged in an ethical behaviour and think their behaviour can make a difference. Another factor that could possibly explain this gap is "social desirability" (Carrigan and Attalla, 2001), which refers to the emergence of the Ethical Consumer as a "myth", since quite often individuals state that they wish to consume in an ethical way, just in order to be socially accepted, but in the end they do not actually do so. Moreover, the literature identifies limited availability of ethical products (Nichols and Lee, 2006), lack of

information (Bray et al., 2006) and price sensitivity (Carrigan and Attalla, 2001) as factors impeding ethical consumption.

Consumers also appear to believe that consuming the more ethical alternative will be more costly (e.g. De Pelsmacker, Driesen and Rayp, 2005) and that they might be perceived as less masculine due to lay beliefs of associating ethical behaviour with femininity (Shang and Peloza, 2016; Brough, Wilkie, Ma, Isaac, and Gal, 2016). A more recent literature stream suggests that ethical consumption may also imply a sacrifice of quality (Luchs, Naylor, Irwin, and Raghunathan, 2010; Lin and Chang, 2012; Bodur, Gao, and Grohmann, 2014; Luchs and Kumar, 2017; Mai et al., 2019) discouraging consumers to prefer the ethical alternative over the standard one.

Ethical Consumption and Consumer Suspicion

Ferguson, Ellen and Piscopo (2010, p. 341) point out that media, such as magazines, TV, radio and newspaper as well as word-of-mouth, “may be a cause for suspicion of alternative motives” towards corporate practices. This has as a result the formation of various consumer movements, which is an additional means of spreading news and a potential source of consumers’ suspicion. Consumer Movements such as: Save the Arctic-Stop Shell-, Fashion Revolution –Who made my clothes-, ecosalon, Camp for Climate Action, the Slow Movement, the Fair Trade Movement, Green Consumer Movement, Agroecological movements, Food Sovereignty movement- What is behind our food-, and the International Fair-Trade Consumer Movement, inform consumers about alternatives and reveal corporate misconducts to increase consumers’ awareness towards inconsistencies between brands’ messages and actual behaviour. Furthermore, movements such as Save the Arctic and Fashion Revolution –Who made my clothes-, focus on organizing various activities to spread information to people about deviations between companies’ claims and actual behaviour among consumers (Papaoikonomou, Valverde and Ryan, 2012) increasing consumers’

awareness and encouraging people to “be curious” (Fashion Revolution website). In other words, through such communication actions by the various consumer movements, consumers may attribute ulterior motives to certain corporate behaviour and their level of suspicion towards corporate practices gets increased (Darke and Ritchie, 2008).

The percentage of people claiming that they have uncertainty about trusting certain corporations has more than doubled during the last thirty years (Nye, Zelikow, and King, 1997). When consumers have more knowledge about certain consumer movements and their activities, they gain more information about possible mismatches between companies’ promoted image and their actual behaviour. This leads to an increase in consumers’ ability to identify why and how companies can profit from promoting an “ethical image” (Friestad and Wright, 1994; Kraut, 1978; Stromwall and Granhag, 2003) and thus, to an increase of consumer suspicion towards ethical-oriented corporate initiatives.

Consumer Suspicion

The notion of suspicion was perceived as a prerequisite to acquire knowledge according to past philosophers (Descartes, 1637/2006; Hume, 1748/2000). Defined as the psychological state under which individuals entertain ulterior motives that could explain the motives behind one’s behaviour (Fein, Hilton, and Miller, 1990; Hilton, Fein, and Miller, 1993 ; Steven Fein, 1996; Kim and Levine, 2011), suspicion describes the belief that a certain message in a specific communication context might be deceptive (Kim and Levine, 2011). More specifically, suspicion is characterized as the level of uncertainty that an individual can experience in regards to an actor’s honesty of some specific communication content (Kim and Levine, 2011). In other words, the notion of suspicion includes an individual’s experience of ambiguity in regards to another’s motives as (s)/he entertains rival interpretations simultaneously about a certain actor’s behaviour (Sinaceur, 2010).

Therefore, individuals under the state of suspicion find themselves questioning the authenticity of motives of a certain behaviour, entertaining the notion that an actor might be hiding important information from them, and that have the potential of giving a different meaning to this behaviour (Fein et al., 1990). Previous research shows that suspicious individuals engage their thinking with a different kind of question in comparison to non-suspicious ones, assessing the possibility of a behaviour being authentic against the possibility being counterfeit due to ulterior motives (Fein et al., 1990). This kind of cognitive engagement requires additional cognitive resources to process information and includes complex alternatives that could explain one's behaviour leading to a quite active, mindful, and effortful attributional thinking in the attempt to evaluate the plausibility of each one of the multiple motives being identified (Fein, 1990; Fein and Hilton, 1994; Fein, 1996; Sinaceur, 2010).

Thus, the suspicious perceiver activates a certain type of mindset being characterised by "attributional sophistication" (Fein, 1996, p. 1167) leaving him/her unable to draw any inferences and decide whether to trust or distrust a certain behaviour (Fein et al., 1990; Fein, 1996). As previous research shows, the ambiguity that individuals experience under the state of suspicion about the authenticity of motives regarding one's behaviour, leads them to suspend their judgement (Fein et al., 1990; Sinaceur, 2010) in an attempt to evaluate the different motives alternatives and avoid deception (McCornack and Levine, 1990; Levine and McCornack, 1991).

This judgement suspension can also lead individuals to avoid taking behaviour at face value, defined as correspondence bias (Fein et al., 1990). For example, Fein et al. (1990), showed that participants were more likely to fall prey and draw correspondence inferences about individuals' true attitudes compared to individuals under the state of suspicion, entertaining multiple motives in interpreting one's behaviour. Suspicious perceivers were

ultimately better able to disentangle the true motives being involved. This is in line with additional studies showing that when perceivers experience suspicion towards one's authenticity of motives, they refrain from assuming that an actor's expressed attitude corresponds to their true attitude (Fein, 1994). However, non-suspicious participants, even though they were aware that an actor's behaviour was situationally constrained and had no choice to act in a different way, assumed that the behaviour was also an expression of the individual's true intention (Fein, 1994).

Avoiding correspondence bias can be important, especially for detecting and avoiding any potential deception; thus, suspicion can be a valuable tool in affecting consumers' attributions about the authenticity or deceptiveness of a certain communication (McCornack and Levine, 1990; Kim and Levine, 2011). Previous research shows that suspicion has a positive and linear relationship with deception detection and can lead to a 65% accuracy of deception compared to non-suspicious perceivers (McCornack and Levine, 1990).

Finally, suspicion from a consumer behaviour perspective seems to activate persuasion knowledge (Campbell and Kirmani, 2000; Craig, Loureiro, Wood, and Vendemia, 2012), defined as consumers' coping mechanism of understanding marketers' attempts to influence them in order to be able to draw a valid inference (Friestad and Wright, 1994). Evidence from previous research shows that in the sales context, when consumers access persuasion knowledge implied that they were suspicious regarding a salesperson's behavior (Campbell and Kirmani, 2000). This is also in line with research on neuromarketing and suspicion, showing that under the state of suspicion, individuals engage in attributional thinking in their attempt to assess the validity of ad claims as well as the potential of a certain behavior being just a marketing ploy to achieve persuasion (Craig, Loureiro, Wood, and Vendemia, 2012). This happens automatically, in line with a multistage process of persuasion (Campbell and Kirmani, 2000), identifying potential "threats" in a communication interaction

leading to a significant brain activity, attracting consumers' attention and then identifying the actual intent of a certain claim persuasion (Craig, Loureiro, Wood, and Vendemia, 2012).

Definition of Consumer Suspicion and other related terms

“Suspicion is an important yet relatively uninvestigated topic in the social sciences” (Bobko, Barelka, and Hirshfield, 2013, p.1) and appears to be very closely related to the one of distrust and the one of uncertainty. The distinction between these constructs seems of vital importance for an in-depth investigation and understanding of the notion of suspicion.

Distrust. Academic researchers in the marketing and consumer behaviour literatures, as well as in the psychology and conflict resolution literatures (Deutsch, 1958; Fein and Hilton, 1994; Fein, 1996; Schul et al., 1996; Kramer, 1998; Darke and Ritchie, 2007), do not differentiate between suspicion and distrust, using the two terms interchangeably. However, Sinaceur (2010), in the context of negotiations, is one of the first researchers to point out the distinction between distrust and suspicion and it is considered extremely important to highlight this difference in the context of consumer behaviour too. More specifically, he shows that suspicion not only differs from distrust, but it actually lies in the middle of a trust/distrust continuum in relation to trust judgments and is also the maximum of an inverted relationship in regards to conscious attribution motives, emphasizing that suspicion is a completely distinct type compared to distrust (Sinaceur, 2010). Furthermore, he argues that when an individual is resolved from being under the psychological state of suspicion, his or her state will be replaced by either trust or distrust (Sinaceur, 2010).

Both distrust, defined as negative expectations about another's motives (Deutsch, 1958; Rubin and Brown, 1975; Kramer, 1999; Sinaceur, 2010), and suspicion presuppose a certain level of *lack of trust* regarding the sincerity of one's motives involving a level of uncertainty regarding the possibility of a particular negative outcome (Kee and Knox, 1970). However, in the case of distrust, lack of trust implies a definitive negative judgement of one's

behaviour (Deutsch, 1958) and is based on an information provision mechanism (DeCarlo et al., 2013). Rotter (1967) argues that as distrustful can be characterized one who fails to realize words, statements or promises that he/she makes. This may even result in feelings of conspiracy leading consumers to overestimate the coordination of advertisers' influence attempts (Kramer, 1998). As Pollay (1986) suggests, consumers may be led to beliefs that no marketer should be trusted.

However, in the case of suspicion, lack of trust leads to more conscious motive attributions and judgement suspension until the individual gets all the information that (s)/he needs in order to form a judgement (Sinaceur, 2010) based on an information search mechanism (DeCarlo et al., 2013). Suspicion thus also differs from distrust to the extent that it operates through an information search mechanism, rather than an information provision mechanism, according to which the individuals search for information in order to confirm or reject a certain suspicion (DeCarlo et al., 2013). In this regard, consumers under the state of suspicion may give the brands the opportunity to provide them the additional information that they would need in order to eventually conclude to a judgment. However, other than Sinaceur's work in the area of negotiations, there are no empirical data for that hypothesis so far. Thus, it remains to investigate whether the same effects would be replicated in the consumer behaviour context, where an individual who is suspicious would search for additional product under the state of suspicion.

Uncertainty. In the attempt to carefully examine the notion of suspicion and its effects on consumers' perceptions, it is considered crucial to disentangle it from other constructs that it has been associated with, such as the one of uncertainty. Suspicion does entail a level of uncertainty about the plausibility of a potential negative outcome (Kee and Knox, 1970). In other words, for an individual to become suspicious, the prerequisite is that (s)/he will first become uncertain in regards to the authenticity of an actor's motives, and this questioning of

motives will be experienced when they enter the state of suspicion. If there are no levels of uncertainty and the individual is certain about the genuineness of a behavior, then there is no suspicion experienced by the individual (Kim and Levine, 2011). In other words, suspicion and uncertainty are related to each other since being suspicious implies being uncertain regarding the assessment of a certain communication interaction as honest or deceptive (Kim and Levine, 2011).

A key distinction between the two constructs is that under uncertainty, individuals are not sure about something, under the state of suspicion though, people go one step further and they start coming up with alternative motives and explanations that could explain one's behavior not being able to conclude in any judgement (Marchand and Vonk, 2005; Sinaceur, 2010). This is clearly illustrated in previous research providing evidence that suspicion is a dynamic psychological state under which individuals at first have low levels of uncertainty in regards to the authenticity of one's motives (Marchand and Vonk, 2005). Based on additional cues being provided, the individuals slowly start wondering about the authenticity of motives behind a behavior, and uncertainty starts increasing. As more information is provided, participants become progressively less uncertain and more convinced about the presence of ulterior motives that could explain an actor's behavior.

This is in line with research showing that suspicion, as the attribution of ulterior motives, and uncertainty are not linearly related to each other (Craig, Loureiro, Wood, and Vendemia, 2012). Research from the area of neuroscience, using neuroimaging methods such as Functional Magnetic Resonance Imaging (fMRI) data, shows that low suspicious claims lead to lower levels of uncertainty as well as highly suspicious claims, since the individuals have reached a point where they have attributed ulterior motives to a certain behavior (Craig, Loureiro, Wood, and Vendemia, 2012). In contrast, participants under moderate levels of the state of suspicion, entertaining rival alternatives that could explain one's behavior, do not

incline in any direction (trust vs. distrust), reaching the highest levels of uncertainty. To sum up, even though suspicion does entail the aspect of uncertainty, the two constructs differ from each other following an inverted curvilinear relationship (Marchand and Vonk, 2005; Craig, Loureiro, Wood, and Vendemia, 2012).

State-level Suspicion versus Suspicion as a personality trait

Seeing from previous research that suspicion in certain cases is ill-defined and used interchangeably with different constructs such as distrust and uncertainty, it seems important to distinguish state-level suspicion from suspicion as a personality trait (Levine and McCornack, 1991; Bond and Lee, 2005). According to Levine and McCornack's (1991) attempt to develop conceptual distinctions between between trait suspicion and state suspicion; trait suspicion is "a predisposition toward believing that the messages produced by others are deceptive", while state suspicion is "a belief that communication within a specific setting and at a particular time may be deceptive" (Bobko et al, 2013). For the purpose of this thesis, I focus on state-level suspicion deriving by a particular cue within a certain communication setting, however, given my goal to carefully examine the effects of suspicion on consumers' behaviour, it is considered important to carefully distinguish the state-level suspicion as a notion from conceptually related types of suspicion, such as trait-level suspicion.

State-level Suspicion

Suspicion is defined as a psychological state in which perceivers consider that an actor may have a hidden motive for behaviour (Fein, 1996). Deutsch (1958) described suspicion as a state induced when an individual perceives a risk (i.e. degree of uncertainty) that another will act in a malevolent or undesirable way. Fein (1996, p. 1165) defines suspicion as "a dynamic state in which the individual actively entertains multiple, plausible rival hypotheses about the motives or genuineness of a person's behaviour".

Previous research has characterized consumer suspicion as a psychological state in which the presence of an ulterior motive casts doubt on the motives of another's behaviour (Fein, Hilton and Miller, 1990), which, for example, may arise when an individual believes that the communication within a specific context may be deceptive. More recent definitions of suspicion (for a review, see Ferguson, 2011) converge on the notion that suspicion is a psychological state in which hidden motives for an actor's behaviour are considered (Campbell and Kirmani, 2000) and where there is potential presence of ulterior motives (Kim, Ferrin, Cooper and Dirks, 2004).

Furthermore, Levine and McCornack (1991) were the first researchers ever attempted a classification of different types of suspicion. They suggest that suspicion can be divided in three distinct types: a) Generalized Communicative Suspicion (GCS), b) Situationally-aroused suspicion or state suspicion and c) lie-bias. Generalized Communicative Suspicion is defined as: "a predisposition toward believing that the messages produced by others are deceptive" (Levine and McCornack, 1991, p. 328), while state suspicion arises as a belief that a communication might be deceptive in a specific context. Finally, lie-bias is defined as the individuals' tendency to perceive any message as deceptive no matter the setting.

Upon reviewing the literature on the notion of suspicion, certain themes arise regarding the psychological state of suspicion. To begin with the first theme, which is uncertainty, DeCarlo (2005) in his study about students' suspicion of salespersons motives, defines suspicion as a "questioning" (p. 239) of the salesperson's motives; which implies the uncertainty that the individual experiences in the process of evaluating the salesperson's behaviour and sincerity of motives. Furthermore, other definitions, such as the one by Buller and Burgoon (1996) defining suspicion as "a belief, held without sufficient evidence or proof to warrant certainty, that a person's speech or actions may be duplicitous" (p. 205) and the one by Kim and Levine (2011, p. 52) defining suspicion as "the degree to which a person is

uncertain”, are in line with the notion of uncertainty being an important characteristic of the psychological state of suspicion (for a review see: Bobko et. al., 2013).

A second characteristic of state level suspicion is increased cognitive activity. According to Fein’s (1996, p. 1165) definition of suspicion, describing it as “a dynamic state in which the individual actively entertains multiple, plausible rival hypotheses about the motives or genuineness of a person’s behaviour” and due to the level of uncertainty that an individual experiences under this psychological state, one has to come up with some alternative motives that could explain the other actor’s behaviour. This leads to the generation of multiple plausible, rival hypotheses to explain the observed behaviour, which has as a result increased cognitive activity (p. 1167). In addition, Campbell and Kirmani (2010) look into the characteristic of increased cognitive activity that is activated under the state of suspicion. They suggest that when individuals try to form a judgement about another’s actor motives, they draw inferences first by drawing a correspondent inference about the behaviour (characterization) and then correct the correspondent inference with information about situational constraints, such as ulterior motives (Gilbert, Pelham and Krull 1988; Gilbert and Malone, 1995; Campbell and Kirmani, 2010). Thus, during the correction stage, higher-order attributional processing is required, which results in an increase in individuals’ cognitive activity.

A third characteristic of state-level suspicion is perceptions of malintent. Malintent is the consequence of uncertainty, which “may be related to future behaviour and/or attributions of possible intent - and often malintent”(Bobko, Barelka, and Hirshfield, 2013, p.5). Definitions, such as the one by Deutsch (1958) that refer to suspicion as a “state induced when an individual perceives a risk (i.e. degree of uncertainty) that another will act in a malevolent or undesirable way”, point out this element of malintent that is included in the notion of suspicion.

These themes are in line with a recent integrative definition of suspicion, proposed by Bobko, Barelka and Hirshfield (2013), defining it as the psychological state which includes three key characteristics: a) uncertainty, b) increased cognitive activity (dedicated to generation of alternatives by the individual in an effort to explain another actor's behaviour) and c) perceptions of malintent.

A final characteristic of consumer suspicion, for which empirical evidence have been provided (Fein, 1996; Marchand and Vonk, 2005; Sinaceur, 2010), is judgement suspension. According to Hilton, Fein and Miller (1993), individuals under the psychological state of suspicion suspend their judgment and do not conclude to an evaluation regarding the authenticity of motives of another actor until they have more information. In other words, if individuals would be forced to reach a judgement, this could neither be positive nor negative, but individuals would have to hold back their judgements (Vonk and Marchand, 2005).

According to Fein (1996), once individuals are in the state of suspicion, they think actively and systematically in an attempt to interpret another actor's behaviour (attributional mindset). Fein (1996) provided evidence that suspicious perceivers are unwilling to conclude a positive or negative judgement regarding the authenticity of motives of a man's behaviour helping out a woman. Both positive motives, such as being in love with her, and negatives ones, such as being after her money, are being attributed to his behaviour. Only when individuals were provided additional information regarding the character of the man, were able to make inferences and derive a judgement regarding the sincerity of the man's motives and stopped being suspicious (Vonk and Marchand, 2005).

For the purpose of this thesis, and in line with researchers emphasizing the caution that needs to be exercised in regards to the conceptualization of the notion of suspicion (McCornack and Levine, 1990; Levine and McCornack, 1991), the literature review section of the construct of consumer suspicion that follows has been divided into antecedents and

consequences that can arise. This is in line with previous research (Marchand and Vonk 2005; Sinaceur, 2010; Craig et al., 2012; DeCarlo, Laczniak, and Leigh, 2013; Bobko et al., 2013) pointing out the need to study suspicion as a dynamic process, state of mind, or point of view.

Antecedents of Consumer Suspicion

For the purpose of this thesis and for providing an in-depth analysis of the notion of suspicion, I have classified the different types of antecedents of suspicion identified in the literature so far into the following categories: a) Consumer Factors, and b) Business Factors. The purpose of this classification is a clear understanding of potential sources of suspicion, which can lead to a better comprehension of potential cognitive, affective and behavioural consequences that can follow the state of suspicion. A table summarizing the classification of the factors follows at the end of the section (TABLE A).

Consumer Factors

The concept of state-level suspicion, often used interchangeably with suspicion as a personality trait, is a stable consumer characteristic. State suspicion is a consequence of a certain communication message (Bobko et al., 2013). They are quite interlinked with each other and individuals who are high in trait-level suspicion will also enter the state-level suspicion more easily (Levine and McCornack, 1991; Bond and Lee, 2005).

Another personality trait that is characterized as an antecedent of consumer suspicion is uncertainty avoidance (Hofstede and Bond, 1988) since the more risk-averse individuals are, the more willing they will be to question another's actor motives in order to overcome feelings of uncertainty. That way, the higher the uncertainty avoidance, the higher the chance will be to enter the psychological state of suspicion. Furthermore, an additional antecedent of consumer suspicion is the tendency to trust people (Ridings et al., 2002; Li et al., 2008), which means that individuals who have lower level of willingness to trust other people will

more easily be suspicious about the authenticity of another's actor motives. Other antecedents that have been identified in previous literature, are individuals' level of conformity, inclination to use stereotypes, and cynicism (Gefen et al., 2008; Bobko, 2012).

