Functional Protein Yogurts in the Portuguese Market

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ABSTRACT

Title: Functional Protein Yogurts in the Portuguese Market

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Key-words: Functional Protein Yogurts; Health and Nutritional Knowledge; Yogurts' attributes; Consumers' preferences

The present dissertation focus on analysing functional protein yogurts, an innovation that has been disrupting the Portuguese market.

The way Portuguese consumers evaluate their health needs and how they perceive food was taken under the scope, so that it could be analysed the food characteristics consumers' value most when they go shopping and thus observing the Portuguese market potential of high protein yogurts.

The dissertation divides the analyses in three research questions that are aimed at discovering the profile of Portuguese consumers more interested in high protein yogurts, the motivations driving Portuguese to purchase these yogurts and the factors restraining their consumption.

The results captured demonstrate that Portuguese consumers' nutritional knowledge is a key factor to determine the level of interest towards high protein yogurts. The Health Claims (HCs) and Nutritional Claims (NCs) have a big impact on raising awareness about these yogurts and their contents, which afterwards proves to be an influent consumption driver.

The Portuguese psychological factors towards nutrition and health have different perspectives depending on the different age generations and consumers who disregard more their diet and have the least knowledge and interest about nutrition are the least prone to try functional protein yogurts.

Future studies might analyse better the relations between the existing hypothesis, analyse in a greater extent the definition of nutritionally informed consumers and find other potential hypothesis influencing the consumption of functional protein yogurts in the Portuguese market.

ABSTRACT (PORTUGUESE VERSION)

Título: Iogurtes Funcionais de Proteína no Mercado Português

Autor: Diogo José Fabião Dinis

Palavras-chave: Iogurtes funcionais de proteína; Conhecimento nutricional e de saúde; Atributos dos iogurtes; Preferências dos consumidores

A presente dissertação concentra-se na análise de iogurtes funcionais de proteína, uma inovação disruptiva no mercado português.

A maneira como os consumidores portugueses avaliam as suas necessidades de saúde e como eles percecionam os alimentos foi analisada, para que pudessem ser apuradas as características dos alimentos que os consumidores mais valorizam quando vão às compras e, assim, ser observado o potencial do mercado português dos iogurtes ricos em proteínas.

A dissertação divide a análise em três questões de pesquisa que visam descobrir o perfil dos consumidores portugueses mais interessados em iogurtes ricos em proteínas, as motivações que os levaram a comprar estes iogurtes e os fatores que restringem o seu consumo.

Os resultados capturados demonstram que o conhecimento nutricional dos consumidores portugueses é um fator chave para determinar o nível de interesse em relação aos iogurtes ricos em proteínas. As alegações de saúde e nutricionais têm um grande impacto ao criar conhecimento sobre o conteúdo destes iogurtes, o que posteriormente influencia o aumento do consumo.

Os fatores psicológicos dos portugueses em relação à nutrição e à saúde têm perspetivas diferentes, dependendo das diferentes gerações etárias. Os consumidores que desconsideram mais sua dieta e que têm menos conhecimento e interesse relativamente à nutrição são os menos propensos a experimentar iogurtes funcionais de proteína.

Estudos futuros podem analisar melhor as relações das hipóteses existentes, analisar em maior medida a definição de consumidores nutricionalmente informados e encontrar outras potenciais hipóteses para influenciar o consumo de iogurtes funcionais de proteína no mercado português.

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1. INTRODUCTION

1.1 Context & Background

In the recent years a trend related to healthy food has been growing. One of the main food segments that is being covered by this new fashion are dairy products, like yogurts. They are milk processed food that have a lot of important nutrients for the human health. In fact, the highest consumers of dairy products have higher levels of protein, calcium, vitamin D, magnesium and phosphorus intakes, which has beneficial effects on health. [1]

The healthy thematic around dairy products and more specifically yogurts, has gain so much importance that, through investment and innovation, the market has been presenting a lot of different health and nutritional solutions for yogurt consumers.

Most yogurts are already regarded as healthy but functional yogurts are different, they are a type of yogurt that brings health-enhanced benefits to consumers and therefore, they are becoming a trend leading companies' paths to meet the desires of this new generation extremely concerned with health.

Yogurt producing companies are innovating their products so that they can provide more value to consumers' purchasing options. This explains why high protein yogurts are one of the main tendencies hitting the markets and why it would be interesting to know if the Portuguese market is being affected by this new trend, whether by recognizing value to protein yogurts or by regarding them as a carrier to health-enhanced benefits.

The different Health and Nutritional attributes of yogurts impact differently consumers preferences. One of the yogurts' attributes, that in the last few years has been increasing its importance in people's diet, is protein.

Nowadays, the new fashion is being healthy and being in shape and so people are getting more informed about food benefits and food prejudices. Thus, the populations are getting more concerned about the proper food to eat and about how food effects the bodies wellbeing. The consumption of functional protein yogurts has been associated with customers' demand for products that help muscular renewal which have multiple effects on the human body. For example, protein helps children body development, supports adults body structure and in case of athletes helps them to increase performance and endurance.[2]

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[1] WILLIAMS E. B, HOOPER B., SPIRO A. and STANNER S., *The contribution of yogurt to nutrient intakes across the life course,* 1ST March 2015

[2] https://www.wisegeek.com/how-does-eating-protein-affect-my-body.htm

Yogurt manufacturers have been innovating and creating more functional yogurts in order to keep up with customers' trends. One of the associated innovations that is coming with functional yogurts is the way manufacturers are producing and selling. The main focus is selling fewer yogurts but with higher margins[3]. This change in companies' objectives is already evident in the recent market. A few years ago, it would be common to go through a yogurts aisle and find all the yogurts in combos of 6, 8 or 10 units and barely being able to distinguish the type of yogurts or the flavour that would differentiate the product. The reality today is different, and it is much more common to see yogurts being sold in singular units, like if they were snacks, and have a clearer claim of the nutritional values they bring to the consumer[4]. This change aligned with the growth of health importance might explains why consumers show a higher willingness to pay when it comes to functional yogurts with health-enhanced food features like protein.

Consumers are taking deeper thoughts towards what they buy and, although the average healthier products are more expensive, what has more impact on consumers´ purchasing decisions is tending to be more related with their health status, their lifestyle and their health concerns. [5] Hence, it should be interesting to analyse if functional protein yogurts are having the same impact in the Portuguese population as they are in other countries where the yogurt market is very developed.

1.2 Global Market Yogurt trends

The global yogurt market is expected to reach $107,209 million by 2023, growing at a CAGR of 4.6% from 2017 to 2023. The European population stand as the one that consumes the most yogurt per capita, which causes the market to be very developed.[6]

Nowadays, there is an important growth around the health concern and this fashion is reflected on consumers' yogurt purchasing choices. In fact, yogurts carrying health enhancing benefits are being regarded as more valuable and as symbols of a healthy-diet and lifestyle. The future success of yogurts passes through the innovation in healthier attributes and the shoppers' acceptance of functional ingredients.

3 Nutraceuticals World; Successful Dairy Companies Embrace Powerful Consumer Trends
4 *https://grandeconsumo.com/maior-oferta-de-iogurte-nao-gera-mais-procura/#.XixCoGj7RPY*
5 BONNANO Alessandro, "Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market", 2012
6 *https://www.alliedmarketresearch.com/press-release/yogurt-market.html*

High Protein Yogurts are showing a more accentuated growth compared to traditional yogurts due to their “protein factor” and their thicker texture. [7]

1.2.1 Functional Protein Yogurts on the Portuguese Market

In 2019 yogurts in Portugal kept recording a negative growth in both their current value and volume terms due to the market saturation, despite having had a marginal improvement in their performance compared to 2018. The latter trend is related to the demand of premium products focused on health and wellness, being organic, plant-based, lactose-free and probiotic, which attracted a small proportion of local consumers.

Despite the overall declining demand in yoghurt, plain yoghurt continued to record the strongest performance in 2019, with consumers increasingly drawn to this type due its natural image and healthy attributes such as sugar-free and protein enrichment. Innovation related to protein was particularly notable within yoghurts, since it was noticeable a higher number of launches to satisfy the growing demand for high protein products.[8]

The volume sales in yogurts have been decreasing in Portugal, but functional protein yogurts tried to compensate this loss by capturing a second consumption moment, so that yogurt volumes could be lifted again. For instance, the moment after the training sessions.

In Portugal functional protein yogurts are mainly directed towards people who do a lot of exercise and really want to have a good physical performance. These yogurts focus on covering the needs of those people who exercise more, so that they can regenerate faster their muscle tissues.

Although functional protein yogurts have created a second moment of consumption, they also have created a substitution effect. This happens because shoppers started to buy one functional protein yogurt instead of buying two or three conventional yogurts, which negatively impacts the volume sales of yogurts but positively affects the value per kilograms in yogurts [9].

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[7] *https://www.cargill.com/doc/1432098335310/health-conscious-consumers-driving-demand-for-yogurt-innovations.pdf*
[8] *https://www.euromonitor.com/yoghurt-and-sour-milk-products-in-portugal/report*
[9] ***Interview*** *- Sonae yogurt buyer specialist*

This niche of the functional protein yogurts has been increasing its weight in the Portuguese yogurt market, by currently representing 7% of its total value, which is outstanding if it is considered that it more than doubled its value in one year, by growing 4% from 2018 to 2019[10].

These stats show a lot of potential for this segment to continue evolving in Portugal, since producers are making a strong bet in increasing their product portfolio by adding new segments of protein yogurts, new flavours and new formats[11].

1.2.2 Market Overview

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	Type	Brand	Physical state	Price/KG	Fat/100G	Protein/100G
1	Skyr	Ehrmann	Solid	5.93€	0.2g	8g
2	YoPro	Danone	Solid	6.84€	0.2g	9.5g
3	Skyr	Milbona	Solid	3.93€	0.2g	11g
4	Skyr	Danone	Solid	5.40€	0.2g	10g
5	Skyr	Continente	Solid	3.93€	0.3g	9g
6	Kvarg	Nestle	Solid	7.93€	0.8g	6.8g
7	Skyr	Pingo Doce	Solid	3.93€	0.1g	10g
8	Siggi's	Siggi's	Solid	8.6€	0g	10.7g
9	Iogurte + Proteína	Danone	Solid	7.52€	0.1g	9.8g
10	Skyr Bio	Pur Natur	Solid	7.23€	0.2g	11g
12	Kvarg	Nestle	Liquid	5.84€	0.2g	6.7g
13	YoPro	Danone	Liquid	6.3€	0.5g	8.3g
14	Skyr	Continente	Liquid	3.47€	0.7g	7.3g
15	Kvarg Pro +	Nestle	Liquid	6.33€	0.4g	8.7g
16	Kvarg Pro +	Nestle	Solid	8.6€	0.2g	11.3g

[10] ***Interview*** - *Sonae yogurt buyer specialist*
[11] ***Interview*** - *Sonae yogurt buyer specialist*
[12] ***Appendices*** - *Functional Protein Yogurts in the Portuguese Market (images)*

1.2.2 Power Players

In Portugal Nestle is the protein yogurt brand leader with Lindahls Kvarg and this niche market has proven to be such a great opportunity that other brand players have also started betting in functional protein yogurts like Danone with YoPro and Siggi's. Despite the indisputable growth of brand yogurts, the private label yogurts are the ones presenting a fierce competition in this market segment with Skyrs. This is strengthened due to the Portuguese concern of consuming what is national while paying a competitive price[13].

The most consumed functional protein yogurts were Lindahls Kvarg from Longa Vida-Nestle and YoPro from Danone. YoPro was released in 2019 and it was considered the brand of the year, mainly due to the increase effect it brought to the market sales volumes. Its release had a huge impact in these market segment, since it didn't cannibalize the previous sales of the other players, but instead, brought a positive effect to the whole market segment by making it grow[14].

The brand suppliers experience on the Portuguese market predict that the population more likely to consume this type of yogurts are young people from 18 to 45 years old, that care about exercise and body fitness and are the most informed consumers about nutrition and yogurts, leading them to attribute a higher value to the functional protein yogurts. This fact is reinforced by the brands' marketing strategies that give a higher focus on these people who practise exercise. Teenagers and older people (more than 65 years old) are not expected to value this segment[15].

[13] *https://www.euromonitor.com/yoghurt-and-sour-milk-products-in-portugal/report*
[14] ***Interview*** *- Sonae yogurt buyer specialist*
[15] ***Interview*** *- Sonae yogurt buyer specialist*

1.3 Problem Statement

The Portuguese consumer is evolving, and its needs and concerns are changing. Health and nutrition have gained relevance and are making customers more receptive to accept functional products. Thus, it's of a great importance to understand the lifestyle and eating habits of the typical Portuguese consumer. Evaluating and understanding the average Portuguese customer preferences and acknowledging the new trends arising in the Portuguese community should allow to find if Portuguese customers are willing to buy high protein yogurts and which consumers value or don't value functional protein yogurts.

Functional protein yogurts were launched in Portugal in 2017 and their consumption and perception has changed since then, the following dissertation aims to address what are the type of customers more prone to eat these yogurts, what drives and what restrains them.

