The impact of Reduced-Sugar labels on consumers' perceptions and purchase intentions when choosing for themselves and for others.

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Abstract

Title: The impact of Reduced-Sugar labels on consumers' perceptions and purchase intentions when choosing for themselves and for others.

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Over the years, consumers are becoming increasingly aware of the importance of making healthier purchase decisions and the use of nutrition labels, such as Reduced-Sugar, aims to ease healthy choices. However, the presence of such labels can lead to wrong inferences of other product attributes, thus influencing consumers' buying decisions.

This dissertation examines consumers' perceptions of healthiness and tastiness towards Reduced-Sugar labels and investigates its effect from the perspective of utilitarian and hedonic products. Moreover, it accounts for the potential effect of decision targets (i.e., choosing products for own consumption or for others) on preferences and purchase intentions for products with Reduced-Sugar labels. Also, the role of anticipatory guilt was considered, as perchance affecting consumers' decisions when choosing for themselves and for others.

The study comprised one online survey, where participants were randomly assigned to one of two conditions (choosing for themselves or for others). The results revealed that consumers associate Reduced-Sugar labels with healthier and less tasty products. Furthermore, findings indicate that depending on the level of self-health awareness, the presence of labels affects consumers' preferences and purchase intentions, and this effect is moderated by decision targets (self-other differences).

It was also found that the level of anticipatory guilt triggered by engaging in products with Reduced-Sugar labels is less for consumers choosing for others than for themselves, and this effect is stronger in hedonic products.

Keywords: Reduced-Sugar labels; Hedonic products; Utilitarian products; Consumers' perceptions; Purchase Intentions; Self-health awareness; Decision targets: self-other differences; Anticipatory guilt.

Sumário

Título: O impacto dos rótulos de Açúcar Reduzido na perceção e intenção de compra dos consumidores quando escolhem para si próprios e para outros.

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Os consumidores estão cada vez mais conscientes da importância de fazer escolhas alimentares saudáveis e a utilização de rótulos nutricionais, como o Açúcar Reduzido, tem como objetivo facilitar estas escolhas. No entanto, a presença destes rótulos pode levar a inferências erradas de outros atributos do produto, influenciando as decisões de compra dos consumidores.

Esta dissertação examina as inferências dos consumidores acerca do nível de saúde e sabor de produtos com rótulos de Açúcar Reduzido, e investiga o seu efeito na perspetiva de produtos utilitários e hedónicos. O efeito da decisão de compra (i.e., escolher produtos para consumo próprio ou para outros) nas preferências e intenções de compra de produtos com rótulos é também analisado, bem como o papel da culpa antecipada, potencialmente afetando as decisões dos consumidores, quando escolhem para si próprios e para outros.

O estudo incluiu um inquérito, em que os participantes foram aleatoriamente atribuídos a uma de duas condições (escolher produtos para si próprios ou para outros). Os resultados revelaram que os consumidores associam estes rótulos a produtos mais saudáveis e menos saborosos. Para além disso, este estudo mostra que dependendo do nível de consciência da própria saúde, a presença de rótulos afeta as preferências e intenções de compra dos consumidores, efeito este moderado pelas decisões de compra (eu-outro).

Verificou-se também que o nível de culpa antecipada desencadeada por produtos com rótulos é menor na escolha para outros do que para o próprio, especialmente em produtos hedónicos.

Palavras-chave: rótulos de Açúcar Reduzido; Produtos hedónicos; Produtos utilitários; Perceção dos consumidores; Intenção de compra; Consciência da própria saúde; Decisão de compra: diferenças eu-outro; Culpa antecipada.

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Glossary

RS – Reduced-Sugar

H – Hypothesis

RQ – Research Question

ANOVA – Analysis of Variance

SH Awareness – Self-health awareness

PI – Purchase Intention

Chapter 1: Introduction

1.1 Topic Presentation

Over the years, consumers have become increasingly concerned about their well-being, reflected on a healthier lifestyle, and aware of the importance of making healthier purchase decisions. Despite this, evidence indicates that obesity rates are still increasing (World Health Organization, 2000), which creates a health problem, strongly "influenced by marketing strategies, such as decreased prices, increased flavor variety, availability, larger serving sizes and more convenient eating opportunities." (Geyskens et al., 2007, p. 118). Previous researches focused on products' fat content as a key factor for heart attacks, and the main cause of obesity and other serious diseases (Page et al., 1961). Aiming to decrease the percentage of fat intake, producers started reducing fat content in their products, which in turn, lead to substantial growths in sugar concentrations across food products (Reijnen et al., 2019). Indeed, in the last decades, consumption of caloric sweeteners has been increasing (Mooradian et al., 2017), and sugar has been added to almost all processed foods (Lustig et al., 2012).

More recent studies have shown that nowadays consumption of sweet foods is one of the majors contributors to obesity and is directly related to diabetes and heart diseases (R. J. Johnson et al., 2007; Siervo et al., 2014). World Health Organization (WHO) guidelines state that sugar should not represent more than 10% of daily caloric intake (Mooradian et al., 2017). Consequently, and as a response to consumers' expectations, who are increasingly health-aware and ergo demanding healthier choices, the reduction of sugar consumption is now a critical concern for companies. As a result, they have been engaging in initiatives to decrease added sugars in their products (Reijnen et al., 2019), using salient labels such as "Less 30% of sugar" or "No added sugar", because consumers usually attend to nutritional information only when it is outstanding on the package (Bialkova & Trijp, 2011).

Though the reduction of sugar is undoubtedly beneficial to health, it is questionable whether it should be communicated with nutrition labels. Evidence shows that labelling can influence perceptions and preferences of a product, leading to negative and wrong meanings of other product's attributes, such as healthiness and tastiness (Loebnitz & Grunert, 2017). For example, a Reduced Sugar (RS) claim may result in inferences of high healthiness and low taste, which in turn can decrease purchase intentions (PI) as an anticipation of negative attributes. In line with this

reasoning, both consumers' personal characteristics, and format and content of the label contribute to the way they use available information on packages (Effertz et al., 2014).

Although the impact of Reduced Sugar (RS) labels on consumers' perceptions has been previously investigated, it has mostly focused on the perspective of utilitarian and hedonic experiences (Cramer & Antonides, 2011; Loebnitz & Grunert, 2017; Menger-Ogle & Graham, 2018), and the importance of decision targets has not been extensively explored. Hence, the question becomes: Do RS labels hold sway over consumer decisions? Are these decisions different when consumers choose products for themselves than when they choose for others?

Moreover, to better understand the topic, it is important to examine the role of anticipatory guilt in the process of choosing products without and with RS labels for the self and for others. This sentiment might influence purchase intentions, such that when choosing for others, consumers do not feel as much guilt. Therefore they are more likely to prefer products without RS labels (believed as tastier and less healthy) than when choosing for themselves (Lu et al., 2016).

To address these various effects, the present study builds off and extends on previous studies on different utilitarian and hedonic and products, using stimuli from fictitious brands that display the information in front-of-package format. Both items were previously used and thus adapted from Loebnitz (2017), since the nutrition claims were applicable to the needs of this study. The products used are a cereal bar and a chocolate, both in the presence and absence of a RS label. The first one represents the utilitarian product, often seen as functional, and the latest relates to the hedonic dimension, as a product frequently associated with pleasant sensory experiences.

To this end, the aim of this study is to understand how RS claims are perceived by consumers, in terms of healthiness and tastiness, when they choose for themselves and for others, and how anticipatory guilt may influence these decisions. The ultimate goal is to provide an additional perspective and contribute for ongoing discussions surrounding the process of consumers' decision making, as well as clarify how companies can efficiently communicate nutritional information to help consumers choosing healthier options.

1.2 Problem Statement

The main purpose of this research is to understand inferences consumers make on "Reduced-Sugar" labels, in terms of healthiness and tastiness, and if there are differences when consumers

choose for themselves or others. Moreover, it aims to comprehend if the level of anticipatory guilt changes as a function of RS labels.

In order to achieve this goal, the following Research Questions were formulated:

RQ1: How does the "Reduced-Sugar" label information influence consumers' health and taste perceptions?

RQ1a: Do consumers perceive RS products as healthier?

RQ1b: Do consumers perceive RS products as less tasty?

RQ2: Does the RS label interact with the decision of choosing a product for the self or for other?

RQ3: Does the level of anticipatory guilt change as a function of RS labels?

1.3 Research Methods

In order to get answers to the Research Questions, mostly primary data was used and analyzed. An online survey was developed, as this technique allows to capture a representative and diverse amount of information, regarding demographics and consumers' attitudes.

1.4 Dissertation Outline

The present dissertation is composed by five chapters. The following chapter contemplates Literature Review of existent papers on the thesis subject as a framework for the research developed throughout this dissertation. The third chapter comprises an explanation of the methodology followed to collect data. The fourth chapter offers a detailed analysis of results collected. The fifth and final chapter presents a summary of the main findings and conclusions, as well as limitations and suggestions for future research on the topic.

Chapter 2: Literature Review

This chapter establishes a theoretical basis on the topics to be discussed in the Research Questions. It contemplates detailed exploratory research on the variables under study, starting with the role of nutritional labels, going into detail on the effect of Reduced-Sugar labels, followed by an introduction to the concepts of utilitarian and hedonic products, coupled with an analysis on the differences of these product types.

Likewise, concepts of perceived healthiness and tastiness are further explained, as well as the different decision targets (self or other), followed by a consideration on possible effects of anticipatory guilt. At chapter's end, the research's hypotheses are formulated, based on the theoretical background.

2.1 The role of nutrition labels on consumers' perceptions

Nutrition claims have gained increased attention from academics over the last years, which lead to several investigations of consumers' perceptions towards different types of health claims (Menger-Ogle & Graham, 2018; van Trijp & van der Lans, 2007; Verbeke et al., 2009).

It has been further demonstrated that the presence of nutritional claims on packages influences consumers' perceptions and buying decisions (Roe et al., 1999). Therefore, the increasing importance of food, nutrition and health labels is not only related with consumer protection towards substantiated and truthful claims, but it also aims to provide reliable information to guide consumers in choosing healthier choices (Bialkova et al., 2016; van Trijp & van der Lans, 2007), leading to improvements in public health, by allowing consumers to readily identify healthier food (Roe et al., 1999).

Despite this, the presence of nutritional claims on food products may also lead to wrong inferences, such as on healthiness and tastiness (Roe et al., 1999; Sundar & Kardes, 2015). A study by Roe et al. (1999) indicates that consumers are unlikely to understand nutritional information available on packages of products, or if they do understand it, they tend to ignore it and focus only on the health claim (such as Reduced-Sugar labels), which can result in incorrect nutritional inferences about that product.

Aiming to clarify this phenomenon, the study mentioned beforehand (Roe et al., 1999) identifies three types of biases in consumer inferences. First, due to nutrition labels' presence, consumers tend to positively over-rate the overall product, also called positivity bias (Brown & Carpenter,

2000; Talati et al., 2016). Second, if consumers attribute inappropriate health benefits to products, a magic-bullet effect can occur (Scholl‐Grissemann, 2018). Finally, claims on specific attributes may lead to a halo effect (Sundar & Kardes, 2015). This last concept has been extensively investigated in the context of health (Andrews et al., 2000; Schuldt et al., 2012), suggesting that certain attractive food labels, such as organic, locally produced, natural or low in calories influence consumers to positively evaluate products and infer favorable attributes on many other dimensions, that can result in inappropriate generalizations. For example, findings from Wansink and Chandon (2006) indicate that low-fat labels on snack foods, such as M&M and granola, decrease calorie estimates, leading consumers to increase perceptions of serving size and therefore increasing calorie intake in both snacks. Additionally, this same study claims that "low-fat" labels increase food intake during a single consumption by up to 50%, which is a significant result.

Hence, it is extremely relevant to understand how nutritional claims can influence consumers' perceptions and behaviors toward food.

2.2.1 The role of Reduced-Sugar labels

Sugar is often mentioned in medicine and public discourse as one of the major determinants of healthiness and nutrition, consequently becoming substantially more important for consumers when evaluating the overall healthiness of food products (Hieke & Wilczynski, 2012). This awareness has prompt sugar to be a prime object of research in recent years, as one of the highest contributors to obesity and other serious diseases (Colby et al., 2010; R. J. Johnson et al., 2007; Reijnen et al., 2019). Nevertheless, sugar is still part of almost every product we consume, and oftentimes unnoticed, which makes it harder to avoid its consumption (Lustig et al., 2012). Moreover, despite owning all the information regarding risks and consequences associated with sugar consumption, some studies indicate that consumers tend to ignore the nutritional content and keep on purchasing high-sugar products, since it is frequently assumed that high sugar content products are tastier, and as a result, consumers lack willpower to resist such foods (Haasova & Florack, 2019; Raghunathan et al., 2006).

It was further demonstrated that purchase intentions depend, not only on packages' added attributes, but also on consumers' individual characteristics and goals, such as the level of consumer involvement, defined by Kähkönen and Tuorila (1999, p. 84) as "the degree of effort a consumer

is willing to devote for consumption-related activities" and health motivation, such that self-health aware consumers are more likely to engage in healthier behaviors (Loebnitz & Grunert, 2017).

On the one hand, especially when experiencing pleasure is the main goal, claims of RS frequently result in misleading and unjustified inferences, such as poor taste and high healthiness, which can decrease purchase intentions due to an anticipation of negative hedonic attributes (Bialkova et al., 2016). A study by Raghunathan (2006) also corroborates these findings by revealing that when a hedonic goal is salient, such as pleasure and enjoyment, the product attractiveness lies on its perceived unhealthiness, because consumers intuitively infer these products as tastier. All this may lead to a bias towards unhealthy options, which ends up being one of the main drivers for overconsumption of this type of food.

On the other hand, as consumers are increasingly aware of health concerns and motivated to shift their habits towards healthier behaviors, high Self-health (SH) aware consumers may give more relevance to nutrition facts, preferring products with nutrition labels, such as RS (Loebnitz & Grunert, 2017). A study by Crofton et al. (2013) substantiates this adjustment in consumer behavior. It starts by pointing that taste seems to be essential, and consequently the main reason for consumers to not choose healthy cereal snacks, as they are assumed to have low calories, fat, salt and sugar. Nevertheless, it also states that whereas men prefer taste over healthiness, thus associating healthy with less tasty food, women show a more positive attitude towards healthy food, balancing convenience with nutrition and therefore engaging in healthier choices (Crofton et al., 2013).

It is also important to mention that, despite quite often expressing positive evaluations of healthy products, consumers' purchase intentions do not always translate into actual healthier shopping behaviors (Liem et al., 2012; Loebnitz & Grunert, 2017), which complicates things even further. In spite of these controversies, there is a consensus regarding consumers' uncertainty about nutrition claims, which are often associated with negative hedonic attributes, such as poor taste (Loebnitz & Grunert, 2017).

Aiming to further investigate the impact of RS labels, and following the findings from Wansink and Chandon (2006) previously mentioned, which tested the effect of low-fat labels, the present study aims to understand consumers' perceptions about products with RS labels. It is expected that the same outcome from low-fat labels occurs with Reduced-Sugar labels, i.e., that consumers associate RS nutrition claims to products with fewer calories, and therefore increase food intake.

2.2 Utilitarian and Hedonic consumption

Utilitarian products are effective, goal-oriented and aim to accomplish a functional or practical purpose, thus they are often seen as cognitively and functionally driven, aiming to give energy and improve performance (Dhar & Wertenbroch, 2000; Voss et al., 2003). In contrast, hedonic products are fun, enjoyable and related to affective and emotional experiences (Dhar & Wertenbroch, 2000; Hirschman & Holbrook, 1982; Voss et al., 2003). Accordingly, these often coincide with pleasant sensory experiences, where taste and appearance are the main motivators for buying the product (Cramer & Antonides, 2011). Indeed, consumers seek different benefits depending on the type of food, in the sense that a hedonic product usually activates a desire for pleasure, whereas the consumption of utilitarian food is generally motivated by a fundamental goal to eat to satisfy hunger (Chandon & Wansink, 2007).

Previous studies in this domain suggest that these concepts' distinction is not only true at the product level, but it also applies to attributes, such that some products may have both utilitarian and hedonic characteristics (Chernev, 2004; Dhar & Wertenbroch, 2000). More specifically, a previous study focused on measuring multiple dimensions of product attributes reveals that "consumers purchase goods and services and perform consumption behaviors for two basic reasons: (1) consummatory affective (hedonic) gratification (from sensory attributes), and (2) instrumental, utilitarian reasons." (Batra & Ahtola, 1991, p. 159).