Additional antecedents of state-level suspicion that have been identified are: workload/fatigue and cognitive capacity (Parasuraman and Riley, 1997; Campbell and Kirmani, 2000). In other words, the higher an individuals' cognitive resources will be, the higher the state-level suspicion will also be reached (Campbell and Kirmani, 2000). Recent empirical evidence shows that individuals who experience a situation as observers have higher level of consumer suspicion than the actual consumer being involved in a sales interaction due to lower cognitive resources (Campbell and Kirmani, 2000). Moreover, previous research shows that individuals with high level of need for cognition enjoy more the careful examination of logical arguments, which leads them to higher level of state-level suspicion (Echebarria-Echabe, 2010). Finally, age, education and cognitive ability have a positive relationship with suspicion as well, since according to the review by Friestad and Wright (1994, p.6) the individuals' "cognitive development identified the first understanding of the possibility of persuasive intent at about age 7". Finally, Obermiller and Spangenberg (1998, p. 165) show that "knowledge base and sophistication of analytical skills" can increase individuals' state-suspicion.

Differences in the individual-level are not the only explanation in regards to how one can enter the psychological state of suspicion. Nowadays, many consumers are suspicious towards corporate practices and marketers in general (Xie, 2016). For example, a Gallup poll (2012) showed that 36% of participants reported suspicious towards advertising practitioners. The following section summarizes different factors that have been identified in the literature so far leading consumers to a suspicious mindset.

Business Factors

The second category of the current proposed classification of suspicion antecedents includes factors that are mainly business- and market-related. Obermiller and Spangenberg (1998, p.162) refer to market competition and to the free market system as antecedents of consumer suspicion. According to them, in today's free market, which is characterized by business over-competition, firms are challenged to show their products "in the best light" as possible. This can also lead to flexible advertisement regulation, giving the companies some slack and allowing them some latitude for exaggeration, which allows for higher levels of consumer suspicion.

One can also notice an increase in corporate scandals (Perks et al., 2013) and, more specifically, corporate misconducts that are based on the proliferation of unsubstantiated brand claims (Jahdi and Acikdilli, 2009). In addition, false advertising and advertising deception (Friestad and Wright, 1994; Darke and Ritchie, 2004; DeCarlo and Barone, 2009) are other business-related issues that have been discussed by researchers as sources of consumer suspicion. Corporate misconducts give individuals the chance to link corporate behaviour with extrinsic attributions. This has led researchers such as Campbell and Kirmani (2000) and DeCarlo (2005) to point out the importance of accessibility of ulterior motives. In other words, when an individual has reason to believe that another actor has salient ulterior motives (e.g., a salesperson commission from a successful sale), the consumer will be more suspicious. However, once consumers realize what can be expected, they are more aware of what might be behind marketers' attempts to persuade them and this leads them to persuasion knowledge formation (Friestad and Wright, 1994). This eventually has as a consequence a level of suspicion in marketing practices or in the market in general (Chu, and Chylinski, 2010).

Previous research also investigated the role of different types of sales messages that can lead to suspicion. For example, DeCarlo (2005) tested the strength of message (weak and moderately positively vs. strong and very positively product claims from a salesperson) and shows that a stronger sales message leads to higher levels of suspicion as the salesperson is being perceived as more “pushy” to achieve a successful sale interaction. Similarly, flattery by a salesperson has been found to be an antecedent of consumer suspicion (Main, Dahl and Darke, 2007), as the salesperson flattering comments were attributed to extrinsic rather than intrinsic motivation and was perceived just as a mechanism to persuasion. Moreover, a recent study by DeCarlo, Laczniak and Leigh (2013) offers empirical evidence that higher levels of subjective product knowledge by consumers lead to higher levels of suspicion towards a salesperson. Obermiller and Spangenberg (1998, p.161) found that consumers are more suspicious towards credence goods, which are defined as those that have “characteristics that cannot be determined either by search or experience, such as goods that are too complex or require too much of an expert knowledge to evaluate”. They also indicate advertisement structure (e.g., delayed identification of the sponsor) and execution factors as additional antecedents of consumer suspicion.

Furthermore, Bobko, Barelka and Hirshfield (2014) refer to missing and ambiguous information as a source of consumer suspicion, which could lead to the hypothesis that brand messages using a few information would trigger higher suspicion than those using more information. Finally, information source seems to be another antecedent, as Yeosun, Yoon and Schwarz (2006) show in their study. When consumers were informed about a company’s ethically- related practices from an independent, unbiased source, they were less suspicious than when they were informed through the company’s own advertising channels (for a review see, TABLE A).

TABLE A - Consumer Suspicion Antecedents Summary

Consumer Factors	• Suspicion as a personality trait (Levine and McCornack, 1991; Bond and Lee, 2005) • Uncertainty avoidance (Hofstede and Bond, 1988) • Tendency to trust people (Ridings et al., 2002; Li et al., 2008) • Conformity, inclination to use stereotypes (Gefen et al., 2008) • Cynicism (Bobko, 2012) • Workload/fatigue (Parasuraman and Riley, 1997) • Cognitive capacity (Campbell and Kirmani, 2000) • Need for cognition (Echebarria-Echabe, 2010) • Age, education and cognitive ability (Friestad and Wright, 1994)
Business Factors	• Market competition, free market system, and advertisement regulation (Obermiller and Spangenberg, 1998) • Corporate scandals (Jahdi and Acikdilli 2009; Perks et al. 2013) • Misuse of Corporate Social Responsibility practices • (Yeosun, Yoon, and Schwarz, 2006) • False advertising and advertising deception • (Friestad and Wright, 1994; Darke and Ritchie, 2004; DeCarlo and Barone, 2009) • Accessibility of ulterior motives • (Campbell and Kirmani, 2000; DeCarlo, 2005) • Persuasion knowledge (Friestad and Wright, 1994) • Lack of trust in ethical consumption/marketing practices/ market • (Chu, and Chylinski, 2010) • Lack of faith in humanity (Li et al., 2008)

Business Factors	Strength of message (DeCarlo, 2005)
	Flattery by a salesperson (Main, Dahl and Darke, 2007)
	Product knowledge (DeCarlo, Lacznia and Leigh, 2013)
	Type of product, advertisement structure and execution factors (Obermiller and Spangenberg, 1998)
	Missing/Ambiguous Information (Bobko, Barelka and Hirshfield, 2014)
	Information source (Yeosun, Yoon, and Schwarz, 2006)

To sum up, market factors such as: market over-competition (Obermiller and Spangenberg, 1998), corporate scandals (Perks et al., 2013) and misconducts (Jahdi and Acikdilli, 2009), such as advertising deception (Friestad and Wright, 1994; Darke and Ritchie, 2004; DeCarlo and Barone, 2009) as well as marketers' attempts to persuade, such as the strength of message -weak vs. strong- (DeCarlo, 2005), flattery (Main, Dahl and Darke, 2007), and the information source (independent vs. unbiased) used to communicate a certain marketing communication campaign (Yeosun, Yoon and Schwarz, 2006) has led consumers to form a certain *marketplace social intelligence* throughout their life span (Wright, 2002). Such social intelligence keeps evolving and continuously developing in order to cope with complexities that can take place across market exchanges and includes consumers' thinking about interactions in the marketplace as an attempt to achieve marketplace efficacy (Wright, 2002).

Developing such marketplace social intelligence (Wright, 2002) and everyday Persuasion knowledge, defined as consumers' mechanisms to cope with persuasion (Friestad and Wright, 1994), leads to increased possibility for consumers to enter the psychological state of suspicion (Campbell and Kirmani, 2000) and resist persuasion (Campbell, 1995;

Campbell and Kirmani, 2000). Increased levels of suspicion can even lead to “defensive stereotyping” (Kunda and Sinclair, 1999). Thus, a thorough understanding of potential business factors that can induce suspicion is required in order to enable valuable insights in regards to how consumers cope with the psychological state of suspicion and what are the cognitive, affective and behavioral consequences it might lead to. To that end, the following section focuses on the consequences that can arise from the psychological state of consumer suspicion.

Consequences of Consumer Suspicion

Suspicion, being a dynamic psychological state (McCornack and Levine, 1990; Levine and McCornack, 1991; Marchand and Vonk, 2005; Sinaceur, 2010; Craig et al., 2012; DeCarlo, Lacznia, and Leigh, 2013; Bobko et al., 2013), can result in different kinds of effects. For the purpose of this thesis, I have classified the identified consequences into the following categories: a) cognitive consequences, b) affective consequences and c) behavioural consequences. A table with a summary of the classification of the consequences of suspicion follows at the end of the section (TABLE B).

Cognitive Consequences of Consumer Suspicion

To begin with, increased attributional thinking, defined as more complex and sophisticated attributional cognitive activity (Fein, Hilton and Miller, 1990; Hilton, Fein and Miller, 1993), is a well-known cognitive consequence of suspicion. In other words, under the psychological state of suspicion, in an attempt to explain another actor’s behaviour, the individuals generate alternative motives that might possibly justify the behaviour. As a result, there is a decrease in individual’s cognitive resources (Campbell and Kirmani, 2000) and an increase in their cognitive activity and systematic thinking regarding an actor’s behaviour (Fein, 1996; Marchand and Vonk, 2005; Main, Dahl, and Darke, 2007; Craig et al. 2012). More specifically, recent research in the area of neuroscience shows that under the state of

suspicion two distinct types of brain activity take place: a) precuneus activation at earlier stages and b) superior temporal sulcus and temporal-parietal junction activation, proving significant levels of brain activity under suspicion.

Deception detection accuracy is also improved by individuals with moderate levels of suspicion. More specifically, previous research provides evidence that participants under moderate levels of suspicion are better able to distinguish true and false statements by individuals in videotaped interviews (McCornack and Levine, 1990). Thus, a suspicious mindset is a quite effective weapon to detect deception (e.g., McCornack and Levine, 1990; Fein, 1996).

Finally, previous research points out that suspicion can also assist in decreasing correspondence bias, as the individuals under the state of suspicion are better able to look beyond face value (Fein, Hilton and Miller, 1990; Fein, 1996) in comparison to non-suspicious individuals.

Affective Consequences of Consumer Suspicion

Suspicion involves feelings of uncertainty and increase of malintent (Bobko, Barelka and Hishfield, 2014). I have classified these as affective consequences of the psychological state of suspicion. According to Hajcak et al. (2004), once an individual's level of uncertainty is increased, due to potentially negative outcomes (feelings of malintent), fear and anxiety also increase (see also Bobko, Barelka and Hirshfield, 2014). This subsequently causes higher levels of emotional arousal, including feelings of stress and threat by another actor.

Behavioural Consequences of Consumer Suspicion

A behavioural consequence that arise from the psychological state of consumer suspicion is information search (Sinaceur, 2010). As DeCarlo et al. (2013) argue, suspicion operates through an information search mechanism in order for the individual to acquire enough information and eventually be able to come up with a judgement regarding the

authenticity of an actor's motives. Sinaceur (2010) is the first researcher providing empirical evidence, in the area of negotiations, about suspicion leading to greater propensity for information search in an attempt to confirm or reject the authenticity of motives behind an actor's behaviour. A summary of the consequences of consumer suspicion follows below (TABLE B).

TABLE B - Consumer Suspicion Consequences Summary

Cognitive Consequences	- Increased attributional thinking (Fein, Hilton, and Miller, 1990; Hilton, Fein, and Miller, 1993) - Decreased correspondence bias (Fein, 1996; Marchand and Vonk, 2005) - Decreased Cognitive Resources (Campbell and Kirmani, 2000) - Detection of Deception (McCornack and Levine, 1990; Fein 1996)
Affective Consequences	- Fear and Anxiety (Bobko, Barelka and Hirshfield, 2014) - Increase of (Mal)intent and uncertainty (Kee and Knox, 1970) - Stress and Threat (Bobko, Barelka and Hirshfield, 2014)
Behavioural Consequences	Information Search (Sinaceur, 2010)

Most of the research on the topic of suspicion originates from the area of social psychology (Kee and Knox, 1970; Hilton and Miller 1990; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Marchand and Vonk, 2005; Bond and Lee, 2005; DeCarlo and Barone, 2009). In addition to that, there is some research in the area of Marketing, in the areas of consumer research and consumer psychology (Campbell and Kirmani, 2000;

DeCarlo, 2005; Yeosun, Yoon and Schwarz, 2006; Abel and Abel, 2007; Kirmani and Zhu, 2007; Main, Dahl, and Darke, 2007; Craig, Loureiro and Vendemia, 2012; DeCarlo, Lacznia and Leigh, 2013; Xie, 2016), and more particularly in the area of sales, and advertising. Lastly, research on the notion of suspicion, has also been identified in the areas of communication (McCornack and Levine, 1990; Levine and McCornack, 1991; Kim and Levine, 2011), negotiations (Sinaceur, 2010) and business ethics (Ferguson and Piscopo, 2011) - for a review see Bobko, Barelka and Hirshfield, 2013.

The majority of previous research on suspicion is based on the assumption of an interpersonal communication context (Kee and Knox, 1970; Hilton and Miller 1990; McCornack and Levine, 1990; Levine and McCornack, 1991; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000 Marchand and Vonk, 2005; DeCarlo, 2005; Bond and Lee, 2005; Kirmani and Zhu, 2007; Main, Dahl, and Darke, 2007 DeCarlo and Barone, 2009; Sinaceur, 2010; DeCarlo, Lacznia and Leigh, 2013). Interpersonal interactions are assumed between at least two actors. For instance, in the field of social psychology, the majority of studies takes place between partners and co-workers. In the case of marketing, the interactions are between a salesperson and consumers or observers and lastly, in the case of negotiations suspicion rises again in the context of interpersonal relationships between two actors negotiating with each other.

However, up until now, there have been identified only a few studies (Yoon, Gurhan-Canli and Schwarz, 2006; Craig, Loureiro and Vendemia, 2012; Xie, 2016) investigating suspicion without assuming an interaction between individuals, but focusing on an interaction between individuals and a brand or a product, which is also the path this thesis is going to follow. In the following section I present some of the most important findings in the literatures of consumer behavior and negotiations, which are more relevant for the purpose of this thesis. The following literature review has been classified into the following two

categories: a) Interpersonal Context and b) non- Interpersonal Context (for a review, see TABLE C).

Previous research on consumer suspicion in a marketing context focused mostly on a sales interaction, a context quite prone to consumer suspicion (Darke and Ritchie, 2008). First, there is research on the effects of sales message and consumer's suspicion of ulterior motives on salesperson evaluations. DeCarlo (2005) investigated the effects of the strength (weak vs. strong) of the sales message and how it can affect the salience of ulterior motives during a sales interaction. Results reveal that when participants attributed ulterior motives to the salespeople's behaviour, their attitude toward the salesperson was more positive when the salesperson provided a weaker than a stronger sales message. Furthermore, the higher the salience of ulterior motives was, the more positive was the evaluation of a salesperson when the salesperson used a weaker than a stronger sales message. When a salesperson was using a strong message to persuade the consumers, and individuals had knowledge about a certain salesperson's ulterior motives, suspicion was increased and the salesperson was perceived as "pushy". Previous research has also investigated a sales clerk's smile as a factor that raises consumer suspicion (Abel and Abel, 2007). Empirical evidence showed that suspicion increases more when a male salesperson smiles to a male consumer, compared to a female one, since men do not smile as often as women do (LaFrance and Hecht, 2000).

Moreover, Ferguson, Ellen and Piscopo (2011) examined the relationship between suspicion and perceptions of fairness of prices in times of crisis. Their results show that suspicion may arise when other explanations for motives, regarding the increase of the price of a certain product in times of crisis, are plausible. This may lead to stronger negative affect toward the retailer. In addition, DeCarlo, Laczniak and Leigh (2013) studied consumer suspicion as arising from knowledge about the salespersons' commission when they sell financial services. Their findings indicate that when consumers have a high level of

knowledge about a specific product, greater suspicion arises when they interact with a salesperson compensated with higher commissions (DeCarlo, Laczniak and Leigh, 2013).

Additionally, Campbell and Kirmani (2000) focused on consumers' ease of accessibility of ulterior motives and cognitive capacity. They revealed that during a sales interaction, an observer, who has more cognitive capacity than an actual consumer, will be more suspicious towards a salesperson attributing his/her behaviour to extrinsic motives such as to achieve persuasion and thus perceiving him/her as less sincere. Another important finding was the one by Sinaceur (2009) in the area of negotiations, arguing for a positive relationship of suspicion with information search and pointing out that suspicion can be even more effective than trust, since it motivates individuals to demand more information and not just rely on those provided, which results in higher value creation. Finally, Main et al. (2007) and Main, Dahl and Darke (2007) investigated the effects of flattery by sales agents and consumer suspicion, showing that consumers are often led to a certain amount of attribution error, as suspicion arose even though there was no plausible ulterior sales motive.

The notion of consumer suspicion is even less explored in a non-interpersonal context. Only three empirical studies have been conducted so far. First, Yoon, Gürhan-Canli and Schwarz (2006) investigating the effects of CSR on companies with bad reputation, provide empirical evidence showing that high benefit salience of a CSR campaign's cause hurts the company, in particular when consumers learn about it from a company source and not from an independent one. This study was the first one that reviewed consumers' suspicion towards the brand without assuming an interpersonal context, which is the path that this thesis is going to follow.

Furthermore, research in the area of neuroscience, focused on the effects of communication messages of varying suspicion levels on consumers' cognitive coping mechanisms (Craig et al., 2012) showing that brain activation under moderate levels of

suspicion is significantly greater in comparison to low and high levels. Finally, recent research focusing on the interplay of consumer suspicion as a state and as a personality trait on consumers' perception about advertising claims, shows that consumers perceive highly suspicious communication messages more effective for others than for themselves (Xie, 2016). In contrast, under low and moderately suspicious advertising claims, the difference between how the self vs. others would perceive the communication was moderated by consumers' advertising scepticism. A table of summary of the literature that has been identified so far classified by context (interpersonal vs. non-interpersonal) follows (TABLE C).

TABLE C - Summary of Previous Literature on Suspicion

Interpersonal Context			
Resource	Research Area	Research Focus	Methodology
Deutsch, 1958	Social Psychology	Motivational Orientation upon Suspicion.	Experimental research design (3studies)
Kee and Knox, 1970	Social Psychology	Conceptualization of Suspicion.	Conceptual
Fein, Hilton, and Miller, 1990	Social Psychology and Social Cognition	The effect of Suspicion on Correspondence bias.	Experimental research design (3 studies)

Interpersonal Context			
Resource	Research Area	Research Focus	Methodology
McCornack and Levine, 1990	Communications	The relationship between suspicion and accuracy in deception detection.	Experimental research design (1 study)
Levine and McCornack, 1991	Communications	Conceptualizing types of communicative Suspicion.	Conceptual
Hilton, Fein, and Miller, 1993	Social Psychology and Cognition	The role of suspicion in the dispositional inference process.	Conceptual
Fein and Hilton, 1994	Social Psychology and Cognition	Negative effects of Suspicion on perceivers' judgments.	Experimental research design (3 studies)
Fein, 1996	Social Psychology and Cognition	Effects of Suspicion on Attributional Thinking and Correspondence bias.	Experimental research design (5 studies)
Campbell and Kirmani, 2000	Consumer Research (Sales Context)	Conditions that influence consumers' use of persuasion knowledge in evaluating an influence agent.	Experimental research design (3 studies)
Bond and Lee, 2005	Social Psychology and Cognition	Validating the Generalized Communication Suspicion Scale.	Experimental research design (2 studies)

Interpersonal Context			
Resource	Research Area	Research Focus	Methodology
Marchand and Vonk, 2005	Social Cognition	The process of becoming suspicious.	Experimental research design (2 studies)
DeCarlo, 2005	Consumer Psychology	The effects of Sales Message and Suspicion of Ulterior Motives on Salesperson Evaluation.	Experimental research design (2 studies)
Abel and Abel, 2007	Psychology	The effect of smiling on consumer perceptions and behaviours.	Experimental research design (1 study)
Main, Dahl and Darke, 2007	Consumer Psychology	Deliberative and Automatic Bases of Suspicion.	Experimental research design (4 studies)
Kirmani and Zhu, 2007	Consumer Research (Advertising Context)	The effects of the use of Persuasion Knowledge.	Experimental research design (3 studies)
DeCarlo and Barone, 2009	Social Psychology	Mood's ability to neutralize the effects of suspicion on persuasion.	Experimental research design (2 studies)
Echebarria-Echabe, 2010	Social Psychology	The effects of Suspicion on Willingness to Engage in Systematic Processing of persuasive Arguments.	Experimental research design (2 studies)

Ferguson, Ellen and Piscopo, 2011	Business Ethics	Suspicion and Perceptions of Price Fairness in Times of Crisis.	Experimental research design (2 studies)
Kim and Levine, 2011	Communications	Effect of Suspicion on Deception Detection Accuracy.	Experimental research design (1 study)
DeCarlo, Lacznia and Leigh, 2013	Marketing (Sales context)	The effect of consumer product knowledge and salesperson commission on consumer suspicion and intentions.	Experimental research design (2 studies)

Non-Interpersonal Context			
Resource	Research Area	Research Focus	Methodology
Yeosun, Yoon, and Schwarz, 2006	CSR	The effects of CSR on companies with bad reputation (focus on benefit salience of the cause, the source of information, suspicion, inferred motives and company evaluations).	Experimental research design (3 studies)
Craig, Loureiro, Wood and Vendemia, 2012	Marketing Research (neuromarketing)	Exploring neural processes during exposure to deceptive advertising.	Experimental research design (2 studies)
Bobko, Barelka and Hirshfield, 2014	Information and Technology	Review and Integration of state-level Suspicion.	Conceptual

Xie, 2016	Marketing Communications	The moderated effect of generalized and specific suspicion on deceptive advertising claims and consumers/others' judgments.	Experimental research design (2 studies)
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Thesis Overview

For the purpose of this thesis, I focus on consumer suspicion (Paper 1) and lay beliefs that might arise in the context of ethical consumption (Paper 2 and 3). Such beliefs include consumer perceptions of ethical consumption as merely a persuasion attempt to create positive consumer associations (Carrigan and Attala, 2001; Vanhamme and Grobben, 2009), as well as perceptions of trade-off decisions involved in ethical consumption (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014) including perceptions of natural products having a quality disadvantage (i.e., sustainability liability; Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014). The following three papers aim to investigate how consumers cope under the psychological state of suspicion. Paper 1 uncovers positive outcomes that might arise such as increased information search and willingness to purchase under the state of suspicion. Paper 2 and Paper 3, focus on the context of ethical consumption and investigate the effects of marketers' tactics, such as using numerical product claims, on consumer preferences in an attempt to overcome consumer suspicion.