1.3.1 Research Question

Research Question 1

What is the profile of the Portuguese consumers more interested in functional protein yogurts?

Research Question 2

What leads Portuguese consumers to buy protein yogurts?

Research Question 3

What are the obstacles restraining Portuguese from consuming functional protein yogurts?

2. LITERATURE REVIEW

2.1 Functional protein yogurt definition

Functional protein yogurts are yogurts that can bring health enhanced benefits to consumers, but there is no legal definition for them. According to the Codex standard definition of "concentrated fermented milk" a "high-protein yoghurt" is a yoghurt containing a minimum of 5.6% protein, and less than 15% fat.[16]

Although, this is a more specific definition functional yogurts must stand out more their health enhancing property and so it seems unreasonable for a functional protein yogurt to be defined as having more fat than protein. Furthermore, functional protein yogurts are meant to be healthy yogurts, which can arguably be disputed if they carry such an enormous amount of fat.

Due to the previous stated reasons, this dissertation will consider as functional protein yogurts the yogurts that have more than 5.6% protein and have 1% or less fat, which makes the nutritional values very distinctive when compared to other yogurts. Thereby, these yogurts have a very low-fat percentage and protein it's the yogurt's attribute with more weight, allowing a clear differentiation of this type yogurts.

2.2 What is the profile of the Portuguese consumers more interested in functional protein yogurts?

There are some clusters that are willing to pay a premium price for functional yogurts. These clusters tend to have some similar characteristics like health concerns and strong beliefs about the enhanced health benefits that functional yogurts bring. Some of these people are usually females with diet-health knowledge, consumers with chronic diseases and highly educated consumers[17]. The thematic also gives importance to the demographic *Hypothesis* that should be taken into consideration when analysing the Portuguese consumers' preferences for protein yogurts.

[16] JøRGENSEN Camila Elise, ABRAHAM Roger K., RUKKE Elling-Olav, HOFFMAN Tom Kristian, JOHANSEN Anne-Grethe, SKEIE B. Siv, *Processing of high-protein yoghurt – A review,* 2nd of August 2018
[17] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review*"

H1: Elderly People

It is observed that as people get older the health status decreases whereas the health concern increases, which in turn increases the willingness to buy functional yogurts. In other words, the perceived utility and need to purchase functional yogurts increases as people get older. The researchers predict that this result may come from the longer exposition that older consumers are subjected to and which brings a deeper knowledge and familiarity with the effects of functional dairy products on health, which consequently results in a higher level of acceptance by older people. According to some journals the people considered as "older" are the ones who are 65 years old or more.[18]

Some studies identified that older people have a positive correlation with the interest of purchasing health-enhanced products, especially those with disease risk preventing properties.[19]

Protein yogurts may not cure diseases; however, they are able to play a vital role in regenerating muscular tissues, help fortifying the bone structure and regulating blood glucose levels, which prevents diabetes, and controls blood pressure[20]. Furthermore, yogurts have showed a higher mean intake among older adults (over than 65 years old), meaning that the consumption of yogurt has more impact on the nutrition of the elderly.[21]

According to PORDATA, the Portuguese population is represented by 21,8% of people who are older than 65 years old[22], which can have a huge market opportunity for functional protein yogurts since that, according to the literature, this type of population is more concerned with health, which makes them interested in trying and acquiring functional products like yogurts.

Although the studies obverse this higher concern for health in the elderly, it should be interesting to notice that Portugal is ranked fifth in terms of the most aged countries in the world[23]. This fact has been analysed by several demographers and there has been a big discussion around the age that in Portugal people should be considered as "elderly". Moreover,

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[18] BONNANO Alessandro, "*Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market",* page 78

[19] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review"*

[20]MCATEE Marjorie, *How does Eating Protein Affect my Body?*, 11th of October 2019, https://www.wisegeek.com/how-does-eating-protein-affect-my-body.htm

[21] WILLIAMS E. B, HOOPER B., SPIRO A. and STANNER S., The contribution of yogurt to nutrient intakes across the life course, 1ST March 2015

[22] https://www.pordata.pt/DB/Portugal/Ambiente+de+Consulta/Tabela

[23] https://www.dinheirovivo.pt/lifestyle/galeria/estes-sao-os-5-paises-mais-velhos-do-mundo-e-portugal-esta-entre-eles/

there is even a suggested distinction that people who is between 65 and 74 years old should be designated as "junior elders" and who is 75 or older called as "senior elders", being even mentioned that only who is 75 or older should be considered as "elderly"[24].

It is clear that the demographic conditions in Portugal are a little bit different and so, it should be expected that in Portugal the elderly people more concerned with health, due to the age conditions, will be the ones who are 75 or older and thus the ones who are more likely to consume functional protein yogurts in Portugal.

H2: People Physically Active

The consumers' lifestyle is a factor that influences purchasing preferences and needs. The studies reveal that the more concerned with health the more prone to buy functional yogurts will consumers be. [25] For instance, people that do a lot of exercise show a higher predisposition to trade the taste of the yogurt for its health benefits. These physically active people are representative of the market segment that is looking for health-enhancing benefits in products.

Moreover, the consumer level of knowledge between the relation of health and nutrition is a good predictor of the acceptance of functional dairy products. More informed customers are more willing to buy functional yogurts as they perceive them with higher utility.[26] People that usually do exercise are on average more interested and concerned about health. They look for more value in food and so they are more aware of the nutrient intakes they must have per day and what provides it. Hence, they are more interested in the products' composition, just so they know the nutritional intakes that each food will bring to their body, so that they have a better performance.

Proteins have a big participation in regenerating our body, specifically in helping muscle recovery. This happens because our body uses mainly protein to build and repair tissues.[27] This fact can have a big impact on the protein yogurt consumption of physically active people.

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[24] https://www.publico.pt/2018/09/29/sociedade/noticia/as-pessoas-devem-comecar-a-pensar-onde-vao-viver-quando-forem-idosas-aos-45-50-anos-1845443

[25] BONNANO Alessandro, "*Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market",* page 81

[26] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review"*

[27] *https://www.webmd.com/men/features/benefits-protein#1*

Yogurts are considered a nutrient dense food which means that they contribute to adequate nutrient intakes and have positive health effects. This type of food not only provides high nutritional gains but also few calories, which captivates consumers who are more concerned about their food and try to have a rich and healthy diet.

The data also reveals that yogurt consumers from all ages have a higher quality diet compared to yogurt non-consumers of the same age groups.[28]

The Portuguese population in 2017 showed very low levels of physical exercise. A survey revealed that only 5% of Portuguese people were practising exercise frequently, which is a value way below of the European average of 14%. Moreover, 29% said to have never walked more than 10 minutes per day, in 2017. This gives strength to characterise the Portuguese has "predominantly inactive and with high levels of sedentarism".[29]

Therefore, it can be expected that functional protein yogurts may have little acceptance in Portugal since that the population, which is not very keen on practising exercise, may not recognize enough value that justifies buying this premium yogurt.

H3. People with Nutritional Knowledge

At first glance, when customers compare functional protein with conventional yogurts, they may feel that functional yogurts are overpriced for the amount of yogurt they have or for not being differentiating enough. However, there is one crucial factor that may lead customers to increase protein functional yogurts' purchases, which is the knowledge about the relationships between health and nutrition[30]. If customers know how protein yogurts are beneficial to health there is a higher chance for them to recognise differentiation and added value and so to be more willing to buy high protein yogurts.

The customers that are more committed to health are in general more aware of the gains they can have from consuming the healthiest options, such as protein yogurts that bring health-

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[28] VATANPARAST Hassan, ISLAM Naorin, PATIL Rashmi Prakash, SHAMLOO Arash, KESHAVARZ Pardis, SMITH Jessica, WHITING Susan, *Consumption of Yogurt in Canada and Its Contribution to Nutrient Intake and Diet Quality Among Canadians,* May 28TH 2019

[29] https://observador.pt/2019/01/24/portugueses-fazem-cada-vez-menos-exercicio-fisico/, Lusa Agency, 24/01/2019

[30] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

enhancing benefits. These consumers are expected to be more willing to try and purchase protein yogurts, since they know how their body will benefit from consuming them.

In Portugal there are a few knowledge barriers that may restrain the consumption of functional protein yogurts. Some studies reveal that 40% of the Portuguese shoppers don't know how to interpret the nutritional characteristics of the products they are buying and that 11% don't even bother reading the nutritional values present on the packages. There is little nutritional knowledge in Portugal and this negative aspect is highlighted by the lack of informative campaigns on nutrition [31]. Unfortunately, this may lead the Portuguese market to don't understand the differences in yogurts and thus not knowing functional protein yogurts benefits.

H4: Women

The studies claim that there is a clear gender differentiation when it comes to acceptance and preference for functional dairy products and women show a higher level of acceptance than men.[32]

Women are on average more concerned with weight control and conscious about health than men and so they show higher willingness to try products with higher nutritional values. Additionally, a research observed that Swedish females showed higher levels of consumptions of functional yogurts than Swedish males.[33]

Furthermore, it also identified that consumers are more likely to buy functional yogurts if the added healthier ingredient is regarded as more "natural", which means that heathier attributes must have an intrinsic match with the product. The studies also reveal that shoppers classify yogurts as functional carriers, which is aligned with the results stating that women rather prefer yogurts than pills or ice cream, which are regarded as unnatural, to use as a carrier to receive the health benefits.[34]

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[31] *https://www.publico.pt/2017/10/16/sociedade/noticia/sabe-interpretar-os-rotulos-dos-alimentos-40-dos-portugueses-nao-consegue-1789013*

[32] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review*

[33] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review*

[34] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review"*

These higher feminine concerns about health and natural products is likely to be reflected in the Portuguese market. Previous studies show that in Portugal women, people with higher level of education, and who is more concerned with nutritional issues are the ones reading labels and trying to buy the healthiest options[35]. Thus, it should be expected for Portuguese women to be more predisposed to buy functional protein yogurts.

2.3 What leads Portuguese consumers to buy protein yogurts?

H5: The Yogurt Attributes

Consumers rate health, taste (intrinsic attributes), nutritional claims and health claims (extrinsic attributes) as being the most important characteristics when evaluating yogurts[36], which makes it relevant to evaluate these *Hypothesis*.

The Intrinsic Attributes *can be defined as any informational stimuli of the physical product which cannot be changed without altering the essence of the product itself,* which in this case, *is given by the combination of the health-enhancing ingredient with the type of carrier used.*[37]

H5.1 Taste and Texture

As for what the studied tendencies and preferences reveal, a customer will always choose to repeatedly buy the more tasteful product, and so it is natural for the most appetized characteristics like flavour and texture to be thoroughly analysed by customers. Previous studies defined taste as one of the most important attributes in the decision to purchase food products.[38] The nutritional/functional attribute will only add value if it doesn't modify the sensory properties.[39]

Sensory and texture attributes such as creaminess, smoothness and viscosity are crucial drivers for liking high-protein yogurts and consequently create a preference for them.[40] This fact,

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[35] https://www.publico.pt/2017/10/16/sociedade/noticia/sabe-interpretar-os-rotulos-dos-alimentos-40-dos-portugueses-nao-consegue-1789013

[36] BALLCO Petjon, MAGISTRIS DE Tiziana, CAPUTO Vincenzina, "*Consumer preferences for nutritional claims: An exploration of attention and choice based on an eye-tracking choice experiment",* February 2019, Pages 37-48

[37] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

[38] BALLCO Petjon, MAGISTRIS Tizianade, CAPUTO Vincenzina, *"Consumer preferences for nutritional claims: An exploration of attention and choice based on an eye-tracking choice experiment"*

[39] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

[40] JøRGENSEN Camila Elise, ABRAHAM Roger K., RUKKE Elling-Olav, HOFFMAN Tom Kristian, JOHANSEN Anne-Grethe, SKEIE B. Siv, *Processing of high-protein yoghurt – A review,* 2nd of August 2018

shows that functional protein yogurts have very valued attributes and it should be likely for a customer that decided to experiment them for the first time to be pleased and repeat the purchase.

H5.2 The Protein Trend

Protein yogurts have existed in many countries for a long a time, but they varied among regions and cultures. Only in the last decade yogurts with more protein like the "Greek-Style yogurt" have entered in bigger markets like the US and Europe.

These yogurts having more protein soon started to have success, mainly due to the thicker and creamier texture compared to the other possibilities in the market and to the scientific backup claiming health benefits of dairy proteins. This proportionated a fast growth in the US market and although in the European market the growth has been slower it has been showing steady signs of protein intakes evolution, especially in Northern European Countries.

The rise of the Protein trend in yogurts is expected to continue increasing. This fact is linked with consumers' weight wellness and weight loss concern, which brings more interest to high-protein yogurts. These yogurts are differentiating for having limited additives and for being beneficial to calorie-restrictive diets due to the incremental energy intakes protein provides, which have a greater impact on satiety than fat and carbohydrates.[41]

H5.3 Perceived Yogurt Healthiness

The Scholars analysed the success of functional foods and arrived at conclusions deriving from the relationship between the ingredients and the carriers, which scored as the most perceived healthiness features contributing for the customers' acceptance in the market place.