For example, Voss et al. (2003) finds that a pair of athletic shoes has utilitarian attributes because it is functional and enhances performance, but it has hedonic attributes as well, since wearing brand-name athletic shoes is enjoyable and pleasant. Thus, as Lu et al. (2016) suggests, the salient attributes available on products determine whether they are perceived as hedonic or utilitarian. Following this reasoning, the presence of RS labels can result either in inferences of high functionality or poor taste, being often correlated with less pleasure, which translates into negative hedonic attributes.

Building on these premise, the present research aims to analyze consumers' perceptions regarding products displaying RS labels.

2.3 Perceived healthiness and tastiness

Depending on product type (hedonic or utilitarian), consumers behave differently towards nutritional labels (Loebnitz & Grunert, 2017). Food's tastiness is a sensory experience, ergo it is

often related with hedonic products, since the purchase's main motivator is the desire of experiencing pleasure and enjoyment (Bialkova et al., 2016).

Loebnitz and Grunert (2017) suggests that hedonic products with nutrition claims, such as Reduced-fat or Reduced-Sugar, often lead to inferences of poor taste. For example, Kähkönen and Tuorila (1998) uses sensory tests and a questionnaire to study the effect of information concerning fat content on regular and reduced-fat sausages on expected and actual sensory and hedonic quality, with the participation of 115 young men. Aiming to evaluate expected pleasantness, juiciness, saltiness and fattiness, this study shows that reduced-fat sausages lead to significantly lower expectations of pleasantness and tastiness compared to regular-fat sausages. Indeed, as high fat content is often correlated with pleasant food, such as ice-cream or chocolate, consumers frequently associate less fat with less pleasantness. Following the same premise, the present research predicts that consumers perceive products with RS labels as less tasty than the ones without it.

Concerning the degree of healthiness, a study by Carels et al. (2007) finds that the presence of nutritional labels, such as reduction of fat or sugar content, is biased by product category (healthy or unhealthy). Hence, consumers tend to overestimate the amount of calories of products classified as unhealthy, deducing that these lead to weight gain, whereas healthy products lead to weight loss (Carels et al., 2006). Hereupon, consumers' beliefs about the level of healthiness of products seem to highly affect purchase intentions and decisions.

Moreover, a study by Balasubramanian and Cole (2002) suggests that perceived healthiness and tastiness affect consumers' attention to nutritional information, meaning that when an unhealthy food product is presented, consumers tend to ignore nutrition claims, while in the presence of believed healthy products consumers actively search for health label information. Also, findings from Ramanathan (2006) indicate that, when priming hedonic goals, consumers often express higher preferences for better tasting but less healthy options, which intuitively should increase purchase intentions for hedonic products.

Building on these arguments, the "unhealthy-tasty intuition" conceptualized by Raghunathan et. al (2006) seems to hold. This theory finds a negative correlation between healthiness and tastiness, proposing that consumers often believe that the unhealthier the food, the tastier it is. Consequently, this may result in overconsumption of food inferred as less healthy, in the expectation of better taste, and the avoidance of healthy foods. Furthermore, it implies that consumers are likely to

perceive unhealthy food stressing health claims as poorer in taste, and thus less attractive (Belei et al., 2012).

This phenomenon translates into a negative halo effect and suggests the presence of a health-pleasure trade-off (Nørgaard & Brunsø, 2009), since consumers believe that a food product can not be healthy without sacrificing on taste. For example, a study by Crofton et al. (2013) analyzes consumers' perceptions of healthy snacks and finds that taste appears to be essential and the main reason for not choosing healthy cereal snacks. People may assume that this product, as potentially healthy, has low calories, fat, salt and sugar, and consequently it is automatically expected to be poor in taste.

Having said this, it is undoubted that the degree of healthiness plays an important role (Antonides & Cramer, 2013). Accordingly, and following findings from Loebnitz and Grunert (2017), the level of SH awareness may also influence consumers' inferences. Health consciousness is defined as "the degree to which health concerns are integrated into a person's daily activities" (Jayanti & Burns, 1998, p. 5). Hence, SH aware consumers are often concerned about their health and engage in healthier behaviors, giving more relevance to nutrition claims than low SH aware consumers (Loebnitz & Grunert, 2017; Mai & Hoffmann, 2012).

A study by Loebnitz and Grunert (2017) suggests that the effect of nutrition and health claims on consumers' choices depends on product type and the level of SH awareness. Whereas consumers with high concerns about their health express higher purchase intentions for products that feature health claims, less SH aware consumers tend to show higher purchase intentions for food without nutrition claims. Whether this is the case, it is further explored in this research.

On the basis of these findings, the present study aims to understand consumers' perceptions of healthiness and tastiness about products with RS labels. It is expected that consumers will infer such products as healthier and less tasty.

2.4 Decision targets: self-other differences

Individuals make purchase decisions not only for themselves, but also for others (Baskin et al., 2014). Previous studies (Lu et al., 2012; Polman, 2012) indicate that when buying for others, consumers prefer more ideal and desirable products, and are more satisfied when selecting among larger choice sets, while when choosing for themselves, consumers tend to experience stronger emotions (Albrecht et al., 2013). A study by Laran (2010) finds that when choosing for others,

consumers tend to focus on pleasure-seeking goals, resulting in more indulgent (i.e. permissive, closely related to luxury) choices than when choosing for themselves (Kivetz & Simonson, 2002). A possible reason can be the existence of different goals, because the decision for others is more public, thus one may have higher concerns with how the product fits other person's preferences (Lu et al., 2016). Moreover, Lu et al. (2016) explains that as hedonic products are perceived as more self-expressive than utilitarian (Maimaran, 2011), consumers are likely to prefer the former when choosing for others.

Another possible explanation for the preference of hedonic products for others lies on the self-control theory (Johar, 2005; Kivetz & Simonson, 2002). This phenomenon suggests that consumers can avoid hedonic products, such as smoking, overeating or eating unhealthy food, using self-control. When choosing for themselves, consumers may experience the opposite, falling into restraint failures (Wansink & Chandon, 2006), because even knowing the benefits of choosing healthy products, indulgent products are more pleasant and consequently harder to resist. On the contrary, when choosing for others, consumers do not face self-control situations, but rather infer others' goals, believing that they do not exert self-control, and therefore assuming others will simply choose the most indulgent and desirable products (Laran, 2010).

Using these arguments as groundwork and further analyzing the impact of RS labels, the present study predicts that when choosing for others, the presence of RS labels (which is perceived as a negative attribute in hedonic experiences) will reduce the choice of hedonic products, while when choosing for the self, it will increase the choice of hedonic products.

2.5 Anticipatory Guilt

Guilt can be defined as "an individual's unpleasant emotional state associated with possible objections to one's own actions, inaction, circumstances, or intentions. It is an aroused form of emotional distress that is distinct from fear and anger and based on the possibility that one may be in the wrong" (R. F. Baumeister et al., 1994, p. 245). Regarding consumers' buying and eating decisions, the evaluation of anticipation of consumption pleasures and guilt is essential (R. O. Y. F. Baumeister, 2002; Wansink & Chandon, 2006), because people tend to unconsciously categorize food in terms of pleasure-related or guilt-related goals (King et al., 1987). Therefore, this emotion plays an important role when studying food consumption decisions.

According to Dahl (2003), guilt can occur at three different stages: during purchase (e.g. impulse buying), in usage situations (e.g. using products considered harmful to health, such as cigarettes) and during disposition (e.g. throwing away recyclable products). This emotion is often related with concerns for moral standards or harm done to others, such that consumers are likely to anticipate the guilt they would feel if acting unethically. Consequently, one's behavior is guided by this anticipatory experience (Steenhaut & Van Kenhove, 2006), which, at the deciding moment of what to consume, can result in conflicts between two opposite goals. While a utilitarian consumption is often associated with long-term health preservation and improvement goals, a hedonic experience is frequently correlated with short-term pleasure and enjoyment (Wansink & Chandon, 2006).

Previous studies indicate that consuming hedonic products, such as chocolates, tend to trigger more anticipatory guilt than consuming utilitarian products, as cereal bars (Lu et al., 2016; Wansink & Chandon, 2006). In addition, when activated at high levels, this sentiment can lead consumers to stop purchasing hedonic products. Wansink and Chandon (2006) also claims that people experience less guilt when consuming food labeled as being low in fat. Accordingly, guilt may be the reason for people to choose lower-fat food, as these products are considered less hedonic than the original ones. Hence, it is suggested that low-fat claims lead consumers to overeat because they feel less guilty.

Building on these arguments, the present study aims to comprehend if the same outcome occurs in the presence of RS labels. In particular, it is expected that when choosing hedonic products, the presence of RS labels will decrease the level of anticipatory guilt.

Re-including the effect of decision targets, i.e., self-other differences, hypotheses focused on the relationship between this last variable, product type (hedonic or utilitarian) and anticipatory guilt can be developed. Should be noted that anticipatory guilt is expected to result in different outcomes when choosing for the self and for other (Kivetz & Simonson, 2002; Lu et al., 2016). The role of anticipatory guilt induced by hedonic products was explored in the study from Lu et al. (2016), by using 11 pairs of products which were manipulated and displayed through different combinations of one utilitarian and other hedonic. Participants were asked to indicate which product would make them feel more guilt when choosing for themselves or for others, an outcome that was found to be unaffected by individual differences in experiencing guilt in daily life. Overall, Lu et al. (2016) shows that in hedonic consumption, the level of anticipatory guilt is reduced when choosing for

others than when deciding for own consumption, thus increasing preference for this type of products. Indeed, choosing hedonic products for others makes people feel less guilty.
Drawing on the aforementioned streams of literature and expecting that consumers associate RS labels with less hedonic experiences, the present research hypothesizes that in hedonic products with RS labels, the effect of anticipatory guilt will be stronger when consumers choose for themselves.

2.6 The present research

The research done for this thesis builds off and further explores investigations from Loebnitz and Grunert (2017), testing consumers' inferences of healthiness and tastiness regarding RS labels. It is predicted that consumers associate products with RS labels as healthier and less tasty, resulting in the following hypotheses:

H1: When a "Reduced Sugar" label is present, it will influence consumers' inferences.
H1a: Consumers will associate RS labels to healthier products.
H1b: Consumers will associate RS labels to less tasty products.

Moreover, and following findings from Lu et al. (2016), which suggests that consumers are more likely to choose hedonic products when deciding for others than when choosing for themselves, this study explores whether different decision targets (self-other conditions) have an effect on inferences of products with RS labels, also considering the different product types (hedonic and utilitarian).
For this purpose, two product categories were selected, to accommodate the fact that consumers' choices of products with RS labels may depend on product category and the difference between self-other conditions. In particular, for hedonic products, emphasizing RS claims may have a negative impact when choosing for others, but a positive effect when choosing for the self.
Therefore, the subsequent hypotheses were framed:

H2: Consumers' choices for products with RS labels will be moderated by the decision target self-other.

H2a: When deciding for others, the presence of RS labels will reduce the choice of hedonic products.

H2b: When deciding for the self, the presence of RS labels will increase the choice of hedonic products.

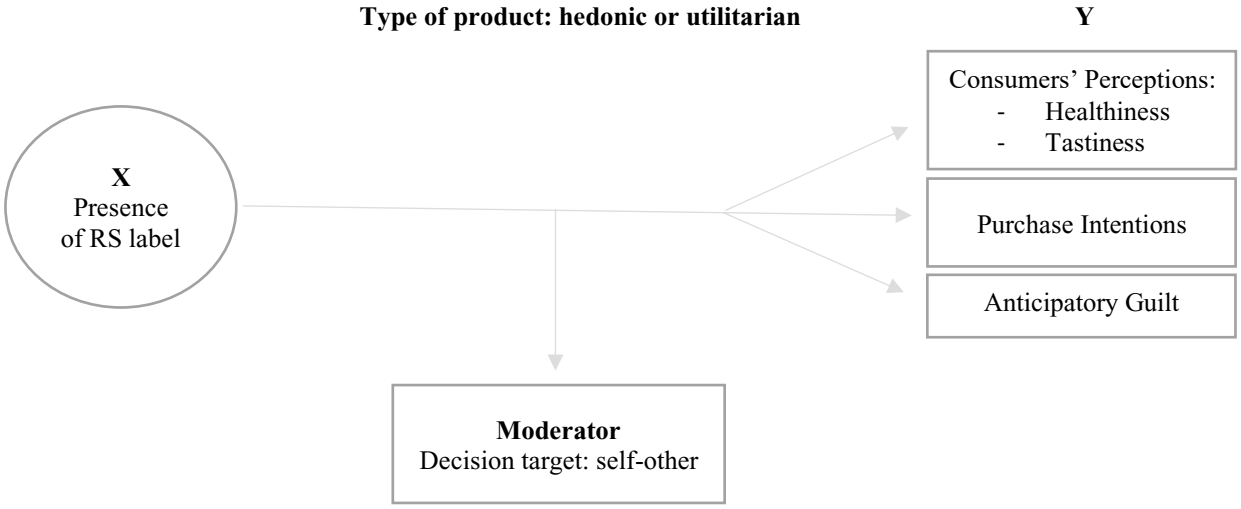
In addition, considering and extending on previous findings from Lu et al. (2016), which proposes that consumers feel less anticipatory guilt from hedonic consumption when choosing for others than when choosing for themselves, the present research suggests that in hedonic consumption, the level of anticipatory guilt is lower in the presence of RS labels than in its absence. Furthermore, the level of anticipatory guilt induced when consumers choose for themselves is expected to be higher than when choosing for others.

Accordingly, the following hypotheses were outlined:

H3: When choosing hedonic products, the anticipatory guilt will decrease with the presence of RS labels.

H3a: This effect should be particularly strong when consumers choose products for themselves.

In order to better understand the present study, graphic 1 shows the conceptual framework. The model illustrates the effect of RS labels on consumers' perceptions of healthiness and tastiness, and consequently on purchase intentions. This effect is predicted to be moderated by decision target: self-other and the choice for such products may be influenced by the level of anticipatory guilt.



Graphic 1 – Conceptual Framework

In summary, despite the number of academic studies, there is a shortage of systematic comparative research identifying how RS claims are perceived by consumers, the effect of self-other differences, and the induced level of anticipatory guilt. Following the approach that Loebnitz and Grunert (2017) advocate, the goal of this study is, not only to further test their hypotheses in a new situation, the decision target: self-other, but also to extend their research, by adding a variable described as a limitation of the study: the level of anticipatory guilt induced when engaging in hedonic consumption, which was previously tested by Lu et al. (2016).

Hence, following the methodology used by Lu et al. (2016), the present study manipulates the decision target: self-other, by randomly assigning participants to one of the conditions, and spreads their findings to situations where RS labels are present and absent.

To this end, the main purpose is to contribute to fill this knowledge gap, by exploring the interaction between the variables and understanding consumers' evaluations given certain stimuli.

Chapter 3: Methodology and Data Collection

This chapter comprises the methodology used to address the Research Questions and to test the hypotheses formulated.

3.1 Research Instruments

For the purpose of this study, an online survey was used to collect data, due to its various advantages. In particular, the low costs, the possibility of achieving a high reach and thus a large sample within a short period of time can be mentioned. Another beneficial aspect is its flexibility, since technical possibilities allow to not only integrate text but also pictures. Additionally, researchers benefit from anonymity of participants since people tend to give more accurate and truthful answers to the questions.

The survey was developed using the platform Qualtrics and shared through social media (Facebook and Instagram) and WhatsApp, between the 4th and 20th of November. It was available both in English and Portuguese so that people that feel less comfortable with the English language could still answer it. Indeed, as proposed by psychological and linguistic research, "language of survey administration affects respondents' reference frame, potentially influencing how respondents perceive the intent of questions and their affective characteristics, including sensitivity and need for socially acceptable answers" (T. P. Johnson et al., 2018, p. 325).

The results were then prepared and analyzed using SPPS. For statistical purposes, the standard margin error accepted was 5%, with 95% confidence level.

3.2 Research Method

The present research aims to test the inferences consumers make regarding products with RS, as well as the effect of the differences in self-other decisions. Moreover, it examines the role of anticipatory guilt in the decision-making process.