Paper 1, focuses on investigating potential positive outcomes that can arise from consumer suspicion such as increased willingness to purchase and information search. It addresses methodological shortcomings (dichotomous manipulation of suspicion – i.e. low vs. high suspicion) from previous research (Fein, Hilton and Miller, 1990; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000; DeCarlo, 2005; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011; DeCarlo, Laczniaak and Leigh, 2012) and aims to show that consumer suspicion does not always lead to negative outcomes as shown in previous research (e.g. Campbell and Kirmani, 2000; DeCarlo, 2005; Kirmani and Zhu, 2007), but can also become an opportunity for companies, under conditions.

By applying a three-level suspicion manipulation (low vs. moderate vs. high), this paper aims to contribute to the literature of suspicion (e.g. Kee and Knox, 1970; Hilton and Miller 1990; McCornack and Levine, 1990; Levine and McCornack, 1991; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000 Marchand and Vonk, 2005; DeCarlo, 2005; Bond and Lee, 2005; Kirmani and Zhu, 2007; Main, Dahl, and Darke, 2007 DeCarlo and Barone, 2009; Sinaceur, 2010; DeCarlo, Laczniac and Leigh, 2013) by showing that moderate levels of suspicion can lead to positive outcomes.

Paper 2 focuses on the context of ethical consumption, a context quite prone to consumer suspicion, and investigates the effects of marketers' tactics, such as the use of numerical product claims, on consumer preferences in order to overcome consumers' suspicion. More particularly, this paper shows that when consumers are uncertain that a green product consisting of natural ingredients can assist them to fulfil their goal (i.e. gentleness vs. strength), precise green claims will be more effective in comparison to round green claims. This paper aims to contribute to the literature of green consumption (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014) by emphasizing the role of consumers' consumption goals in addition to their lay beliefs about the trade-off decisions involved in green consumption (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014) such as natural products having a quality disadvantage (i.e., sustainability liability; Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014). This paper also highlights the role of conceptual fluency adding to this stream of research (e.g., Thomas, Simon, and Kadiyali, 2010; Thomas and Park, 2013) as well as to the one of green message framing (e.g. Kronrod, Grinstein, and Wathieu, 2012; Bodur et al., 2014; Olsen, Slotegraaf, and Chandukala, 2014), which has overlooked the role of number precision in green claims as a marketers' tactic to overcome consumer suspicion and communicate certain product benefits.

Finally, this paper, addresses a timely managerial problem on how to tackle consumers' suspicion linked with natural products. Suspicion can lead to resistance to persuasion (Campbell 1995; Campbell and Kirmani 2000; Jain and Posavac 2004) thus, this paper provides actionable implications that help managers to decide when to use round versus precise green claims for communicating the amount of natural ingredients included in a green product.

Finally, *Paper 3* also focuses to the same marketers' common tactic to overcome consumer suspicion towards natural products; by using numerical information to communicate certain product features regarding the product's consistency. More specifically, it aims to contribute to the research stream focusing on the effectiveness of the use of numerical information in the context of green message framing (e.g. Hsuan-Hsuan, Kuo, Wu, and Wu, 2012). This paper shows that the effects of numerical precision on consumer preferences are context-dependent and, more specifically, contingent on levels of conceptual fluency according to the salient consumption goal (strength vs. gentleness) and not based on fixed numerical associations, as shown in previous literature (Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargava, 2016; Yan and Marin, 2017).

Paper 1: The Bright Side of Consumer Suspicion:
When Suspicion Leads to Product Information Search
and Willingness to Purchase.

Abstract

Previous research on consumer suspicion suggests that suspicion leads to negative consequences, such as negative evaluations of the brand of which one is suspicious. By addressing methodological issues (dichotomous manipulation of suspicion) from previous work, which found only negative consequences, our use of a three-level manipulation suggests that suspicion can sometimes result in positive outcomes as well. More specifically, findings show that moderate levels of suspicion lead to higher consumers' willingness to search for additional product information and to willingness to purchase relative to low and high levels of suspicion, opening the door into leveraging suspicion.

Keywords: Consumer Suspicion, Information Search

Suspicion is “a dynamic state under which individuals actively entertain multiple, plausible rival hypotheses about the motives or genuineness of a person’s behaviour” (Fein, 1996, p. 1165). To date, researchers (LaFrance and Hecht, 2000; Campbell and Kirmani, 2000; DeCarlo, 2005; Abel and Abel, 2007; Main, Dahl and Darke, 2007; DeCarlo, Laczniak and Leigh, 2013) have tended to suggest that suspicion mainly leads to negative evaluations. For example, suspicion has been shown to lead to negative attitudes towards a salesperson (Campbell and Kirmani, 2000; DeCarlo, 2005) or to negative affect toward a retailer (Ferguson, Ellen and Piscopo, 2011) when consumers were suspicious in regards to a price increase.

As of yet, I know of no consumer suspicion research that has explicitly tested the notion that suspicion can lead to positive outcomes such as further product information search or even willingness to purchase, rather than just leading directly to negative judgments (e.g. Campbell and Kirmani, 2000; DeCarlo, 2005). The reason is that the majority of past research on suspicion has tended to manipulate suspicion in a dichotomous way, i.e., high vs. no suspicion (Fein, Hilton and Miller, 1990; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000; DeCarlo, 2005; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011; DeCarlo, Laczniak and Leigh, 2012) which does not allow for moderate levels of suspicion. Such induction of the state of suspicion is considered to be problematic as it is not treating suspicion as a continuous variable as it is (McCornack and Levine, 1990). Previous researchers have already emphasized the importance of approaching the particular psychological state with caution in regards to its operationalization (McCornack and Levine, 1990; Sinaceur, 2010; Kim and Levine 2011) in order to be able to have clear insights of its effects and consequences.

For example, researchers (Campbell and Kirmani, 2000; Kirmani and Zhu, 2007) have provoked suspicion by exposing their sample to newspaper articles regarding news on corporate frauds, others to the possibility of a number of individuals cheating and/or telling lies (Kim and Levine, 2011), and others by provided negative information regarding the behaviour of the actor under evaluation (Fein and Hilton, 1994, Marchand and Vonk, 2005). The rest of the sample was exposed just to a regular article regarding the launch of a new product (Campbell and Kirmani, 2000; Kirmani and Zhu, 2007). This dichotomous (high versus no suspicion) research approach used by many researchers (e.g. Fein and Hilton, 1994; Cambell and Kirmani, 2000; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011) leads the individuals who are being exposed to the high suspicion experimental treatment to a lie-bias¹ (Levine and McCornack, 1990). On the other hand, individuals being exposed to a no suspicion stimulus, or extremely low suspicion manipulation, are led to high truth-bias (Levine and McCornack, 1990), believing each message as being truthful. Neither of these two approaches of inducing the state of suspicion is in line with the definition of the notion since participants do not really actively entertain multiple, plausible rival hypotheses about the genuineness of a certain behaviour (Fein, 1996).

Such an “all or nothing” approach to experimentally manipulating the state of suspicion, does not allow for moderate levels of suspicion, which seems that could potentially lead to some positive outcomes such as information search, as suggested from various scholars (Ozanne, Brucks, Grewal, and Brucks, 1992, DeCarlo 2005, Sinaceur 2010, Kim and Levine, 2011). I argue, that moderate levels of suspicion, under which individuals will not be led to truth-bias (no/low suspicion experimental treatment) but will neither adopt a lie-bias

¹ Lie-bias is defined as the tendency to decode every piece of communication as deceptive (Levine and McCornack, 1990).

judgement formation, can lead to positive outcomes, such as higher willingness to search information regarding a product and willingness to purchase.

The reason is that suspicion has a non-linear relationship with the attribution of ulterior motives (Marchand and Vonk, 2005). Under low levels of suspicion there is only very little uncertainty about the other's motives, and individuals will not be motivated enough to search for additional information in order to reduce it (Marr, Thau, Aquino and Barclay, 2012). High levels of suspicion on the other hand, as those induced in previous research (e.g. Fein and Hilton, 1994; Cambell and Kirmani, 2000; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011), will result in outright distrust (Marchand and Vonk, 2005). However, I expect that under moderate levels of suspicion, where uncertainty reached its highest point (Marchand and Vonk, 2005), consumers will be willing to search for additional information themselves when these are not being provided to them (e.g. Fein, Hilton, and Miller, 1990; Marchand and Vonk, 2005).

Following the call for exercising caution when operationalizing the notion of suspicion (McCornack and Levine, 1990; Levine and McCornack, 1991; Kim and Levine, 2011) while respecting the construct's continuous nature (Kim and Levine, 2011) in order to allow observation of the full effects of the state on consumers' behaviour, the present research revisits the notion of suspicion and predicts a non-linear effect of suspicion on information search and willingness to purchase, such that positive outcomes arise from moderate levels of suspicion. Hence, aiming to contribute to the literature of suspicion (e.g. Kee and Knox, 1970; Hilton and Miller 1990; McCornack and Levine, 1990; Levine and McCornack, 1991; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000 Marchand and Vonk, 2005; DeCarlo, 2005; Bond and Lee, 2005; Kirmani and Zhu, 2007; Main, Dahl, and Darke, 2007 DeCarlo and Barone, 2009;

Sinaceur, 2010; DeCarlo, Lacznia and Leigh, 2013), results of this paper suggest that consumer suspicion can be an opportunity rather than merely a threat for companies.

Theoretical Background

Consumer Suspicion

“Suspicion is an important, yet relatively uninvestigated topic in the social sciences” (Bobko, Barelka and Hirshfield, 2013, p. 1). Suspicion has been defined as the psychological state under which perceivers consider that an individual may have a hidden motive for behaviour (Fein, 1996). It has been defined as a state induced when an individual senses the probability of risk or a degree of uncertainty that another might act in a malevolent manner (Deutsch, 1958). Overall, more recent research agrees on defining suspicion as the psychological state under which an individual experiences doubt in regards to the motives of another actor’s behaviour (Fein, Hilton and Miller, 1990; Campbell and Kirmani, 2000; Kim, Ferrin, Cooper and Dirks, 2004; Ferguson, 2011). The notion of suspicion has frequently been interlinked with the terms of uncertainty and distrust. To overcome any conceptual ambiguity evident in the previous literature, I distinguish those constructs.

Suspicion and Uncertainty. Suspicion is often intertwined with the notion of uncertainty. It does involve a certain level of uncertainty about the authenticity of motives of one’s behaviour (Fein, 1990). Previous research highlights the nature of suspicion as a dynamic psychological state, since individuals at first have low levels of uncertainty in regards to the authenticity of one’s motives (Marchand and Vonk, 2005). Under low levels of suspicion, uncertainty arises regarding the levels of honesty of a certain message (Kee and Knox, 1970) and judgement gets suspended while an actor’s motives are being evaluated (Hilton, Fein, and Miller, 1993). As additional cues are being provided to the individuals, they slowly start wondering about the authenticity of motives behind a behavior, and

uncertainty starts increasing. The more information is provided, the more participants become progressively less uncertain and more convinced about the presence of ulterior motives that could explain an actor's behavior. Thus, it becomes evident that disentangling the two notions from each other is especially important, comprehending that suspicion as the attribution of ulterior motives and uncertainty are not linearly related to each other (Craig, Loureiro, Wood, and Vendemia, 2012) but their relationship is more accurately described as an inverted curvilinear one, and thus they are two different constructs (Marchand and Vonk, 2005).

Suspicion and Distrust. Suspicion is also often interlinked with the notion of distrust. Both the notions of distrust and suspicion involve a certain level of lack of trust, in terms of questioning whether an individual will behave in a benevolent manner. Suspicion involves the belief that an actor might behave in a malevolent manner (Deutsch, 1958) and uncertainty about the possibility of a particular negative outcome (Kee and Knox, 1970). Suspicion, defined as the level of uncertainty about the authenticity of a message in a specific communication setting, leads the individuals to generate alternative motives that could assist in evaluating potential intention to deceive (Kim and Levine, 2011). Distrust, defined as negative expectations about another's motives (Deutsch, 1958; Rubin and Brown, 1975, Kramer, 1999; Sinaceur, 2010), also assumes a certain level of lack of trust. The main difference between the two terms is that distrust implies a definitive negative judgement of one's behaviour (Deutsch, 1958) and is based on an information provision mechanism (DeCarlo et al., 2013). Suspicion on the other hand, leads to more conscious motive attributions and in judgement suspension until the individual gets all the information that (s)/he needs in order to form a judgement (Sinaceur, 2010) based on an information search mechanism (DeCarlo et al., 2013). Most importantly, the main difference between the two terms is that while distrust is a final decision in regards to a certain evaluation of behaviour

(Deutsch, 1958), suspicion is a dynamic state that is eventually replaced by either distrust or trust (Sinaceur, 2010).

Thus, it becomes evident that in order to be able to carefully examine the notion of suspicion, it is first important to be cautious in regards to its conceptualization by carefully distinguishing it from other conceptually-related constructs as well as to take into consideration its dynamic nature (Marchand and Vonk, 2005). Second, it is also essential to be careful with its operationalization in order to be able to have clear insight into the effects of this psychological state on consumer behaviour. The benefit of studying three levels of intensity of consumers suspicion is that since suspicion and uncertainty are not linearly related, it enables us to observe how consumers respond differently to product claims that make the consumer more certain (low and high suspicion) as well as claims that make the consumer less certain (moderate suspicion).

Hypotheses Development

In their studies, Fein and his colleagues (Fein, Hilton, and Miller, 1990) primed their respondents by providing them with a story about a man who dates a wealthy widow, while tracking their thoughts. Gradually they provided additional pieces of information that were either positive or negative. They found that respondents were not able to conclude whether the actor was actually in love with the widow or just after her money. Only once additional positive vs. negative cues were provided, individuals were able to come up with a judgement. For example, additional information was provided such as: the man corrects a salesman's mistake giving him back the extra change or he does not and ends up keeping them. The participants in the positive condition (returning the money) concluded that the man was actually in love with the widow. However, the participants under the negative condition (keeping the money), they concluded that he was just after her money.

More recently, drawing from Fein's and colleagues (Fein, Hilton, and Miller, 1990) research, Marchand and Vonk (2005) were the first researchers investigating suspicion from a process rather than a state point of view. They show that individuals do not suddenly become suspicious of one's behaviour but they undergo a process under which they have no suspicion at all to a stage where suspicion progressively arises questioning an actor's motives, and ultimately they become confident about the level of authenticity of motives, leading to termination of suspicion by gaining additional information confirming or disconfirming their initial suspicion.

Instead of priming low vs. high levels of suspicion, they provided participants some material to read about an actor's positive behaviour (e.g. "John asks Henrietta to marry him") while thinking aloud. This led the participants to a positive assessment of the person in the story. Then the researchers provided additional information suggesting ulterior motives such as: "Henrietta is a widow" and "Henrietta is not very interesting", while tracking participants' thoughts upon receiving each cue. Additional negative information was also provided such as: "John does not offer his seat to the pregnant woman on the bus". The analysis of the evaluation and suspicion assessments confirmed their hypotheses showing that the evaluation of the person was gradually evaluated as more negative, the more the negative cues, whereas suspicion was first increasing and the more the additional information provided the lower it got, indicating a linear relationship between ulterior motives and general impression but a quadratic one for motives and suspicion. This piece of research shows that suspicion does not arise in either a low or high level but instead is a process that begins and gets resolved through the additional information that can be provided. It emphasizes the importance of the amount of information that an individual will use in order to resolve suspicion. In that case, Marchand and Vonk (2005) provided only negative information regarding the actor in the

story and thus the respondents were eventually led to a negative assessment of John and from suspicion resolution to distrust.

Marchand and Vonk (2005) emphasize the need to study suspicion under more real-life conditions, which would allow individuals once they become suspicious to start searching for more information, instead of having the information presented to them by the researchers, as it was done in their study. This comes in line with Wright's call (2002) to "acknowledge the social nature of the marketplace-related thought and action" and study consumers taking into consideration their social suspicions and expertise that helps them to conclude to a certain level of social intelligence as well as to resolve a certain level of suspicion.

Furthermore, recent research by Craig and colleagues using neuroimaging methods, shows that under moderate levels of suspicion there is significantly higher brain activity than under low and high levels of suspicion (Craig et al., 2013). Given the non-linear relationship of suspicion and uncertainty, under a low level of suspicion there is low levels of uncertainty (i.e. the claim is probably true). Similarly, under high levels of suspicion there is also low levels of uncertainty (i.e. the claim is probably false). However, under moderate levels of suspicion, it is more likely for consumers to experience higher levels of uncertainty (i.e. the claim can be either true or false). This experience of highest levels of uncertainty, under moderate levels of suspicion, leads to higher brain activity than low and high levels of suspicion. Moreover, they find that the parts of the brain that get activated during the moderate levels of suspicion, are congruent with those that get activated when individuals undergo claims verification and assessment.

Additional research (Darke and Ritchie, 2007) also suggests that suspicion leads to a heuristic cognitive processing of information. This self-protective characteristic of suspicion emphasizes its motivational dimension leading consumers to assess a certain claim more carefully before purchase. Related evidence that points towards a link between suspicion and

information search comes from research on negotiations (Sinaceur, 2009). It was found that pairs for which one trusted the other, but the other person was primed to be suspicious about the other person (Suspicious-Trusting dyad) achieved better results in face-to-face negotiation than a Trusting-Trusting dyad. It is shown that in the first case, the individuals were willing to seek additional information, and were able to make better decisions. However, in the second case, the individuals just relied on the provided information, which resulted in poorer decisions.

Following this stream of literature (Fein et. al, 1990; Marchand and Vonk, 2005; Sinaceur, 2009; Craig et al., 2013), adapting a more realistic approach of how suspicion gradually arises, and using different levels of intensity of that state, I propose a curvilinear relationship between consumer suspicion and consumers' willingness to search for additional product information and eventual willingness to purchase.

More particularly, I expect that individuals under moderate levels of suspicion, in order to resolve their uncertainty (Sinaceur, 2010), will be motivated to search for additional information other than those provided at their attempt to verify and assess a certain claim (Craig et al., 2013). By contrast, under low and high levels of suspicion, the attribution of ulterior motives will be either very low (low suspicion) leading to truth-bias or it will be very high (high suspicion), leading to outright distrust (Levine and McCornack, 1990). In order for suspicion to be resolved and for the individual to be able to come up with a final judgement in regards to the attribution of ulterior motives and the evaluation of authenticity of motives behind one's behavior, additional information will be needed (Marr, Thau, Aquino and Barclay, 2012), which if not provided to them, should search on their own, leading to relative high levels of information search. Thus, I derive the following hypothesis:

H1: A curvilinear relationship is predicted between suspicion and product information search such that at a moderate level of suspicion information search will be greatest.

Furthermore, there is empirical evidence that shows that when individuals experience uncertainty, associated with suspicion (Bobko, Barelka and Hirshfield, 2013), they tend to speculate about a product's benefits and potentially positive consumption outcomes (Dahlen, Thorbjornsen, and Sjodin 2011; Ketelaar, Edwin, van't Riet, Thorbjornsen, and Buijzen, 2018). This mental simulation of expected positive consumption outcomes leads consumers to evaluate products in a more positive light (Ketelaar, Edwin, van't Riet, Thorbjornsen, and Buijzen, 2018), and has also been shown to lead to increased purchase behaviour (Laran and Tsiros, 2013).

Drawing from these findings, I argue that moderate levels of suspicion will lead to relatively higher levels of willingness to purchase in comparison to low and high levels of suspicion, because under moderate levels of suspicion, uncertainty reaches its highest point leading to mental simulations of expected positive consumption outcomes. Individuals will then evaluate the product in a positive light (Ketelaar, Edwin, van't Riet, Thorbjornsen, and Buijzen, 2018), which I argue will lead to highest levels of willingness to purchase. Thus, I derive the following hypothesis.

H2: A curvilinear relationship is predicted between suspicion and willingness to purchase; such that at a moderate level of suspicion, willingness to purchase will be greatest.

Experimental Study

Study 1

In order to test the hypotheses, I conducted one online experiment involving seventy-two respondents from the UK, using the crowdsourcing platform Prolific.