Several studies identified that the carrier providing the health enhanced benefit had the greatest impact on the healthiness perception of products, which positively benefited yogurts because they were perceived as the healthiest carrier.[42] This fact, may potentiate consumers' protein intakes because if consumers consider yogurts and protein as a natural match it will increase the overall acceptance of the functional protein yogurts, which will likely lead to a consumption growth.

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[41] JøRGENSEN Camila Elise, ABRAHAM Roger K., RUKKE Elling-Olav, HOFFMAN Tom Kristian, JOHANSEN Anne-Grethe, SKEIE B. Siv, *Processing of high-protein yoghurt – A review,* 2nd of August 2018

[42] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

The Extrinsic Attributes *are informational stimuli which are not physically part of the product, e.g. a product's label and its elements. They are for instance nutrition and health claims available on the labels, a product's brand, and its package.* The main goal is to work as facilitators to inform customers about the yogurts' properties in order to persuade their purchasing decisions.[43]

H5.4 Perceived Quality Perception

The level of trust Portuguese consumers have on functional yogurts' features is crucial to estimate how likely will customers believe in the health enhanced benefits that functional protein yogurts bring.[44] The beliefs in health-related benefits is one of the main drivers in order to be more willing to acquire functional yogurts, it is essential that customers consider the information about the health enhancing properties to be true.[45]

If Portuguese consumers trust on the claims that functional yogurts contribute to improve health and physical performance, these products will more likely have a better acceptance in the market. This presence or lack of faith in the health enhancing benefits that functional yogurts bring is also associated with the brands bringing these claims[46].

The Brand familiarity plays a crucial role in guaranteeing the necessary trust in order for consumers with low interest in functional yogurts to increase their acceptance and preference for health-enhanced dairy products over conventional ones.

Brand not only gives the first perspective of the product by prior signalling quality, but also gives a sense of truthfulness due to the producer's guarantee on the product's package. Furthermore, it was found that the more familiar with the brand consumers are, the more their choices will be influenced by that brand.[47]

Hence, it should be expected that the performance of functional protein yogurts will depend as well on the level of trust and belief, that the Portuguese consumers have on the yogurts' health

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[43] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

[44] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

[45] BONNANO Alessandro, "*Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market", 2012,* page 68

[46] BONNANO Alessandro, "*Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market", 2012,* page 78

[47] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review,* 2017

enhancing properties and if those beliefs tend to shift regarding the brand presenting these new health benefits.

H5.5 Health Claims and Nutritional Claims

Health Claims and Nutritional Claims were rated as two of the four most important attributes when evaluating yogurts' purchasing options.

The information about the high-protein yogurts compounds and benefits is mainly given by Health Claims (HCs) and Nutritional Claims (NCs), which will inevitably influence customers' purchasing decisions. The literature has revealed that NCs help shoppers compare the products' healthfulness and that generally these shoppers are more willing to pay a premium price for food products bearing NCs.[48]

Denying or not mentioning a functional yogurt health claim can be critical for not guaranteeing differentiation. It can have a negative impact since that the functional yogurt, that is a price elastic product, may be perceived as a conventional yogurt substitute, which does not justifies the higher price.[49]

The scholars found that yogurts without any claims have poor utility to the shopper and that yogurts with NCs reported on packages increase shoppers' utility when purchasing. Consumers who are more on alert for the differentiating characteristics of yogurts will more easily attend to the yogurts bearing NCs because they carry the desired benefits. Hence, the NCs displayed on yogurts' packages are important for differentiation, which increases the shoppers' fixation time on the yogurt, which gives it more utility and consequently increases the likelihood of purchase.[50]

In the Portuguese market the Health and NCs must play an essential role in attributing added value to these kinds of yogurts. The Portuguese population is notorious for having low nutritional knowledge and so it is more likely for them to not be aware of the benefits that protein can bring. Therefore, the yogurt beneficial impacts must be claimed and simply explained in the yogurt packages, so that the shopper understands what a functional protein yogurt is and why it has more value financially and healthily.

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[48] BALLCO Petjon, MAGISTRIS Tizianade, CAPUTO Vincenzina, *"Consumer preferences for nutritional claims: An exploration of attention and choice based on an eye-tracking choice experiment"*

[49] BONNANO Alessandro, "*Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market", 2012,* page 68

[50] BALLCO Petjon, MAGISTRIS Tizianade, CAPUTO Vincenzina, *"Consumer preferences for nutritional claims: An exploration of attention and choice based on an eye-tracking choice experiment"*

2.4 What are the obstacles restraining Portuguese from consuming functional protein yogurts?

H6: Price

One *Hypothesis* to take into consideration is the price of functional yogurts, because high prices reduce yogurt utility for customers. [51]. If these yogurts' price elasticity is significantly high, it may be the case that functional yogurts are regarded as overpriced for their attributes and consumers don't see them as differentiating enough to justify the higher prices.

Conventional yogurts sell the same product in combos potentiating sales in big quantities whereas functional yogurts bet their proposition value on quality through health enhancing benefits, which leads to premium prices. This price differentiation can inhibit functional yogurts consumption, especially for low income households that may not be willing to pay premium prices for products bringing them health. The willingness to pay is a subjective measure used by consumers, which makes it a complex concept, since it is mainly based on individual perceptions relatively to the evaluation of different attributes, in this case of functional protein yogurts.[52] These perceptions are very important since they are the base to rate functional yogurts prices in consumers' minds. Perceptions are what will subjectively place these yogurts as having a good value for money preposition and thus if the functional protein yogurt is worth the price.[53]

To sum up, the way functional protein yogurts' price is perceived in the Portuguese market, which is more price sensitive market compared to other European countries, can have an enormous impact on their performance. For instance, if their health enhanced properties aren't regarded as superior enough, in order to justify the differentiation price, protein yogurts will not be purchased [54].

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[51] MOHAMMED Rezgar, MUROVA Olga, CHIDMI Benaissa, *Demand for Yogurt in the Trend of Manufacturer Brand and Organic Information,* 2017, page 13
[52]DOLGOPOLOVA Irina, TEUBER Ramona, *Consumers' Willingness-to-pay for Healthy Attributes in Food Products: A Meta-analysis*, 2016, page 16
[53] HLÉDIK Erika, LÓGÓ Emma, *Product Experiences and Consumer Preferences Related to the Choice of Yogurt,* 02 June 2016, page 67-68
[54] BONNANO Alessandro, *Some Like It Healthy: Demand for Functional and Conventional Yogurts in the Italian Market, 2012,* page 78

H7: Low incomes

The yogurt demand is affected if there is a reduced income, since there will be a smaller financial capacity to buy big yogurt quantities. [55] The stats show that prices are a barrier for healthier options, especially among low-income groups of the population. The fact that people with healthier eating habits are more willing to buy functional yogurts can have a bigger impact on countries with lower incomes, since that unhealthy eating diets are more present in low- and middle-income countries.[56] Hence, high protein yogurts will not be so valued nor accepted in these countries.

Portugal in 2018 had a USD 23,407.9 GDP per capita which is above the average level of the World's GDP per capita in 2018 (USD 11,312.5), but inferior to the European Union USD 36,569.7 GDP per capita and North America's USD 61,117 GDP per capita.[57] This fact is significative because prices in these regions may have a more diminished impact in shoppers when compared to the Portuguese market. This fact may justify why the Portuguese population has an unhealthy eating diet, and there is reluctance to buy functional protein yogurts. Portuguese lower incomes should be taken into account since they can help clarify if consumers are capable of paying the premium prices of protein functional yogurts.

H8: Psychological factors

The Portuguese population has a great history and culture, making them value tradition, which unfortunately sometimes makes them have a more antiquated mentality. This fact is notorious when compared to other European countries, which exposes the Portuguese unwillingness to acceptance new products. This fact is likely to be reflected on the Portuguese buying choices, since that the disbelief on the health enhancing properties is critical to reduce interest on the functional protein yogurts[58] and so it is likely to negatively impact their purchases.

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[55] DAVIS Christopher, BLAYNEY Donald, MUHAMMAD Andrew, T. YEN Steven and COOPER Joseph, *A Cross-Sectional Analysis of U.S. Yogurt Demand*, July 2010, page 44

[56] DOLGPOLOVA Irina, TEUBER Ramona, *Consumers' Willingness-to-pay for Healthy Attributes in Food Products: A Meta-analysis,* 2nd of August of 2016, page 2

[57] https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

[58] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, "*Consumers' acceptance and preferences for nutrition-modified and functional dairy products: A systematic review*"

Moreover, there might be a common belief among Portuguese consumers that “healthy” is a synonym of less tasty food, which can make customers hesitant in accepting new yogurts like the protein functional ones.[59]

[59] BIMBO Francesco, BONNANO Alessandro, NOCELLA Giuseppe, VISCECCHIA Rosaria, NARDONE Gianluca, DEVITIIS De Biaggia, CARLUCCI Domenico, “*Consumers’ acceptance and preferences for nutrition-modified and functional dairy products: A systematic review”*

3. QUALITATIVE RESEARCH

In order to have a deeper comprehension of the Portuguese consumer motivations and aversions it was conducted 8 informal interviews, serving as samples to include all the customers' segments present on the literature's hypothesis.

Most of the interviews indicated that the Portuguese shoppers are concerned with their diet and generally concerned with keeping physically active.

Although they intend to eat healthy, they are not very strict to their diet because sometimes they like to eat more sugary or fatty "treats". Shoppers call them "treats" because they regard sugar and fat as being the worst properties for health and these are the properties they try to avoid the most.

On one hand, it was evident that customers were concerned with their diet and tried to avoid certain types of food but, on the other hand, when asked if they read the nutritional values on the products or if they could understand them most said "no" and struggled in explaining what specifically made, in their perception, some products unhealthy or healthy. Hence, it was observed that shoppers bought a lot of products, yogurts included, mainly guided by their intuition.

Furthermore, shoppers often create the conception that the first brand announcing a new yogurt segment in the market has the superior yogurt of that segment. In other words, the consumer showed a strong loyalty to the new segment first product and, thus, to the brand launching it.

The fact that Portuguese shoppers don't guide many of their purchasing options by knowledge made it hard for them to explain some advantages of functional protein yogurts and to identify which functional protein yogurts they had already consumed. There were only two shoppers who actually knew the benefits of functional protein yogurts and could explain them. **Consumer 1**[60] had already needed to buy functional proteins for an elderly that needed higher levels of protein due to health issues and muscles maintenance and **Consumer 8**[61] could explain that ate these yogurts because he practised a lot of exercise and wanted a healthier yogurt that helped him gain and recover faster his muscle tissues.

[60] ***Appendices****; Interviews; Consumer 1*
[61] ***Appendices****; Interviews; Consumer 8*

The shoppers who were over 35 years old didn’t regard functional protein yogurts as healthy and disregarded their low-fat, low sugar and low-calorie values. The perception of healthiness was dependent on how these older customers perceived protein.

The interviews enabled to predict as likely to be true Hypothesis ***2***, ***3*** and ***5.5***, seemed to deny Hypothesis ***1***, ***5.3***, ***5.4*** and ***6***, but as for the other Hypothesis further research should be explored.

4. QUANTITATIVE RESEARCH

The goal of the questionnaire was to represent the Portuguese population, so that their preferences, needs, concerns and dislikes could be properly analyzed.

The survey has a universe of 236 respondents, of which 35% are women and 65% men. In order to avoid biased results the Portuguese consumers were all randomly picked.

The information collected reveals that Portugal has 75% yogurt consumers, 39% people have already tried functional protein yogurts and only 22% are currently eating them.

H1. Elderly People

The questionnaire had 18 people, 8% (18/236) respondents, that were older than 64 years old.

These customers were all concerned with their health, since most tried to keep physically active 83%(15/18) and all of them showed to be concerned with what they eat. The food properties they mainly try to avoid are fat, sugar and salt due to their health conditions.

Most of the elderly people 78%(14/18) consider yogurts as being part of a healthy diet and 78%(14/18) are yogurt consumers.

Functional protein yogurts and products are regarded as being unhealthy by 72%(13/18) of elderly people.

There are 14 elderly who claim to be yogurt consumers, but only 29%(4/14) stated to have eaten protein yogurts, of which 75%(3/4) said to have kept eating them, since they regarded these yogurts as being healthier. The only shopper who stopped consuming protein yogurts referred that these yogurts were too expensive. The data collected denies *Hypothesis 1* and elderly shoppers aren't likely to be consumers of functional protein yogurts.

Only 4 people of the elders 22%(4/18) said to be able to recognize "functional protein yogurts" in the marketplace and it is worth mentioning that these 22% belonged to the same age group, people between 65 and 74 years old. However, what these 4 people claimed may not be completely true, because when they were confronted with the yogurt sample[62] only one was able to identify correctly functional protein yogurts.

[62]***Appendices****; Quantitative Research – Questionnaire; Question 18*

It is notable that the elderly Portuguese consumers don't have knowledge about functional protein yogurts and struggle identifying this type of yogurts. There were 83%(14/18) of elderly customers that mentioned "to don't have knowledge about the subject" as the reason to claim that they were not able to recognize functional protein yogurts.