To address this issue, an online questionnaire was used, from which initially participants were randomly assigned to a self-condition (choosing for the self) or other-condition (choosing for other). As the goal was to have a broad range of responses, no specific target was previously defined, there were no restrictions of age, nationality, gender or education level. Also, participants were all volunteers. A total of 314 answers were collected, 159 for the self-condition and 155 for

the other-condition. From this sample, after data cleaning, only 225 were considered valid and analyzed, 116 for the first and 109 for the second condition.

3.2.1 Materials and Procedure

The study was conducted by manipulating two products, a cereal bar (utilitarian product) and a chocolate (hedonic product), because these products had been already used and tested in other studies, such as Loebnitz and Grunert (2017), assuring attractiveness and likeability of the stimuli. In addition, the nutrition claims were applicable and adaptable for the purpose of this research. The products used are from fictional brands and were carefully selected so that the RS label could be manipulated as either present or absent, both in hedonic and utilitarian products. Moreover, as these two types of products had already been manipulated in previous studies, there is evidence showing that cereal bars are considered utilitarian and chocolates hedonic products (Laran, 2010; Loebnitz & Grunert, 2017). The order by which the products appeared to each participant was randomized to avoid order effects.

In the beginning of the survey, an introductory text was presented, explaining that the study was developed within the scope of the final Dissertation at Católica-Lisbon SBE, completely anonymous and used only for academic purposes. Participants were also told they would be contributing for a study about the impact of different products on consumers' perceptions. After that, they were randomly assigned to one of two scenarios. Depending on the assigned condition, they were either addressed to a self or other-condition (Appendix 1).

Next, the scenario in which they were assigned was explained, asking them to imagine they were in a supermarket considering choosing products either for themselves or for a friend. This procedure was used by Lu et al. (2016), and therefore adapted for the purpose of this research, aiming to assess how consumers make choices in daily life, and how they differ, when choosing for themselves or for others. Moreover, they were informed that several products would be presented, and to consider they had the same price and quantity.

Thereafter, all participants were exposed to two product choice scenarios, one with cereal bars and other with chocolates. For each product type, they were presented with two pictures, both with a similar packaging design and format, the only difference was that one stimulus featured a RS label claiming "30% less sugar" and the other did not, so that the presence of label could be manipulated.

Following, several questions were conducted for each scenario, meaning, a Cereal Bar without RS label, a Cereal Bar with RS label, a Chocolate without RS label and a Chocolate with RS label.
First, to understand their preferences, the two stimuli for each product type (without and with label) were presented side by side, and participants were asked which one they would buy for themselves or for a friend, depending on the assigned condition (adapted from Lu et al. (2016)).
Next, still displaying both stimuli side by side, it was asked which product would make them feel more guilty, when choosing for them or for a friend, in order to measure their level of Anticipatory Guilt (method previously used by Lu et al. (2016)).
Both questions were rated on a bipolar scale from 1 (Definitely product A) to 7 (Definitely product B).
Subsequently, each one of the four products appeared separately followed by a series of questions. To comprehend consumers' perceptions regarding Healthiness and Tastiness, participants were asked to evaluate each product, when choosing for themselves or for a friend, in terms of five features: "It provides enjoyment.", "It is tasty.", "It is nutritive.", "It is healthy." and "It is pleasurable.". The first two and the last statements intended to measure perceived tastiness and the remaining two aimed to analyze perceived healthiness. This construct was used by Talati et al. (2016) with a 5-point rating scale, and adapted to a 7-point Likert scale (1=not at all; 7=extremely) to be consistent with the rest of the study.
Aiming to measure Purchase Intentions, participants expressed their likelihood of purchasing the product for themselves or for a friend, on a 7-items Likert scale (1=not at all; 7=extremely), adapted from Loebnitz and Grunert (2017).
Following, the perception of utility of products was examined, as a manipulation check for product type. Participants were asked to rate the products in terms of taste, healthiness, functionality and hedonism, on a 7-items Likert scale (1=not at all; 7=extremely). The first and the last items represented the hedonic dimension, and the remaining two represented the utilitarian dimension. The construct was adapted from Loebnitz and Grunert (2017), as an appropriate measure to evaluate differences in attitudes towards utilitarian and hedonic products, and in particular, to confirm that consumers perceive cereal bars as utilitarian and chocolates as hedonic products.
Afterwards, to assess self-health awareness, participants expressed their level of agreement with six statements, on a 7-items Likert scale (1=not at all; 7=totally), such as: "I consider myself very health conscious." and "I am constantly examining my health.". This construct was previously

used and tested by Loebnitz and Grunert (2017), being appropriate to measure self-health awareness.

Moreover, to control for situations of individual differences in experiencing guilt in daily life, participants filled a 5-item guilt proneness scale, where they were asked the likelihood to react in the way described in each situation, such as "You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?", on a 7-items Likert scale (1=not at all; 7=totally). This method was developed by Cohen et al. (2011) and previously used and tested by Lu et al. (2016).

To conclude, demographic data was collected, with questions concerning age, gender, nationality, level of education and occupation. Finally, participants who completed the survey were thanked for their participation.

3.2.2 Design

The study conducted followed a 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Presence of Label:* No, Yes) x 2 (*Decision target*: self, other) mixed-subjects design, where *Decision target* was a between-subject variable, while *Type of product* and *Presence of label* were within-subject variables.

Initially, participants were randomly assigned to one of two decision target conditions: choosing for the self or choosing for other. After this, they were directed to the survey, where the products were presented for them to evaluate, two cereal bars and two chocolates, following a 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Presence of Label:* No, Yes) within-subject design. The study comprised two product types to ensure that the results were independent on the evaluation of one single product type.

	Utilitarian	**Hedonic**
No RS Label	Cereal bar without label	Chocolate without label
RS Label	Cereal bar with label	Chocolate with label

Table 1 – 2x2 Within-Subject Design

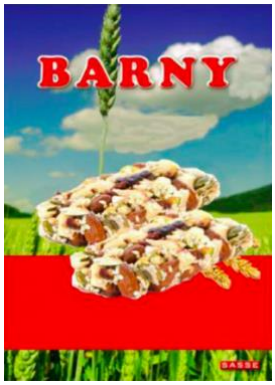
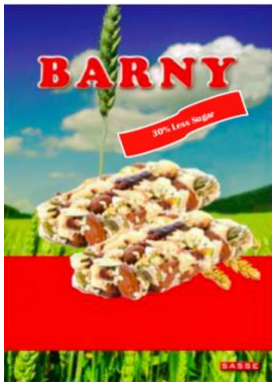
	Utilitarian	Hedonic
No RS Label		
RS Label		

Table 2 – Overview of the four products

Chapter 4: Analysis of Results

In the present chapter, the data collected from the survey is analyzed using SPSS, allowing to draw relevant conclusions regarding the Research Questions and the hypotheses formulated.

4.1 Data Collection

The experimental study had a total of 314 initiated responses. All participants that did not answered the survey until the end were deleted. Hence, after data cleaning, a total of 225 valid responses were acquired, from which 116 correspond to participants assigned to the self-condition, and 109 to the other-condition.

4.2 Sample Characterization

Before analyzing the data obtained, the characterization of the sample was carried (Appendix 2). As previously explained, some participants were assigned to the self-condition and the remaining to the other-condition. The questions asked were exactly the same for the two group-conditions, with the exception of the decision target.

From all the 225 valid responses, the majority (96.4%) were Portuguese, and only 3.6% were from other nationalities. Regarding gender, 36.9% were men, and 63.1% were women. The mean age range was 30.52 (SD = 12,39).

About last taken degree of studies, respondents had mostly undergraduate and postgraduate's degree, representing 43.6% and 39.6% of the quantifiable sample. With a much lower portion of the sample, 1.3% hold a Professional level of education, 12.4% did the High School and 1.3% the Mandatory School.

Concerning current occupation, 36.4% are students, 9.3% student-workers, 46.7% employed, 1.8% unemployed and 0.4% retired.

4.3 Data Reliability

In order to analyze the results, first it is essential to test the data reliability and internal consistency of the scales used in the survey. For this purpose, the Cronbach's alpha was measured (Appendix 3), in which an acceptable level of internal consistency should display a coefficient higher than 0.7 (Peterson, 1994). The greater the values obtained, the more homogeneous are the answers given to

the items that constitute the scale, and the greater the correlation between them, that is, the better the internal consistency.

The scales of Perceived Healthiness, which included the questions "It is nutritive" and "It is healthy" showed a good level of internal consistency (α = .819). For Perceived Tastiness, which included the questions "It provides enjoyment", "It is tasty", and "It is pleasurable", (on a 7-point Likert scale), the level of internal consistency was also good (α = .866). The scales for Self-health awareness (α = .910) and Proneness to Guilt (α = .746) also showed a good level of internal consistency.

Since all alphas were above 0.7, it is verified that the scales presented a good consistency, therefore there was no need to delete items.

4.4 Manipulation Check

Before the analysis testing, a manipulation check was conducted, to ensure that the manipulations of utilitarian and hedonic characteristics worked as planned. For that purpose, the perception of utility of products was analyzed, expecting that participants value *healthiness* and *functionality* for utilitarian products and *taste* and *hedonism* for hedonic products.

The outcomes derived from a paired sample t-test reveal that the differences in the most important attributes, when comparing the utilitarian and the hedonic product, is significant ($t_{\text{healthiness}}(224) = 14.947$, $p < .001$; $t_{\text{functionality}}(224) = 8.641$, $p < .001$; $t_{\text{taste}}(224) = -8.411$, $p < .001$; $t_{\text{hedonism}}(224) = -11.212$, $p < .001$), suggesting that we are in the presence of utilitarian and hedonic products, respectively. In particular, in a scale from 1 (not at all) to 7 (totally), for the utilitarian product, *healthiness* and *functionality* presented the higher scores ($M_{\text{healthiness}} = 5.16$, SD = 1.55; $M_{\text{functionality}} = 4.90$, SD = 1.71) whereas *taste* and *hedonism* were the preferred attributes for the hedonic product ($M_{\text{taste}} = 6.41$, SD = 0.97; $M_{\text{hedonism}} = 5.77$, SD = 1.53) (Appendix 4).

The results obtained were in line with expectations, revealing that the manipulation check of product type worked as intended.

4.5 Controls

Regarding Proneness to guilt, an independent sample t-test revealed that participants in the self ($M_{Self} = 5.82$, SD = 1.06) and other ($M_{Other} = 5.62$, SD = 1.05) conditions did not differ in guilt-

sensitivity (t (224) = 1.43, p = .154). This outcome suggests that this variable should not play a role on the effect of decision targets on the main dependent variables.

4.6 In depth Analysis

The following section tests the hypotheses formulated, presenting the statistical analysis performed for each dependent variable. The tests included Repeated Measures ANOVAS at a 95% confidence level, to evaluate the effect of independent variables on the response variables and t-tests, to comprehend the differences between conditions.

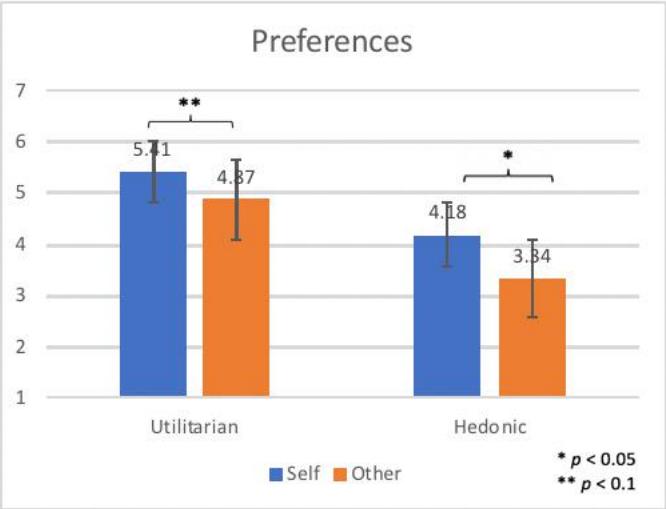
4.6.1 Consumers' preferences

A 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) Repeated Measures ANOVA on participants' preference ratings for each product type (where 1 = product without Label and 7 = product with Label) was conducted. A higher score indicates a higher preference for the product with RS label, when compared to the non-labeled one.

The analysis revealed a main effect of *Type of product* (F (1, 223) = 73.136, $p < .001$, $\eta^2 = .247$). In particular, consumers express higher preferences for products without label (when compared to the ones with label) in hedonic products than in utilitarian products ($M_{Utilitarian}$ = 5.14, SD = 2.11; $M_{Hedonic}$ = 3.76, SD = 2.48). In other words, whereas in utilitarian products consumers seem to prefer products with label, in hedonic products there is a higher preference for products without label.

There is also a main effect of *Decision target* (F (1, 223) =7.232, p = .008, $\eta 2 = .031$). Bearing in mind that a higher score indicates a higher preference for products with RS label, when choosing for themselves consumers express higher preferences for products with label, compared with non-labeled ones, than when choosing for others (M_{Self} = 4.80, SD = 1.90; M_{Other} = 4.11, SD = 1.96).

The interaction *Type of product*Decision target* is not significant (F (1, 223) = .857, p = .355, η^2 = .004). However, it seems that the difference between preferences in self and other conditions is significant for hedonic products and marginally significant for utilitarian products (Appendix 5.1.).



1=preference for No RS Label
7=preference for RS Label
*Graphic 2: Interaction Type of product*Decision Target*

The results derived from this analysis evidence that preferences for products without and with label depend on *Type of product* and *Decision target*. However, to get in a deeper understanding of consumers' attitudes in the presence of such labels, a more detailed analysis needs to be conducted.

4.6.2 Perceived Healthiness

To measure Perceived Healthiness, the data analysis relied on a 2 (*Presence of Label:* No, Yes) x 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) ANOVA with Repeated Measures on the first two factors.

There is a main effect for *Presence of label* ($F(1, 223) = 65.369$, $p < .001$, $\eta 2 = .227$). This result denotes that when a label is present, perceptions of healthiness are higher than when a label is not present ($M_{NoLabel}$ =3.27, SD = 1.11; M_{Label} = 3.74, SD = 1.22), as it was predicted.

Considering *Type of product*, a main effect was also found ($F(1, 223) = 166.87$, $p < .001$, $\eta 2 = .428$), such that evaluations of healthiness differ depending on product type. In particular, perceptions of healthiness are higher for utilitarian than for hedonic products ($M_{Utilitarian}$ = 4.21, SD = 1.44; $M_{Hedonic}$ = 2.80, SD = 1.26).

The variable *Decision target* was found to be marginally significant ($F(1, 223) = 3.484$, $p = 0.063$, $\eta 2 = .015$), such that in the other-condition, inferences of healthiness are higher than in the self-condition (M_{Self} = 3.37, SD = 1.13; M_{Other} = 3.64, SD = 1.01).

The interaction effects were non-significant (Appendix 5.2.).

4.6.3 Perceived Tastiness

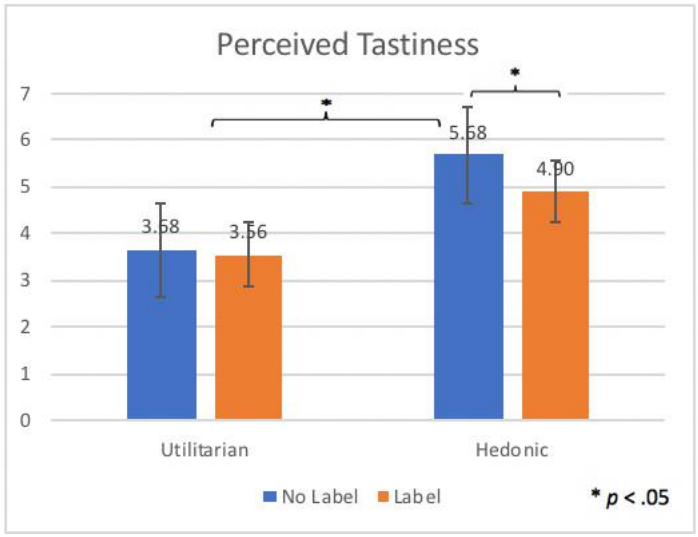
In order to comprehend Perceptions of Tastiness, also a 2 (*Presence of Label:* No, Yes) x 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) ANOVA with Repeated Measures on the first two factors was conducted.