Study Design and Participants

The purpose of Study 1 was to provide an initial test for H1 and H2. To this end, I recruited seventy-two individuals (males= 30.6%, mean age=30.64) from the online crowdsourcing platform Prolific. I employed a between-subjects design, randomly assigning participants to one of the three conditions (suspicion: low vs. moderate vs. high). The study started by providing an introductory text, thanking respondents for their participation and providing them some initial guidance on what to expect. Then, they were exposed to the manipulation of suspicion. To this end, I used the results of a fictitious Nielsen consumer report (Appendix A) regarding the authenticity of advertisements and the misinformation of the public. The first part of the text was the same under all three conditions, and the two last sentences manipulated the levels of truthfulness, which I expected to manipulate suspicion:

The recent Nielsen report (Audience Report, 2018), focuses on what is happening today across the global consumer and media landscape for the consumer. Many consumers in the EU and America are now consulting the Internet before making a decision about a product. The percentage is even higher for young people aged 18-31.

Just 0.1% of the advertisements have been recorded as untrue.

Therefore, misinformation of the public is not as likely through advertising.

[low level of suspicion]

[...]

The Nielsen report shows that 15% of the advertisements have been recorded as untrue.

Therefore, misinformation of the public is not so likely through advertising.

[moderate level of suspicion]

[...]

The Nielsen report shows that 80% of the advertisements have been recorded as untrue.

Therefore, misinformation of the public is quite likely through advertising.

[high level of suspicion]

Then, participants were asked two questions serving as manipulation checks (“Please indicate to what extent you currently experience suspicion” and “How suspicious do you currently feel:” (1) = Not at all - (11) = To a great extent). Afterwards, respondents were exposed to an advertisement by a fictitious brand (Boemer) introducing a new digital camera including a picture of the camera and some information regarding the advertised product (Appendix B). Following the manipulation, subjects answered one item measuring the likelihood of searching for additional information regarding the product (“How likely are you to seek out further information regarding the advertised camera:” (1) = Extremely Unlikely – (11) = Extremely Likely) and one item measuring their willingness to purchase the presented product (“I can imagine buying this camera:” (1) = Completely Agree – (11) = Completely Disagree). All items, except of the demographic questions, were measured on an 11-point Likert scale. Additional constructs were measured and finally, the respondents completed demographics.

Results and Discussion

Manipulation check

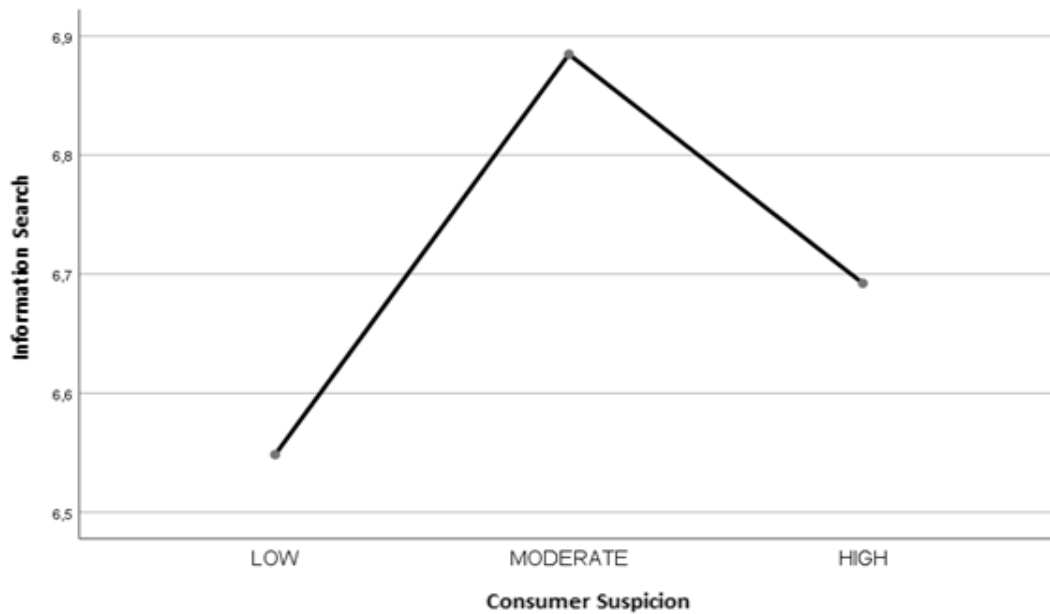
The manipulation check was performed using the two items (“To what extent you currently experience suspicion” and “How suspicious you currently feel” (1) = Not at all - (11) = To a great extent), adopted from Kim and Levine (2011), and combined to form a suspicion measure ($\alpha = 0.84$).

The manipulation checks confirmed that the manipulation was effective. An analysis of variance (ANOVA) showed significant differences among the three-levels of suspicion conditions ($M_{\text{low}} = 5.48$, $M_{\text{moderate}} = 6.50$, $M_{\text{high}} = 7.30$, $F(2, 69) = 4.94$, $p = .015$).

Hypothesis Testing

In order to test H1, I conducted an analysis of variance (ANOVA) with suspicion as a categorical independent variable (Low=1, Moderate=2, High=3) and product information search as dependent variable, revealing an inverted-U shaped relationship (Figure 1) between suspicion and information search ($M_{\text{low}} = 6.63$, $M_{\text{moderate}} = 7.10$, $M_{\text{high}} = 6.52$, $F(2, 68) = 204$, $p = .816$). A post hoc Turkey test showed a non-significant difference among the conditions ($p = .809$), however as it is shown on Figure 1, product information search reached its highest point under moderate levels of consumer suspicion, as predicted.

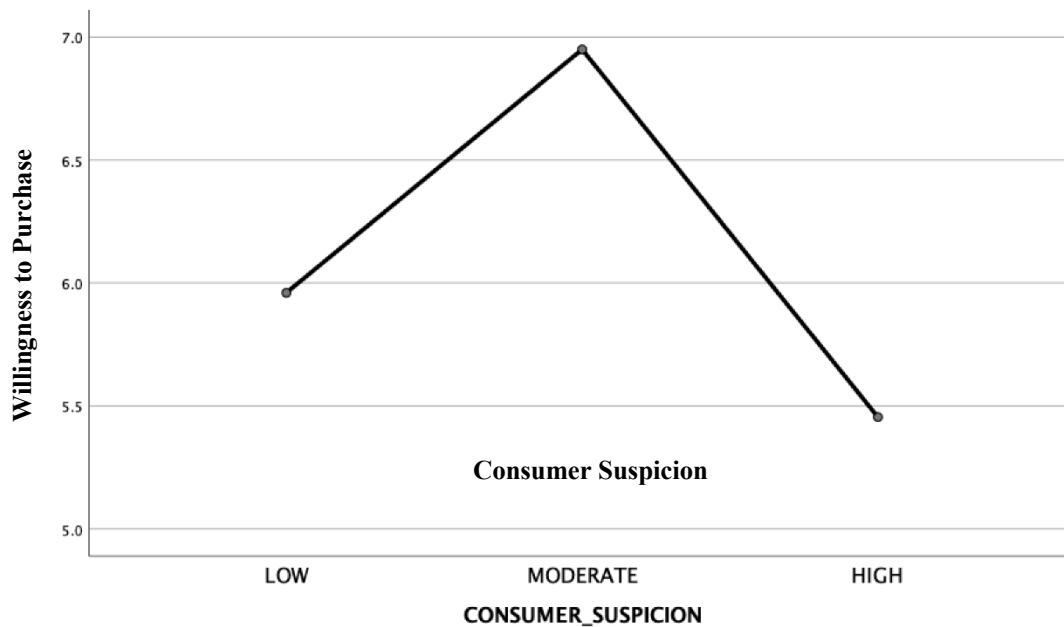
FIGURE 1 - Consumer Suspicion and Product Information Search.



Furthermore, in order to test H2, I conducted an analysis of variance (ANOVA) with suspicion as a categorical independent variable of values (Low=1, Moderate=2, High=3) and willingness to purchase as dependent variable, which uncovered a marginal significant difference among the three conditions ($M_{\text{low}} = 5.96$, $M_{\text{moderate}} = 6.95$, $M_{\text{high}} = 5.45$, $F(2, 64) = 2.68$, $p = .076$).

A post hoc Turkey test showed a significant difference among the conditions ($p = .056$). This supports the hypothesis that willingness to purchase reaches its highest point under moderate levels of suspicion, showing a reverse U-curve effect (see Figure 2) showing that consumer suspicion can also lead to positive outcomes under moderate levels.

FIGURE 2 - Consumer Suspicion and Willingness to Purchase.



Discussion

The results from Study 1 provide initial support for H2 showing that under moderate levels of consumer suspicion, relatively high levels willingness to purchase can be found. In support of the basic premise that under moderate levels of consumer suspicion we would expect highest levels of uncertainty, which would lead consumers to search information and to increased willingness to purchase, I provide initial evidence about suspicion being related to positive outcomes. When respondents were exposed to low and high levels of suspicion, willingness to search for further information in regards to the product and for willingness to purchase were lower than under the moderate levels of consumer suspicion.

General Discussion

Previous research on consumer suspicion has predominantly manipulated it in a dichotomous fashion (e.g. Levine and McCornack, 1991; Campbell and Kirmani, 2000; DeCarlo, 2005; Main, Dahl and Darke, 2007; DeCarlo, Laczniac and Leigh, 2013) and has thus concluded in mostly negative consequences that can arise from the state of suspicion. In contrast, by focusing on different levels of intensity of consumer suspicion (low vs. moderate vs. high), I show that potential positive outcomes such as higher willingness to purchase can arise under moderate levels of consumer suspicion. The previous dichotomous manipulation of suspicion (low vs. high suspicion) might be the explanation for why previous work predominantly found negative consequences of suspicion. Hence, the findings of this work contribute by demonstrating that suspicion can sometimes lead to positive outcomes (i.e. product information search and willingness to purchase) which highlights that suspicion can bring about not only threats but also opportunities for companies.

Limitations and Future Research.

The findings are based on a single product and on a single study with a limited sample size, which might also explain the non-significant differences among the conditions in regards to H1 even though the tendencies were as predicted (highest values of information search under moderate levels of suspicion). Hence, caution should be exercised when interpreting the results. More research is needed to test whether the findings can be generalized.

Future scholars may wish to focus on specific types of information that consumers would look for (e.g., depth and breadth of information search, brand/product-related information, abstract vs. concrete information) that would allow for a more in-depth comprehension of the process of suspicion resolution. If consumers find positive information and successfully resolve suspicion towards trust it could also potentially lead to other positive outcomes such as increased product satisfaction, brand recall and brand loyalty.

Paper 2: When less is more and more is less:

How precise vs. round green product claims influence
consumer preferences for green products.

Abstract

Often claims about green product features are communicated with numerical information, such as, for example 100% natural ingredients. While there has been very little research on the role of number precision in green claims, a natural generalization from research on numeric processing would suggest an advantage of round over precise numbers in green claims in enhancing consumer preferences. Results from one field experiment and three experimental studies, however, suggest that this is not necessarily the case. When consumers are uncertain that the green ingredients in a product will fulfill their chronically or contextually salient consumption goal, precise relative to round green claims will lead to higher probability of purchase. This effect is due to more effortful information processing, which renders precise numbers relatively more fluent. By contrast, when consumers are relatively certain that the green ingredients in a green product will fulfill their consumption goal, round relative to precise green claims will lead to higher probability of purchase. This effect is due to more intuitive information processing, which renders round numbers relatively more fluent. The preference-inducing effect of round versus precise numerical information in green claims can be flipped through marketing communication that highlights the consumption benefit, which consumers feel less certain about in a green product.

Keywords: Number precision, Green consumption, Consumption goals, Trade-off

Green products² are getting increasingly popular in today's marketplace. Indeed, the total value of green consumption³, as part of ethical consumption, is expected to reach \$150 billion by 2021 in the US market (Nielsen, 2018). Consequently, brands launch products with green attributes in an attempt to meet preferences that prevail in the modern marketplace.

The focus of this paper is on the context of ethical consumption⁴ since it is considered to be an important context in which suspicion is likely to arise (Skarmeas and Leonidou, 2013), as in several cases corporate initiatives such as communicating for example organic, natural, and fair-trade claims (De Pelsmacker, Driesen, and Rayp, 2005) can be interpreted by the consumers merely as a persuasion attempt to create positive consumer associations (Vanhamme and Grobбен, 2009). More particularly, this paper focuses on natural products, as part of the overall category of green products, in the context of ethical consumption. The market share of natural products, defined as those that 80% of their consistency originates from plants and minerals, in 2003 reached the amount of \$65 billion in the US and is considered an important market segment with significant expected growth rates (Patwardhan, Vaidya, and Chorghade, 2004). Natural products, as a form of green consumption aiming to minimize the impact on the environment, usually involve the use of ancient practices, such as Traditional Chinese Medicine (Cragg and Newman, 2013), and modern therapeutic techniques and benefits (Patwardhan et al., 2004). Taken into consideration today's increasing levels of suspicion towards ethical products such natural product claims can often be interpreted as misleading (Chan, 2000).

To that end, an interesting marketers' tactic that is being implemented in the marketplace is communicating such natural product claims being supported by scientific

² Green products are defined as those that offer environmentally sustainable features (Olsen et al. 2014; Lin and Chang 2012).

³ Green consumption is defined as the consumers' overall activities aiming to satisfy individuals' needs and desires by minimizing the impact on the natural environment (Yang, Lu, Zhu, and Su, 2015).

⁴ Ethical consumption is defined as consumers' decision making striving for optimization of the environmental, social, and economic consequences of consumption for the overall social welfare (Luchs et al., 2011).

research based on facts and findings, as a means to back up those product benefits and ultimately achieve persuasion (Xie and Kronrod, 2013). Consequently, at an attempt to avoid consumer suspicion (Chan, 2000), often the amount of natural ingredients of products are communicated with specific numerical information. For instance, Body Shop offers a 98% natural skin moisturizer, Garnier provides a 96% natural face mask, and a 90% natural face moisturiser. The brand 'Green People' offers a 100% natural toothpaste, and Apivita provides an 87% natural shampoo as well as a 94% natural face serum. Adidas recently released their new Ultra Boost 4.0 Parley sneakers, which consist of 85% recycled materials.

Taking into consideration the importance of the specificity and level of precision of which a quantifiable claim will be communicated on consumers perceptions and preferences (Xie and Kronrod, 2013), the question that arises from these examples is which type of numerical claim – round or precise – is more instrumental in green advertising, as the broader umbrella of communicating natural product benefits, for creating consumer preferences at the brand-level.

There has been very little research on the role of number precision in green claims that could help answering this conundrum. However, a natural generalization from research on numeric processing would suggest that round numbers have advantages over precise numbers in green claims because round numbers tend to be processed more fluently than precise numbers (Thomas, Simon, and Kadiyali, 2010; Thomas and Park, 2013). Since fluent processing of product information has been linked to enhanced consumer preferences for the product (e.g., Thomas and Morwitz, 2009; King and Janiszewski, 2011), one could argue that round numbers in green claims are more instrumental for triggering important marketing outcomes at the brand-level, such as brand purchase.

There are however reasons that challenge the validity of generalizing this notion to the green consumption context including the communication of natural products. A recent

stream of literature in the area of ethical consumption shows that consumers in certain cases make the inference that green products, such as natural ones, lack strength in comparison to standard ones (Luchs et al., 2010; Lin and Chang, 2012; Bodur, Gao, and Grohmann, 2014; Newman, Gorlin, and Dhar, 2014; Luchs and Kumar, 2017; Mai, Hoffmann, Lasarov, and Buhs, 2019).

More specifically, according to previous research, consumers have the lay belief that they are forced to make a trade-off decision between a product's natural attributes and the functionality or performance one can expect of the product (e.g., Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014). For example, consumers use more of a green hands sanitizer and a green mouthwash compared to the standard versions of the products because they believe that they are being less effective (Lin and Chang, 2012). Indeed, in green product choice, consumers feel that they need to choose performance over gentleness or vice versa. Hence, when green ingredients in a product lead consumers to believe that the product is generally healthy or gentle they will naturally perceive the product as not strong or not performant enough and when green ingredients in a product lead consumers to believe that the product is generally strong and performant they will naturally assume that it is not gentle or healthy enough (e.g., Luchs et al., 2010). For instance, a toothbrush that is made from bamboo might be perceived as strong with good cleansing performance but not as gentle to the gums.

Against this backdrop, I suggest that a green claim regarding a product's level of naturalness expressed in round numbers (e.g., 100% natural ingredients) will increase consumers' product preferences relative to a green claim expressed in precise numbers (e.g., 93.4% natural ingredients) when consumers value benefits that they believe are directly associated with the natural ingredients in the product. By contrast when they seek benefits of which consumers believe that they would be less attainable through the natural ingredients in

the product, a green claim expressed in precise numbers will increase consumer preferences relative to a green claim expressed in round numbers. I further suggest that this relationship between number precision in natural claims and probability of purchase occurs because being uncertain about need-fulfillment, triggers a more effortful, rational, and analytical information processing style in the consumer, which renders precise natural claims relative to round natural claims conceptually more fluent, and hence increases probability of purchase. If this proposition has validity, then the preference-inducing effect of round versus precise numerical information in green claims, such as natural ones, can be flipped through marketing communication that highlights the consumption benefit, which consumers feel less certain about in a green product.

For the purpose of the current project, I conducted one field experiment and four online experiments involving a total of 1752 participants. I find evidence for these propositions using different types of dependent variables including actual purchase behaviour and intention to purchase for different products.

These findings add to research on number cognition and provide important implications for green message framing. Work on green message framing has side-stepped the role of numerical precision as an important means through which natural features of a product are communicated to consumers in managerial practice. Instead, extant research on green message framing has examined the assertiveness of green claims more generally (Kronrod, Grinstein, and Wathieu, 2012), the communication of functional versus symbolic benefits of a green product (Bodur et al., 2014), or the role of the valence of the green message (negative; e.g., “no pesticides” vs. positive message framing; e.g., “organic”) in generating a green brand-identity (Olsen, Slotegraaf, and Chandukala, 2014). With my focus on number precision, I address a timely managerial problem, and provide actionable

implications that help managers to determine when to use round versus precise green claims for communicating the amount of natural ingredients included in a green product.

Furthermore, while research on numerical fluency would suggest that a round claim is processed more fluently than a precise claim, and would hence trigger more favourable consumer preferences (Thomas, Simon, and Kadiyali, 2010; Thomas and Park, 2013), these results suggest that this is not necessarily the case. Indeed, precise natural claims can be more fluent when consumers value most benefits, which they naturally associate less with the ingredients in a green product. Hence, while on the basis of extant work, round numbers seem to be processed more fluently, and would hence be instrumental, these results emphasize that this is not necessarily the case. In fact, in some cases consumers process precise numbers more fluently than round numbers, and hence precise numbers are more instrumental in triggering favourable marketing outcomes at the brand-level.

Finally, these findings emphasize the role of consumers' consumption goals and their lay beliefs that a green product involves trade-off decisions (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014), such as the one of lower perceived quality in the case of natural products.

Theoretical Background

The trade-off between gentleness and strength consumption benefits in green products

Gentleness and Strength Goals in Green Consumption. Goals are defined as desired end states (Custer and Aarts, 2005). Once a goal becomes salient, goal-directed behaviour aimed at achieving the desired end state, e.g., product-search or buying behaviour will be activated (Chartrand, Huber, Shiv, and Tanner, 2008; Kruglanski, 1996).

In the present research, I focus on two central consumption goals: strength and gentleness-related goals since they are two of the most common categories that consumers

aim to fulfill through ethical consumption (Ethical Consumer Markets Report, 2019). More specifically, according to the latest Ethical Consumer Markets Report (2019), the overall amount that consumers spent on strength-related products, such as natural cleaning home products (e.g. detergents), is £59 million and the overall amount spent on gentleness-oriented products, such as natural cosmetics and personal care, is £832 million.

The specific contexts have been chosen given that the majority of consumers engaged in green consumption is the “health fanatics” (Ottman, 2010) mostly focusing on green messages promoting natural ingredients and health product attributes (Kareklas, Carlson, and Muehling, 2013; Mead and Richerson, 2018) that would promote health and safety purposes (Brough, Wilkie, Ma, Isaac, and Gal, 2016) -gentleness-related consumption-. Furthermore, the strength-consumption context seems quite appropriate since in previous literature green products have been associated with lower product quality, weaker performance (Luchs et al., 2010) and have been characterized as less effective (Carrington, Neville, and Whitwell, 2014; Newholm and Shaw, 2007).

Finally, it is considered important that especially in the context of green consumption, these two contexts might often be interlinked since for products that might belong to one of the above product categories the consumption goals and the benefits that each individual pursues might be different. For example, a toothbrush could belong to a strength category for the market segment who would aim for plaque removal, but at the same time it can also belong to a gentleness category when consumers aim for gum protection. Thus, the importance of investigating the effects of different consumption goals even, within the same product category, and its effects on the use of number precision in green claims and consumers’ perceptions and willingness to purchase becomes apparent.

In line with previous work, I use the term gentleness to refer to a broader category of desired end states, that include product attributes that provide consumer benefits such as

safety, health, and gentleness (Luchs, 2010). For instance, products such as personal and skin care (e.g., body/face wash, and moisturizing creams) as well as baby products (e.g., diapers) tend to provide gentleness-related benefits (Luchs et al., 2010; Hsuan-Hsuan et al., 2012).