H2: People Physically Active

In this category 80%(188/236) of the total respondents stated they were concerned about keeping active. This 80% that tries to do some sort of physical exercise are differentiated into three categories:

1. The "moderately active" do exercise once or twice a week and represent 45.2%(85/188) of the physically active people and 36%(85/236) of the total population.
2. The "active" do exercise three to four times a week and represent 31.4%(59/188) of the physically active people and 25%(59/236) of the total population.
3. The "extremely active" do exercise five to seven times a week and represent 23.4%(44/188) of the physically active people and 19%(44/236) of the total population.
4. The "physically static" are not concerned about practicing exercise and represent about 20%(48/236) of Portuguese consumers.

1 - The "moderately active" don't exercise that much, but they may compensate their lack of exercise with their concern towards diet since 88%(75/85) mentioned to care about what they eat.

This fact, can help represent how yogurts are perceived by this group segment, since 79%(67/85) are yogurt consumers and 93%(79/85) consider them as being healthy.

There were only 36%(31/85) of "moderately active" customers to have tried functional protein yogurts, mainly because they wanted to eat something new and healthier.

About 74%(23/31) of "moderately active" consumers who experimented the protein yogurts repeated their consumption because they perceive them as being healthier and as having a positive correlation with physical performance. The other 26%(8/31) didn't repeat these yogurts mainly due to their flavor and thick texture.

Only 26%(6/23) of this population that repeated functional protein yogurts stopped eating them, mainly justifying that they "stopped doing so much exercise" and that "only eat them seasonally".

This group shows some lack of knowledge towards functional protein yogurts since that only 29%(25/85) were capable of correctly identifying this type of yogurts in the market place. There was even 11%(4/36) people who had actually eaten functional protein yogurts, but had previously mentioned to have never tried one because they didn't know which type of yogurts were those.

2 - The "active" are a segment that usually exercises and tries to keep their body in shape, which is reflected in their eating habits that 97%(57/59) say to be concerned with.

This group considers most yogurts as being healthy and 75%(44/59) affirmed to be a yogurt consumer and 44%(26/59) have tried functional protein yogurts mainly due to the desire of eating a healthier product and wanting to ingest more proteins.

The results show that the "active" people have a higher predisposition to try functional protein yogurts than the "moderately active". In addition, the number of people who kept eating these yogurts were 73%(19/26), which is a very similar percentage to the "moderately active".

The other 27%(7/26) who didn't repeat high protein yogurts, presented similarly reasons to the "moderately active" group, which were the unpleasant thick texture and flavor and the expensive price.

Only 11%(2/19) of the "active" that repeated protein yogurts have stopped eating them, stating that they "stopped doing so much exercise" and that they "only eat them seasonally".

This group shows a high lack of knowledge towards functional protein yogurts since that only 22%(13/59) were capable of correctly identifying these yogurts in the market place. There was 17%(3/18) people who had actually eaten functional protein yogurts but didn't know which yogurts were those and couldn't recognize them in the sample[63].

[63] ***Appendices****; Quantitative Research – Questionnaire; Question 18*

3 - The "extremely active" lead a very physical life and they are very concerned with their body and health. This can be confirmed by 91%(40/44) customers that said to be careful with their diet.

The "extremely active" have an identical approach towards yogurts, when compared to the other active groups, and about 70%(31/44) includes them in their daily meals.

About 44%(19/44) people of this group have tried functional protein yogurts, which was driven by the desire of wanting something new, eating a healthier product and increase their protein levels.

This group shows the higher tendency to keep eating high protein yogurts, according to the 79%(15/19) people who claimed to have tried and continued eating them, because they perceived these yogurts as being healthier, as physical performance enhancers and as more satiating. The remaining 21%(4/19) justified their option of not repeating the product because they didn't need that much level of protein.

The "extremely active" people who repeated the high protein yogurt and currently have stopped are only 27%(4/15) and justified their option by stating that "I only eat protein yogurts in specific times of the year".

This group shows more knowledge about functional protein yogurts and 36%(16/44) of customers were capable of correctly identifying this type of yogurts in the market place. There was just 8%(1/12) people who had actually eaten functional protein yogurts, when previously had mentioned to never have tried one.

4 – The physically static lead a quieter way of life but it doesn't mean they are not concerned with what they eat since 77%(37/48) of this group population affirms the opposite.

There are 73%(35/48) yogurt consumers, of which 31%(15/48) have eaten functional protein yogurts and the remaining 69%(33/48) haven't tried these yogurts because they weren't curious and they weren't capable of identifying them.

The "physically static" shoppers who repeated the high protein yogurts are 73%(11/15), of which solemnly 27%(3/11) have presently stopped.

This group shows little knowledge about nutrition and functional protein yogurts because only 27%(13/48) of customers were able of correctly identifying this type of yogurts in the market place.

H3. People with Nutritional Knowledge

The majority 89%(209/236) of the Portuguese population consider yogurts as being part of a healthy diet and 75%(177/236) of Portuguese are yogurt consumers.

It was common for yogurt consumers 64%(113/177) to perceive functional protein yogurts to be directed towards a specific group of the population, more precisely, towards who practice sports and who looks for an healthy diet.

One of the key points of this hypothesis' evaluation was to understand if customers could differentiate conventional yogurts from functional protein yogurts. When people were asked if they could distinguish functional protein yogurts, several claimed they knew and could identify the differences between these types of yogurts.

As it would be expected, due to the different scale of contact they have with yogurts, more yogurt consumers stated to be capable of recognizing the different type of yogurts in the marketplace than the non-yogurt consumers 66.1%(117/177) versus 25.4%(15/59), respectively.

This means, that about 56%(132/236) of the total population sees themselves as capable of correctly pointing out functional protein yogurts in the marketplace, mainly by reading the yogurt nutritional values or by observing the words and images present on the yogurts' packages. The other 44%(104/236) stated they couldn't identify the yogurts mainly because "they have little knowledge about protein yogurts" and because they feel "there is little information in Portugal about this type of yogurts".

Although 56% stated they could distinguish protein yogurts, the results didn't corroborate the statement. When this "capable group" was given a yogurt sample[64] to examine and identify which were the functional protein yogurts, only 50% (66/132) of them were able of correctly recognizing the correct yogurts, meaning that only 28%(66/236) of the total population is actually capable of pointing out which are the functional protein yogurts.

The consumers that affirmed to be capable of distinguishing functional protein yogurts and after were able to correctly point them out in the sample, are considered the population with higher nutritional knowledge.

[64] ***Appendices**; Quantitative Research – Questionnaire; Question 18*

These 28% customers with higher knowledge were constituted by 97%(64/66) yogurt consumers and 3%(2/66) represented by non-yogurt consumers.

It is worth mentioning that only 3%(6/236) of the Portuguese population could correctly identify all the functional protein yogurts present in the sample.

It should be mentioned that from the 36%(64/177) yogurt consumers more nutritionally informed about 69%(44/64) tried high protein yogurts and 73%(32/44) have repeated their consumption.

However, when analysing the 64%(113/177) of yogurt consumers, which are considered has having little nutritional knowledge, about 42% (47/113) revealed to have tried functional protein yogurts, of which 77%(36/47) have repeated their consumption. However, it should be mentioned that this 47 people, who mentioned having already eaten protein yogurts, aren't exactly keen on identifying the functional protein yogurts, putting in jeopardy the accuracy of the stats, but their perception and belief to have eaten a functional protein is still relevant to mention.

In addition, it is interesting to state that the non-nutritional educated group had a high rate of people claiming to have repeated protein yogurts, because they were curious to try something new and after trying they perceived these yogurts as being healthier.

It is perceptible that people with higher nutritional knowledge had a higher acceptance and eagerness to try functional protein yogurts 69%, when compared to the 42% of the less informed group, which poses *Hypothesis 3* as being true.

H4: Women

There is a total of 209 people concerned with their diet, around 89% (209/236) of the total population.

Around 96%(80/83) of the total women population and about 84%(129/153) of all men say they are concerned with their diet. Women is the gender that shows a higher concern with what they eat, but men also reveal high levels of concern on the matter.

Although both gender results indicate they are concerned with their diet, there is a factor that should be considered. About 70% (58/83) of women read the nutritional values on the products' label, whereas only 48%(74/153) of men take their time to read them, claiming that "they don't really understand the information" and "don't really care about it". These findings are more accurate in capturing people's really concern towards their diet. A person can hardly know if it's eating properly, if it doesn't know the nutritional characteristics of the food it's eating.

If customers state they are cautious with their food they must know what their ingesting and 43%(56/129) of men that say they are concerned with what they eat don't read the products' nutritional values, whereas women's percentage on this matter is only 28%(22/80), which is a way lower percentage.

This illustrates that there is a discrepancy between genders and there are some people, mainly men, claiming to be concerned with their diet but don't make the effort to get to know their food. This can help justify the fact why only 49%(75/153) of men perceive yogurts and products with more protein as being healthy, whereas 65%(54/83) of women perceive these yogurts and products as being healthy.

Women have a big tendency to eat yogurts, since 82%(68/83) claims to include them in their diet, of which 63%(43/68) has tried functional protein yogurts and 70%(30/43) repeated their consumption, because they manifested the desire of consuming a healthier yogurt and increase their body levels protein levels.

Men show a lower predisposition to eat yogurts than women and about 71%(109/153) is a consumer, of which 44%(48/109) have tried functional protein yogurts and 79%(38/48) have eaten them again, due to the curiosity of eating something new, the desire to eat a healthier product and to increase their protein levels.

When evaluating yogurt consumers and comparing both genders it visible that women are more prone to try high protein yogurts than men since only 44% of men have tried them, which is 19pp below the women results. These results prove *Hypothesis 4* as true.

Although women are more concerned with health and read more the nutritional values of products, it must be mentioned that both women and men had the same troubles in identifying functional protein yogurts in the market, since that only 32%(22/68) of women and only 33%(36/109) of men could correctly point them out in the survey's sample[65], which indicates that both genders don't have much nutritional knowledge.

[65] ***Appendices****; Quantitative Research – Questionnaire; Question 18*

H5: The Yogurt Attributes

There is 75% of Portuguese including yogurts in their diet, of which 51%(91/177) says to have tried functional protein yogurts, 75%(68/91) to have tried and repeated and 58%(53/91) that tried and still consumes them.

The independent main reasons that led consumers to like, repeating and continue eating functional protein yogurts were the effects they had on physical performance 38%(20/53), the flavour and texture 34% (18/53), the satiation effect 40%(21/53) and the healthiness of the yogurt 51%(27/53).

It should also be taken into account that there were 25%(23/91) of costumers that tried high protein yogurts and not repeated them, mainly because 65%(15/23) perceived these yogurts as being too thick and/or having a bad flavour and 26%(6/23) affirmed they didn't need that much protein.

Furthermore, there were 22%(15/68) of costumers that repeated functional protein yogurts but are not currently eating them, they specified their main reasons to be "stop doing so much exercise" and "only eating this type of yogurts seasonally".

H5.1 Taste and Texture

The taste and texture were the influencing factor for the shoppers to repeat and continue eating protein yogurts that had the lowest score 34%. Moreover, there were a lot of customers 65% that tried and stopped eating this type of yogurts because they found them as having a thick texture and/or a bad flavour.

H5.2 The Protein Trend

The Portuguese population has encountered functional protein yogurts in its market since 2017 and about 53%(48/91) that tried them stated they were driven by the desire of increasing their protein levels and they were incited by the protein trend.

It is noticeable that products with more protein, yogurts included, have a potential positive perception towards healthiness since 55%(129/236) shoppers claimed to consider them as healthy.

H5.3 Perceived Yogurt Healthiness

Conventional yogurts in Portugal are in general regarded as being healthy according to 86%(204/236) of the Portuguese population, of which 84%(171/204) are yogurt consumers and 43%(87/204) are functional protein yogurts consumers.

Functional protein yogurts healthiness have a more pessimistic perception than conventional yogurts and only 55%(129/236) people perceive them as being healthy. The group of yogurt consumers follow the same trend and only 54%(95/177) consider these yogurts as healthy, of which 71%(67/95) are consumers of high protein yogurts.

There are 46%(82/177) yogurt consumers who regard functional protein yogurts as unhealthy, but only 29%(24/82) have tried them. There is a total 33%(58/177) of yogurt shoppers that consider these yogurts as unhealthy and have never tried them. They strengthened their justification by stating that they didn't need that much level of protein and they are not curious to try them.

Furthermore, there were 14%(24/177) yogurt customers stating that they considered functional protein yogurts as not being healthy but after said to have tried them because they wanted a healthier product. The people who showed this contradiction claimed they ate these yogurts to have a better physical performance or claimed they stopped eating them because they "stopped doing so much exercise", which might mean that these consumers may perceive high protein yogurts as being healthy but only for those who practise exercise.

H5.4 Perceived Quality Perception

About 44%(104/236) of consumers don't read the nutritional values on the product labels, of which 12%(12/104) state they don't believe on the information announced there.