There is a main effect of *Presence of label* (F (1, 223) = 62.825, $p < .001$, $\eta 2 = .220$). Evaluations of tastiness are higher in products without label compared with the ones with label ($M_{NoLabel} = 4.68$, SD = 1.11, $M_{Label} = 4.23$, SD = 1.16).

Considering *Type of product*, a main effect was also found (F (1, 223) = 341.207, $p < .001$, $\eta 2 = .605$), such that evaluations of tastiness differ depending on product type. Consumers perceive hedonic products as tastier than utilitarian products ($M_{Utilitarian} = 3.62$, SD = 1.28; $M_{Hedonic} = 5.29$, SD = 1.22), as it was expected.

There is a main effect of *Decision target* (F (1, 223) = 8.821, p = 0.03, $\eta 2 = .038$). When consumers choose for others, inferences of tastiness are higher than when choosing for themselves ($M_{Self} = 4.25$, SD = 1.09; $M_{Other} = 4.66$, SD = .97).

The interaction *Presence of label*Type of product* is significant (F (1, 223) = 73.147, $p < .001$, $\eta 2 = .247$). In utilitarian products, the difference between presence and absence of label is non-significant ($M_{NoLabel} = 3.68$, SD = 1.33; $M_{Label} = 3.56$, SD = 1.40; $t\,(224) = 1.81$, $p = 0.7$), whereas in hedonic products it is significant ($M_{NoLabel} = 5.68$, SD = 1.31; $M_{Label} = 4.90$, SD=1.37; $t\,(224) = 10.538$, $p < .001$). Suggesting that the presence of label has a strongest impact on consumers' inferences about tastiness of hedonic products than of utilitarian products.



*Graphic 3: Interaction Presence of Label*Type of product*

The other interaction effects were non-significant (Appendix 5.3.).

4.6.4 Purchase Intentions

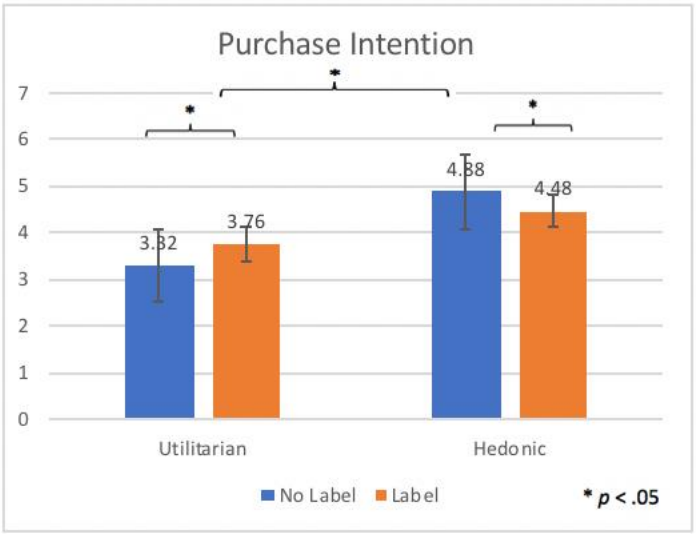
In order to measure consumers' PI, the data analysis relied on a 2 (*Presence of Label:* No, Yes) x 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) ANOVA with Repeated Measures on the first two factors.

No main effect was found for *Presence of label* (F (1, 223) = .043, p = .836, η2 < .001). This result indicates that consumers express similar PI for product without and with label ($M_{NoLabel}$ = 4.10, SD = 1.23; M_{Label} = 4.12, SD = 1.39).

Regarding *Type of product*, a main effect was found (F (1, 223) = 88.183, p < .001, η2 = .283), such that PI differ depending on the product type. In particular, participants express lower PI for utilitarian products than for hedonic products ($M_{Utilitarian}$ = 3.54, SD = 1.56; $M_{Hedonic}$ = 4.68, SD = 1.38).

There is a main effect of *Decision target* (F (1, 223) = 11.711, p = .01, η2 = .050). When choosing for others, consumers present higher PI than when choosing for themselves (M_{Self} = 3.85, SD = 1.15; M_{Other} = 4.37, SD = 1.12).

A significant *Presence of label*Type of product* interaction was observed (F (1, 223) = 44.088, p < .001, η2 = .165). In particular, whereas in utilitarian products there is a higher PI for products with label ($M_{NoLabel}$ = 3.32, SD = 1.60; M_{Label} = 3.76, SD = 1.81; t (224) = -4.848, p < .001), in hedonic products consumers express higher PI for products without label ($M_{NoLabel}$ = 4.88, SD = 1.59; M_{Label} = 4.48, SD = 1.67; t (224) = 3.567, p < .001).

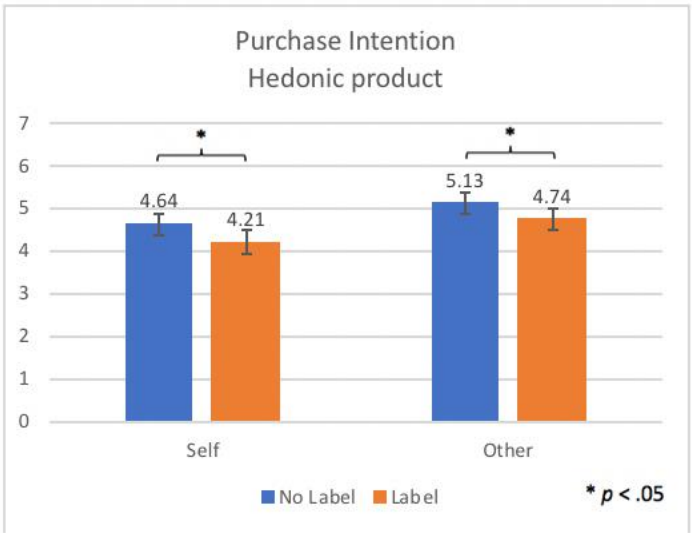


*Graphic 4: Interaction Presence of Label*Type of product*

The interaction *Presence of label*Decision target* is not significant (F (1, 223) = .102, p = .750, η2 < .001). Consumers express similar PI for products without or with label in both conditions (Appendix 5.4.).

No interaction *Presence of label*Type of product*Decision target* effect was found (F (1, 223) = 0.586, p = .445, η2 = .003), meaning that there is no significant difference between self-other conditions in consumers' PI for both hedonic and utilitarian products without or with labels. (Appendix 5.4.).

*Graphic 5: Interaction Presence of label*Type of product*Decision Target*



*Graphic 6: Interaction Presence of label*Type of product*Decision Target*

Likewise, the other interactions were non-significant (Appendix 5.4.).

4.6.5 Self-health awareness

To further understand consumers' attitudes, the level of self-health (SH) awareness was analyzed, also considering the different decision targets, i.e., self-other conditions.

Following the procedure employed by Loebnitz and Grunert (2017), a median split was computed to divide participants according to the level of SH awareness. Any value below the median was defined as "low", and the ones above were included in the category "high". Since the median was not an absolute value (= 4.6), participants with level of awareness in the middle (= 4) were included in the "low" category. Hence, participants indicating values from 1 to 4 were classified as low SH aware (n_{low} = 84) and from 5 to 7 as high SH aware (n_{high} = 141).

a) Consumers' preferences

To decompose the interactions, the analysis relied on a 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) ANOVA with Repeated Measures on the first factor, for both low and high SH aware participants.

<u>Low SH awareness</u>

There is a main effect for *Type of product* (F (1, 82) = 11.054, p = .001, η2 = .119). Bearing in mind that a lower score indicates higher preference for the product without label, when compared to the labeled one, consumers express higher preferences for hedonic products without label and for utilitarian products with label ($M_{Utilitarian}$ = 4.36, SD = 2.17; $M_{Hedonic}$ = 3.62, SD = 2.30).

No main effect was found for *Decision target* (F (1, 82) = .727, p = .396, η2 = .009).

The interaction *Type of product*Decision target* is non-significant (F (1, 82) = .727, p = .396, η2 = .009). (Appendix 5.5.).

<u>High SH awareness</u>

There is a main effect for *Type of product* (F (1, 139) = 61.537, p < .001, η2 = .307). In particular, comparing the product without and with label, high SH aware consumers express higher preferences for hedonic products without label and for utilitarian products with label ($M_{Utilitarian}$ = 5.65, SD = 1.94; $M_{Hedonic}$ = 3.93, SD = 2.58).

A main effect was found for *Decision target* (F (1, 139) = 17.359, $p < .001$, $\eta 2 = .111$). As a higher score indicates a higher preference for products with label, compared to non-labeled ones, it seems that the level of preference for products with label is higher in the self than in the other-condition ($M_{Self} = 5.42$, SD = 1.65; $M_{Other} = 4.16$, SD = 1. 88).

The interaction *Type of product*Decision target* is non-significant (F (1, 139) = 1.218, $p = .272$, $\eta 2 = .009$) (Appendix 5.5.).

b) Perceived Healthiness

To decompose the interactions, the analysis relied on a 2 (*Presence of Label:* No, Yes) x 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) ANOVA with Repeated Measures on the first two factors, for both low and high SH aware participants. This method was also used for the following two dependent variables.

Low SH awareness

A main effect was found for *Presence of label* (F (1, 82) = 10.571, $p = .002$, $\eta 2 = .114$), indicating that for low SH aware participants, the presence of label increases perceptions of healthiness ($M_{NoLabel} = 3.48$, SD = 0.10; $M_{Label} = 3.79$, SD = 1.05).

There is a main effect for *Type of product* (F (1, 82) = 68.094, $p < .001$, $\eta 2 = .454$). In particular, utilitarian products are inferred as healthier than hedonic products ($M_{Utilitarian} = 4.33$, SD = 1.26; $M_{Hedonic} = 2.93$, SD = 1.14).

No main effect was found for *Decision target* (F (1, 82) = .041, $p = .839$, $\eta 2 = .001$).

The interaction effects were non-significant (Appendix 5.6.).

High SH awareness

A main effect was found for *Presence of label* (F (1, 139) = 60.341, $p < .001$, $\eta 2 = .303$). High SH aware participants consider products with labels healthier than products without it ($M_{NoLabel} = 3.12$, SD = 1.16; $M_{Label} = 3.69$, SD = 1.31).

There is a main effect for *Type of product* (F (1, 139) = 91.725, $p < .001$, $\eta 2 = .398$). Utilitarian products are perceived as healthier than hedonic products ($M_{Utilitarian} = 4.09$, SD = 1.53; $M_{Hedonic} = 2.73$, SD = 1.33).

A main effect was found for *Decision target* (F (1, 139) = 5.478, p = .021, η2 = .038). In the other-condition, inferences of healthiness are higher than in the self-condition (M_{Self} = 3.18, SD = 1.23; M_{Other} = 3.63, SD = 1.05), but this is only true for high SH aware participants.

The interaction effects were found to be non-significant (Appendix 5.6.).

c) Perceived Tastiness

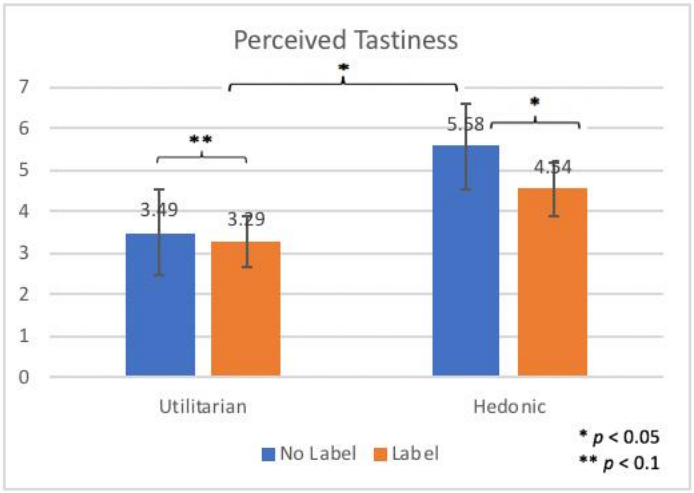
Low SH awareness

A main effect was found for *Presence of label* (F (1, 82) = 31.609, p < .001, η2 = .278). For low SH aware participants, products without label are perceived as tastier than products with label ($M_{NoLabel}$ = 4.57, SD = 1.13; M_{Label} = 3.97, SD = 1.19).

There is a main effect for *Type of product* (F (1, 82) = 105.588, p < .001, η2 = .563). Utilitarian products are perceived as less tasty than hedonic products ($M_{Utilitarian}$ = 3.44, SD = 1.25; $M_{Hedonic}$ = 5.09, SD = 1.30).

No main effect was found for *Decision target* (F (1, 82) = 2.762, p = .100, η2 = .033).

The interaction *Presence of label*Type of product* is significant (F (1, 82) =38.993, p < .001, η2 = .322), such that for utilitarian products, the difference between presence and absence of label is significantly smaller ($M_{NoLabel}$ = 3.49, SD = 1.32; M_{Label} = 3.29, SD = 1.35; t (83) = 1.949, p = .055) than for hedonic products ($M_{NoLabel}$ = 5.58, SD = 1.41; M_{Label} = 4.54, SD = 1.48; t (83) = 7.408, p < .001). That is, the presence of label has a strongest impact on consumers' inferences about tastiness of hedonic products.



*Graphic 7: Interaction Presence of label*Type of product*

No other effects were found to be significant (Appendix 5.7.).

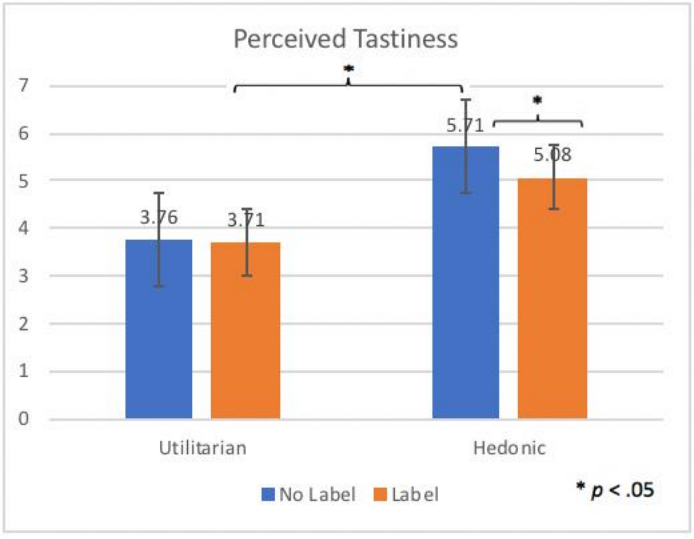
High SH awareness

A main effect was found for *Presence of label* (F (1, 139) = 28.204, p < .001, η2 = .169). High SH aware participants perceive products without label tastier than products with label ($M_{NoLabel}$ = 4.74, SD = 1.09; M_{Label} = 4.39, SD = 1.10).

There is a main effect for *Type of product* (F (1, 139) = 224.986, p < .001, η2 = .618). Utilitarian products are perceived as less tasty than hedonic products ($M_{Utilitarian}$ = 3.74, SD = 1.29; $M_{Hedonic}$ = 5.40, SD = 1.15).

A main effect was found for *Decision target* (F (1, 139) = 4.303, p = .040, η2 = .030). Inferences of tastiness are higher in the other than in the self-condition (M_{Self} = 4.39, SD = 1.06; M_{Other} = 4.75, SD = .98), an effect that was found to be non-significant for low SH aware participants.

The interaction *Presence of label*Type of product* is significant (F (1, 139) =34.096, p < .001, η2 = .197). In utilitarian products, the difference between presence and absence of label is non-significant ($M_{NoLabel}$ = 3.76, SD = 1.33; M_{Label} = 3.71, SD = 1.41; t (140) = .801, p = .424), whereas in hedonic products it is significant ($M_{NoLabel}$ = 5.71, SD = 1.25; M_{Label} = 5.08, SD = 1.26; t (140) = 7.674, p < .001). Suggesting that the presence of label has a strongest impact on consumers' inferences about tastiness of hedonic products.