By contrast, strength goals are linked to product benefits, such as power, durability and effectiveness (Hsuan-Hsuan et al., 2012). Products such as hands sanitizer, cleaning sprays, mouth-wash, laundry or dishwashing detergents (Lin and Chang, 2012), soap (Pancer, McShane, and Noseworthy, 2017), car shampoo, or car tires would tend to satisfy needs that are mostly strength-related. While consumption goals can be category-specific, consumers can also seek different benefits in the same product (Botti and McGill, 2011). For example, when purchasing a laundry detergent, some customers might look for strength as the main benefit in the detergent first and foremost, i.e., to remove persistent stain. Yet, other consumers might value gentleness attributes first and foremost, i.e., to have fresh and nice smelling bed sheets.

Trade-Off. Recent research suggests that there is a trade-off between these two goals in green consumption (Gildea 2001, Luchs et al. 2010; Newman et al., 2014; Luchs and Kumar, 2017; Pancer et al., 2017). Evidence from recent research shows that there is a positive association between the ethicality of a product, such as the amount of natural ingredients it consists of, and the perceived levels of gentleness the product can provide (Luchs, 2010). In other words, the more natural a product is being perceived, the higher the levels of gentleness that it will be thought that it provides. However, a quite interesting finding from recent research shows that natural products are not only being associated as gentler but at the same time as less strong too (Luchs et al., 2010; Lin and Chang, 2012; Mai et al., 2019).

More specifically, previous research shows that there is a negative association between greenness and strength product perceptions, and a positive association between

greenness and gentleness-related attributes; hence an orthogonal relationship between strength and gentleness (cf. Luchs et al., 2010). Indeed, strength and gentleness have been found to load on two different empirical factors because consumers associate each notion with attributes that correlate negatively, such as “powerful” and “tough” for “strength” and “safe” and “mild” for “gentleness” (Luchs et al., 2010), which suggests that a product cannot be perceived as both strong and gentle at the same time. Hence, a product’s gentleness attributes can be ‘orthogonal’ to the product’s expected performance (Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014), such that when a product is being portrayed as strong, it is also perceived as non-gentle, whereas when it is portrayed as gentle, it is also being perceived as not strong enough.

Hence, when natural ingredients in a product lead consumers to believe that the product is generally healthy or gentle they will naturally perceive the product as not strong or not performant enough and when green ingredients in a product lead consumers to believe that the product is generally strong and performant they will naturally assume that it is not gentle or healthy enough (e.g., Luchs et al., 2010).

Numerical Roundness vs. Precision and Ease of Processing

In an attempt to overcome consumers’ lay beliefs such as the trade-off between strength and gentleness-related consumption goals, a common recent marketing practice that has been identified in today’s marketplace, is the use of numerical information indicating the specific amount of natural ingredients a product includes (Xie and Kronrod, 2013). Consequently, in order to avoid such associations of a trade-off, often the amount of natural ingredients of products are communicated with numerical information, which can be either a round one (e.g. 100% Natural) or a precise one (e.g. 93.4% or 93% Natural).

A round number can be defined as a number that has one or multiple ending zeros (Thomas, Simon, and Kadiyali, 2010; Coupland, 2011). Round numbers relative to precise

numbers are used more regularly in day to day life (Rosch, 1975). Since the frequency with which an individual is exposed to a stimulus is generally associated with ease of processing of this stimulus, round numbers tend to be processed relatively more intuitively, and with less cognitive effort than precise numbers (Kelley and Lindsay, 1993; Thomas and Park, 2010; Thomas et al., 2013).

By contrast, precise numbers (e.g., 93.4 versus 100) are perceived to be more factual (Schindler and Yalch, 2006), and more cautiously calculated (Thomas and Park, 2013). Relative to round numbers, precise numbers are less prototypical for numbers per se and are used less in everyday life (Rosch, 1975). As a consequence, precise numbers are processed less easily in comparison to round numbers (Thomas and Park, 2013) and they require relatively more cognitive effort to be processed (Thomas, Simon, and Kadiyali, 2010).

Yet, prior research has demonstrated that context congruity increases conceptual fluency (Sirianni et al., 2013; Lee and Labroo 2004). Hence, when a stimulus and its context are aligned the provided information will have higher conceptual fluency than when the stimulus and context are not aligned (Alter and Oppenheimer, 2009; Sirianni et.al, 2013). Following this line of reasoning it stands to argue that the ease with which numerical information is processed depends on the consumer's processing style that is being salient when the consumers perceives the numerical information.

Intuitive vs. Analytical Stimulus Processing

Literature on dual-system theory of judgment (e.g, Kruglanski and Gigerenzer, 2011) suggests that when individuals process information to make decisions, they tend to rely either more strongly on an intuitive (System 1) or more strongly on an analytical (System 2) processing style (Alter , Oppenheimer, Epley, and Eyre, 2007).

Intuitive processing or System 1-processing is quite fast (Mishra, Mishra, and Nayakankuppam, 2007) because it relies on heuristics through associative memory (Dhar and

Gorlin, 2013) and as a consequence does not heavily exhaust an individual's cognitive capacity (Kahneman, 2003). It is viewed to unfold in a rather automatic fashion (Dhar and Gorlin, 2013). By contrast, the analytical type of processing (System 2) is viewed to be deliberative and more controlled. It is more effortful, rational and analytic (Kruglanski and Gigerenzer, 2011), hence it demands more cognitive capacity, and is thus slower (Dhar and Gorlin, 2013).

Hypotheses Development

Consumers under the process of decision making in regards to a certain product, they have specific benefit expectations that aim to fulfill (Bodur, Gao, and Grohmann, 2014). Therefore, given that consumers' behaviour is mostly context-dependent (Lin and Chang, 2012), individuals consume products having different goals in mind affecting in turn their product perceptions. A key consideration towards a better understanding of consumer behavior may be found in the motives that might underline it, such as their consumption goal that strive to fulfill through a purchase (Barbopoulos and Johansson, 2017).

Individuals strive to reach a goal through goal-directed action (Kruglanski, 1996; Labroo and Lee, 2007; Chartrand, Huber, Shiv, and Tanner, 2008). For instance, once a consumption goal becomes salient, goal-directed behavior aiming at fulfilling the specific desired end state, such as product-search behavior or buying behavior that is viewed as providing the desired benefits will be activated (Kruglanski, 1996).

Previous research though in the area of ethical consumption, including the consumption of natural products, emphasizes that different consumption goals (gentleness versus strength-related) influence the degree to which perceived sustainability, such as the amount of natural ingredients a product might include can be perceived as an asset or a liability (Luchs et al., 2010; Lin and Chang, 2012; Bodur, Gao, and Grohmann, 2014;

Newman, Gorlin, and Dhar, 2014; Luchs and Kumar, 2017; Mai, Hoffmann, Lasarov, and Buhs, 2019). More specifically, an orthogonal relationship between strength and gentleness has been shown (cf. Luchs et al., 2010) since under salient gentleness-related consumption goals, a product's ethicality has been found to enhance consumers' preferences, while under strength-related consumption goals it has been found to have a negative effect on consumer preferences (Luchs et al., 2010).

In line with that research stream (Luchs et al., 2010; Lin and Chang, 2012; Bodur, Gao, and Grohmann, 2014; Newman, Gorlin, and Dhar, 2014; Luchs and Kumar, 2017; Mai, Hoffmann, Lasarov, and Buhs, 2019) showing that when consumers perceive a natural product's ingredients to be linked with strength, they will have the lay belief that the product will lack gentleness -and vice versa- and taking into consideration researchers' emphasis on communicating sustainability in concrete and specific manner in order to support consumers during their decision making (Naylor and Trudel, 2015), I focus on the effects of the numerical precision a natural claim is being communicated to consumer probability of purchase.

More specifically, so far there has been some work on precision on product claims (Darlly and Smith, 1993; Naylor and Trudel, 2012; Xie and Kronrod, 2013; Bodur et al., 2014) and on consumption goals (Luchs, Naylor, Irwin, and Raghunathan, 2010; Bodur et al., 2014; Yang, Lu, Zhu, and Su, 2015) but not on the interaction of the two, the importance of investigating the effects of different consumption goals even, within the same product category, as well as its effects on the use of number precision in natural claims and consumers' perceptions and willingness to purchase becomes apparent.

When consumers seek a benefit that they are uncertain the product can ultimately provide, such under the experience of a trade-off between gentleness and strength, they will become more vigilant when processing product related information (Hsuan-Hsuan et al.,

2012) in an attempt to avoid making mistakes and to prevent harm (Keller, 2006). In that case, consumers process information more cautiously, and are willing to invest more cognitive effort during their decision-making process (e.g., Alter et al., 2007). A slower, and cognitively more effortful (System 2) type of information processing will be activated in order for an individual to make the right decision. This more analytical way of thinking will increase the conceptual fluency of precise numbers because there is fit between the stimulus and a consumers' way of processing information.

By contrast, when consumers seek a benefit that they are relatively certain the product will provide through its natural ingredients, a more intuitive, faster and less cognitive-based type of processing will be operating. In this case, a natural claim with round numbers that require less cognitive effort to be processed (Rosch, 1975), will be more fluent because there is fit between the stimulus and a consumers' way of processing information.

According to the feeling-as-information framework, people might rely on fluency when making evaluative judgments (Schwarz and Clore, 1988; Alter, Oppenheimer, Epley, and Eyre, 2007; Alter and Oppenheimer, 2009). Hence, when conceptual fluency is implied by an alignment between a green claim and a salient processing style, consumers use it as an evaluative cue (Alter and Oppenheimer, 2009) and judge a certain product more favorably increasing individuals' judgments and preferences about a source (Whittlesea, 1993; Lee and Labroo, 2004; Reber, Schwarz, and Winkielman, 2004). This increase of conceptual fluency, providing a sense of feeling right, which the individual will attribute to the product, will lead to a positive effect on the consumer's willingness to buy for the product.

Therefore, when a product with ingredients that are otherwise associated with strength attributes, is presented as gentle, consumers will ironically doubt that it can deliver the strength-related benefits, and they will hence employ a more analytical and effortful way of processing, which will render precise natural claims more conceptually fluent relative to

round natural claims. By the same token, when the same product is portrayed as strong, but consumers value gentleness, precise natural claims relative to round natural claims will be associated with higher probability of purchase. Higher fluency will, in turn, be associated with higher probability of purchase.

Thus, I argue that enhanced conceptual fluency that might arise from the alignment between a natural product claim and a consumption goal, will lead to lower levels of uncertainty (certainty), which will make them employ an intuitive (analytical) way of processing investing low (high) cognitive resources. This will render round (precise) numbers, which need low (high) cognitive capacity in order to be processed, more functional in leading to higher probability of purchase. I more formally propose:

H1: When consumers are relatively uncertain (certain) that a consumption benefit they seek is attainable through natural ingredients of a product, green products with precise (round) natural claims relative to round (precise) natural claims will be associated with higher probability of purchase.

H2: This relationship between number precision in natural claims and probability of purchase occurs because being uncertain about need-fulfillment, triggers a more effortful, rational, and analytical information processing style in the consumer, which renders precise natural claims relative to round natural claims conceptually more fluent, and hence increases probability of purchase.

Furthermore, I suggest that the effect of numerical precision in natural claims is contingent on the more general marketing communications in which a brand is embedded. Previous research shows that product information provided by the marketers, such as results from scientific studies proving the product's superiority, can increase the perception of the effectiveness of a green product and counterbalance trade-off perceptions (Lin and Chang, 2012). More specifically, research by Lin and Chang (2012), shows that when participants were exposed to a green glass cleaner, they increased the amount of product used as they were perceiving it as not effective enough given that it was a green product and thus

experiencing a perceived trade-off. However, when the same product was presented accompanied with information regarding the product's effectiveness, such as a credible endorsement supported with empirical data, the perceived trade-off was eliminated, and the participants decreased the amount of product used.

In line with that research, I argue that in the case of such a perceived trade-off, when a green product, such as natural products, is being promoted as gentle through the marketing communication strategy being applied, but consumers already perceive it as strong, under a strength consumption goal, precise green claims regarding the natural amount of ingredients of a product will lead to higher purchase probability than round ones. At the same time, under a gentleness consumption goal and when individuals perceive a natural product as strong but is being promoted via marketing communication as strong, precise numbers will lead to higher purchase probability. Thus, I formally propose:

H3: The effect of number precision in natural claims on consumer preferences is contingent on the more general marketing communication such that when a natural product is portrayed as gentle (strong) that consumers otherwise associate with strength, and consumers seek strength (gentleness), precise natural claims relative to round natural claims will be associated with higher probability of purchase.

Overview of Experiments

I conducted a series of five experiments in order to test my hypotheses. In Study 1A, I provide evidence to show that ethical products, such as natural ones, are treated by consumers with increased suspicion in comparison to an equivalent but standard alternative of the same product. In Study 1B, I tested H1 in a field experiment for which a fully functioning webshop was created. I measured consumers' actual purchase behaviour. The purpose of Study 2 was to replicate and extend the findings of Study 1B in a more controlled setting by priming, rather than measuring, the salience of consumers' consumption goals. Study 3 tests H2, i.e., a moderated mediation effect of numerical precision through

consumers' processing style conditional on the salience of a consumption goal. Finally, Study 4 tests H3, and derives actionable managerial insights based on the findings of Study 1A to 3.

Study 1A: Consumer Suspicion towards natural products

First, I conducted an online experiment in order to provide evidence that consumers reach higher levels of suspicion towards products using natural claims in comparison to standard ones.

Study Design and Participants

To this end, I recruited one hundred and one participants (males= 26.2%, mean age=27.39) from the online crowdsourcing platform Prolific. I employed a between-subjects design, randomly assigning participants to one of the two conditions (product type: natural vs. standard). The study started by providing an introductory text, thanking respondents for their participation and providing them some initial guidance on what to expect. Then, they were exposed to the manipulation. To this end, the participants were requested:

“Please imagine that you are interested in buying a new anti-bacterial gel and you find an (a) all-NATURAL (standard) anti-bacterial gel by the brand Boemer.

Read the questions carefully and answer them.”

Then, participants were asked a question serving as the dependent variable (“Please indicate to what extent you currently experience suspicion” and “How suspicious do you currently feel.” (1) = Not at all - (11) = To a great extent). Additional constructs and demographics were measured. All of the variables except of the demographic questions, were measured on an 11-point Likert scale.

Results and Discussion

In order to test whether consumers are more suspicious towards natural products than standard ones, I conducted an analysis of variance (ANOVA) with the product type as an independent variable (standard vs. natural) and consumer suspicion as dependent variable, revealing that participants were indeed significantly more suspicious towards the natural product in comparison to the standard one ($M_{\text{standard}} = 4.00$, $M_{\text{natural}} = 5.14$, $F(1, 99) = 204$, $p = .028$).

Thus, Study 1A shows that consumers are significantly more suspicious towards products communicating a natural claim in comparison to a standard alternative of it. It remains to investigate what are the effects of numerical precision of natural product claims, aiming to overcome such consumer suspicion, on consumers' purchase behaviour.

Study 1B: Numerical Precision in Natural Claims and Purchase Behaviour

Evidence from a Field Experiment

The purpose of Study 1B was to provide an initial formal test of H1 in a real-world setting. To this end, a fully functioning webshop provided a naturally occurring online purchase situation (Gneezy, 2017). Hence, the webshop allowed me to obtain field experimental results with high external validity (Wu, et. al., 2017).

Participants and Design

I recruited participants through the crowd sourcing platform Clickworker and obtained two hundred and forty-two usable responses from those who successfully passed an attention check (males = 48.2%, mean age = 36.12). I employed a 2 (number precision in natural claim: precise vs. round) x continuous (consumption goals) between-subjects design. Participants were randomly assigned to one of the two conditions.

Procedure and Stimuli

The Webshop. In order to create the webshop, I hired a student of computer science. The webshop was programmed in Javascript (in particular with the Angular framework). In order to allow me to randomize the display of different products, PlanOut was used, a package originally developed by Facebook to conduct online experiments. The clickstream was recorded on the client side and saved in the backend in a MySQL database. The webshop was linked to real products on Amazon.com so that participants were able to actually purchase the product. Screenshots of the webshop appear in Appendix C.

Procedure. Prior to being exposed to the webshop, I assessed consumers' consumption goals associated with the purchase of toothbrushes. I asked consumers to indicate on a 7-point Likert scale which benefit for them would be relatively more important in a toothbrush ("For me a good toothbrush needs to: ((3) = Get the job done-(3) = Feel good"), followed by a filler task. Consumers were then directed to the webshop. The webshop displayed a picture of an existing natural toothbrush made of bamboo, which was described as being either containing 93.4% (precise natural claim) natural materials or as containing 100% (round natural claim) natural materials. As previous research shows (Xie and Kronrod, 2013), there is no difference on consumers' perceptions of precision between precise numbers including no decimals (e.g. 93) and those including one decimal (e.g. 93.4). For the purpose of this paper, the precise stimulus being presented included one decimal (93.4). Both toothbrushes were offered at the price of €0.83, which was the actual retail price during the period of data collection. Pictures of the toothbrushes appear in Appendix C.

As with traditional online webshops, consumers had the option to either buy the product by clicking the "buy" button, or not to buy the product by clicking the "do not buy" option. Consumers were notified that if they would click on the "buy" option, they were directed to the Amazon interface page and they could proceed with the purchase. Once

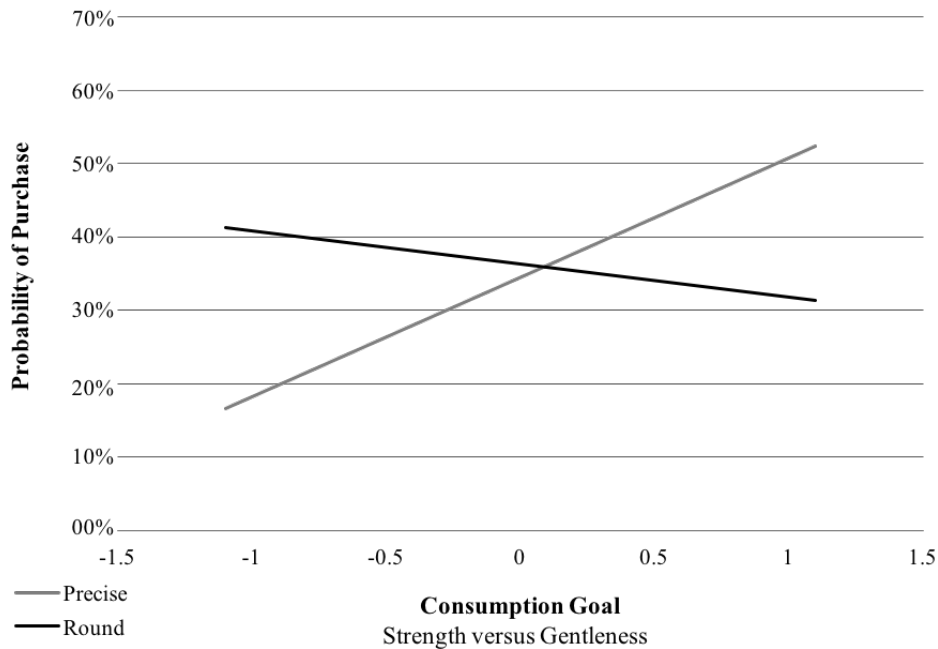
consumers had hit the purchase or no purchase button, consumers were directed to a second questionnaire asking them to complete some additional questions and some final demographic characteristics ones (age and gender).

Results and Discussion

In order to test H1, I regressed purchase behaviour on number precision of the natural claim, mean-centered consumption goal and the interaction among them. Results are presented in Table 1, and show a non-significant main effect of numerical roundness of the natural claim on purchase behaviour ($b = 0.187, p = .515$), a positive and significant effect of the consumption goal on purchase behaviour ($b = 0.581, p < .01$), and most importantly a negative and significant effect of the interaction between the type of numerical claim and the consumption goal ($b = -0.727, p < .01$). Floodlight analysis reveal (Figure 1; see also Spiller, Fitzsimons, Lynch, and McClelland, 2013) that the more strongly consumers seek a gentleness consumption goal, the higher probability of purchase for a natural product with a precise numerical claim and the lower for a round claim, whereas the more strongly consumers seek a strength goal, the higher probability of purchase for a natural product with a round numerical claim and the lower for a precise claim.

The results from Study 1B provide initial evidence for the effect of numerical precision on consumers' purchase behaviour being dependent on the salience of consumption goals. More specifically, when consumers associate the natural ingredients in a product with strength, these results suggest that the stronger a gentleness-related consumption goal is, the higher the probability that precise numbers used in a natural product claim will lead to higher of purchase whereas the opposite is the case, when a strength-related consumption goals is salient, for which the round numbers in natural claims will lead to relatively higher probability of purchase.

FIGURE 1 -
Purchase Probability as a Function of Number Precision in Natural Claims and Salient Consumption Goals (Strength vs. Gentleness).



Notes: Consumption Goals is mean-centered.