The Portuguese that eat yogurts but have never tried high protein yogurts justify 49%(42/86) of their choices with negative connotations to these yogurts. Most affirm they don't feel motivated enough to try these yogurts and some even say these yogurts seem to have a bad taste and flavour.

Brand has a somewhat relevant role on the choice of yogurt, since 47%(83/177) of yogurts consumers are influenced by it and 32%(57/177) clearly affirm they associate the yogurt brand to a higher quality and it allows them to have more trust that the chosen yogurt will be better for their body. The supplier brand was the type of brand more associated with quality.

H5.5 Health Claims and Nutritional Claims

The results show that only 11%(10/91) of high protein yogurt shoppers were enticed to buy functional protein yogurts due to the healthy words and phrases present on the labels.

Although these statistics imply that HCs and NCs are not very effective in influencing consumption, it is interesting to notice that only 28%(67/236) of the population was capable of correctly recognizing the functional protein yogurts in the sample[66], of which 67%(45/67) was able to do it by looking at the phrases, words and images present on the packages labels.

The HCs and NCs had impact on the yogurt consumers with higher nutritional knowledge, because 53%(34/64) claimed to have correctly recognised functional protein yogurts in the Portuguese Market due to the allegations present on the labels, of which 62%(21/34) ended up trying the yogurts.

Currently in the Portuguese market, the protein yogurts with more advertisement and HCs and NCs are supplier brand yogurts, like "YoPro" and "Kvarg". The results taken from the survey corroborate the idea that claims contribute to raise product awareness, because the yogurts more associated with protein were exactly "YoPro" and "Kvarg" by about 50%(105/212) and 35%(74/212) of customers, respectively.

H6: Price

The yogurt consumer population shows some concern towards the yogurts prices but are not very restrained by them, since just 55%(98/177) say to be influenced by the price in the moment of purchase and they tend to buy the yogurts in promotion among the panel of yogurts they like.

A very few percentage of the population, about 13%(11/86), who have never tried high protein yogurts gives responsibility for their lack of interest to these yogurts' expensive prices. Furthermore, there were only 18%(8/44) price sensitive customers that never ate these yogurts, because they perceived them as expensive.

There were people that tried high protein yogurts and didn't consume them again, but of this people only 13%(3/23) found the more expensive price to be determinant for rejection.

It is important to mention, that a significant 59%(54/91) of customers that have already experimented functional protein yogurts revealed to be influenced by price in their purchasing

[66] ***Appendices****; Quantitative Research – Questionnaire; Question 18*

decisions. This proves that these yogurts are not perceived as expensive, since price wasn't a restraining factor for the consumption of this group, who claimed that price was important in their yogurt evaluation.

H7: Low incomes

The groups who earned less were the ones more prone to eat functional protein yogurts. The percentage of functional yogurts consumers, in each net income group, confirms the statement and consumers who earned "0€-700€" had 42%(16/38) people who had tried these yogurts, the group earning "701€-1000€" had 54%(21/39), the group earning "1001€-1400€" had 40%(29/73) and the group who earned the most "+ than 1400€" had 32%(25/79).

Besides, it is interesting to notice that the three net incomes groups, who had a higher tendency to try functional protein yogurts, were mainly represented by consumers under 35 years old, whereas the group earning "+ than 1400€" was mainly characterized by people between 51 and 64 years old.

H8: Psychological factors

There are 11% of people who are not concerned with their diet and most of this population is characterized by customers who are between 35 and 64 years old. The customers belonging to the previous age groups, represent 70%(58/83) of the population who consumes yogurts and have never tried the functional protein ones. It is surprising that solemnly 41%(34/83) of these customers are comprehended between 51 and 64 years old.

Furthermore, there was 45%(107/236) of the population who considered functional protein yogurts and products with more protein as being unhealthy. From these shoppers, 63%(67/107) is represented by the groups whose age is comprehended between 35 and 64 years old and once more, the generation between 51 and 64 years old was the most representative one, with 39%(42/107) of consumers having perceived these higher protein products as being unhealthy.

5. CONCLUSIONS

What is the profile of the Portuguese consumers more interested in functional protein yogurts?

The elderly Portuguese population shows concern about their food regime and they are consistent with their concerns, which are most likely driven by the health restrains that most share.

The elderly group has a positive perception towards yogurts but a negative one towards functional protein yogurts, since many consider functional protein yogurts as being unhealthy.

They have very little knowledge about nutrition and the little knowledge they have about yogurts must arise from life experience and continued contact with the same yogurts. Functional protein yogurts are relatively new in the market and provide health incentives that most shoppers of this age group never heard of.

Currently in Portugal, the elderly consumers have little awareness and interest in purchasing functional protein yogurts, which denies *Hypothesis 1*.

The physically active customers show a positive correlation with the consumption of functional protein yogurts and it's empirically proven by the survey that the more exercise consumers practice the more prone to eat these yogurts will they be.

Although the exercise practice is a good indicator of the acceptance of functional protein yogurts, it is also worth mentioning that the "extremely active" consumers were also the group with more nutritional knowledge, which proves if people practice more sports and work towards obtaining certain physical goals, they will also be more concerned with what they eat so that they can get the best intakes out of food.

Therefore, *Hypothesis 2* is confirmed according to the literature and there's a positive correlation between people who practise exercise, their nutritional knowledge and their will to eat functional protein yogurts. Moreover, it is also evident that the majority of Portuguese didn't practise exercise actively and that impacted the their willingness to eat functional protein yogurts.

Women show a higher propensity to eat functional protein yogurts than men, confirming *Hypothesis 4*, as they are also the gender more concerned with health and more interested in the products' nutrients.

The factor driving men away is the lack of interest they have towards nutrition, which makes them unable of perceiving functional protein yogurts as having health enhancing properties. The fact that women take more time evaluating the product makes them more propitious to attribute value to the high protein yogurt.

Although women are clearly more interested in having a healthier diet, is interesting to mention that both men and women don't have much nutritional knowledge. Women try to obtain the most nutritional information of the products but both genders struggle in comprehending the information present on the products' labels.

It is perceptive that there is a factor embedded in all hypothesis, which is the Nutritional Knowledge. The empirical information taken by the survey shows that the more nutritional knowledge consumers have the more prone to buy functional protein yogurts will they be. Hence, the characteristic with more impact on influencing positively or negatively consumption of functional protein yogurts is the level of nutritional knowledge Portuguese consumers have.

In all possible profile characteristics, the Nutritional Knowledge was an interdependent factor influencing the purchasing decision. The results show that who practises more exercise and women are the customers more informed, whereas the elderly and men are customers with lower nutritional knowledge. These statistics are aligned with the characteristics that indicate who is more prone to eat high protein yogurts, since women and "extremely active" customers were the ones who had a higher acceptance of functional protein yogurts.

The nutritional knowledge has a very strong positive correlation with the likelihood of functional protein yogurts' consumption and the more knowledge shoppers have on their yogurts' nutritional characteristics the more health enhancing benefits will they recognize and the more prone to buy this type of yogurts will they be and, therefore, *Hypothesis 3* is confirmed.

However, it is important to regard that Portuguese consumers have a huge lack of knowledge and comprehension about nutrition. Even the more interested customers, that make the effort to read the nutritional information present on the products' label, struggle in understanding the amount of nutritional properties their bodies' need and what are the healthier products capable of bringing these properties. Thus, Portuguese shoppers lack nutritional education and even if they are concerned with their health, they many times lack the knowledge to make the best options.

What are the factors leading Portuguese to buy protein yogurts?

The taste and texture of functional protein yogurts didn't have a strong appeal to customers and few people claim that this factor is persuasive enough for them to continue eating them. Furthermore, there a considerable number of consumers (65%) to have stopped eating functional protein yogurts due to the taste and texture, which they consider as being unpleasant. Therefore, the data denies the veracity of *Hypothesis 5.1*.

The protein trend has been being associated with healthiness and better physical performance, but it doesn't look like its awareness is being broad enough so that most customers know and correlate it to positive effects on the body.

Nowadays, it's getting easier for shoppers to identify which products are richer in protein, but consumers don't look very interested in looking thoroughly for them and know what they can offer, which is most likely due to the lack of interest shoppers have in gaining nutritional knowledge. Hence, it seems *Hypothesis 5.2* is denied, but more research on the topic should be conducted to get a more accurate conclusion.

The results reveal that if functional protein yogurts are perceived as being healthy they will more likely be consumed, but visibly there were not many consumers perceiving functional protein yogurts as healthy. Almost half of the Portuguese population and even yogurt consumers, who have more contact with this type of yogurts, didn't perceive them as healthy, hence, not premium enough to justify its consumption.

The answers given deny *Hypothesis 5.3*, because most customers that perceive yogurts as being healthy don't make the same association with functional protein yogurts and consequently don't eat these yogurts. However, it should be referred that the yogurt healthiness has potential to be a driver of these yogurts, if customers gain more nutritional knowledge.

The quality perception in Portugal is not very scientific since it mainly relies on the opinion of each customer. The Portuguese people don't usually take a lot of time evaluating their yogurt and there are many who don't care about reading or looking at the full properties of the yogurt they pretend to buy. Moreover, there is a few number of customers stating they don't believe in the information given on the labels, as there are a fair amount of those who lack the curiosity to experiment new things.

Portuguese consumers tend to stick with the choices they are used to make over the years and, therefore, *Hypothesis 5.4* is denied mostly due to the customers lack of interest towards new yogurts and the distrust they have on the information given on packages.

Despite currently not being significative enough to incite an increment on functional protein yogurts purchases, brands can play a significant part in attributing quality to yogurts. The information revealed that the first yogurt brands entering in a new market segment, will be strongly associated with that type of yogurt and if they have a good performance in this specific segment, they will be connected for a long time in consumers' minds as the superior providers of this type of yogurt.

Health and Nutritional Claims aren't regarded as the main drivers of functional protein yogurts. However, they have a very important role in creating awareness for these yogurts and a significative number of customers were only able of recognising functional protein yogurts due to the HCs and NCs present on the labels, which led many to at least try the yogurt.

The HCs and NCs created a very important impact on customers. In the first phase it allowed consumers to awaken curiosity by providing an easier access to knowledge, which triggered a second phase, not recognised by consumers, of a higher willingness to buy high protein yogurts.

The Portuguese population has shown to have little nutritional knowledge and the enhanced nutritional features, that high protein yogurts have, are more easily recognized with HCs and NCs claims on the labels. For instance, the supplier brands of protein yogurts that have more HCs and NCs are proven to be more easily regarded as functional protein yogurts than the other protein yogurts that doesn't have, specially the own brand yogurts.

The features recognition seems to create a premium perception and has been leading supplier brand protein yogurts to gain an exponential market share in the Portuguese market. Therefore, *Hypothesis 5.5* is verified, because although they are mainly recognised as nutritional and health informants they generate a positive perception towards these yogurts which after leads them to be purchased.

What are the obstacles restraining Portuguese from consuming functional protein yogurts?

First, there aren't many consumers who claim to be restrained by price when buying yogurts and second there are very few who say that functional protein yogurts' prices are restrictive and are what makes them uninterested in the product. Even the people who claim to be price sensitive don't have a negative reaction towards functional protein yogurts.

Hence, *Hypothesis 6* is denied, and price is not high enough to restrain the consumption of functional protein yogurts. It is important to bear in mind that the Portuguese market is very peculiar, and mainly works with promotions. Further research may conclude that this market dynamics is what makes shoppers not price sensitive, because as long as they buy the product in promotion, which constantly happens, they will guarantee a good value for money in their basket.

Hypothesis 7 is rejected, since consumers who earned less were not the least prone to consume functional protein yogurts and inclusively, the group who earned the most was the least tempted to try these yogurts. The group earning the Portuguese average salary (900€) was the more attracted to try high protein yogurts, which doesn't allow for many further conclusions on *Hypothesis 7*.

The results show that psychological factors among different generations have a great impact on how much customers are interested in high protein yogurts. The concerns about health and nutrition vary depending on generations and consumers who are between 51 and 64 years old are the least interested in these yogurts. These consumers' generation disregard food knowledge and are not interested in eating healthier.

Hypothesis 8 is accepted, and the Portuguese psychological factors affect functional protein yogurts consumption, because there is a clear generational differentiation on how consumers perceive these yogurts.

The generation between 51 and 64 years old was raised in a period when nutrition was not a topic, thus making them grew nutritionally ignorant and not interested in trying new healthier products. It is likely for this generation to not have any health problems yet, which may explain why they aren't concerned with what they eat and do not bother to gain information on the subject.

Moreover, it is noteworthy that the generation between 51 and 64 years old has a higher presence on the population who earned the highest net income and further investigation may discover that this can justify their indifference towards new healthy products, like functional protein yogurts.

6. LIMITATIONS & FURTHER RESEARCH

The survey had 236 consumers and served as basis to characterize all the Portuguese consumers preferences and dislikes. The questionnaire was intended to be linear and straight forward, however, some customers might have not understood the full extension of the questions and may have given incorrect answers, which may have biased some results. A bigger sample, with more similar characteristics to the Portuguese population, could be evaluated in order to disperse these misunderstanding risks and confirm or deny, with higher certain, the apprehended conclusions.