*Graphic 8: Interaction Presence of label*Type of product*

No other effects were found to be significant (Appendix 5.7.).

d) Purchase intentions (PI)

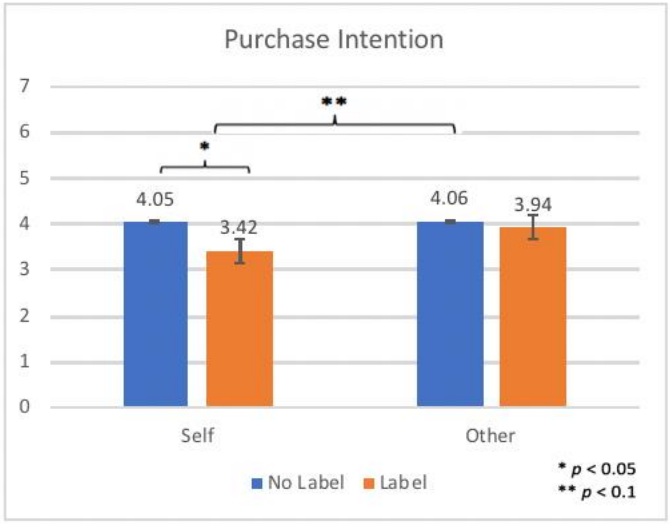
Low SH awareness

A main effect was found for *Presence of label* (F (1, 82) = 7.678, p = .007, η2 = .086). This result indicates that low SH aware consumers express higher PI for products without label than with label ($M_{NoLabel}$ = 4.06, SD = 1.34; M_{Label} = 3.68, SD = 1.39).

Regarding the *Type of product*, a main effect was found (F (1, 82) = 39.027, p < .001, η2 = .322), such that PI differ depending on the product type. In particular, participants express considerably higher PI for hedonic products than for utilitarian products ($M_{Utilitarian}$ = 3.29, SD = 1.54, $M_{Hedonic}$ = 4.44, SD = 1.40).

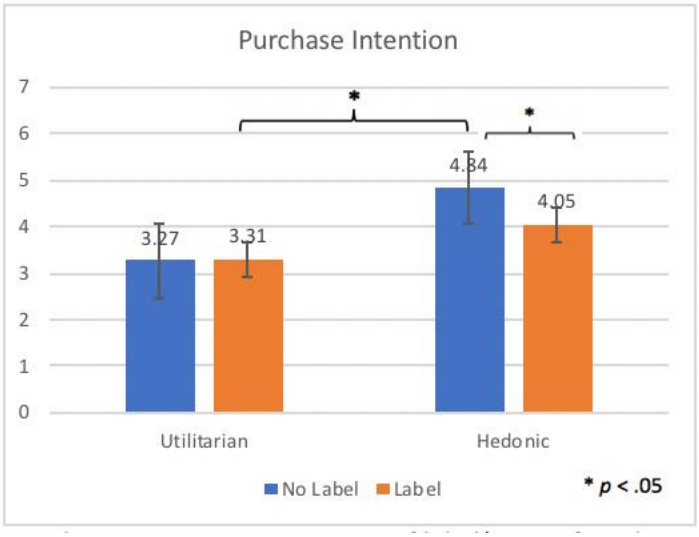
No main effect was found for *Decision target* (F (1, 82) = .949, p = .333, η2 = .011).

A marginal effect was found for interaction *Presence of label*Decision target* (F (1, 82) = 3.511, p = .065, η2 = .041). In the self-condition, the difference between PI for products without and with label is significant ($M_{NoLabel}$ = 4.05, SD = 1.42; M_{Label} = 3.42, SD = 1.42; t (50) = 3.578, p = .001), whereas in the other-condition it seems to be non-significant ($M_{NoLabel}$ = 4.06, SD = 1.21; M_{Label} = 3.94, SD = 1.29; t (32) = .611, p = .545).



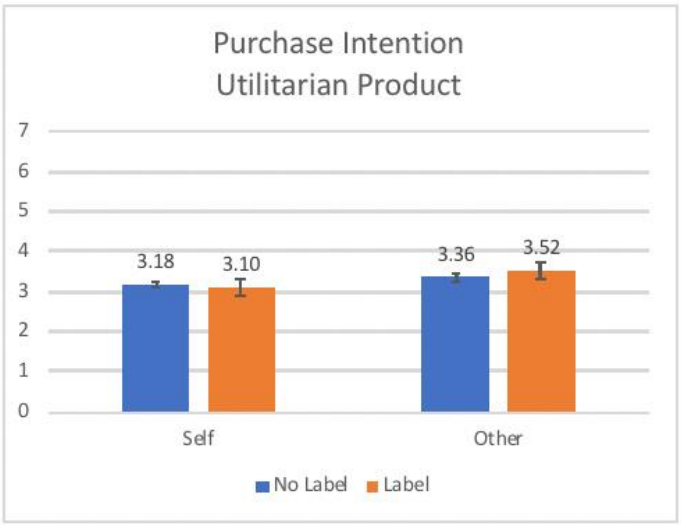
*Graphic 9: Interaction Presence of label*Decision Target*

The interaction *Presence of label*Type of product* was found to be significant (F (1, 82) = 13.259, p < .001, η2 = .139). In utilitarian products, the difference between PI for products without and with label is non-significant ($M_{NoLabel}$ = 3.27, SD = 1.62; M_{Label} = 3.31, SD = 1.708; t (83) = -.086, p = .932), while for hedonic products it seems to be significant ($M_{NoLabel}$ = 4.84, SD = 1.50; M_{Label} = 4.05, SD = 1.753; t (83) = 4.294, p < .001).

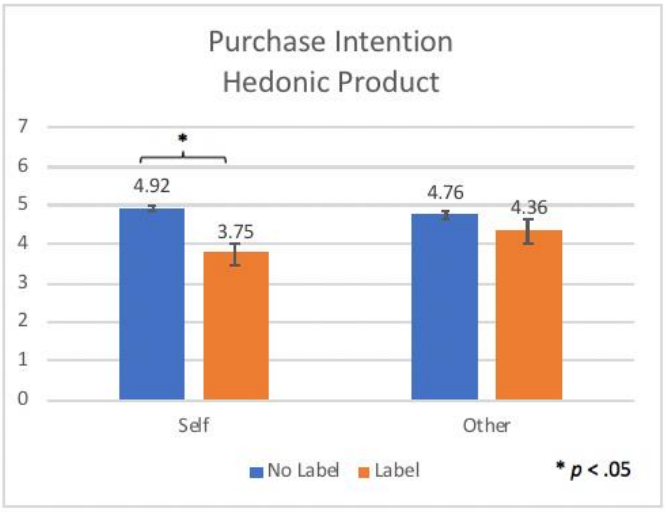


*Graphic 10: Interaction Presence of label*Type of product*

No significant interaction *Presence of label*Type of product*Decision target* effect was found ($F(1, 82) = 1.499$, $p = .224$, $\eta 2 = .018$). In utilitarian products, the presence of label is non-significant. However, concerning hedonic products, the presence of label leads to lower PI both in the self and other-conditions, although this last effect is not significant (Appendix 5.8.).



*Graphic 11: Interaction Presence of label*Type of product*Decision Target*



*Graphic 12: Interaction Presence of label*Type of product*Decision Target*

No other effects were found to be significant (Appendix 5.8.).

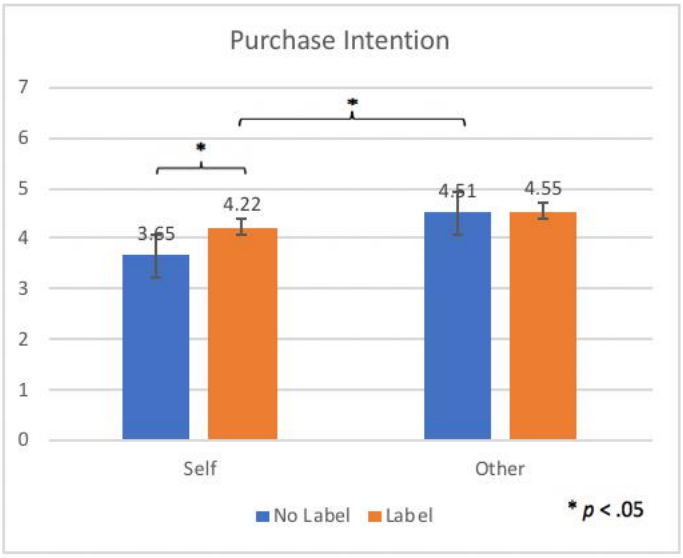
High SH awareness

A main effect was found for *Presence of label* (F (1, 139) = 10.292, p = .002, η2 = .069). This result indicates that SH aware participants increase PI when a label is present ($M_{NoLabel}$ = 4.08, SD = 1.17; M_{Label} = 4.40, SD=1.31).

Regarding *Type of product*, a main effect was found (F (1, 139) = 47.961, p < .001, η2 = .257), such that PI differ depending on product type. In particular, participants express higher PI for hedonic products than for utilitarian products ($M_{Utilitarian}$ = 3.67, SD=1.56, $M_{Hedonic}$ = 4.80, SD = 1.36).

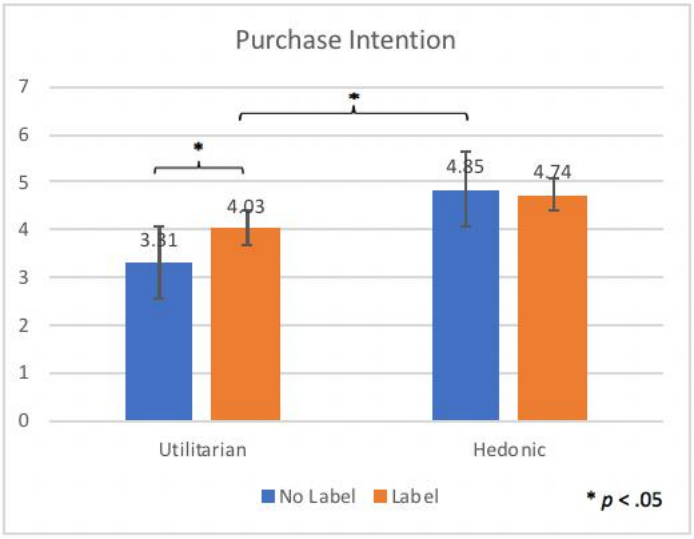
A main effect was found for *Decision target* (F (1, 139) = 10.646, p = .001, η2 = .071). In the other-condition, high SH aware participants express higher PI than in the self-condition (M_{Self} = 3.94, SD = 1.04; M_{Other} = 4.53, SD = 1.09), which was not the case for low SH aware participants.

An effect was found for interaction *Presence of label*Decision target* (F (1, 139) = 7.796, p = .006, η2 = .053). In the self-condition, the difference between PI for products without or with label ($M_{NoLabel}$ = 3.65, SD = 1.11; M_{Label} = 4.22, SD = 1.31; t (64) = -3.691, p < .001) is significant, but in the other-condition it is non-significant ($M_{NoLabel}$ = 4.51, SD = 1.09; M_{Label} = 4.55, SD = 1.30; t (75) = -.341, p = .734).



*Graphic 13: Interaction Presence of label*Decision Target*

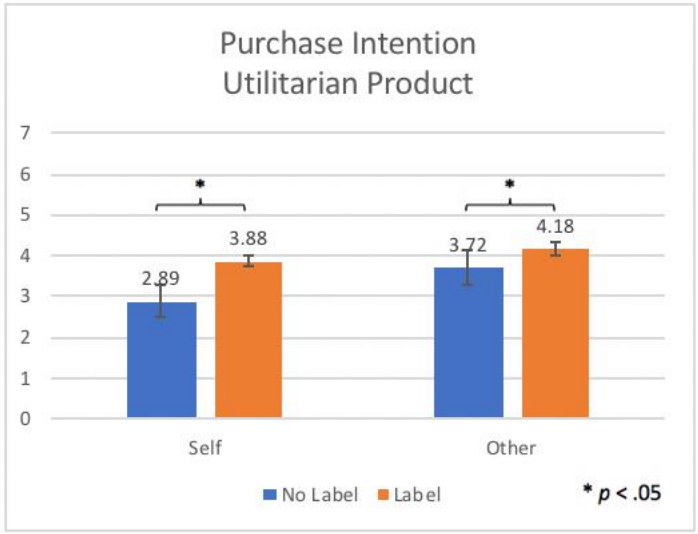
The interaction *Presence of label*Type of product* was found to be significant (F (1, 139) = 28.202, $p < .001$, η2 = .169). In utilitarian products, the difference between PI for products without and with label ($M_{NoLabel}$ = 3.31, SD = 1.60; M_{Label} = 4.03, SD = 1.80; *t* (140) = -6.077, $p < .001$) is higher than the difference in hedonic products, where it is non-significant ($M_{NoLabel}$ = 4.85, SD = 1.59; M_{Label} = 4.74, SD = 1.55; *t* (140) =1.014, $p = .312$).



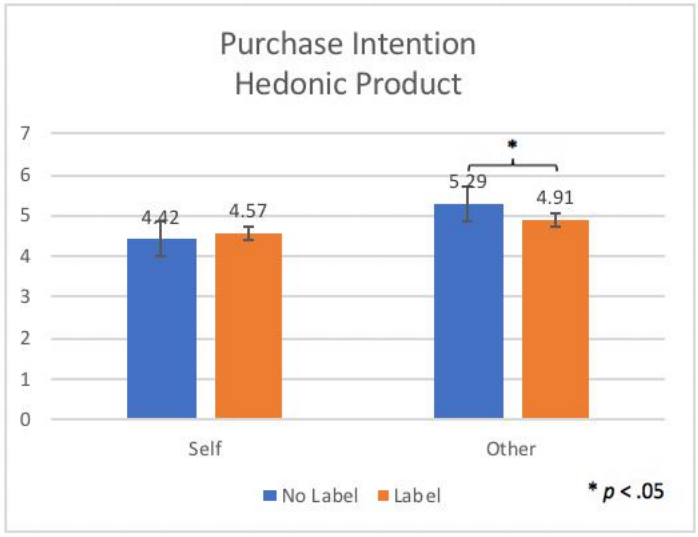
*Graphic 14: Interaction Presence of label*Type of product*

No significant interaction *Presence of Label*Type of product*Decision target* was found (F (1, 139) = .001, $p = .971$, η2 < .001). In utilitarian products, the presence of label leads to higher PI in both conditions. Regarding hedonic products, the presence of label decreases PI when consumers

choose for others, whereas when choosing for themselves, it seems that the presence of label increases PI, although the effect was found to be non-ignificant (Appendix 5.8.).



*Graphic 15: Interaction Presence of label*Type of product*Decision Target*



*Graphic 16: Interaction Presence of label*Type of product*Decision Target*

No other effects were found to be significant (Appendix 5.8.).

4.6.6 Anticipatory Guilt

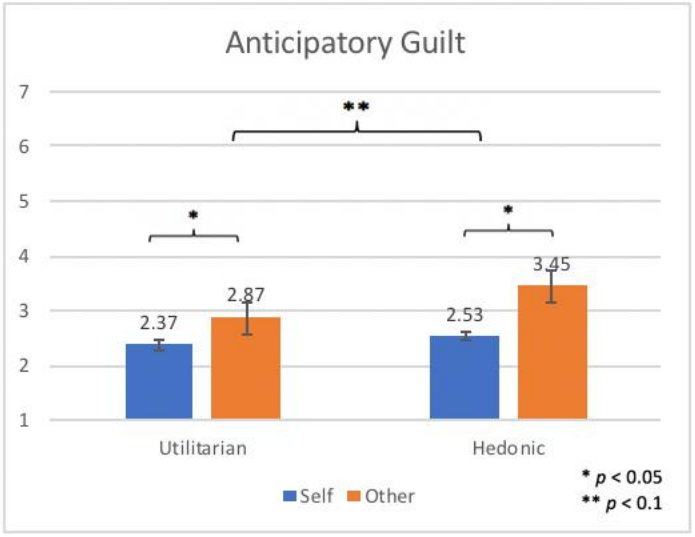
In order to understand the role of anticipatory guilt, a 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) Repeated Measures ANOVA was conducted. A higher score indicates

a higher level of anticipatory guilt induced by products with RS label, when compared with non-labeled ones (1 = product without RS label; 7 = product with RS label).

There is a main effect of *Type of product* (F (1, 223) =10.303, p = .002, η2 = .044), such that when comparing products without and with label, the level of guilt induced by products with label is higher in hedonic than in utilitarian products ($M_{Utilitarian}$ = 2.62, SD = 1.68; $M_{Hedonic}$ = 2.99, SD = 1.81). This outcome suggests that hedonic products with labels induce a higher level of anticipatory guilt than the ones without it, as it was expected.