Study 2: Numerical Precision in Natural Claims – Replication and Extension

The purpose of Study 2 was to replicate and extend findings from Study 1B in a different consumer setting – consumers’ online searches. I employed a highly realistic experimental set up, simulating a Google search page. This context is important because consumers frequently use search engines when making purchase decisions and business use them in order to promote products and services to consumers (Daly and Scardamaglia, 2017). In contrast to Study 1B, I primed rather than measured the salience of the consumption goals to be able to draw stronger causal inferences. In addition, I used a different dependent variable. I relied on a continuous measure of intention to purchase.

Participants and Design

I recruited participants through the Amazon's crowdsourcing platform Mechanical Turk (MTurk) and obtained three hundred and eleven usable responses from those who successfully passed an attention check (males = 58.6%, mean age = 36.05). I employed a 2 (number precision in natural claim: precise vs. round) x 2 (consumption goal: strength vs. gentleness) between-subjects design. Participants were randomly assigned to one of the four conditions.

Procedure and Stimuli

The study started by providing an introductory text thanking respondents for their participation. Respondents completed some initial questions and a filler task. In a next step, participants were exposed to the consumption goal prime. Participants were asked to "imagine you are looking for a strong [gentle] natural mosquito repellent online and you find the following one". Next, a naturalistic google search page popped up (see Appendix D) which simulated google search results from the following searches being typed into the search box "natural mosquito repellent that is strong [gentle]".

Search results showed a sponsored link to a Mosquito repellent. In the non-round condition, the product shown was the "93.4% Natural Insect Repellent" and in the round condition it was the "100% Natural Insect Repellent". The full experimental stimuli appear in the Appendix D.

After being exposed to the search results, participants were asked to indicate their purchasing intention for the Mosquito repellent spray on one item ("I can imagine buying this [brand name] repellent spray": 1 = Completely Disagree – 7 = Completely Agree). Additional constructs were measured, including two attention checks and questions about demographics.

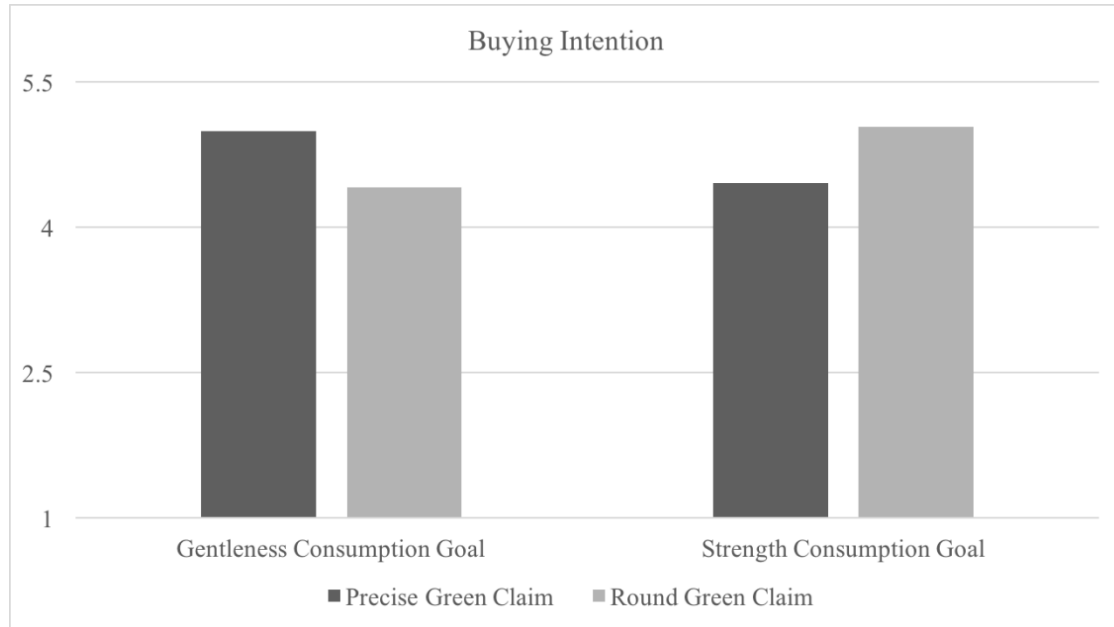
Hypothesis Testing

Preliminary Analysis. I first regressed intention to buy on number precision of the natural claim, consumption goals, and the interaction among them (strength consumption goal = -1 and precise numerical claim = -1). Results show a non-significant main effect of number roundness on intention to purchase ($b = -0.025, p = .813$), and a non-significant direct effect of consumption goal on intention to purchase ($b = 0.001, p = .994$), but most importantly, a negative and significant interaction effect ($b = -0.264, p = .013$) on intention to purchase.

Hypothesis. For testing the hypothesis, I split the results per consumption goal (gentleness vs. strength). I created a dummy-variable denoting whether a participant was exposed to the precise natural claim (coded “0”) or the round natural claim condition (coded “1”). Regression analyses show that the round natural claim has a positive effect on intention to purchase ($b = 0.478, p < .10$) when strength-related consumption goals are salient, and a negative effect when gentleness-related consumption goals are salient ($b = -0.579, p < .10$), such that under a salient strength-related consumption goals, round numbers in natural claims relative to precise claims increase purchase intentions while the opposite is the case when gentleness-related consumption goals are salient (see Figure 2).

The results from Study 2, replicate and extend the findings from Study 1B, using primed consumption goals, and provide additional support to the suggested hypothesis that under a gentleness (strength)-related consumption goal, precise (round) numbers would lead to higher buying intention.

FIGURE 2 -
Buying Intention as a Function of Number Precision in Natural Claims and Salient Consumption Goals (Strength vs. Gentleness).



Study 3: The Underlying Mechanism

The purpose of Study 3 was to provide a formal test of H3, in which I propose a conditional indirect effect of number precision in a natural claim on consumer preferences through consumer's processing style.

Participants and Design

I recruited participants through Amazon's Mechanical Turk (MTurk). I obtained seven hundred and seventeen usable responses from those who successfully passed the attention test (males = 52.9%, mean age = 36.14). I employed a 2 (number precision in natural claim: precise vs. round) x continuous (consumption goals) between-subjects design. Participants were randomly assigned to one of the two conditions.

Procedure and Stimuli

In Study 3, I first assessed consumers' consumption goals associated with the purchase of a bike helmet and their general style of processing information related to the purchase decision of a bike helmet. I asked consumers to indicate on a 7-point Likert scale what is the most important benefit for them in a bike helmet ("For me a good bike helmet needs to: ((3) = Get the job done-(3) =Feel good"), and on a 7-point semantic differential scale how they process information in regards to the purchase of such a product ("When considering purchasing a bike helmet, I would process the provided information...": (3) = ...using my gut feelings - (3) =... analytically). A filler task followed and then the participants were either exposed to a picture of a bike helmet, which was announced as "93.4% Natural" in the precise claim condition, or as "100% Natural" in the round claim condition. The experimental stimuli appear in the Appendix E.

After exposure to the stimulus, I asked participants to state their buying intention on a binary item ("Would you buy the bike helmet shown?: No; Yes"). Then, there was one item measuring how the respondents processed the information exposed to ("When considering purchasing this bike helmet, I processed the provided information...": (3) = ...using my gut feelings - (3) =... analytically). Finally, additional constructs were measured, including the attention checks and the demographic characteristics.

Results

Pre-Test. I conducted a pre-test with fifty-nine Mturkers (males = 61%, mean age = 32.81), in order to investigate whether consumers would actually associate natural ingredients in a bike helmet with gentleness of the product. Specifically, I asked respondents to rate the bike helmet on a 7-point semantic scale regarding the product's gentleness compared to a standard product ("Because the helmet is made from natural materials, I believe it is... "(3) ...less gentle than a standard helmet - (3)...more gentle than a standard helmet). A picture of

the bike helmet appears in Appendix E. I then measured how performant participants viewed the helmet using three items (“The shown product: ...was functional, ... was practical, ...was helpful”). I calculated an index for that scale and the Cronbach’s alpha was .96. Scale-items were measured on a 7-point Likert scale ((1) Completely Disagree – (7) Completely Agree)). Finally, demographic characteristics items (age and gender) were measured. Results of a one-sample t-test against the neutral scale mean of the semantic differential show that the natural bike helmet was perceived as significantly more gentle than a standard helmet as indicated by a value being significantly higher than the neutral point, ($M = 4.95$, $SD = 1.395$, $t(58) = 5.227$, $p = .000$). Furthermore, I correlated the product’s perceived performance with the gentleness-strength item. The results show a negative and significant relationship between the two variables ($b = -.330$, $p = .011$) indicating that the gentler the natural product compared to a standard product is perceived, the less it is perceived as being performant.

Hypothesis Testing. I conducted a mediation analysis by specifying a path-model in line with Hayes’s model 7 (Hayes, 2009), in which I controlled for respondents’ general processing styles assessed before they were exposed to the stimulus to tap the incremental change in respondents’ processing style due to exposure to the stimulus (see Table 1 for the full results). I bootstrapped the standard errors of the indirect effects (10000 bootstrap resamples) and obtained bias-corrected estimates of the confidence intervals. The full results appear in Table 1.

TABLE 1 – Study 3: Estimation Results

		Estimates
Main Effects		
Precise vs. Round Natural Claim	→ Buying Intention	-0.155 (0.151)
Consumption Goal	→ Buying Intention	0.109 (0.053)**
Intercept		5.691 (0.044)***
Precise vs. Round Natural Claim	→ Processing Style	0.031 (0.063)
Consumption Goal	→ Processing Style	-0.067 (0.031)**
Pre-stimuli processing style	→ Processing Style	0.846 (0.030)***
Interaction Effect		
Precise vs. Round Natural Claim x Consumption Goal	→ Processing Style	0.105 (0.046)**
Conditional Indirect Effects		
Strength Goal		0.982 (0.016)** 95% CI [.017, .197]
Strength and Gentleness Goal		1.003 (0.008)** 95% CI [.934, 1.001]
Gentleness Goal		1.025 (0.019)** 95% CI [1.001, 1.080]

Notes: *** $p < .01$; ** $p < .05$; * $p < .10$ (two-tailed). The table presents unstandardized path coefficients; standard errors are shown in parentheses. Number precision natural claim was dummy-coded (0 = precise claim, 1 = round claim), consumption goal was dummy-coded (0=strength, 1= gentleness), purchase behaviour was dummy-coded (0 = no purchase, 1 = purchase).

I find a significant conditional indirect effect of numerical roundness in natural claims via consumer's processing style on buying intention when consumers seek strength benefits (-1.25 SDs of consumption goal $b = 0.982$, 95% CI = [.934, 1.001]), when they seek a little bit of both, strength and gentleness (+/- 0 SDs of consumption goal $b = 1.003$, 95% CI [0.991, 1.024]) and when consumers seek gentleness benefits (+1.25 SDs of consumption goal $b = 1.025$, CI= [1.001, 1.080]).

Overall, this pattern of results shows that the effect of number precision in a natural claim on buying intention is mediated via the consumers' information processing style. Specifically, when consumers predominantly look for a strong bike helmet, they process the round claim relatively more intuitively using their gut feelings but the precise natural claim more analytically. By contrast, when consumers predominantly look for a gentle bike helmet, they process the round natural claim more analytically but the precise claim more intuitively. Hence, a round natural claim compared to a precise natural claims leads to relatively higher

purchase intentions when consumers seek more strongly gentleness benefits than strength benefits and vice versa, a precise natural claim compared to a round natural claim leads to relatively higher purchase intentions when consumers seek strength benefits, as indicated by the conditional indirect effects, which are approaching marginal significant difference.

Study 4: Marketing Communication

Participants and Design

The purpose of Study 4 is to test H3, suggesting that the use of marketing communication tactics enhancing product attributes that are being less ascribed to the natural product will moderate the effect of number precision in natural claims on consumer preferences. I recruited participants through Amazon's Mechanical Turk (MTurk) and obtained four hundred and eighty-two usable responses from those who successfully passed an attention test (males = 51.7 %, mean age = 36.22). I employed a 2 (number precision in natural claim: round vs. precise) x 2 (consumption goal/ marketing communication: strength goal with gentleness communicated vs. gentleness goal with strength communicated) between-subjects design. Participants were randomly assigned to one of the four conditions.

Procedure and Stimuli

Respondents were asked to assess the type of consumption goal they associate with the purchase of a pair of a running insoles on a 7-point semantic scale ("For me a good pair of running insoles needs to: ((3) = Get the job done-(3) = Feel good"). A filler task followed and then the participants were randomly exposed to one of the four different conditions. I manipulated the salience of the consumption goals by priming participants before being exposed to the stimuli using the following vignettes:

“Imagine you are looking for new insoles for your long-distance running shoes.

You look for insoles that are first and foremost stable [comfortable] and protective [plushy] rather than comfortable and plushy.

In the following, we present you a sample of insoles.

After that, we will ask you some questions regarding how suitable you feel these insoles are with respect to protectiveness [comfort] and stability [gentleness].”

Participants were then exposed to a picture of a pair of running insoles. In the precise condition, the one showing “93.4% Natural”, whereas, in the round condition it was the one “100% Natural”. The full experimental stimuli appear in the Appendix F. In addition, marketing communication was manipulated through adding brand claims to the stimuli. When a strength-related consumption goal was primed, the claim emphasised the gentleness features: *“These cushioned insoles are gentle to your feet and feel great with every stride.”* When a gentleness-related consumption goal was primed, the claim emphasizes strength: *“These strong, stabilizing insoles provide motion control for every stride.”* I measured intention to buy using a binary item: “Would you buy the pair of running insoles shown: Yes; No”. Additional constructs were measured, and two attention questions followed and lastly the demographic characteristics items (age and gender).

Results and Discussion

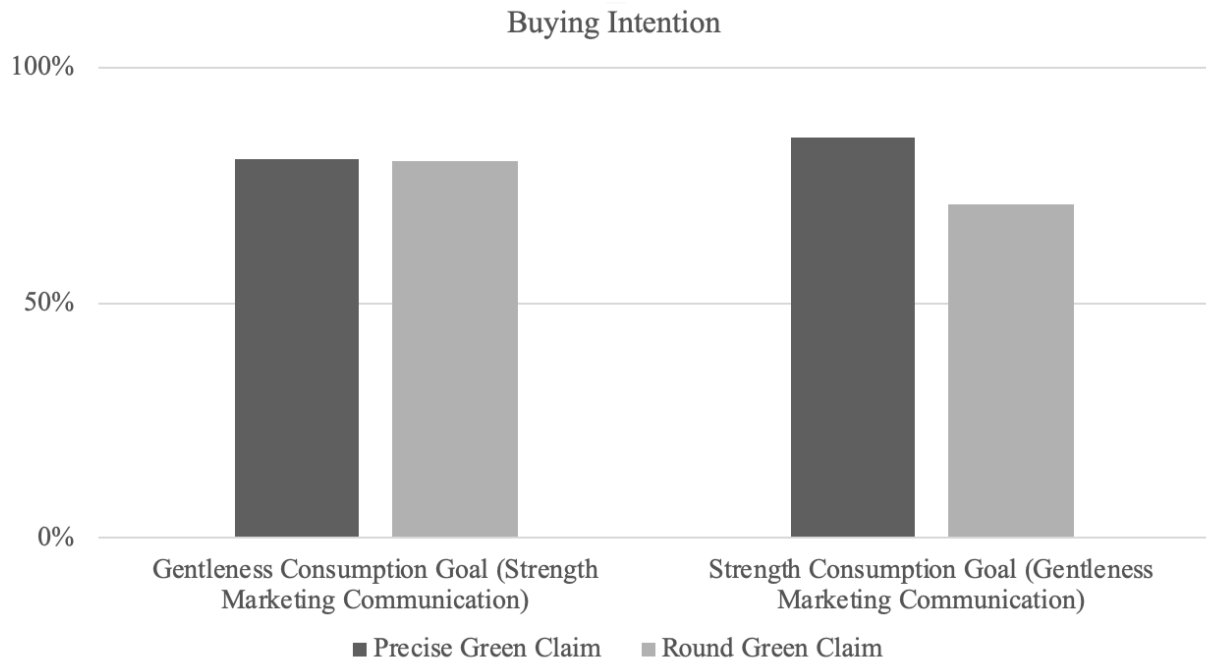
Preliminary Analysis. As an initial analysis, I first regressed intention to buy on number precision of the natural claim, consumption goals, and the interaction among them (strength consumption goal = -1, gentleness goal = 1; and precise natural claim = -1, round natural claim = 1). Results show a marginal significant main effect of number roundness on

intention to purchase ($b = -0.227, p = .051$), and a non-significant direct effect of consumption goal on intention to purchase ($b = 0.036, p = .758$), but most importantly, a positive and marginal significant interaction effect ($b = 0.200, p = .086$) on intention to purchase, which provides initial support for H3.

For testing the hypothesis, I decomposed the interaction per consumption goal. I created a dummy-variable indicating whether participants were exposed to the precise natural claim (coded “0”) or the round natural claim condition (coded “1”). I ran a regression analysis employing MLR estimation. I regressed buying intention on the number roundness dummy in the natural claim. Results show that, in contrast to the previous studies, the round natural claim has a strong and negative direct effect on buying intention ($b = -0.142, p = .006$) when strength-related consumption goals are salient, and gentleness attributes are being highlighted. However, there is no significant difference between a round and a precise natural claim when gentleness-related consumption goals are salient, and strength attributes being highlighted ($b = -0.009, p = .868$); see Figure 3. This effect arguably occurs because when a strength goal is salient and gentleness is being communicated, the customer’s uncertainty remains, which ultimately renders a precise claim more fluent. However, when a gentleness goal is salient, and strength is communicated it will reduce the natural association between the natural attributes and gentleness, which leads to a less intuitive processing of the natural claim, taking away the fluency advantage of the round numerical claim. Hence, H3 is partially supported.

FIGURE 3 -

Buying Intention as a Function of Number Precision in Natural Claims and Salient Consumption Goals (Strength vs. Gentleness) with Brand Claims.



General Discussion

With one field experiment and four experimental online studies, findings of this work demonstrate that communicating numerical information in natural claims can have a profound affect on consumers' preferences. In fact, while on the basis of extant work, round numbers seem to be processed more fluently, and would hence trigger purchases more readily, these results emphasize that this is not necessarily the case. In fact, in some cases in the ethical consumption context, a context quite prone to consumer suspicion, consumers process precise numbers more fluently than round numbers, and hence precise numbers are more instrumental in triggering favourable marketing outcomes at the brand-level. These research emphasizes the role of consumers' consumption goals and their lay beliefs that a green product involves trade-off decisions (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014).

Theoretical Implications

First, this research contributes by uncovering that a green claim using a precise number (e.g. 93.4% natural ingredients) can be more fluent than a claim using a round number (e.g. 100% natural ingredients) when consumers look for product benefits that they believe are less attainable through the ingredients in a green product. Thus, this research challenges the assumption that round numbers have a fluency advantage over precise (e.g., Thomas, Simon, and Kadiyali, 2010; Thomas and Park, 2013). These findings show the increased levels of consumer suspicion towards natural products and emphasize the role of consumption goals and consumers' lay beliefs as important contextual factors influencing how fluently numerical information is processed.

Second, I contribute to the research on green message framing, which has largely overlooked the role of number precision in green claims (for an exception see, Xie and Kronrod, 2013). Previous research has focused on verbal framing effects, such as the assertiveness of green claims, or the valence of green message framing, i.e., positive versus negative or on the specific contents of green brand claims, such as the communication of functional versus symbolic product benefits (Kronrod, Grinstein, and Wathieu, 2012; Bodur et al., 2014; Olsen, Slotegraaf, and Chandukala, 2014). I add to this stream of research by addressing a timely managerial problem and provide actionable implications that help managers to determine when to use round versus precise green claims for communicating the amount of natural ingredients included in a green product.

Finally, and most generally, I add to research on green consumption. These findings highlight the role of consumers' consumption goals in conjunction with their lay beliefs about the trade-off decisions involved in green consumption (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014). While extant research has already uncovered that consumer hold negative lay beliefs about green products, such that they

believe that there is an inverse relationship between the greenness of a product and its performance, (i.e., sustainability liability; Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014), I extend this notion of sustainability liability to the level of natural ingredients that make up the product. This more fine-grained approach enables us to uncover that green products, such as natural products, can be perceived not only as lacking strength but also as lacking gentleness when the sustainable ingredients that make up the natural product themselves are associated with strength, such as bamboo in a toothbrush. Hence, green products might not generally have a quality disadvantage when consumer pursue a strength goal because they are perceived as lacking strength as previous work suggests (Luchs et al., 2010; Lin and Chang, 2012), but depending on the sustainable ingredients can be perceived as lacking either gentleness or strength.

Managerial Implications

Often brands claim natural ingredients using numerical information, such as, for example 100% natural ingredients. The present research explores why and when which type of numerical claim – round or precise – is more instrumental for creating consumer preferences at the brand-level in the context of ethical consumption where we show increased levels of consumer suspicion towards natural products. These findings reveal that when consumers are uncertain that the natural ingredients in a product will fulfill their chronically or contextually salient consumption goal, brands should use precise rather than round green claims as these will lead to higher probability of purchase. By contrast, when consumers are relatively certain that the green ingredients in a green product will fulfill their consumption goal, brands should use round rather than precise green claims will lead to higher probability of purchase. This effect is due to more intuitive information processing, which renders round numbers relatively more fluent. Educating consumers about the natural ingredients' qualities

should then equalize the relative advantage of precise numerical information in natural claims.