The lack of Nutritional Knowledge poses a threat to understand if customers truly knew what type yogurts was being studied. Customers gave their answers regarding what they think functional protein yogurts are and if they have perceived functional protein yogurts wrongly and have mistaken them for other conventional yogurts, it can have caused biased answers. The way to eliminate this perception error would be to previously define functional protein yogurts and identify them, however, it would be impossible to collect unbiased results of some *Hypothesis* present in this dissertation, like the nutritional knowledge or the perception towards functional protein yogurts.

The Protein trend was a factor taken into consideration, but the results might not have been very conclusive because the impact popularity has around protein is hard to measure on consumers. The way customers perceive protein and protein products ended up being the decisive factor to characterize the protein trend impact on functional protein yogurts consumption. However, this might not be enough to accurately define the protein trend impact, since there might exist other factors that should have been considered.

Although many people affirmed to care about the yogurts' prices, it was detected that prices didn't have enough impact to restrain functional protein yogurts consumption. The Portuguese market dynamics seems to be a probable cause for this fact, but it might not be the only one. Future studies can reveal in a greater extent how price influence or direct the yogurt consumption so that it can be determined how customers analyse products' prices.

Psychological factors and negative perceptions towards high protein yogurts were mainly present on the consumers between 51 and 64 years old and although these are the consumers least concerned with their diet it should be relevant to understand the reasons why they have such a frivolous attitude towards nutrition and health.

Furthermore, it can be investigated if the nowadays younger generations, will have the same attitude when they reach this age between 51 and 64 years old, and thus determine if this is a generational or an age concern.

7. MANAGEMENT DECISIONS

As far as I’m concerned, companies trying to enter in the functional protein yogurts market should primarily focus on educating customers and making them understand what type of product they are buying and how it can be beneficial for them.

The more nutritional informed customers are the more prone will they be to consume high protein yogurts. Moreover, the easier and clearer this information reach customers not only will make them gain more knowledge about the subject, as they will more likely gain interest in getting to know their products so that they can make rational, informed and healthy choices. Hence, when entering in this market segment the companies’ strategy should engage in a type of social responsibility providing nutritional knowledge to shoppers and consequently associate their brand with healthy products.

One way to ensure that customers correctly identify and easily understand the products’ characteristics in the market place is to put HCs and NCs on the packages’ labels. As previously mentioned the Claims have an important role in giving the first signal of the products characteristics and, thus, by making the yogurts health and nutritional advantages visible it will create a positive impact on customers’ perception and knowledge about functional protein yogurts, which must lead to increase curiosity and consumption.

It should be stated that solemnly mentioning the protein levels increment on the yogurt and making them mostly appealing to those who practise more exercise is a good strategy but, in my opinion, an incomplete one. The functional protein yogurts have a lot of potential to be appealing due to their other characteristics like their healthiness. This fact must attract other shoppers that aren’t so interested in increasing their protein levels but are attracted to eat, for instance, low-fat and low-calorie yogurts, which many times are not associated with functional protein yogurts.

Therefore, I believe high protein yogurts haven’t reached their potential in the Portuguese market and still have space to grow. If companies take measures to inform, advertise and indicate these yogurts’ full advantages, they will likely broaden the market size and attract more loyal customers.

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9. APPENDICES

Qualitative Research - Interviews

Consumer 1

Male - 65 years old

Claims to have a sedentary life style but he is concerned with keeping physically active, which leads him to frequently do some short hikes.

He is concerned with is diet and is more concerned with fat, salt and sugar. The labels on the packages are relevant and he usually eats products that say “light”.

Yogurts are regarded as a healthy product and it’s a good snack or desert.

Protein yogurts are regarded has having too much protein and he thinks that are more indicated for people who practise sports.

It easily differentiates them in the market place. The price is not a restraining factor. The brand is a certification quality since he doesn’t buy “own brands” and what captivates more his attention are the packages layout.

He bought protein yogurts for his dad an elderly person.

Consumer 2

Male - 24 years old

Very physically active. Concerned with is diet.

He cares about is diet due to healthy reasons. He tries to avoid carbs and sugars.

Has a general knowledge about nutrition but doesn’t understand the information and so it doesn’t look for it when eats the products.

Natural and protein yogurts are regarded has being healthier. The others are perceived as having more sugar and so unhealthier.

He used to eat protein yogurts when he went to the gym and he only ate them for protein reasons. The flavour and texture were not so appealing.

Functional protein yogurts were not so easily distinguished in the market point and besides recognising Skyr as “protein yogurts” it was hard to explain and identify how other protein yogurts differentiated from conventional yogurts.

If he had to buy one functional protein yogurt the price and brand would segment the choices. A known brand is associated with a more quality product.

Consumer 3

Male - 67 years old

Although his age, he keeps an active way of life. He has a restrained diet and he mainly eats vegetables and boiled food.

He mainly observes the quantities of calories and recognises that low fat, salt and sugar make a healthy product. Usually consumes "light" and "bio" products.

Yogurts are regarded as healthy, but he didn't eat much due to a mildly lactose intolerance.

Functional protein yogurts were not noticed in the market because the purchase is always directed to the natural and bio yogurts.

He doesn't have knowledge about protein and the advantages it can bring to the body.

He created strong link in his mind with the first yogurt brand announcing a new segment in the Portuguese market and this though made this brand products perceived superior in that segment. In other words, the consumer showed a strong loyalty to the new segment first brands. Example probiotics are mainly associated with "Bifidus Activia", which is a Danone yogurt that first introduced this segment in Portugal. Nowadays, there's still a strong loyalty between consumers that want a regulated organism and a tight silhouette and "Bifidus Activia", most consumers don't know what probiotic means but know the effects of "Bifidus".

When choosing a yogurt, the consumer is price sensitive and he buys the yogurt that is in promotion, switching between brands.

Consumer 4

Female – 52 years old

She has a very active way of life due to their work, that makes her walk and stand up all day.

She usually has a healthy diet, although she is not super strict to it. She is aware of her body limits and what she must restrain herself form eating in order to keep healthy.

Sometimes she looks to the nutritional values of products but it is not very frequent. She trusts her intrinsic knowledge to choose the healthiest products and purchases what she perceives as being healthy.

Fernanda is more concerned with sugar and fat.

Yogurts healthy perception depends on the type of yogurt. She buys the yogurts with the least possible sugar and she identifies these yogurts by being perceptive of what the package says, for instance the *"0% sugar"* and also by reading the nutritional values on the back of yogurts.

The healthy flavour *"0% sugar"* is regarded as not being so tasty but the healthy aspect compensates the loss in flavour.

She regards tastier/sweeter yogurts as being unhealthy. She prefers the natural yogurts and perceives them as being healthier.

She isn’t a big fan of yogurts but she buys them for their children because she recognizes them more nutritional value. Protein yogurts are bought solemnly for her children since they practise a lot of sport.

Yogurts are consumed at breakfast or after dinner.

Not a big fan of protein yogurts due to a bitter flavour, thicker texture and higher satiating property, which makes her fuller and fed up of the yogurt she is having.

The protein yogurts she recognizes are YoPros due to their flashy packaging that says “Protein 25g”. She was not totally sure that skyr yogurts had that much protein and she was not so fond of them due to the flavour.

The price has impact on the purchasing decision and she usually buys the ones in promotion.

Brand has not that much impact.

Consumer 5

Female - 22 years old

She considers that she could have a healthier lifestyle but due to the college she doesn’t have that much time to go to the gym or do exercise, although she exercises 2/3 times a week.

She is careful with her diet and tries to avoid fat and carbohydrates.

She looks for products that are low in sugar and calories and have more proteins.

The yogurts healthiness varies according to the level of sugar and according to the yogurt segment. She associates some types of yogurt as having more sugar and fat in their yogurts.

She eats yogurts rich in fiber like “Activia” and also Protein Yogurts. She couldn’t distinguish the brand of the protein yogurt she consumes.

She thinks that there isn’t that much offer of protein yogurts and she struggles to find this type of yogurts. (Demonstrates lack of knowledge and awareness of the functional protein yogurts in the market and also of yogurts nutritional values in general)

She thinks that there isn’t that much advertise of functional protein yogurts and that, aligned with her low knowledge on functional protein yogurts, makes her struggle in the moment of choice and so she always chooses the same protein yogurts, the ones the she knows and recognises as being functional protein yogurts.

Mariana started consuming protein yogurts due to a friend’s influence that claimed that they were healthier and had less fat. She then started consuming only that specific Protein Yogurt without having much knowledge of the others, from different brands and presenting different names. She believed that she was consuming “the healthiest yogurt.

She believes on the yogurts’ properties that are advertised.

She likes functional protein yogurts because of the texture, the thickness, which satiates more her appetite. The yogurt higher protein makes her sometimes uses these yogurts as a meal substitute.

Consumer 6

Female - 79 years old

She tries to be active for her age and does some walking activities outside the house like going to the supermarket.

She cares about her health and body and so she is concerned with what she eats.

When purchasing she makes rational and well thought decisions. She avoids carbohydrates, fat and sugar. She demonstrates nutritional knowledge.

She usually buys products stating “0% sugar” and “0% fat”, but always aligns this information present on the labels with the calories that the products have.

Yogurts are regarded as healthy and the naturals are seen as “better”.

Otelinda knows the functional protein yogurts and associates them to young people and to people who exercise a lot.

She tried a liquid protein yogurt “YoPro” (although she didn’t recognise the brand).

She refers that it can be a good protein substitute in her case because she is trying to eat less meat.

The reason that made her buy was the *“0% sugar”,* the higher protein level and the image of the athlete present on the label, which gave her the idea that the yogurt was very healthy.

She has the perception that protein gives more energy.

She isn’t sensitive to brands or prices.

Consumer 7

Female – 25 years old

She doesn’t do exercise.

Mafalda is naturally thin which leads her to not care about her diet, although lately she has been gaining more knowledge about the matter.

She only shows a little concern about her food during the summer, when she tries to eat healthier.

She considers the food less processed as being healthier. She also regards sugar and fat as unhealthy, however she includes them in her diet anyways.

Mafalda regards yogurts with less sugar as being healthy.

In the summer (healthy phase) she eats protein yogurts because she perceives them as “very healthy” due to the protein factor, although she doesn’t really know the advantages it brings to the body because she is not concerned in reading their actual nutritional values. She buys these yogurts due to some articles she has read that were stating protein yogurts as being very healthy.

The most important factor is the price and she always buy the yogurts that are in promotion. Protein yogurts are more expensive which makes her buy them only in the Summer.

She eats the protein yogurts solemnly because they are healthier, preferring the conventional yogurts. She thinks that protein yogurts' texture is too dense which makes her very full.

She thinks that protein yogurts are healthier but also is good for people who do sports.

She recognises protein yogurts buy the title "Skyr" but she doesn't distinguish the brands.

When buying she mainly looks at prices, but if the price is similar, she prefers the supplier brand. She perceives supplier brands' products as having more quality.

Consumer 8

Male – 25 years old

He is extremely active. Practises sports 4/5 times a week, gym and football.

He takes care of his diet and he is cautious about fat, sugar and calories because it prejudices his body.

He looks for products that are both reduced in the prejudicial attributes and have good nutritional values like high in proteins and good carbs, that are not sugar.

He is an informed consumer and always reads the nutritional values of products and he evens compares different products.

He consumes yogurts every day and yogurts in general are perceived as healthy.

He eats Skyr yogurts due to the low calories and high protein values, which he considers to be healthier. He also considers that more protein will help in his physic performance.

He easily identifies functional protein yogurts in the market place and he chooses own brand Skyrs due to the lower price.

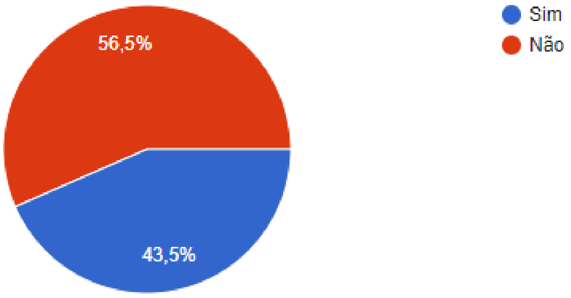
He is willing to pay more for a healthier yogurt – the protein yogurt but inside the healthiest he chooses the cheaper option.

He likes conventional yogurts better, but he is willing to trade off the flavour for the healthy aspect of the protein yogurt. The fact that Proteins Yogurts are so thick doesn't allow him to savour the yogurt as much. For instance, the smoothness of the Greek yogurts allows him to have a tastier experience.

Quantitative Research - Questionnaire

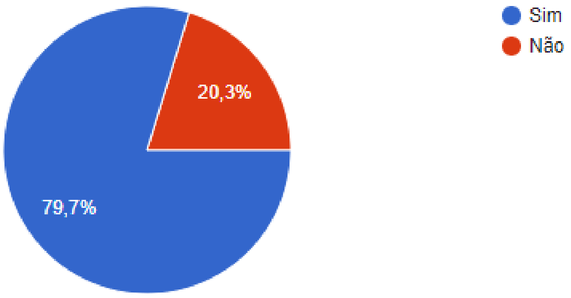
1. Considera que tem um nível de vida sedentário?