There is a main effect of *Decision target* (F (1, 223) =12.998, p < .001, η2 = .055). When choosing for themselves, consumers feel more guilty with products without label, compared to labeled ones, than when choosing for others (M_{Self} = 2.45, SD = 1.47; M_{Other} = 3.16, SD = 1.49).

The interaction *Type of product*Decision target* was found to be marginally significant (F (1, 223) = 3.427, p = .065, η2 = .015), suggesting that the difference between the level of guilt consumers feel when choosing for themselves vs for others is higher in hedonic (M_{Self}= 2.53, SD = 1.60; M_{Other} = 3.45, SD = 1.90; t (223) = -3.954, p < .001) than in utilitarian products (M_{Self}= 2.37, SD = 1.71; M_{Other} = 2.87, SD = 1.63; t (223) = -2.250, p = .025). Since a higher score indicates a higher level of anticipatory guilt induced by products with RS label, it seems that the level of guilt is higher in the self than in the other-condition, and this effect is stronger in hedonic products, as it was predicted (Appendix 5.9).



1=No RS Label
7=RS Label

*Graphic 17: Interaction Type of product*Decision Target*

In order to understand if the level of SH awareness affects consumers' anticipatory guilt, the analysis relied on a 2 (*Type of product*: Utilitarian, Hedonic) x 2 (*Decision target*: self, other) ANOVA with Repeated Measures on the first factor, for low and high SH aware participants.

The results revealed that the pattern and significance of effects is similar for both levels of SH awareness (Appendix 5.10.).

Chapter 5 - Main Conclusions and Future Research

The aim of this chapter is to outline the main findings and conclusions, to expose managerial and academic implications and, finally, to explore limitations and suggestions for future research.

5.1. Main Findings and Conclusion

This research is firstly intended at comprehending consumers' inferences of healthiness and tastiness towards products with Reduced-Sugar labels (RQ1), and its possible effect on purchase intentions. Secondly, the role of decision targets (self-other conditions) is analyzed, as perchance affecting consumers' preferences and decisions towards products with RS labels (RQ2). Finally, the level of anticipatory guilt is considered, as possibly influencing consumers' decisions when choosing products for themselves and for others (RQ3).

H1: When a "Reduced Sugar" label is present, it will influence consumers' inferences.
H1a: Consumers will associate RS labels to healthier products.
H1b: Consumers will associate RS labels to less tasty products.

As predicted in H1, evidence that RS labels influence consumers' inferences was found. Regarding perceived healthiness, both utilitarian and hedonic products with label are inferred as healthier, corroborating H1a). Interestingly, perceptions of healthiness regarding labeled products are similar in hedonic and utilitarian products. Perhaps because, as suggested by Balasubramanian and Cole (2002), when products are inferred as healthier consumers tend to actively search for health label information, therefore utilitarian products can also benefit from such claims.

Concerning perceptions of tastiness, results reveal that consumers perceive products with RS labels as less tasty, confirming H1b), furthermore this effect is stronger in hedonic products.

Indeed, the unhealthy-tasty intuition seems to hold (Raghunathan et al., 2006), meaning that consumers tend to associate RS labels to healthier and less tasty products.

It was also found that the perceptions of healthiness and tastiness are higher when choosing for others, but only for high SH aware participants, suggesting that they are more sensitive to labels in the other than in the self-condition. Also, higher inferences of tastiness may indicate higher concerns with others' pleasure and hedonic goals. Conversely, when choosing for themselves,

consumers may infer less taste to products, as a way of self-control to avoid unhealthy products (Laran, 2010).

H2: Consumers' choices for products with RS labels will be moderated by the decision target self-other.

H2a: When deciding for others, the presence of RS labels will reduce the choice of hedonic products.

H2b: When deciding for the self, the presence of RS labels will increase the choice of hedonic products

It was found that there is a higher preference for utilitarian products with label than without label, whereas in hedonic products, consumers seem to prefer products without RS labels.
Also, results reveal that consumers express higher preferences for products with label when choosing for themselves than for others, with a stronger effect in hedonic products. Nevertheless, when considering the level of SH awareness, this outcome appears to be true only for high SH aware participants, perhaps due to their health motivation. Therefore, H2a) and b) seem to be confirmed for SH aware consumers.

However, to better understand the impact of RS labels, consumers' purchase intentions also need to be considered.
The results show that in hedonic products, the presence of label tends to decrease PI, perhaps because consumers associate unhealthy food with healthy labels as less tasty, thus less attractive and avoided (Belei et al., 2012), sustaining the negative halo effect of nutrition claims (Sundar & Kardes, 2015). Conversely, in utilitarian products, the presence of label tends to increase PI. Perchance, this type of product is inferred as being healthy, and therefore the presence of label is positive, as increasing the perceived level of healthiness.
Notably, considering the different decision targets, it was found that there is a higher PI for hedonic products without label in both conditions, which corroborates H2a) and refutes H2b), and a higher PI for utilitarian products with label in both conditions. Nonetheless, when considering the level of SH awareness, different conclusions can be drawn.

For high SH aware consumers, results reveal that the presence of label increases PI, probably due to their health motivation, but this effect is only significant in utilitarian products, suggesting that consumers with health concerns believe in RS labels for utilitarian products but not for hedonic products. Contrarily, in the presence of labels, low SH aware participants decrease PI of hedonic products, supporting the premise that consumers with low health concerns consider taste as the most important attribute, and therefore labeled products are avoided (Loebnitz & Grunert, 2017).

Including the effect of decision targets, results reveal that low SH aware consumers express higher PI for hedonic products without label both when choosing for themselves, refuting H2b), and for others, although this last result does not present a significant effect. This finding appears to show that, although not being concern about their own health, low SH aware consumers place a greater consideration on the health factor when choosing for others, ergo increasing PI for products with label. Hence, even though H2a) cannot be validated, it offers opportunity for further research.

Conversely, SH aware participants seem to increase PI for hedonic products with label when choosing for themselves, but this effect is not significant, perhaps because they do not believe in labels in hedonic products, as previously found, thus H2b) cannot be corroborated. On the contrary, when choosing for others, SH aware consumers increase PI for hedonic products without label, which supports H2a). This outcome suggests that they show higher concerns with how the product fits other person's preferences (Lu et al., 2016), trying to be more indulgent, and therefore choosing tastier and less healthy products for others than for themselves.

Interestingly, findings indicate that SH aware participants increase significantly PI for utilitarian products with label in both conditions, which although not being part of the hypotheses, seems to indicate that SH aware consumers show high sensitivity to utilitarian products with labels, developing field for further research.

Considering all these outcomes, it can be concluded that consumers' preferences and PI for products with label depend not only on decision targets, but also on the level of SH awareness. Consequently, H2a) and b) cannot be corroborated.

H3: When choosing hedonic products, the anticipatory guilt will decrease with the presence of RS labels.

H3a: This effect should be particularly strong when consumers choose products for themselves.

Concluding, results from the variable anticipatory guilt reveal that products without RS labels induce higher level of anticipatory guilt than products with label, and this effect is stronger in hedonic products, as it was predicted in H3.

Additionally, and supporting previous findings (Lu et al., 2016), this effect seems to be stronger in the self-condition. Hence, the level of guilt induced by hedonic products without label is higher when consumers choose for themselves than for others, validating H3a).

5.2. Managerial/Academic Implications

With the increasing awareness of the importance of making healthier purchase decisions, it is crucial for managers and marketers to understand how nutritional information can be best communicated with the use of nutrition labels, to provide truthful information and help consumers choosing healthier options. Therefore, the present research contributes to the literature stream of nutrition labels, by providing insights into consumers' perceptions and decision making in the presence of RS labels in different product types.

Although several studies investigated the impact of RS labels on consumers' perceptions in the perspective of utilitarian and hedonic experiences, the effect of decision targets, i.e., self-other differences, has not been extensively analyzed. In addition, this research contributes to ongoing academic discussions by accounting for the role of anticipatory guilt, as an emotion that may influence consumers' attitudes and buying behaviors.

The findings from this study support the conclusion that marketers should adapt their advertising strategies according to product type, because depending on product category, the presence of label has different impacts on consumers' perceptions and purchase intentions. This strategy could facilitate healthier food choices; however, as consumers are increasingly aware of health concerns and searching for nutritional information on products, outcomes also depend on the level of self-health awareness. Therefore, companies must follow consumers' concerns towards their own health.

Food marketers could also make more salient and specific information when defining a product as reduced in sugar, such as in the form of percentage reduction over the original version and specifying the absolute calorie level per serving. This way, consumers can more accurately infer healthiness and tastiness, as well as control consumption levels, by adjusting quantities and serving sizes.

In addition, these findings confirm that companies should consider investing in marketing segmentation as a key strategy for effectiveness. For example, marketers could consider claiming health labels in products that tend to be chosen for own consumption, whereas in products that consumers purchase for others, the presence of such labels does not seem to be beneficial.

5.3. Limitations and Future Research

Several limitations can be outlined, offering opportunities for further research. First, this study used a non-probability sampling method, which does not provide a sample representative of the target population.

Secondly, the sample size was relatively small, comprising the reliability and validity of the study. Further research should account for a larger sample size, to improve results from the overall investigation.

Thirdly, since the quantitative data was gathered via Facebook, WhatsApp and Instagram, participants were a part of a specific group, ergo the sample was mainly characterized by Portuguese people. Further research could extend the analysis to different countries.

The fourth limitation is related with the pictures presented in the survey. Although the stimuli have been already used and tested, the lack of appeal and the use of fictional brands may have led to worst rates. For further studies, real brands and more appealing pictures could be used.

In the fifth place, due to limited time and resources, this research tested only two product types, but other categories could be tested, such as potato chips or soft drinks, as possibly providing different outcomes.

The sixth limitation is related with the median split method, previously used to measure high and low self-health awareness. When a continuous variable is categorized, all the values in the category are considered equal, leading to a loss of power and credibility, therefore it is harder to find the accurate effects from that variable. However, for the purpose of this research, this method was the best to be applied.

Another limitation has to do with the scale employed to analyze the level of anticipatory guilt. Although it was adapted from a previous study, it was not the most appropriate, only allowing to get insights on the comparison between products with and without RS labels. Future research could get in more detail analysis on the level of guilt, asking participants to rate their level of guilt induced by each product individually.

Finally, following the approach employed by Lu et al. (2016), the mediation role of anticipatory guilt could be explored in future research, to understand if the level of guilt induced by products with labels mediates the effect of decision target on consumers' preferences and purchase intentions.

Appendices

Appendix 1. Online Survey

General Introduction:

Dear Participant,

First of all, thank you for taking the time to participate in this study.
My name is Luísa Coutinho and the following survey was developed within the scope of my final Dissertation at Católica-Lisbon SBE. The main topic is about the impact of different products on consumers' perceptions.
I really appreciate your honesty when answering these questions since they are all extremely important for the study. Please note that there are no right or wrong answers and that all responses will be kept confidential, anonymous and used only for academic purposes.
The survey will take approximately 7 minutes. In case you have any further questions, please contact me at: 152119205@alunos.lisboa.ucp.pt
Thank you once again for your collaboration.

Introduction: (participants are randomly assigned to 1 of the 2 conditions).

A. Personal choice condition:

Please read carefully the following instructions.
Imagine that you are in a supermarket and you are **selecting products for you**.
You will next be presented with several products. Please imagine you are **considering purchasing these products for yourself** and answer the following questions based on **your own feelings and intuitions**.

B. Choice-for-other condition: (this version is presented in parenthesis).

Please read carefully the following instructions.
Imagine that you are in a supermarket and you are **selecting products for a friend**.

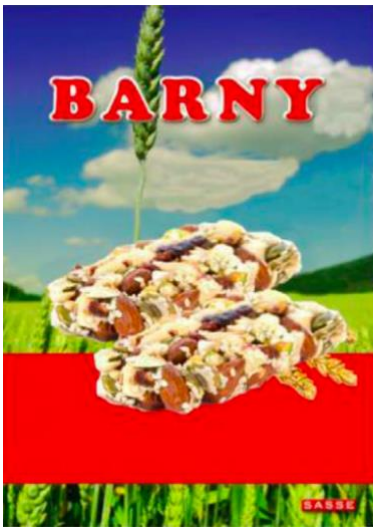
You will next be presented with several products. Please imagine you are **considering purchasing these products for a friend** and answer the following questions based on **your own feelings and intuitions**.

Block 1: Cereal Bar

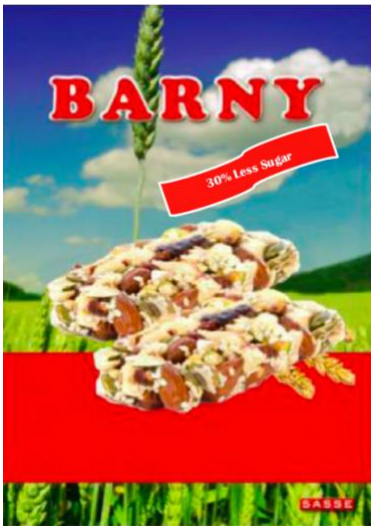
Imagine you are considering purchasing a cereal bar for yourself (for a friend).

You are now deciding between two options from the **same brand and the same price**.

Please take a moment to think and decide which of these two cereal bars you are more likely to purchase.



Cereal Bar A



Cereal Bar B

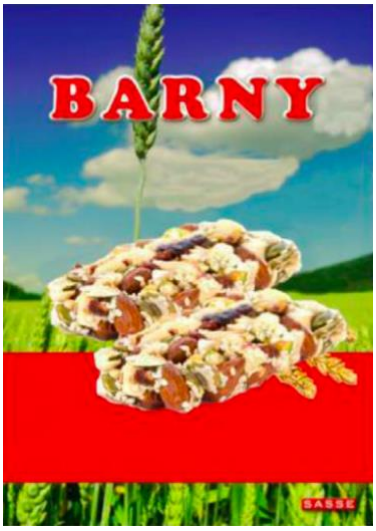
Q1: Which cereal bar would you buy (for a friend)?

Definitely Product A						Definitely Product B
1	2	3	4	5	6	7

Q2: Which cereal bar would make you feel more guilty (when buying it for a friend)?

Definitely Product A						Definitely Product B
1	2	3	4	5	6	7

Imagine you were considering choosing this cereal bar for you (for a friend).



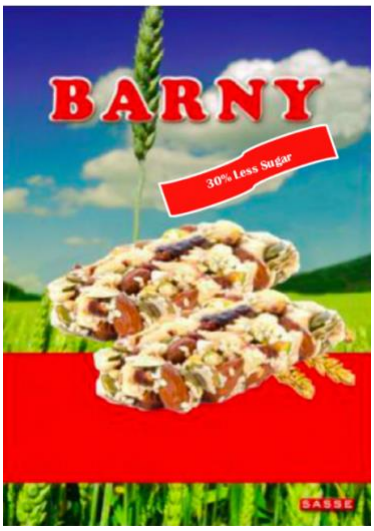
Q3: Please rate this product on the following features.

	Not at all 1	2	3	4	5	6	Extremely 7
1. It provides enjoyment.	O	O	O	O	O	O	O
2. It is tasty.	O	O	O	O	O	O	O
3. It is nutritive.	O	O	O	O	O	O	O
4. It is healthy.	O	O	O	O	O	O	O
5. It is pleasurable.	O	O	O	O	O	O	O

Q4: How likely would you be to purchase this product (for a friend)?

Not at all 1 2 3 4 5 6 Extremely 7

Imagine you were considering choosing this cereal bar for you (for a friend).



Q5: Please rate this product on the following features.

	Not at all 1	2	3	4	5	6	Extremely 7
1. It provides enjoyment.	O	O	O	O	O	O	O
2. It is tasty.	O	O	O	O	O	O	O
3. It is nutritive.	O	O	O	O	O	O	O
4. It is healthy.	O	O	O	O	O	O	O
5. It is pleasurable.	O	O	O	O	O	O	O

Q6: How likely would you be to purchase this product (for a friend)?

Not at all 1 | 2 | 3 | 4 | 5 | 6 | Extremely 7

Block 2: Chocolate

Imagine you are considering purchasing a chocolate for yourself (for a friend).

You are now deciding between two options from the **same brand and the same price**. Please take a moment to think and decide which of these two chocolates you are more likely to purchase.

Chocolate A

Chocolate B

Q7: Which chocolate would you buy (for a friend)?