Limitations and Future Research

This work suggests that the effect of number precision in natural claims on consumer preferences is embedded into the larger and more general marketing communication of a brand. To this end I examined the role of a brand message. Future researchers may wish to explore additional marketing tactics that could be used such as the use of different colours of product packaging or the font of a brand name, which may indirectly enhance strength and gentleness attributes of a brand.

Finally, even though this research provides important implications in regards to consumers' willingness and probability to purchase, future research could investigate other brand-level effects, such as brand loyalty or brand recall. Especially taking into consideration the mediation through analytical vs. intuitive processing, one might expect potential differences in consumers' memory and thus change in brand recall and brand loyalty.

Paper 3: Beware of the number:

When number associations change with salient consumption goals.

Abstract

Often natural claims about product features or ingredients are communicated with numerical information. Extant research on numerical cognition suggests that consumers have learned fixed features and qualities that they associate with precise versus round numbers, which, in turn, have been found to influence consumer preferences. In the present work, however, the notion that fixed associations towards round vs. precise green claims exist is challenged. Instead it is argued that they are spontaneously construed based on conceptual fluency.

Keywords: Green consumption, Numerical information, Fluency

Consumers often rely on cues such as brands and brand claims because they can signal intangible qualities of a product (Kirmani and Rao, 2000). Brand claims, in turn, in order to emphasize a specific product attribute or feature, are often presented using numerical information, for instance, the brand Botanics offers a 93% organic balm, and Pearl Drops offers a 90% natural toothpaste. Such numerical product claims are mostly used nowadays in products consisting of natural ingredients at an attempt to overcome consumers' suspicion (Chan, 2000). More specifically, a current trend in today's marketplace is for marketers to launch "*natural products*", defined as those which 80% of their consistency comes from plants and minerals (Patwardhan, Vaidya, and Chorghade, 2004). Natural products are mostly based on ancient therapeutic practices, such as Traditional Chinese Medicine (Cragg and Newman, 2013). This kind of techniques, not being supported by any scientific research and empirical data, can often be perceived by consumers as misleading (Chan, 2000). Therefore, marketers in order to overcome such consumers' suspicion, they communicate certain product claims using specific numerical information in order to back up the product benefits.

Product numerical information can be presented by using either round or non-round numbers illustrating product characteristics, which can influence consumers' perceptions regarding product attributes and facilitate brand perceptions formation (Xie and Kronrod, 2012). Previous research in numerical cognition shows that the use of different numerical claims affects consumers' perceptions and preferences through learned associations (Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargave, 2016; Yan and Marin, 2017). For example, research on marketing communications shows that round numbers can signify completion (Pena-Marin and Bhargave, 2016; Yan and Pena-Marin, 2017), and can trigger associations of stability (Pena-Marin and Bhargave, 2016).

By contrast, non-round or precise numbers (e.g., 93.4 versus 100) are perceived as being more factual (Schindler and Yalch, 2006). Consumers infer greater credibility, confidence, and accuracy from messages containing non-round numbers than from messages containing round numbers (Jerez-Fernandez, Angulo, and Oppenheimer, 2013; Schindler and Yalch, 2006; Zhang and Schwarz, 2012). That is, consumers interpret number precision as a result of objectivity and actual counting, instead of approximation. Such learned associations, in turn, can influence consumer preferences. For instance, Pena-Marin and Bhargave (2015) found that when consumers are exposed to an energy drink containing either 100 (round condition) or 102 (precise condition) mg of caffeine, consumers had higher preferences and attitudes for the energy drink with the round claim due to the established symbolic associations of a round number with stability.

In the present study, in contrast to previous research arguing for fixed numerical associations (e.g. Jerez-Fernandez, Angulo, and Oppenheimer, 2013; Schindler and Yalch, 2006; Zhang and Schwarz, 2012; Pena-Marin and Bhargave, 2016; Yan and Pena-Marin, 2017), I argue that such number associations are context-dependent rather than stable. I suggest that consumers spontaneously construe them based on contextual information. As such, I argue that it is conceptual fluency rather than fixed, learned associations with numbers that drive consumer preferences.

The present work aims to contribute to the literature on numerical cognition (Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargave, 2016; Yan and Marin, 2017). While this literature has been fruitful in investigating the role of numerical claims in consumers' preferences and perceptions, it has also mostly been explained through associations being attributed to round vs. precise numbers. The purpose of the present research study is to challenge this number

associations attribution and argue that individuals spontaneously can attribute meaning to numerical values based on conceptual fluency.

Theoretical Background

Number Precision associations and Conceptual Fluency

Previous research on numerical cognition is based on the assumption that numerical information affect consumers' perceptions mainly through fixed associations (Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargave, 2016; Yan and Marin, 2017). Round numbers are defined as those that have one or multiple ending zeros (Thomas, Simon, and Kadiyali, 2010; Coupland, 2011). More specifically, round numbers (e.g., 100.00) in comparison to precise numbers (e.g., 153.48) are more frequently used in day to day life (Rosch, 1975). In our everyday communication, expressions using round numbers are more likely to be used than precise numbers (Jansen and Pollmann, 1996). As Rosch (1975) suggests, round numbers are more prototypical of numbers, often used as reference points for numeric estimations (Wadhwa and Zhang, 2015) and have also been associated with greater felt fluency (King and Janiszewski, 2011; Wadhwa and Zhang, 2014). Furthermore, recent research on marketing communications shows that round numbers can signify completion (Pena-Marin and Bhargave, 2016; Yan and Pena-Marin, 2017), and can trigger associations of stability (Pena-Marin and Bhargave, 2016) since they are perceived as less likely to change over time (Trobe and Liberman, 2010).

By contrast, non-round numbers (e.g., 93.4 versus 100), relative to round numbers, are less prototypical for numbers per se and are used less in everyday life (Rosch, 1975).

As a consequence, precise numbers are perceived less fluently relative to round numbers and are perceived to be more factual (Schindler and Yalch 2006). That is, consumers interpret number precision as a result of objectivity and actual counting, instead of approximation, and thus are less likely to be perceived as just an estimate, thus, precise numbers function as a confidence cue for individuals increasing the perceived accuracy of a certain claim (Welsh, et al. 2011; Jerez-Fernandez, Angulo, and Oppenheimer, 2014). This attribution of accuracy to non-round numbers leads consumers to perceive a brand as more competent, because the brand is being perceived as capable of providing such exact numerical values (Xie and Kronrod, 2012). For instance, Xie and Kronrod (2013) in a series of experiments across different product categories, created advertisements about eco-friendly products using either round (e.g. 10% and 20%) or precise (e.g. 10.2%, 19.2%, and 19.24%) green brand claims (e.g. “reduction in carbon emission”) and found that precise claims are perceived as more enlightening and technical, and that for individuals with low advertising skepticism the precise claim led to higher levels of perceived brand competence.

More particularly in regards to green advertising, including the advertising of natural products, which has been described as being characterized by high levels of consumers’ suspicion towards sustainable corporate strategies (Nyilasy, Gangadharbatla, and Paladino, 2013), the choice of a brand’s natural numerical claim appears to be of imperative importance. It would be plausible to assume that natural precise brand claims are associated with higher levels of perceived accuracy and levels of source confidence (Schindler and Yalch 2006; Thomas, Morwitz, and Pyone, 2010; Xie and Kronrod, 2012; Jerez-Fernandez et al., 2014), which would aid consumers psychologically in overcoming potential levels of suspicion towards a natural brand claim relative to a round one.

However, previous consumer research also emphasizes the importance of fluency when processing a number (Kettle, 2010; Kettle and Häubl, 2010; Thomas, Morwitz, and

Pyone, 2010). Conceptual fluency describes the fit between two factors (Sirianni et al., 2013), such as between a stimulus and its context, which induces a subjective experience of engagement and of “feeling right” (Higgins, 2006; Cesario and Higgins, 2008; Lee et al., 2010). More specifically, when a stimulus and a goal are aligned, the provided information will be easier understood than when a stimulus and the goal are not aligned (Sirianni, Bitner, Brown, and Mandel, 2013). In other words, when an individual evaluates a product and its stimulus (i.e. roundedness of numerical information) is in line with the consumption goal (e.g. strength vs. gentleness), then conceptual fluency increases. Thus, when there is a context-stimulus alignment, conceptual fluency arises (Lee and Labroo, 2004), increasing a sense of feeling right (Higgins 2006; Cesario and Higgins 2008; Lee, Keller, and Sternthal 2010).

Drawing from the feelings-as-information framework, people rely on their affective and metacognitive states, such as fluency, when making evaluative judgments (Schwartz and Clore, 1988; Schwarz 2010). As such, when conceptual fluency is implied by the alignment between a green claim and a salient consumption goal, consumers will evaluate the product more favourably. Similarly, as Higgins (1998) explains, individuals tend to attribute incidental feelings coming from the fit between a context and a stimulus to the source itself and thus draw a judgement about the stimulus source. Thus, enhanced conceptual fluency can lead to an increase in individuals’ judgments and preferences about a source (Whittlesea, 1993; Lee and Labroo 2004; Reber, Schwarz, and Winkielman 2004).

I suggest that conceptual fluency can result in a shift of the associations that individuals attribute to numbers across different consumption goals, such as strength and gentleness. Thus, certain numbers might have a better fit with specific consumption goals leading to a greater sense of “feeling right” when being processed together.

For the purpose of this paper, I focus on two types of consumption goals: strength and gentleness. Gentleness-oriented goals are defined as those that consumers aim for when they strive to satisfy consumer needs such as safety, health, and gentleness (Luchs, 2010). These include products such as personal and skin care (e.g., body/face wash, and moisturizing creams) as well as baby products (e.g., diapers) tend to provide gentleness-related benefits (Luchs et al., 2010; Hsuan-Hsuan et al., 2012).

Strength goals are linked to product benefits that would tend to satisfy needs that are mostly strength-related such as power, durability and effectiveness (Hsuan-Hsuan et al., 2012). Such products include hands sanitizer, cleaning sprays, mouth-wash, laundry or dishwashing detergents (Lin and Chang, 2012), soap (Pancer, McShane, and Noseworthy, 2017), car shampoo, or car tires.

Strength and gentleness-related goals have been chosen since these are the two most frequent categories that consumers aim to fulfill through ethical consumption (Ethical Consumer Markets Report, 2019). According to the latest Ethical Consumer Markets Report (2019), the market share of strength-related products such as natural cleaning home products (e.g. detergents), is £59 million and the overall amount spent on gentleness-oriented products, such as natural cosmetics and personal care, is £832 million.

Therefore, I argue that conceptual fluency can result in a shift of the associations that individuals attribute to numbers across strength and gentleness consumption goals. More specifically, I argue that fluency resulting from a match between a specific consumption context and a product's natural claim can change what consumers associate with numbers, such that people associate more durability to a round numerical claim when a strength-related consumption goal is salient and less durability to the same number when a gentleness-related consumption goal (i.e., when consumers seek products that provide benefits such as healthfulness; Luchs et al., 2010), is salient. This effect occurs because when conceptual

fluency is implied by the alignment between a natural claim and a salient consumption goal, consumers will evaluate the natural product more favourably, and hence attribute more durability to the product (Schwarz and Clore, 1988). Hence, I suggest that conceptual fluency rather than a learned association (i.e., round stands for durability) is driving consumers' preferences.

Experimental Study

I conducted an online experiment using the crowdsourcing platform Amazon Mechanical Turk (MTurk). I obtained four hundred and forty-six usable responses (N = 446, males= 61.7%, age=34) from the United States.

Study Design and Participants

I employed a 2 (number precision: precise vs. round natural claim) x 2 (consumption goal: gentleness vs. strength) between-subjects design and randomly allocated participants to one of the four conditions. As key stimuli, I used pictures depicting a pair of natural insoles (complete vignettes appear in Appendix G). The insoles' pictures were similar to each other with the following two exceptions: first, the natural claim said "100% natural" in the round condition and "93.4% natural" in the precise one. According to previous research (Xie and Kronrod, 2013), there is no difference on consumers' perceptions of precision between precise numbers including no decimals (e.g. 93) and those including one decimal (e.g. 93.4). Second, the pictures differed in regards to the consumption goal manipulation: under the strength-related goal the stimulus stated:

"These stabilizing insoles protect your feet from over-pronating and provide reliable stability while you run.", while in the gentleness-related goal it was stated:

"These cushioned insoles provide plush cushioning that feels great with every stride."

Measures

After participants were exposed to the stimulus, they completed a conceptual fluency measure (“the available product information shown in the advertisement was smooth: 1= “completely disagree” to 7= “completely agree”) adapted from Hildebrand, Demotta, Sen, and Valenzuela (2017), and an item measuring the numerical associations (“the green claim- percentage of natural materials used- feels durable: 1= “completely disagree” to 7= “completely agree”), adapted from Pena-Marin and Bhargave (2015). Then, some additional constructs were assessed, followed by one item measuring willingness to buy (“I can imagine buying this pair of running insoles” 1= “completely disagree” – 7= “completely agree”). Finally, some demographic characteristics questions followed. All focal constructs were measured on a 7-point Likert scale.

Results

Preliminary Analysis. I conducted two separate analyses of variance (ANOVA). I used number precision in the natural claim (round vs. non-round), consumption goal (strength vs. gentleness), and the interaction between them as independent variables. Conceptual fluency and durability served as the dependent variables. For conceptual fluency, I find a non-significant main effect of number precision in the natural claim; $F(1, 312) = .081, p = .777$, and of consumption goal $F(1, 312) = 1.407, p = .236$. Importantly, I find a significant interaction effect between the two independent variables on conceptual fluency $F(1, 312) = 9.575, p = .002$. Turning to durability, I likewise find non-significant main effects of number precision in the natural claim $F(1, 442) = .162, p = .687$, and consumption goal; $F(1, 442) = .403, p = .526$, but again a significant interaction effect between the two independent variables $F(1, 442) = 7.241, p = .007$. In a next step, I further decompose these interaction effects.

Hypothesis Testing. For testing the hypothesized effects, I decomposed the results per consumption goal. To this end, I introduced a dummy variable to denote whether a respondent was exposed to the precise natural claim (coded “0”) or the round natural claim condition (coded “1”). I ran a regression analysis employing MLR estimation (N=446), and regressed durability on the natural claim dummy. Results show that when gentleness-related consumption goals were salient the precise natural claim is associated with significantly lower durability values than the round natural claim ($b = -0.419, p = .019$), but the link between a precise natural claim and durability approaches marginal significance, when strength-related consumption goals are salient ($b = 0.310, p = .137$); see Figure 1.

Turning to the effect on conceptual fluency, I ran a regression analysis employing MLR estimation (N= 316⁵) including the same dummy variable but conceptual fluency as dependent variable. Results show that when gentleness-related consumption goals are salient the round natural claim is associated with significantly lower fluency values than the precise natural claim ($b = -0.424, p = .033$), but is associated significantly higher with fluency than precise claims, when strength-related consumption goals are salient ($b = 0.509, p = .025$); see Figure 2.

These results suggest that the effect of green numerical claims and number associations are not stable, but instead change with a salient consumption goal; precise natural numerical claims are associated with durability under a gentleness-related consumption goal, whereas round natural numerical claims are associated with durability under a strength-related consumption goal. The results further suggest that this ‘switch’ is due to conceptual fluency effect.

⁵ Different sample size due to missing values.

FIGURE 1 -
Durability associations as an outcome of different natural claims.

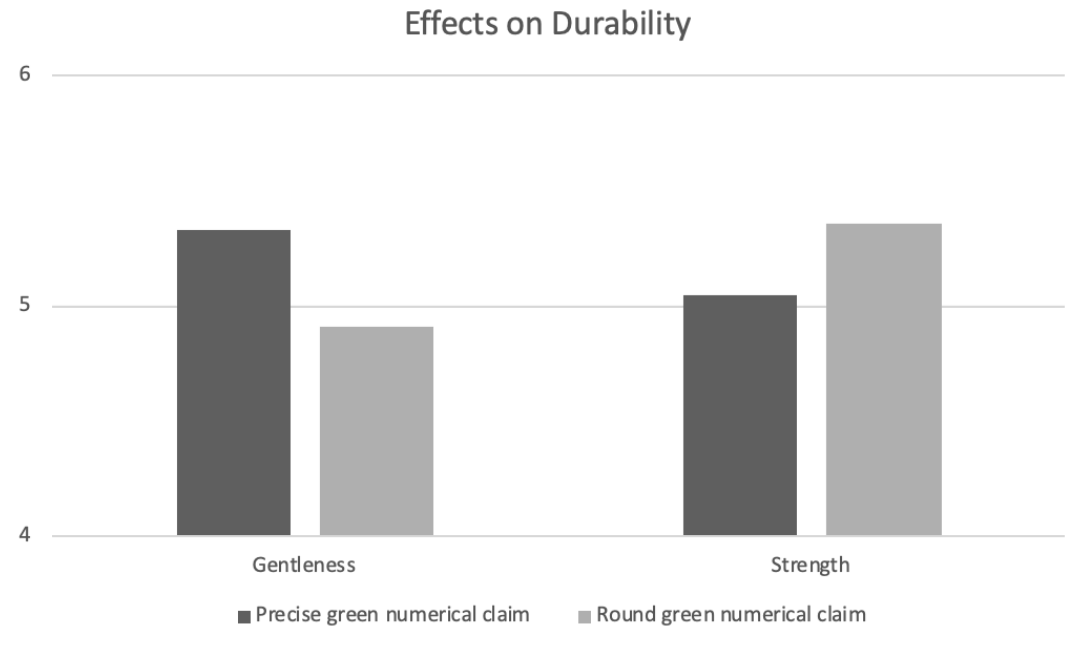


FIGURE 2 -
Conceptual fluency as an outcome of different natural claims.

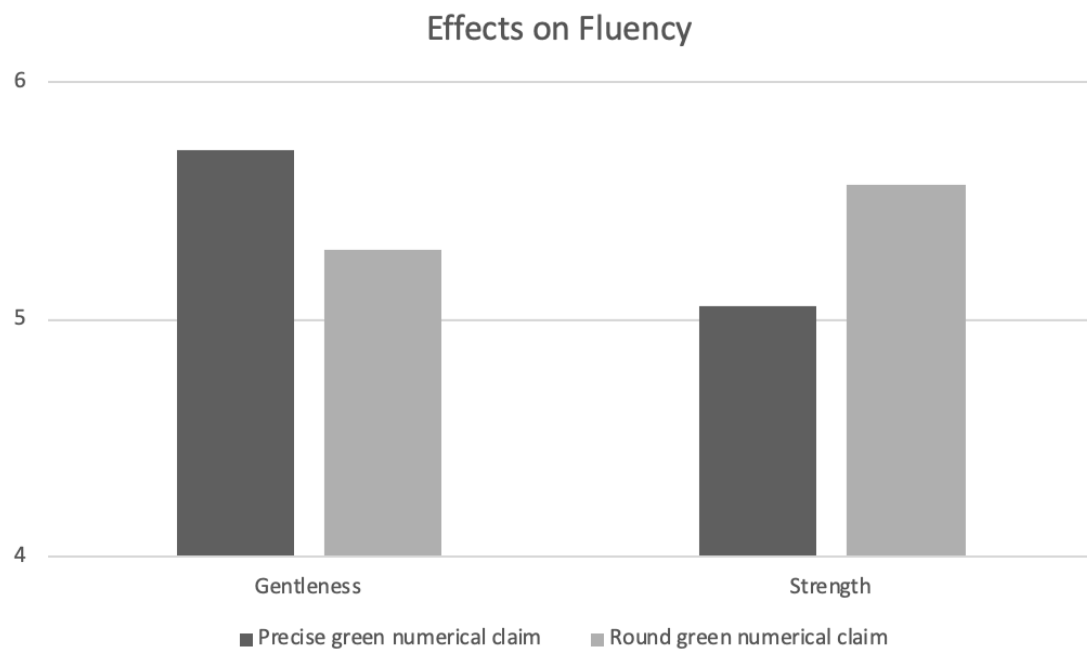


TABLE 1 - Estimation Results (Conceptual Fluency)

Consumption Goal	Strength Consumption Goal		Gentleness Consumption Goal	
	DV: Conceptual Fluency		DV: Conceptual Fluency	
	b	S.E.	b	S.E.
Intercept	5.064***	0.178	5.709***	0.115
Precise vs. Round Natural Claim → Conceptual Fluency	0.509**	0.232	- 0.424**	0.200

Notes: *** $p < .01$, ** $p < .05$, * $p < .10$. The table shows standardized coefficients. Number precision natural claim was dummy-coded (0 = non-round claim, 1 = round claim,) and consumption goal was dummy-coded too (0=gentleness, 1= strength).

TABLE 2 - Estimation Results (Durability)

Consumption Goal	Strength-Consumption Goal		Gentleness-Consumption Goal	
	DV: Durability		DV: Durability	
	b	S.E.	b	S.E.
Intercept	5.052***	0.167	5.331***	0.103
Precise vs. Round Natural Claim → Durability	0.310	0.209	- 0.419**	0.181

Notes: *** $p < .01$, ** $p < .05$, * $p < .10$. The table shows standardized coefficients. Number precision natural claim was dummy-coded (0 = non-round claim, 1 = round claim,) and consumption goal was dummy-coded too (0=gentleness, 1= strength).