237 respostas



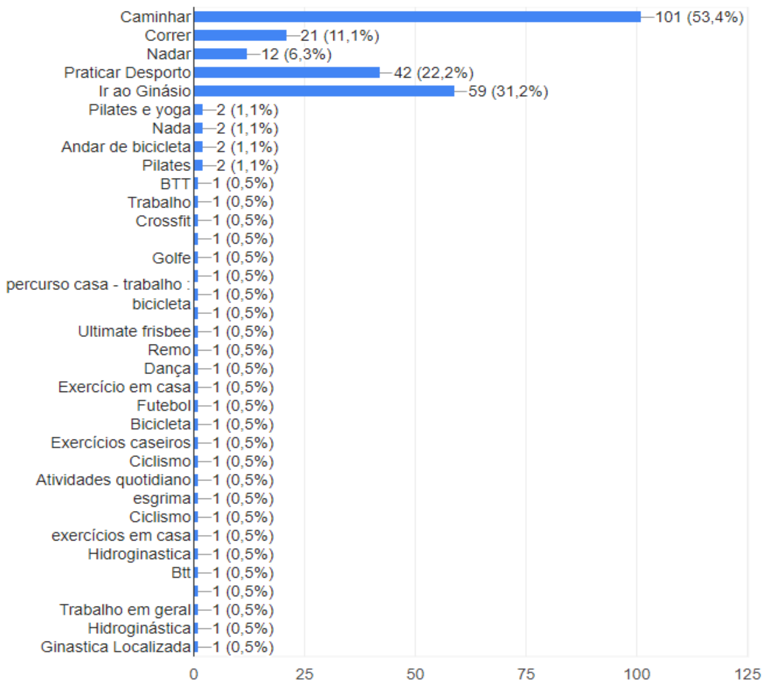
2. Tem algum tipo de preocupação em manter-se fisicamente ativo(a)?

237 respostas



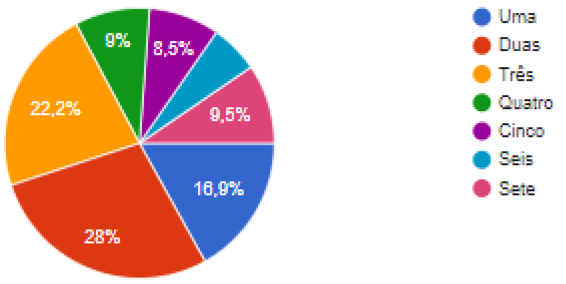
2.1 Que atividades pratica semanalmente, que lhe permitem manter ativo? (escolha o que mais se adequa, pode escolher mais do que uma opção)

189 respostas



2.1.1 Em média, quantas vezes por semana pratica essas atividades?

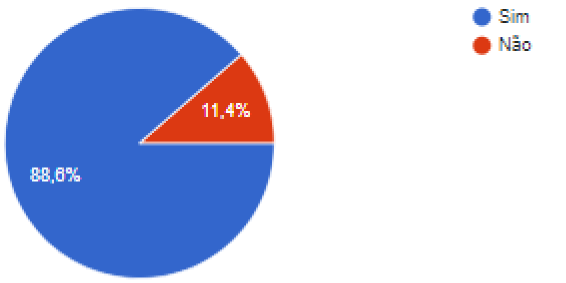
189 respostas



3

3. Tem preocupação com a sua alimentação?

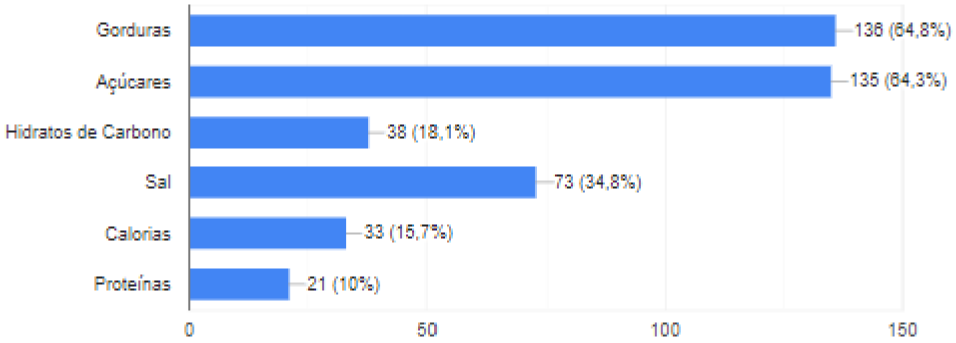
237 respostas



3.1

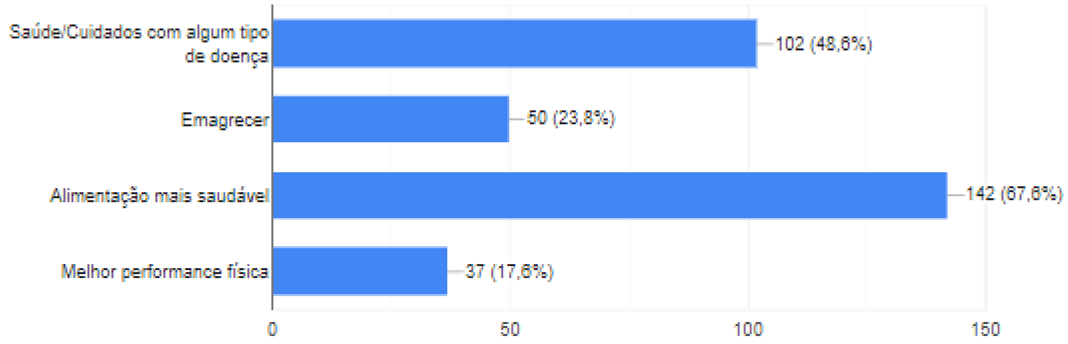
3.1 O que tem em mais atenção? (escolha o que mais se adequa, no máximo até duas opções)

210 respostas



3.2 O que leva a ter em atenção estas propriedades dos alimentos? (escolha a opção que mais se adequa, no máximo até duas opções)

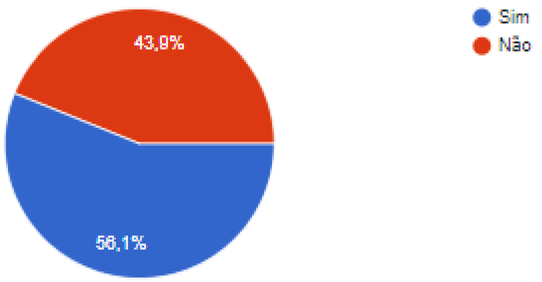
210 respostas



4

4. Costuma ler os valores nutricionais nos rótulos dos produtos?

237 respostas



4.1

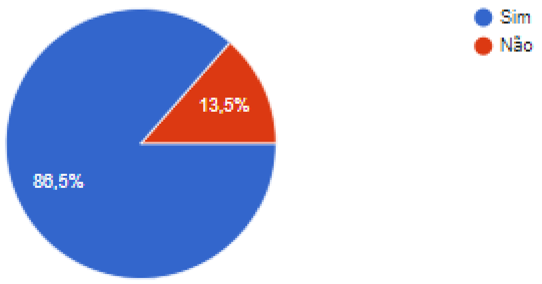
4.1 Qual o motivo para não ler?

104 respostas

5 - Iogurtes

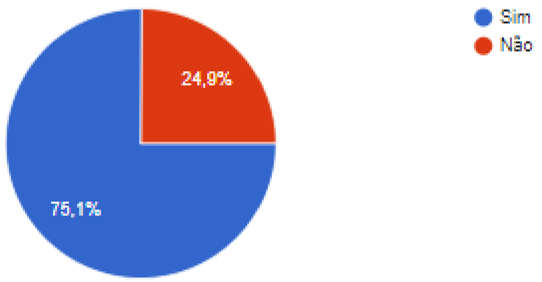
5. Em geral, considera que os iogurtes fazem parte de uma alimentação saudável?

237 respostas



6. Costuma consumir iogurtes?

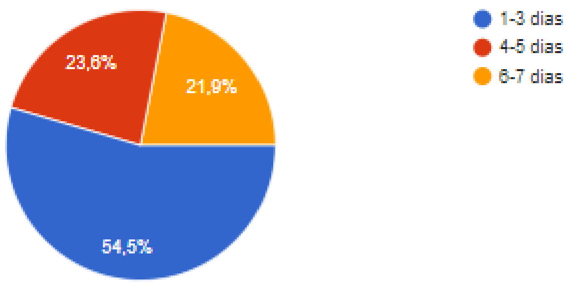
237 respostas



7

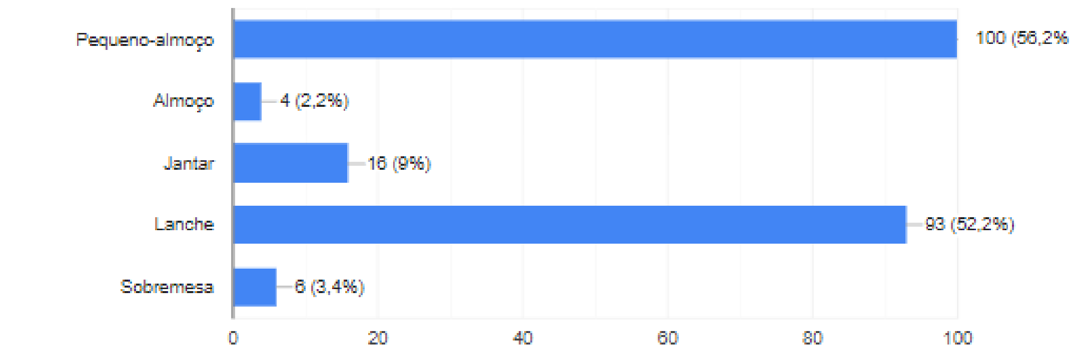
7. Em média, quantos dias por semana come iogurtes?

178 respostas



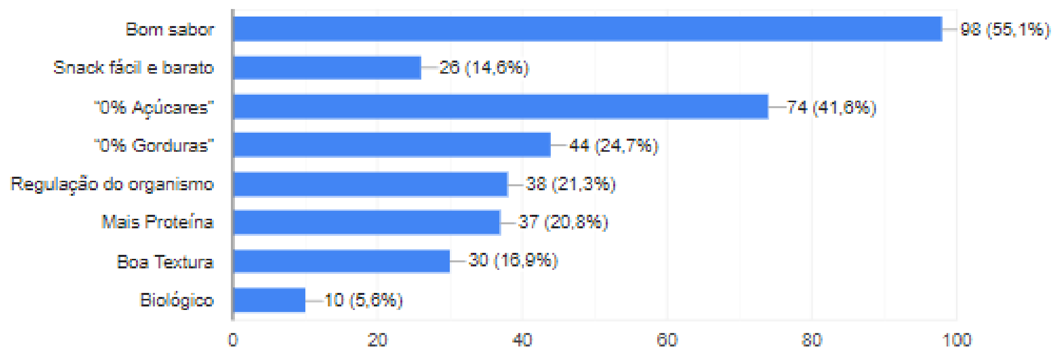
8. Ao longo do dia quando é consumido o iogurte? (escolha o que mais se adequa)

178 respostas



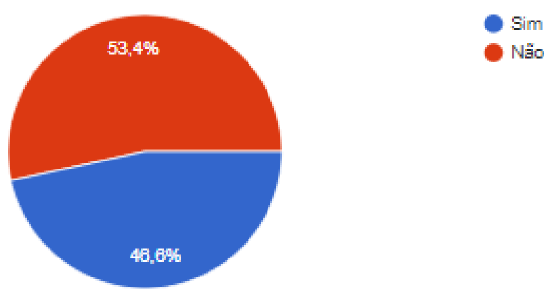
9. O que procura nos iogurtes que come? (escolha o que mais se adequa, no máximo até três opções)

178 respostas



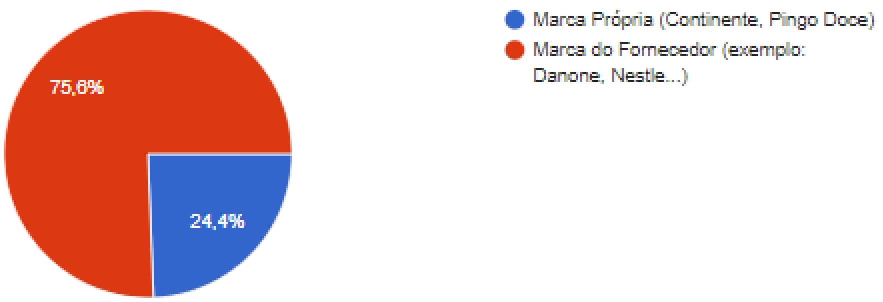
10. A Marca tem influência na escolha do iogurte que come?