Definitely Product A						Definitely Product B
1	2	3	4	5	6	7

Q8: Which chocolate would make you feel more guilty (when buying it for a friend)?

Definitely Product A						Definitely Product B
1	2	3	4	5	6	7

Imagine you were considering choosing this chocolate for you (for a friend).

Q9: Please rate this product on the following features.

	Not at all 1	2	3	4	5	6	Extremely 7
1. It provides enjoyment.	O	O	O	O	O	O	O
2. It is tasty.	O	O	O	O	O	O	O
3. It is nutritive.	O	O	O	O	O	O	O
4. It is healthy.	O	O	O	O	O	O	O
5. It is pleasurable.	O	O	O	O	O	O	O

Q10: How likely would you be to purchase this product (for a friend)?

Not at all 1 — 2 — 3 — 4 — 5 — 6 — Extremely 7

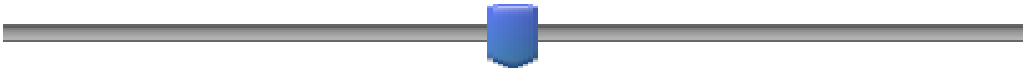
Imagine you were considering choosing this chocolate for you (for a friend).

Q11: Please rate this product on the following features.

	Not at all 1	2	3	4	5	6	Extremely 7
1. It provides enjoyment.	O	O	O	O	O	O	O
2. It is tasty.	O	O	O	O	O	O	O
3. It is nutritive.	O	O	O	O	O	O	O
4. It is healthy.	O	O	O	O	O	O	O
5. It is pleasurable.	O	O	O	O	O	O	O

Q12: How likely would you be to purchase this product (for a friend)?

Not at all 1 2 3 4 5 6 Extremely 7



Block 3: Perception of utility of the products

Q13: How important each of the following characteristics is to you when you buy a cereal bar for you (for a friend)?

	Not at all 1	2	3	4	5	6	Extremely 7
1. Taste	O	O	O	O	O	O	O
2. Healthiness	O	O	O	O	O	O	O
3. Functionality	O	O	O	O	O	O	O
4. Hedonism (affective and emotional experience that provides fun and pleasure)	O	O	O	O	O	O	O

Q14: How important each of the following characteristics is to you when you buy a chocolate for you (for a friend)?

	Not at all 1	2	3	4	5	6	Extremely 7
1. Taste	O	O	O	O	O	O	O
2. Healthiness	O	O	O	O	O	O	O
3. Functionality	O	O	O	O	O	O	O
4. Hedonism (affective and emotional experience that provides fun and pleasure)	O	O	O	O	O	O	O

Block 4: Self-Health awareness

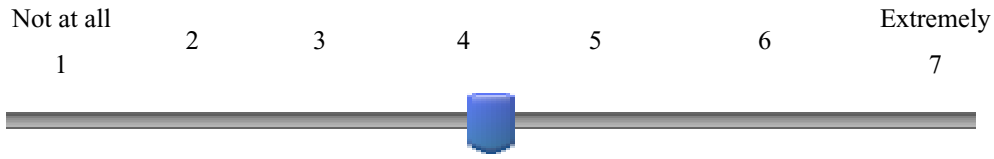
Q15: Please indicate to what extent do you agree with the following statements.

	Not at all 1	2	3	4	5	6	Totally 7
1. I consider myself very health conscious.	O	O	O	O	O	O	O
2. I am constantly examining my health.	O	O	O	O	O	O	O
3. I reflect about my health a lot.	O	O	O	O	O	O	O
4. I am very involved with my health.	O	O	O	O	O	O	O
5. I usually read the ingredients on food labels.	O	O	O	O	O	O	O
6. I am interested in information about my health.	O	O	O	O	O	O	O

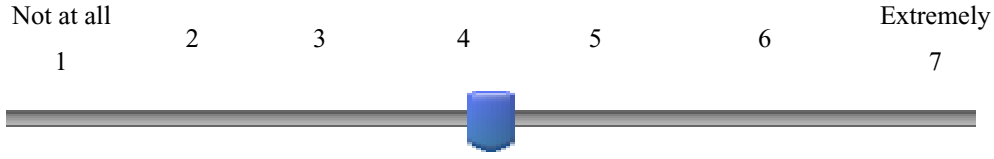
Block 5: Proneness to Guilt

Q16: In this section, you will read about five situations that people could encounter in day-to-day life, followed by reactions to those situations. As you read each scenario, try to imagine yourself in that situation. Then indicate the likelihood that you would react in the way described.

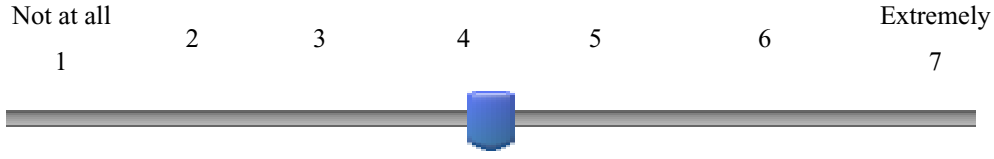
1. After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?



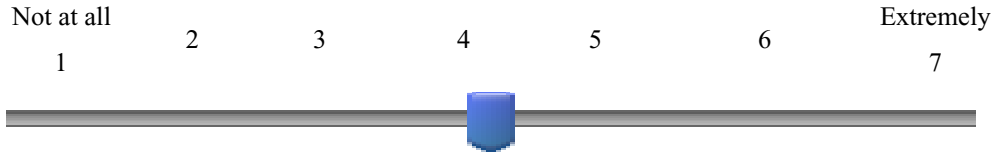
2. You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?



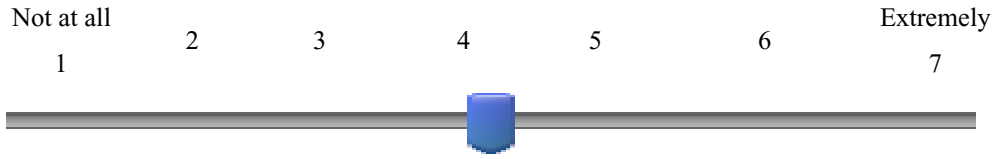
3. At a coworker's housewarming party, you spill red wine on their new cream-colored carpet. You cover the stain with a chair so that nobody notices your mess. What is the likelihood that you would feel that the way you acted was pathetic?



4. You lie to people, but they never find out about it. What is the likelihood that you would feel terrible about the lies you told?



5. Out of frustration, you break the photocopier at work. Nobody is around and you leave without telling anyone. What is the likelihood you would feel bad about the way you acted?



Demographics

Q17: How old are you?

_____

Q18: What is your gender?

O Male (1)

O Female (2)

O I do not identify myself with gender labels (3)

Q19: What is your nationality?

O Portuguese (1)

O German (2)

O Italian (3)

O French (4)

O Spanish (5)

O British (6)

O Other (7) _____

Q20: What is the highest degree you have completed?

O Less than High School (1)

O High School Degree (2)

O Undergraduate Degree (Bachelor or equivalent) (3)

O Postgraduate Degree (Master or equivalent) (4)

O Professional Degree (PhD or equivalent) (5)

O Other (6) _____

Q21: What is your occupation?

O Student (1)

O Student-worker (2)

O Employed (3)

O Unemployed (4)

O Retired (5)

O Other (6) _____

Thank you for completing the survey!

Appendix 2. Demographic characterization of the valid sample

Variable		n	%
Nationality	Portuguese	217	96.4%
	Other	8	3.6%
Gender	Male	83	36.9%
	Female	142	63.1%
Education	Middle School	3	1.3%
	High School	28	12.4%
	Undergraduate	98	43.6%
	Postgraduate	89	39.6%
	Professional	3	1.3%
	Other	4	1.8%
Occupation	Student	82	36.4%
	Student-worker	21	9.3%
	Employed	105	46.7%
	Unemployed	4	1.8%
	Retired	1	0.4%
	Other	12	5.3%

Variable	n	min	max	mean	SD
Age	225	16	65	30.52	12.394

Appendix 3. Reliability Analysis

Variable Description	Number of items	Cronbach's Alpha
Perceived Healthiness	2	0.819
Perceived Tastiness	3	0.866
Self-health awareness	6	0.910
Proneness to Guilt	5	0.746

Appendix 4. Manipulation check for product type

Question	Attribute	Utilitarian		Hedonic		Paired Sample t-test
		M	SD	*M*	SD	t (224)
How important each of the following characteristics is to you when you buy the product?	Healthiness	5.16	1.55	3.20	1.94	-8.411*
	Functionality	4.90	1.71	3.64	2.13	14.947*
	Taste	5.69	1.38	6.41	0.97	8.641*
	Hedonism	4.35	1.87	5.77	1.53	11.212*

* $p < .001$

Appendix 5. SPSS and further results from the study

Appendix 5.1. Consumers' preferences

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	214.793	1	214.793	73.136	.000	.247
Ut_Hed*DT	2.518	1	2.518	.857	.355	.004
Error (Ut_Hed)	654.927	223	2.937			

There is no interaction effect between *Type of product* and *Decision target* (F (1, 223) = .857, p = .355, η^2 = .004). However, it seems that the difference between preferences in self and other conditions is significant for hedonic products (M_{Self} = 4.18, SD = 2.45; M_{Other} = 3.34, SD = 2.44; *t* (224) = 2.580, *p* = .011) and marginally significant for utilitarian products (M_{Self} = 5.41, SD = 1.95; M_{Other} = 4.87, SD = 2.24; *t* (224) = 1.939, *p* = .054).

Appendix 5.2. Perceived Healthiness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	443.354	1	443.354	166.870	.000	.428
Ut_Hed*DT	1.113	1	1.113	.419	.518	.002
Error (Ut_Hed)	592.486	223	2.657			
NoL_L	49.750	1	49.750	65.369	.000	.227
NoL_L*DT	.566	1	.566	.744	.389	.003
Error	169.716	223	.761			
Ut_Hed *NoL_L	.011	1	.011	.031	.861	.000
Ut_Hed* NoL_L *DT	.019	1	.019	.053	.819	.000
Error (Ut_Hed *NoL_L)	78.971	223	.354			

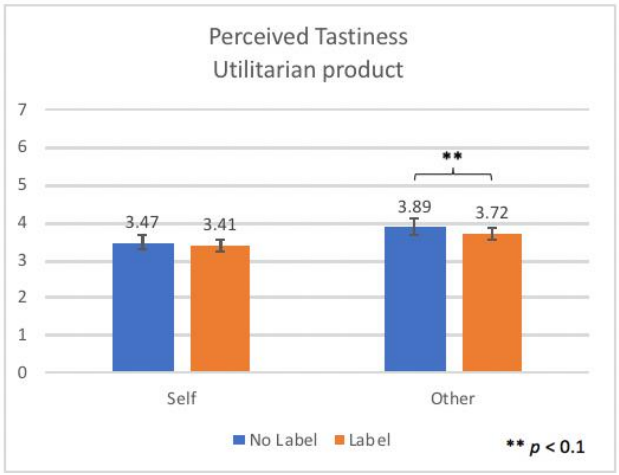
Interaction *Presence of label*Type of product* is not significant (F (1, 223) = .031, *p* = .861, η^2 < .001). This result indicates that the difference between the product without vs with a RS label is similar both in utilitarian ($M_{NoLabel}$ = 3.97, SD = 1.50; M_{Label} = 4.43, SD = 1.56; *t* (224) = -6.461, *p* < .001) and hedonic products ($M_{NoLabel}$ = 2.56, SD = 1.3; M_{Label} = 3.04, SD = 1.42; *t* (224) = -6.883, *p* < .001).

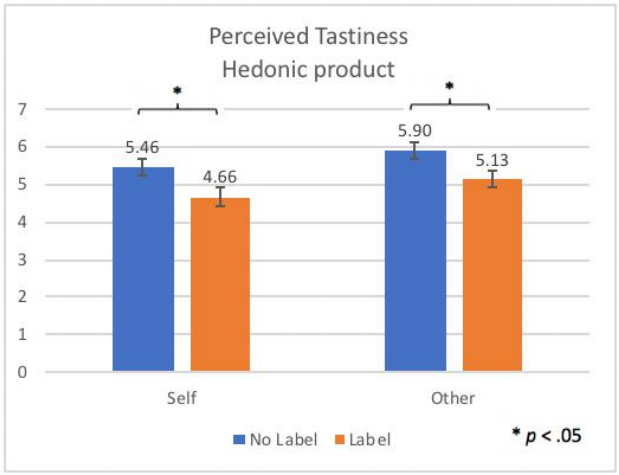
Interaction *Presence of label*Type of product*Decision target* is not significant (F (1, 223) = .053, p = .819, η2 < .001). In utilitarian products, the presence of label leads to higher evaluations of healthiness in both self ($M_{NoLabel}$ = 3.83, SD=1.49; M_{Label} = 4.25, SD = 1.66; t (115) = - 4.316, p < .001) and other- ($M_{NoLabel}$ = 4.12, SD = 1.50; M_{Label} = 4.63, SD = 1.43; t (108) = - 4.806, p < .001) conditions. Likewise, regarding hedonic products, the presence of label is associated with healthier products both in the self- ($M_{NoLabel}$ = 2.50, SD = 1.30; M_{Label} = 2.91, SD = 1.42; t (115) = - 3.904, p < .001) and other-conditions ($M_{NoLabel}$ = 2.63, SD = 1.31; M_{Label} = 3.17, SD = 1.42; t (108) = - 6.248, p < .001).

Appendix 5.3. Perceived Tastiness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	627.624	1	627.624	341.207	.000	.605
Ut_Hed*DT	.417	1	.417	.227	.634	.001
Error (Ut_Hed)	410.192	223	1.839			
NoL_L	45.729	1	45.729	62.825	.000	.220
NoL_L*DT	.103	1	.103	.142	.707	.001
Error	162.315	223	.728			
Ut_Hed *NoL_L	25.262	1	25.262	73.147	.000	.247
Ut_Hed* NoL_L *DT	.260	1	.260	.753	.386	.003
Error (Ut_Hed *NoL_L)	77.016	223	.345			

Interaction *Presence of label*Type of product*Decision target* is not significant (F (1, 223) = .753, p = .386, η2 = .003). Nonetheless, planned contrasts revealed that in utilitarian products, the presence of label leads to similar evaluations of tastiness in the self-condition ($M_{NoLabel}$ = 3.47, SD = 1.41; M_{Label} = 3.41, SD = 1.51; t (115) = .175, p = .862), but when consumers choose for others, the presence of label is associated with less tasty products, although this effect is marginally significant ($M_{NoLabel}$ = 3.89, SD = 1.20; M_{Label} = 3.72, SD = 1.27; t (108) = 1.895, p = .061).
Concerning hedonic products, the presence of label leads to lower evaluations of tastiness both in the self ($M_{NoLabel}$ = 5.46, SD = 1.35; M_{Label} = 4.66, SD = 1.44; t (115) = 7.013, p < .001) and other conditions ($M_{NoLabel}$ = 5.90, SD =1.23; M_{Label} = 5.13, SD = 1.25; t (108) = 8.087, p < .001).





Appendix 5.4. Purchase Intentions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	293.196	1	293.196	88.183	.000	.283
Ut_Hed*DT	.004	1	.004	.001	.971	.000
Error (Ut_Hed)	741.444	223	3.325			
NoL_L	.065	1	.065	.043	.836	.000
NoL_L*DT	.154	1	.154	.102	.750	.000
Error	336.775	223	1.510			
Ut_Hed *NoL_L	40.628	1	40.628	44.088	.000	.165
Ut_Hed* NoL_L *DT	.540	1	.540	.586	.445	.003
Error (Ut_Hed *NoL_L)	205.500	223	.922			

Interaction *Presence of label*Decision target* is not significant (F (1, 223) = .102, p = .750, η2 < .001), such that consumers express similar PI for products without vs with label both in self ($M_{NoLabel}$ = 3.83, SD = 1.27; M_{Label} = 3.87, SD = 1.41; t (115) = -.337, p = .737) and other ($M_{NoLabel}$ = 4.37, SD = 1.14; M_{Label} = 4.36, SD = 1.32; t (108) = - .091, p = .927) conditions.