Mediation Analysis. In an attempt to further substantiate these findings, I tested for mediation. To this end, I bootstrapped the standard errors of the indirect effects (10000 bootstrap resamples) and obtained bias-corrected confidence intervals. Results of this

analysis show that there are no mediation patterns for the number association, via durability. While durability mediates the effect of number precision on willingness to purchase as indicated by a negative and significant indirect effect, (indirect effect_{durability} = - 0.264, 95% CI_{durability}: -.777, -.068), when a gentleness-related consumption goal is salient, there is no significant indirect effect via durability on willingness to purchase (indirect effect_{durability} = 0.190, 95% CI_{durability}: -.092, .733) when a strength-related goal is salient (Table 3).

By contrast, under both consumption goals conceptual fluency mediates the results of number precision on willingness to purchase. This is indicated by a negative and significant indirect effect via conceptual fluency, (indirect effect_{fluency} = - 0.216, 95% CI_{fluency}: -.816, -.036) when a gentleness consumption goal was salient, and by a positive and significant indirect effect via conceptual fluency on willingness to purchase (indirect effect_{fluency} = 0.297, 95% CI_{fluency}: .057, .974) when a strength-goal was salient (Table 4).

TABLE 3 - Indirect Effect of Number Precision on Willingness to Purchase via Durability

Consumption Goal	Indirect effect via durability	SE	95% Confidence Interval
Gentleness Precise vs. Round Natural Claim → Durability → WTP	- 0.264**	0.121	[-.777, -.068]
Strength Precise vs. Round Natural Claim → Durability → WTP	0.190	0.135	[-.092, .733]

Notes: *** $p < .01$, ** $p < .05$, * $p < .10$. The table shows standardized coefficients. Number precision natural claim was dummy-coded (0 = non-round claim, 1 = round claim,) and consumption goal was dummy-coded too (0 = gentleness, 1 = strength).

TABLE 4 - Indirect Effect of Number Precision on Willingness to Purchase via Fluency

Consumption Goal	Indirect effect via Conceptual fluency	SE	95% Confidence Interval
Gentleness Precise vs. Round Natural Claim → Fluency → WTP	-0.216**	0.112	[-.816, -.036]
Strength Precise vs. Round Natural Claim → Fluency → WTP	0.297**	0.149	[.057, .974]

Notes: *** $p < .01$, ** $p < .05$, * $p < .10$. The table shows standardized coefficients. Number precision natural claim was dummy-coded (0 = non-round claim, 1 = round claim,) and consumption goal was dummy-coded too (0 = gentleness, 1 = strength).

General Discussion

Previous research has shown various associations (Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargava, 2016; Yan and Marin, 2017) that consumers hold with certain numerical values (e.g., precise vs. round). An assumption that is inherent to this notion of established numerical in explaining consumer preferences is that they remain stable. The present results challenge this notion because results suggest that they are context-dependent leading to different associations (i.e. higher vs. lower associations of durability) across diverse consumption goals (strength vs. gentleness).

The results from one experiment shows that under a gentleness consumption goal, precise numerical product claims are being associated with higher levels of durability, whereas under a strength consumption goal, round numerical claims lead to higher associations of product durability. Thus, it becomes evident that neither round nor precise

numbers have stable associations of durability across consumption goals. This approach differs from past literature that has linked number precision effects to fixed number associations (e.g. Schindler and Yalch 2006; Welsh, et al. 2011; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Pena-Marin and Bhargave, 2016; Yan and Pena-Marin, 2017).

More particularly, the results from this study show that such numerical associations that have been identified in the literature so far not only they are not fixed but they are spontaneously construed based on conceptual fluency. These results are in line with research on conceptual fluency arguing that consumers rely on it when making judgements (Thomas and Morwitz, 2009), which can even drive consumers' preferences (Labroo and Lee, 2007). For the purpose of this paper, I provide empirical evidence showing that under a gentleness consumption goal, a precise numerical claim will be more highly associated with durability, and more fluent leading to a sense of "feeling right" (Higgins, 2006; Cesario and Higgins, 2008; Lee et al., 2010), leading eventually to higher willingness to purchase. However, under a strength consumption goal, a round numerical product claim is associated with higher levels of durability, perceived as more fluent, and thus leading to higher willingness to purchase.

The current study contributes to research on the effectiveness of numerical precision in the context of green message framing (e.g. Hsuan-Hsuan, et. al., 2012) by showing that the effectiveness of the numerical information embedded in a green message is contingent on whatever is more conceptually fluent in a given context. Furthermore, these results emphasize that the effects of number precision on consumer preferences are context-dependent pointing out the role of conceptual fluency when processing a certain piece of information such a product's numerical information regarding a feature or an attribute (i.e. its consistency). Extending the literature on conceptual fluency (Higgins, 2006; Cesario and Higgins, 2008; Lee et al., 2010), I show that conceptual fluency can also arise from an

alignment between the numerical information being provided and the consumption goal a consumer strives to achieve.

Therefore, marketers when planning their marketing communication strategies including the kind of numerical information that they plan to communicate to their consumers, would be more effective not to rely on hypothetical numerical associations. Instead, it would rather be advisable to take into consideration the context within consumers would consider to purchase a certain product, such as the goal that they aim to satisfy (i.e. strength vs. gentleness).

Limitations. Of course, as any study has limitations, so does this one. Taking into consideration that these findings are a product of a single study from a single product category and focusing on just one numerical association (durability) that shifts across the two different consumption goals in focus (strength and gentleness), caution should be exercised when interpreting the results. The findings may be best viewed as preliminary. More research is needed that may test how generalizable these findings are to different types of consumption goals as well as associations other than durability.

Thesis Overview: Implications and Limitations

Suspicious perceivers, in contrast to the picture that previous research in social psychology and marketing has formed of the typical perceiver, seem to be aligned with Seneca's point on neither trusting nor distrusting individuals (Fein, 1996). In fact, consumers under the state of suspicion, employ a quite active, mindful and effortful attributional thinking in the attempt to evaluate the plausibility of each one of the multiple motives being identified (e.g. Fein, 1990; Fein and Hilton, 1994; Fein, 1996; Sinaceur, 2010; Craig et. al, 2012). Thus, suspicion is a valuable tool for consumers assisting them to decide what to believe and what not to believe (Craig et. al, 2012) but also a valuable tool for marketers as well that they need to pay attention to since it is an antecedent of consumers trust (DeCarlo, Lacznial and Leigh, 2012) that needs to be overcome in order to reach persuasion (Campbell 1995; Campbell and Kirmani 2000).

This thesis focuses on how consumers cope under the psychological state of suspicion, uncovers behavioural outcomes of suspicion (i.e. increased information search and willingness to purchase) -Paper 1-. Furthermore, this thesis also investigates the effects of marketing tactics aiming to overcome consumer suspicion (i.e. the use of specific numerical product claims), and highlights the roles of metacognitive experiences such as conceptual fluency and the one of consumption goals -Paper 2 and Paper 3- within the context of ethical consumption, which is quite prone to consumer suspicion.

Theoretical Implications

The first paper of this thesis (Paper 1) adds to the literature of suspicion (e.g. Fein, Hilton and Miller, 1990; Hilton, Fein and Miller, 1993; Fein and Hilton, 1994; Fein, 1996; Campbell and Kirmani, 2000; DeCarlo, 2005; Yoon, Gürhan-Canli, and Schwarz, 2006; Kirmani and Zhu, 2007; Ferguson, Ellen, and Piscoppo, 2011; DeCarlo, Lacznial and Leigh, 2012) by showing that under certain circumstances (i.e. moderate levels of suspicion), potential

positive outcomes such as increased willingness to search additional product information and increased purchase intention can arise. Previous research (e.g. Levine and McCornack, 1991; Campbell and Kirmani, 2000; DeCarlo, 2005; Main, Dahl and Darke, 2007; DeCarlo, Lacznaiac and Leigh, 2013), has mostly focused on operationalizing suspicion in a dichotomous fashion (e.g. Levine and McCornack, 1991; Campbell and Kirmani, 2000; DeCarlo, 2005; Main, Dahl and Darke, 2007; DeCarlo, Lacznaiac and Leigh, 2013), and has thus found mainly negative consequences that can arise from the state of suspicion. In contrast, in this paper, I focus on different levels of intensity of consumer suspicion (low vs. moderate vs. high), and by highlighting its continuous nature as a construct (Marchand and Vonk, 2005), I show that consumer suspicion can be turned into an opportunity for companies instead of being considered a threat. This paper augments our understanding of the effects that can arise from the psychological state of suspicion, and emphasizes the importance of further studying moderate levels of suspicion, under which unique consequences occur in comparison to low and high levels, such as highest levels of uncertainty and cognitive attribution, which can lead to interesting managerial implications too (see below for managerial implications).

Important theoretical implications arise from the second paper (Paper 2) of this thesis too. First, I challenge a well-known assumption from the literature on number cognition (e.g., Thomas, Simon, and Kadiyali, 2010; Thomas and Park, 2013) arguing for a fluency advantage of round numerical product claims over precise ones. This paper shows that this assumption does not hold in the context of ethical consumption, a context treated by consumers with increased suspicion. In contrast, I show that precise natural product claims (e.g. 93.4% natural ingredients) can have higher conceptual fluency than a claim using a round number (e.g. 100% natural ingredients) when consumers look for product benefits that they believe are less attainable through the ingredients in a green product including natural ingredients. Thus, this paper emphasizing the role of consumption goals (strength vs. gentleness), contributes to

previous research showing consumers' lay beliefs of natural products' lacking strength (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014), by showing that natural products can be perceived as lacking gentleness too. More specifically, depending on the natural ingredients that the product consists of, it can be perceived as either lacking strength or gentleness.

Paper 2 also has significant theoretical implications for the green message framing literature stream (Kronrod, Grinstein, and Wathieu, 2012; Bodur et al., 2014; Olsen, Slotegraaf, and Chandukala, 2014), which so far has side-stepped the importance of number precision in communicating product attributes. By showing the effects that arise from the use of round vs. precise numerical claims on green products, such as natural ones, I highlight the outcomes of such marketers' tactics on consumers' levels of experienced conceptual fluency, way of processing information as well as purchase intentions.

Furthermore, Paper 2 adds to the research on green consumption (e.g., Luchs et al., 2010; Lin and Chang, 2012; Newman, Gorlin, and Dhar, 2014) that so far shows a disadvantage of green products in terms of strength. This paper uncovers that consumers can perceive green products, such as natural ones, as lacking gentleness too, depending on the natural ingredients that they consist of.

Finally, paper 3 shows that numerical associations that have been identified in the literature so far as remaining stable (Schindler and Yalch, 2006; Thomas, Simon, and Kadiyali, 2010; Xie and Kronrod, 2013; Thomas and Park, 2013; Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Wadhwa and Zhang, 2015; Pena-Marin and Bhargava, 2016; Yan and Marin, 2017) are instead context-dependent and spontaneously construed based on conceptual fluency leading to different associations (i.e. higher vs. lower associations of durability) across diverse consumption goals (strength vs. gentleness).

Managerial Implications

From the three papers including in this thesis, important practical implications arise for the marketers. As shown from paper 1, moderate levels of suspicion can lead consumers to increased information search and willingness to purchase. Thus, marketers could take advantage of that outcome of suspicion and in contexts where suspicion rises in such levels (i.e. ethical consumption context) or in certain product categories that involve levels of suspicion such as diet pills, tan sprays, tooth brush sterilizers (Craig et. al, 2012), marketers would be advised to assist consumers' motivation for additional information search. That could be implemented by providing easy access for additional product or brand information such as "see more" sections that consumers can click on, in an online setting, or to provide a barcode that consumers could scan and be provided additional product or brand information search in an offline setting. That way, consumers will be led to suspicion resolution, eventually reaching either trust or distrust in regards to different motives that can be identified behind a corporate practice, and even be led to higher purchase intentions in comparison to individuals not experiencing any suspicion or to individuals experiencing very high levels of suspicion.

The results from paper 2, suggesting that precise green product claims (e.g. 93.4% natural ingredients) can have higher conceptual fluency than a claim using a round number (e.g. 100% natural ingredients) when consumers look for product benefits that they believe are less attainable through the ingredients in a green product including natural ingredients, address a timely managerial problem and provide actionable implications that help managers to determine when to use round versus precise green claims for communicating the amount of natural ingredients included in a green product. More specifically, based on these findings, when consumers are under a strength consumption goal, and they associate the product's consistency of natural ingredients with strength, I show that a round numerical claim will be

more fluently processed and will increase willingness to purchase in comparison to a precise numerical claim. Thus, marketers in such a case, would be advised to use round numerical product claims as part of their marketing communication strategy. On the other hand, if consumers seek a gentleness consumption goal and the natural product consistency is still associated with strength, then a precise numerical claim will be more fluently processed and increase willingness to purchase, in comparison to a round one. Therefore, marketers would be advised to use precise numerical product claims as part of their marketing communication strategy.

This preference-inducing effect of round versus precise numerical product claims, can be flipped through marketing communication that highlights the consumption benefit, which consumers feel less certain about in a green product. More specifically, under a strength consumption goal, when gentleness is being communicated, a precise numerical claim will be more fluent than a round one, since consumers' uncertainty remains in regards to the product's natural consistency. However, under a gentleness consumption goal, when a strength communication message is used, the natural association between the product's natural consistency and gentleness will be reduced, decreasing the fluency advantage of the round numerical claim over the precise.

Accordingly, marketers would be advised to use a precise numerical product claim in order to communicate certain products attributes when consumers are under a strength consumption goal and gentleness is being communicated. A round numerical product claim would be advised to be used as part of marketers' communication tactic for natural products in the case when consumers are under a gentleness consumption goal and a strength communication message is being used.

Paper 3, provides actionable managerial implications by suggesting that marketers when planning their marketing communication strategies including the kind of numerical

information that they plan to communicate to their consumers, would be more effective not to depend on hypothetical numerical associations. Instead, our findings reveal that they should take into consideration the context within consumers consider to purchase a certain product, such as the goal that they aim to satisfy (i.e. strength vs. gentleness).

Limitations

As with every research, this thesis includes certain limitations too. First of all, Paper 1 shows evidence from a single study, in a single product category with a low sample size. Thus, for more generalizable conclusions, additional studies could be overtaken by future researchers including field studies too (e.g. online consumer behavior under the state of suspicion).

Similarly, Paper 3 also shows evidence from a single study from a single product category investigating the assumption of stable numerical associations based on a single association, the one of durability. Therefore, these findings must be viewed as preliminary and future research is needed in different consumption goals other than strength and gentleness.

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Appendices

Appendix A: Paper 1

Study 1 Manipulation

Low level of Suspicion:

The recent Nielsen report (Audience Report, 2018), focuses on what is happening today across the global consumer and media landscape for the consumer. Many consumers in the EU and America are now consulting the Internet before making a decision about a product. The percentage is even higher for young people aged 18-31.

Just 0.1% of the advertisements have been recorded as untrue. Therefore, misinformation of the public is not as likely through advertising.

Moderate level of Suspicion:

The recent Nielsen report (Audience Report, 2018), focuses on what is happening today across the global consumer and media landscape for the consumer. Many consumers in the EU and America are now consulting the Internet before making a decision about a product. The percentage is even higher for young people aged 18-31.

The Nielsen report shows that 15% of the advertisements have been recorded as untrue. Therefore, misinformation of the public is not so likely through advertising.

High level of Suspicion:

The recent Nielsen report (Audience Report, 2018), focuses on what is happening today across the global consumer and media landscape for the consumer. Many consumers in the EU and America are now consulting the Internet before making a decision about a product. The percentage is even higher for young people aged 18-31.

The Nielsen report shows that 80% of the advertisements have been recorded as untrue. Therefore, misinformation of the public is quite likely through advertising.

Appendix B: Paper 1

Study 1 Stimulus



Introducing Boemer digital camera

Boemer stylish, light, for fast, accurate autofocus that helps you get the photo you want right as the moment happens

24.1 Megapixel MOS sensor delivers incredible color, clear details, and stunning range

Vari-angle Touchscreen LCD has a flexible tilt range ideal for high-angle and low-angle shooting, and reviewing your photos. Boemer will surely exceed your expectations

Appendix C: Paper 2

Study 1B Stimuli

Precise Consumption Goal



93,4% NATURAL ZAHNBÜRSTE, AUS NATÜRLICHEM BAMBUS

MARKE: YUNNUOPROMI
ASIN: B07JXZ8H7D
VERFÜGBARKEIT: VERFÜGBAR

PREIS: EUR 0,83

Alle Preisangaben inkl. deutscher USt.

- Aus umweltfreundlichem Bambusmaterial.
- Material: Nylon, Bambus Für Erwachsene.

Kaufen

Nicht kaufen

Bei Kaufen: Diese Zahnbürste in den Amazon-Warenkorb legen (zurück zur Umfrage + es öffnet sich ein zweites Fenster mit dem Amazon-Warenkorb).

Bei Nicht-Kaufen: Diese Zahnbürste nicht in den Amazon-Warenkorb legen (zurück zur Umfrage).

Round Consumption Goal



100% NATURAL ZAHNBÜRSTE, AUS NATÜRLICHEM BAMBUS

MARKE: YUNNUOPROMI
ASIN: B07JXZ8H7D
VERFÜGBARKEIT: VERFÜGBAR

PREIS: EUR 0,83

Alle Preisangaben inkl. deutscher USt.

- Aus umweltfreundlichem Bambusmaterial.
- Material: Nylon, Bambus Für Erwachsene.

Kaufen

Nicht kaufen

Bei Kaufen: Diese Zahnbürste in den Amazon-Warenkorb legen (zurück zur Umfrage + es öffnet sich ein zweites Fenster mit dem Amazon-Warenkorb).

Bei Nicht-Kaufen: Diese Zahnbürste nicht in den Amazon-Warenkorb legen (zurück zur Umfrage).

Appendix D: Paper 2

Study 2 Stimuli

Gentleness Consumption Goal





[All](#)

[Shopping](#)

[Images](#)

[Videos](#)

[News](#)

[More](#)

[Settings](#)

[Tools](#)

About 9,070,000 results (0.55 seconds)

See natural mosquito repellent that is gentle

Sponsored ⓘ



nosquito 100ml

£ 9.99

Buena & Li

Special offer
By Sweets Co.

93.4% Natural Insect Repellent | NOSQUITO

Ad www.bottero.com

Natural Protection.

ⓘ About this result

ⓧ Feedback





[All](#)

[Shopping](#)

[Images](#)

[Videos](#)

[News](#)

[More](#)

[Settings](#)

[Tools](#)

About 9,070,000 results (0.55 seconds)

See natural mosquito repellent that is gentle

Sponsored ⓘ



nosquito 100ml

£ 9.99

Buena & Li

Special offer
By Sweets Co.

100% Natural Insect Repellent | NOSQUITO

Ad www.bottero.com

Natural Protection.

ⓘ About this result

ⓧ Feedback

Strength Consumption Goal

Google

natural mosquito repellent that is strong

All

Shopping

Images

Videos

News

More

Settings

Tools

About 9,070,000 results (0.55 seconds)

See natural mosquito repellent that is strong

Sponsored



nosquito 100ml

£ 9.99

Buena & Li

Special offer

By Sweets Co.

93.4% Natural Insect Repellent | NOSQUITO

Adwww.bottero.com

Natural Protection.

About this result

Feedback

Google

natural mosquito repellent that is strong

All

Shopping

Images

Videos

News

More

Settings

Tools

About 9,070,000 results (0.55 seconds)

See natural mosquito repellent that is strong

Sponsored



nosquito 100ml

£ 9.99

Buena & Li

Special offer

By Sweets Co.

100%Natural Insect Repellent | NOSQUITO

Adwww.bottero.com

Natural Protection.

About this result

Feedback

Appendix E: Paper 2

Study 3 Stimuli

Precise Condition:



93.4% NATURAL

Round Condition:



100% NATURAL

Appendix F: Paper 2

Study 4 Stimuli

Gentleness Consumption Goal with reversed claim.

	
93.4% Natural Materials.	100% Natural Materials.
These strong, stabilizing insoles provide motion control for every stride.	These strong, stabilizing insoles provide motion control for every stride.
	
93.4% Natural Materials.	100% Natural Materials.
These cushioned insoles are gentle to your feet and feel great with every stride.	These cushioned insoles are gentle to your feet and feel great with every stride.

Appendix G: Paper 3

Study 1 Manipulation

Strength Consumption Goal:

Imagine you are looking for new insoles for your long-distance running shoes. You look for insoles that are first and foremost stable and protective rather than comfortable and plushy.

In the following, we present you a sample of insoles. After that, we will ask you some questions regarding how suitable you feel these insoles are with respect to protectiveness and stability.



100% Natural Materials.

These stabilizing insoles protect your feet from over-pronating and provide reliable stability while you run.



93.4% Natural Materials.

These stabilizing insoles protect your feet from over-pronating and provide reliable stability while you run.

Gentleness Consumption Goal:

Imagine you are looking for new insoles for your long-distance running shoes. You look for insoles that are first and foremost comfortable and plushy rather than stable and protective.

In the following, we present you a sample of insoles. After that, we will ask you some questions regarding how suitable you feel these insoles are with respect to comfort and gentleness.



100% Natural Materials.

These cushioned insoles provide plush cushioning that feels great with every stride.



93.4% Natural Materials.

These cushioned insoles provide plush cushioning that feels great with every stride.