No significant interaction *Presence of label*Type of product*Decision target* effect was found (F (1, 223) = .586, p = .445, η2 = .003). In utilitarian products, the presence of label leads to higher PI both when consumers choose for themselves ($M_{NoLabel}$ = 3.02, SD = 1.59; M_{Label} = 3.53, SD=1.79; t (115) = -4.004, p < .001) and for others ($M_{NoLabel}$ = 3.62, SD = 1.56; M_{Label} = 3.98, SD=1.80; t (108) = -2.820, p = .006). Regarding hedonic products, consumers express higher PI for the product without a RS label than with a label both when choosing for themselves ($M_{NoLabel}$ = 4.64, SD =

1.64; M_{Label} = 4.21, SD = 1.73; *t* (115) = 2.383, *p* = .019) and for others ($M_{NoLabel}$ = 5.13, SD = 1.50; M_{Label} = 4.74, SD = 1.55; *t* (108) = 2.782, *p* = .006).

Appendix 5.5. SH Awareness – Consumers' preferences

Low SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	21.560	1	21.560	11.054	.001	.119
Ut_Hed*DT	1.417	1	1.417	.727	.396	.009
Error (Ut_Hed)	159.934	82	1.950			

Interaction *Type of product*Decision target* is not significant (F (1, 82) = .727, *p* = .396, η2 = .009). The difference between preferences when consumers choose for themselves and for others is similar and non-significant both in hedonic (M_{Self} = 3.55, SD = 2.26; M_{Other} = 3.70, SD = 2.39; *t* (82) = - .287, *p* = .775) and in utilitarian products (M_{Self} = 4.47, SD = 2.12; M_{Other} = 4.24, SD = 2.26; *t* (82) = .469, *p* = .640).

High SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	206.991	1	206.991	61.537	.000	.307
Ut_Hed*DT	4.097	1	4.097	1.218	.272	.009
Error (Ut_Hed)	467.548	139	3.364			

Interaction *Type of product*Decision target* is not significant (F (1, 139) = 1.218, *p* = .272, η2 = .009). However, it seems that the difference between preferences when consumers choose for themselves vs for others is higher in hedonic (M_{Self} = 4.68, SD = 2.50; M_{Other} = 3.18, SD = 2.46; *t* (139) = 3.565, *p* < .001) than in utilitarian products (M_{Self} = 6.15, SD = 1.44; M_{Other} = 5.14, SD = 2.19; *t* (139) = 3.276, *p* = .002).

Appendix 5.6. SH Awareness – Perceived Healthiness

Low SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	156.870	1	156.870	68.094	.000	.454
Ut_Hed*DT	2.578	1	2.578	1.119	.293	.013
Error (Ut_Hed)	188.906	82	2.304			
NoL_L	7.743	1	7.743	10.571	.002	.114
NoL_L*DT	.457	1	.457	.624	.432	.008
Error	60.063	82	.732			
Ut_Hed *NoL_L	.024	1	.024	.085	.771	.001
Ut_Hed* NoL_L *DT	.809	1	.809	2.933	.091	.035
Error (Ut_Hed *NoL_L)	22.627	82	.276			

Interaction *Presence of label*Type of product*Decision target* is not significant (F (1, 82) = 2.933, p = .091, η2 = .035). However, the results reveal that in utilitarian products, the presence of label leads to similar evaluations of healthiness in the self-condition ($M_{NoLabel}$ = 4.34, SD = 1.29; M_{Label} = 4.46, SD = 1.48; t (50) = - .846, p = .401), whereas when choosing for others, consumers perceive products with label as healthier ($M_{NoLabel}$ = 4.03, SD = 1.21; M_{Label} = 4.50, SD = 1.42; t (32) = -2.699, p = .011). Regarding hedonic products, the presence of label is associated to healthier products both when consumers choose for themselves ($M_{NoLabel}$ = 2.65, SD = 1.34; M_{Label} = 3.00, SD = 1.29; t (50) = -2.12, p = .039) and for others ($M_{NoLabel}$ = 2.89, SD = 1.09; M_{Label} = 3.20, SD = 1.18; t (32) = -2.683, p = .011).

High SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	260.702	1	260.702	91.725	.000	.398
Ut_Hed*DT	6.882	1	6.882	2.422	.122	.017
Error (Ut_Hed)	395.065	139	2.842			
NoL_L	45.879	1	45.879	60.341	.000	.303
NoL_L*DT	.006	1	.006	.008	.927	.000
Error	105.686	139	.760			
Ut_Hed *NoL_L	.048	1	.048	.122	.728	.001
Ut_Hed* NoL_L *DT	.846	1	.846	2.154	.144	.015
Error (Ut_Hed *NoL_L)	54.570	139	.393			

Interaction *Presence of label*Type of product*Decision target* is not significant (F (1, 139) = 2.154, p = .144, η2 = .015). In utilitarian products, the presence of label leads to higher evaluations of healthiness both when consumers choose for themselves ($M_{NoLabel}$ = 3.42, SD = 1.52; M_{Label} = 4.09, SD = 1.78; t (64) = -5.098, p < .001) and for others ($M_{NoLabel}$ = 4.17, SD = 1.62; M_{Label} = 4.68, SD=1.45; t (75) = -3.969, p < .001). Likewise, regarding hedonic products, the presence of label is associated with healthier products both in the self ($M_{NoLabel}$ = 2.38, SD = 1.26; M_{Label} = 2.85, SD = 1.52; t (64) = -3.343, p = .001) and other ($M_{NoLabel}$ = 2.52, SD = 1.38; M_{Label} = 3.16, SD = 1.52; t (75) = -5.726, p < .001) conditions.

Appendix 5.7. SH Awareness – Perceived Tastiness

Low SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	217.804	1	217.804	105.588	.000	.563
Ut_Hed*DT	.852	1	.852	.413	.522	.005
Error (Ut_Hed)	169.147	82	2.063			
NoL_L	28.949	1	28.949	31.609	.000	.278
NoL_L*DT	.345	1	.345	.377	.541	.005
Error	75.098	82	.916			
Ut_Hed *NoL_L	13.412	1	13.412	38.993	.000	.322
Ut_Hed* NoL_L *DT	.100	1	.100	.291	.591	.004
Error (Ut_Hed *NoL_L)	28.205	82	.344			

Interaction *Presence of label*Type of product*Decision target* is not significant (F (1, 82) = .291, p = .591, η2 = .004). In utilitarian products, the presence of label leads to similar evaluations of tastiness both in the self ($M_{NoLabel}$ = 3.31, SD = 1.42; M_{Label} = 3.09, SD = 1.41; t (50) = .1.58, p = .120) and in other ($M_{NoLabel}$ = 3.77, SD = 1.11; M_{Label} = 3.61, SD = 1.21; t (32) = 1.125, p = .269) conditions. Concerning hedonic products, the presence of label leads to lower evaluations of tastiness both in the self ($M_{NoLabel}$ = 5.50, SD = 1.50; M_{Label} = 4.39, SD = 1.61; t (50) = 5.46, p < .001) and other conditions ($M_{NoLabel}$ = 5.69, SD = ; M_{Label} = 4.78, SD =; t (32) = 5.512, p < .001).

High SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	385.721	1	385.721	224.986	.000	.618
Ut_Hed*DT	2.305	1	2.305	1.345	.248	.010
Error (Ut_Hed)	238.305	139	1.714			
NoL_L	16.621	1	16.621	28.204	.000	.169
NoL_L*DT	1.424	1	1.424	2.416	.122	.017
Error	81.915	139	.589			
Ut_Hed *NoL_L	11.786	1	11.786	34.096	.000	.197
Ut_Hed* NoL_L *DT	.058	1	.058	.166	.684	.001
Error (Ut_Hed *NoL_L)	48.047	139	.346			

Interaction *Presence of label*Type of product*Decision target* is not significant (F (1, 139) = .166, p = .684, η2 = .001). In utilitarian products, the presence of label leads to similar evaluations of tastiness both in the self ($M_{NoLabel}$ = 3.59, SD = 1.40; M_{Label} = 3.66, SD = 1.55; t (64) = -.6.15, p = .541) and in other ($M_{NoLabel}$ = 3.94, SD = 1.24; M_{Label} = 3.76, SD = 1.30; t (75) = 1.536, p = .129) conditions. Concerning hedonic products, the presence of label leads to lower evaluations of tastiness both in the self ($M_{NoLabel}$ = 5.43, SD = 1.23; M_{Label} = 4.88, SD = 1.25; t (64) = 4.670, p < .001) and other conditions ($M_{NoLabel}$ = 6.00, SD = 1.21; M_{Label} = 5.28, SD = 1.24; t (75) =, p < .001).

Appendix 5.8. SH Awareness – Purchase Intentions

Low SH awareness

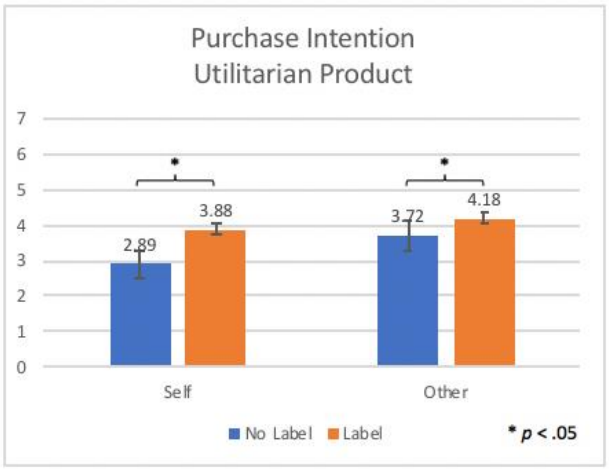
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	107.588	1	107.588	39.027	.000	.322
Ut_Hed*DT	.112	1	.112	.041	.841	.000
Error (Ut_Hed)	226.054	82	2.757			
NoL_L	11.230	1	11.230	7.678	.007	.086
NoL_L*DT	5.135	1	5.135	3.511	.065	.041
Error	119.937	82	1.463			
Ut_Hed *NoL_L	13.529	1	13.529	13.259	.000	.139
Ut_Hed* NoL_L *DT	1.529	1	1.529	1.499	.224	.018
Error (Ut_Hed *NoL_L)	83.673	82	1.020			

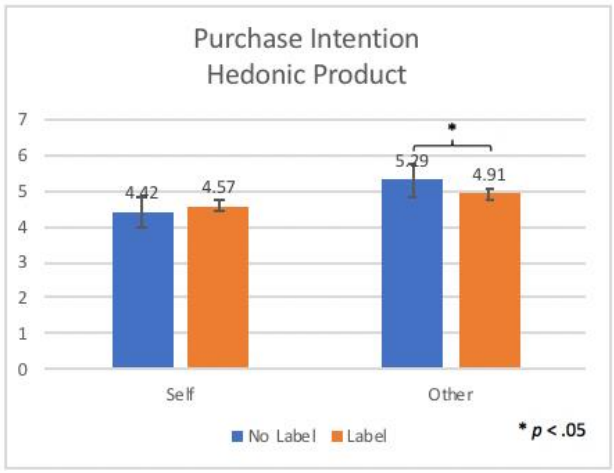
Interaction *Presence of label*Type of product* Decision target* effect is not significant (F (1, 82) = 1.499, p = .224, η2 = .018). In utilitarian products, the presence of label leads to similar PI both when consumers choose for themselves ($M_{NoLabel}$ = 3.18, SD = 1.69; M_{Label} = 3.10, SD = 1.63; t (50) = .455, p = .651) and for others ($M_{NoLabel}$ = 3.36, SD = 1.52; M_{Label} = 3.52, SD = 1.82; t (32) = -.645, p = .523). However, concerning hedonic products, the presence of label leads to lower PI both in the self-condition ($M_{NoLabel}$ = 4.92, SD = 1.68; M_{Label} = 3.75, SD = 1.83; t (50) = 4.228, p < .001) and other ($M_{NoLabel}$ = 4.76, SD = 1.48; M_{Label} = 4.36, SD = 1.58; t (32) = 1.470, p = .151) conditions, although in the other-condition the result presents a lower margin of significance.

High SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	177.750	1	177.750	47.961	.000	.257
Ut_Hed*DT	.048	1	.048	.013	.909	.000
Error (Ut_Hed)	515.154	139	3.706			
NoL_L	12.981	1	12.981	10.292	.002	.069
NoL_L*DT	9.832	1	9.832	7.796	.006	.053
Error	175.320	139	1.261			
Ut_Hed *NoL_L	24.512	1	24.512	28.202	.000	.169
Ut_Hed* NoL_L *DT	.001	1	.001	.001	.971	.000
Error (Ut_Hed *NoL_L)	120.811	139	.869			

Interaction *Presence of Label*Type of product* Decision target* effect is not significant (F (1, 139) = .001, p = .971, η2 < .001). However, in utilitarian products, the presence of label leads to higher PI both in the self-condition ($M_{NoLabel}$ = 2.89, SD = 1.51; M_{Label} = 3.88, SD = 1.85; t (64) = -5.922, p < .001) and in the other-condition ($M_{NoLabel}$ = 3.72, SD = 1.58; M_{Label} = 4.18, SD = 1.76; t (75) = -2.950, p = .004). Concerning hedonic products, although the effect is not significant, it seems that the presence of label leads to higher PI when consumers choose for themselves ($M_{NoLabel}$ = 4.42, SD = 1.58; M_{Label} = 4.57, SD = 1.57; t (64) = -.723, p = .472) but decreases PI when they choose for others ($M_{NoLabel}$ = 5.29, SD = 1.49; M_{Label} = 4.91, SD = 1.53; t (75) = 2.353, p = .021).





Appendix 5.9. Anticipatory Guilt

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	15.103	1	15.103	10.303	.002	.044
Ut_Hed*DT	5.023	1	3.427	3.427	.065	.015
Error (Ut_Hed)	326.897	223	1.466			

Appendix 5.10. SH Awareness – Anticipatory Guilt

Low SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	5.118	1	5.118	3.935	.051	.046
Ut_Hed*DT	3.118	1	3.118	2.397	.125	.028
Error (Ut_Hed)	106.661	82	1.301			

There is a main effect for *Type of product* (F (1, 82) = 3.935, p = .051, η2 = .046). In particular, when comparting the product without vs with label, the level of guilt induced by hedonic products with label is higher than the one triggered by utilitarian products in the presence of label ($M_{Utilitarian}$ = 2.59, SD = 1.54; $M_{Hedonic}$ = 2.95, SD = 1.62).

A main effect was found for *Decision target* (F (1, 82) = 5.298, p = .025, η2 = .060). In the self-condition, the level of anticipatory guilt induced by products without label is higher than in the other-condition (M_{Self} = 2.43, SD = 1.20; M_{Other} = 3.11, SD = 1.50).

Interaction *Type of product*Decision target* is not significant (F (1, 82) = 2.397, p = .125, η2 = .028). However, it seems that the difference between the level of guilt consumers feel when choosing for themselves vs for others is higher in hedonic (M_{Self} = 2.47, SD = 1.26; M_{Other} = 3.42, SD = 1.95; t (82) = -2.496, p = .016) than in utilitarian products, where it is non-significant (M_{Self} = 2.39, SD = 1.50; M_{Other} = 2.79, SD = 1.60; t (82) = -1.153, p = .252).

High SH awareness

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Ut_Hed	10.333	1	10.333	6.532	.012	.045
Ut_Hed*DT	1.992	1	1.992	1.259	.264	.009
Error (Ut_Hed)	219.887	139	1.582			

There is a main effect for *Type of product* (F (1, 139) = 6.532, p = .012, η2 = .045). In particular, when comparting the product without vs with label, the level of guilt induced by hedonic products with label is higher than the one triggered by utilitarian products with such label ($M_{Utilitarian}$ = 2.63, SD = 1.77; $M_{Hedonic}$ = 3.02, SD = 1.91).

A main effect was found for *Decision target* (F (1, 139) = 7.370, p = .007, η2 = .050), such that in the self-condition, the level of anticipatory guilt induced by products without label is higher than in the other-condition (M_{Self} = 2.46, SD = 1.66; M_{Other} = 3.18, SD = 1.50).

Interaction *Type of product*Decision target* is not significant (F (1, 139) = 1.259, p = .264, η2 = .009). Despite this, the difference between the level of guilt consumers feel when choosing for themselves vs for others is higher in hedonic (M_{Self} = 2.57, SD = 1.83; M_{Other} = 3.46, SD = 1.90; t (139) = -2.831, p = .005) than in utilitarian products, where it is only marginally significant (M_{Self} = 2.35, SD = 1.87; M_{Other} = 2.91, SD = 1.65; t (139) = -1.871, p = .064).

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