178 respostas



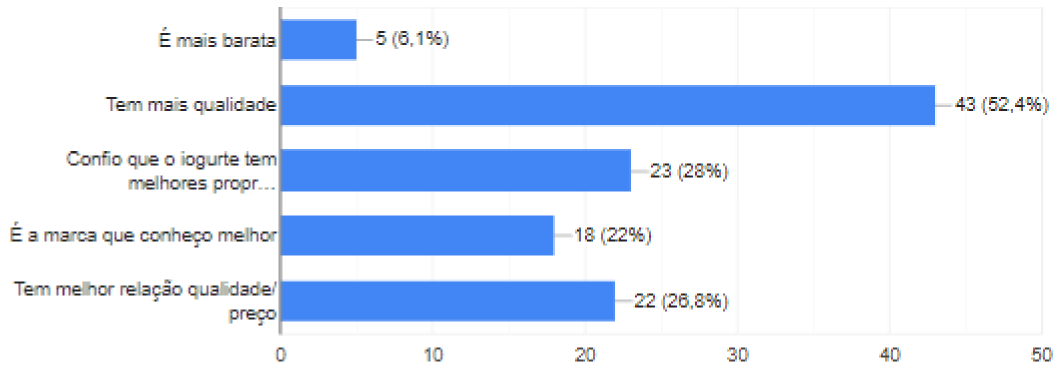
10.1 Qual o tipo de Marca que prefere?

82 respostas



10.2 Porque é que este tipo de Marca tem mais influência na sua escolha? (escolha o que mais se adequa, no máximo até duas opções)

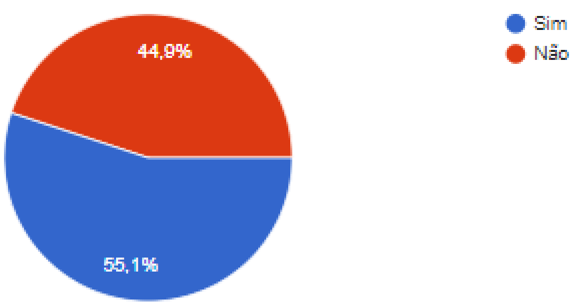
82 respostas



11. Preço

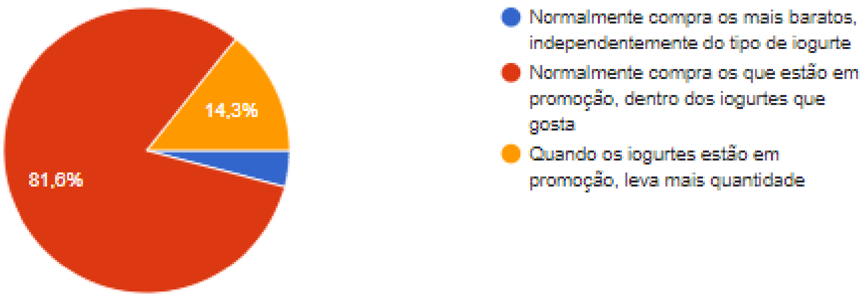
11. O Preço tem influência na escolha dos iogurtes que compra?

178 respostas



11.1 Como é que o Preço influencia a sua compra?

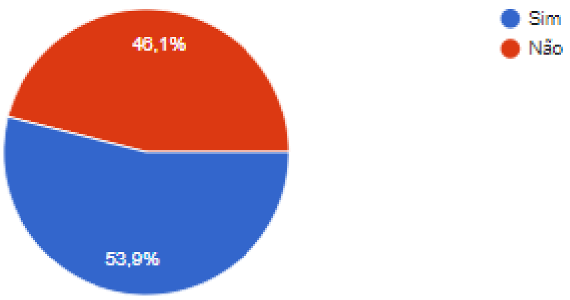
98 respostas



12. Proteína

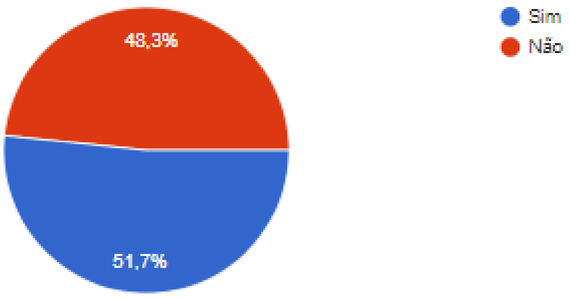
12. Há cerca de 2/3 anos surgiram em Portugal os iogurtes com mais Proteína. Associa estes Iogurtes com mais proteína a iogurtes saudáveis?

178 respostas



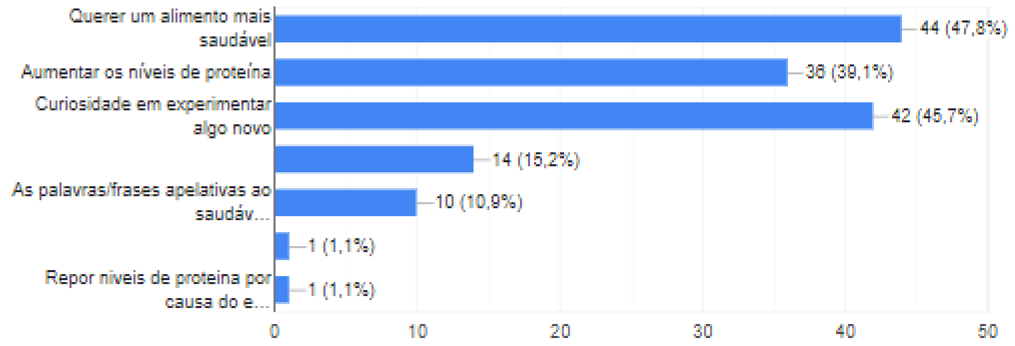
13. Costuma comer ou já comeu iogurtes com mais proteína?

178 respostas



13.1 O que levou a comer pela primeira vez este tipo de iogurtes? (escolha o que mais se adequa, no máximo até três opções)

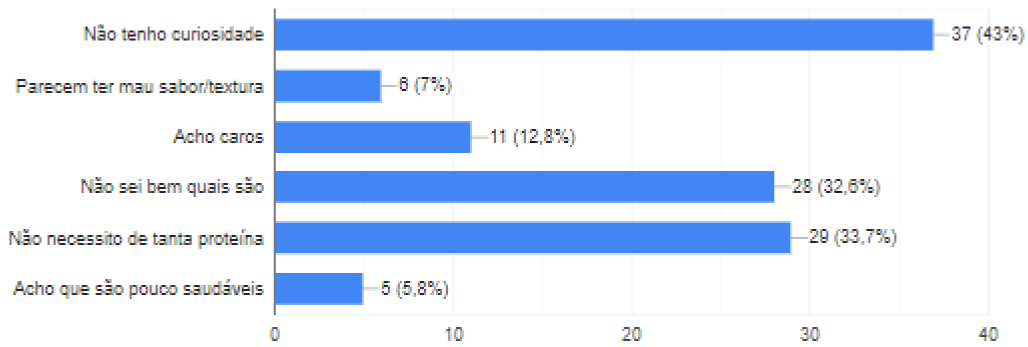
92 respostas



13.1

13.1 Qual o motivo para nunca ter experimentado? (escolha o que mais se adequa, no máximo até três opções)

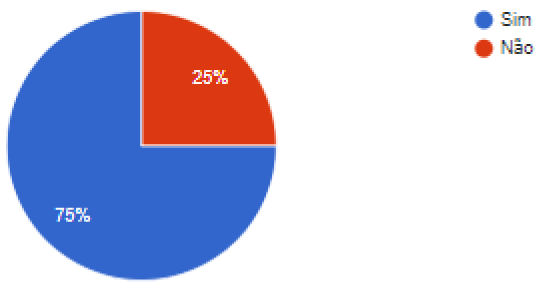
86 respostas



14

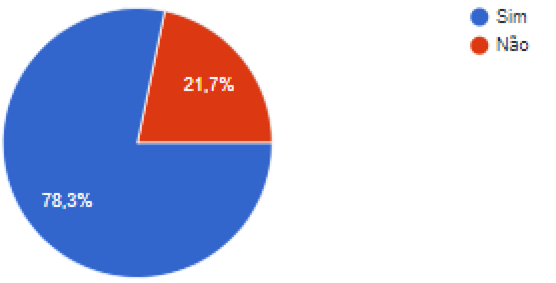
14. Voltou a consumir?

92 respostas



15. Actualmente come iogurtes com mais Proteína?

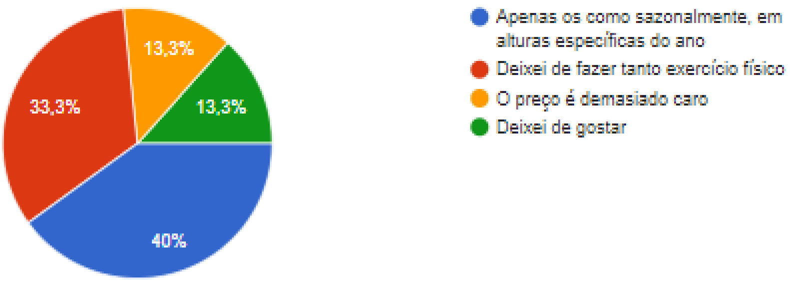
69 respostas



15.1

15.1 Porque é que não os consome actualmente?

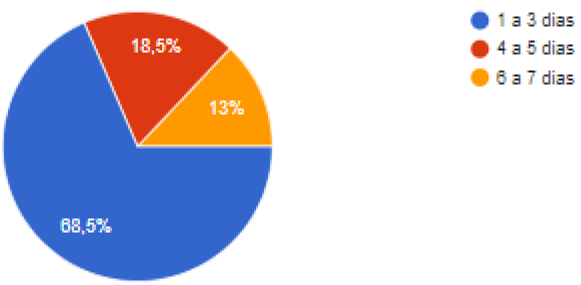
15 respostas



15.1

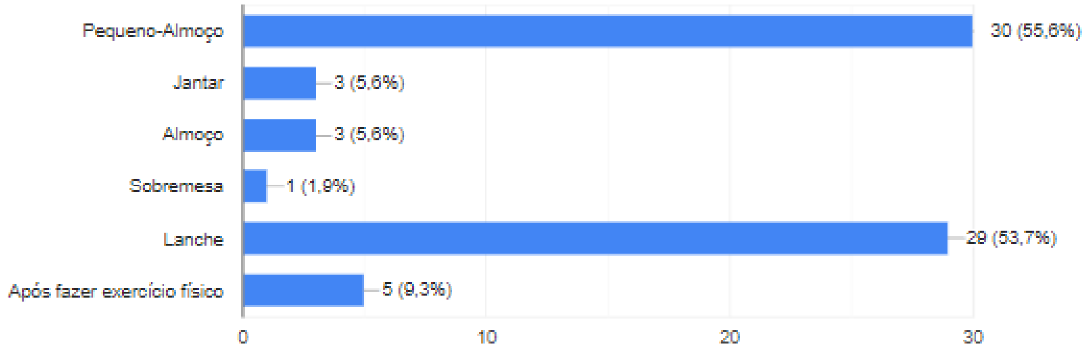
15.1 Em média, quantos dias por semana come iogurtes com mais proteína?

54 respostas



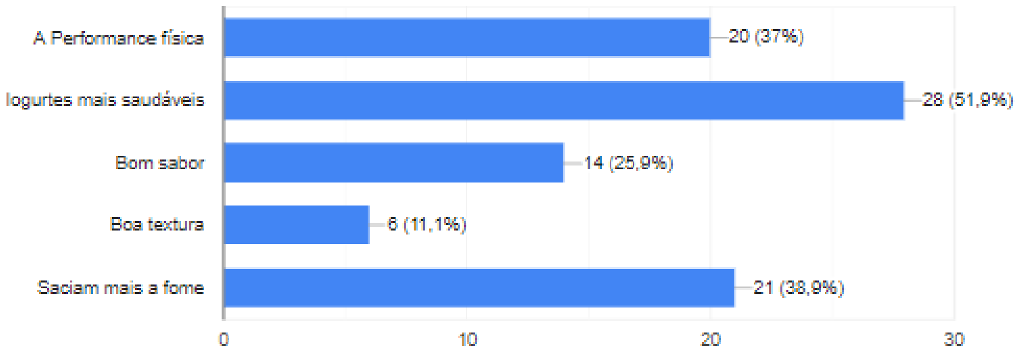
15.2 Em que momentos do dia é mais frequente comer os iogurtes com mais proteína? (escolha o que mais se adequa, no máximo até duas opções)

54 respostas



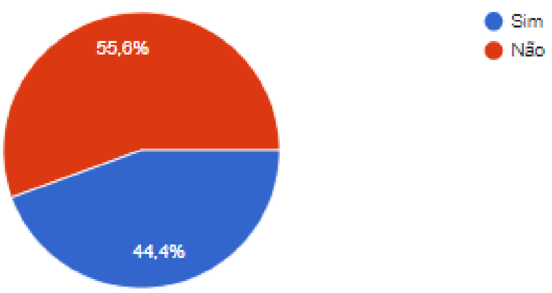
15.3 O que leva a continuar a consumir estes iogurtes com mais proteína?(escolha o que mais se adequa, no máximo até três opções)

54 respostas



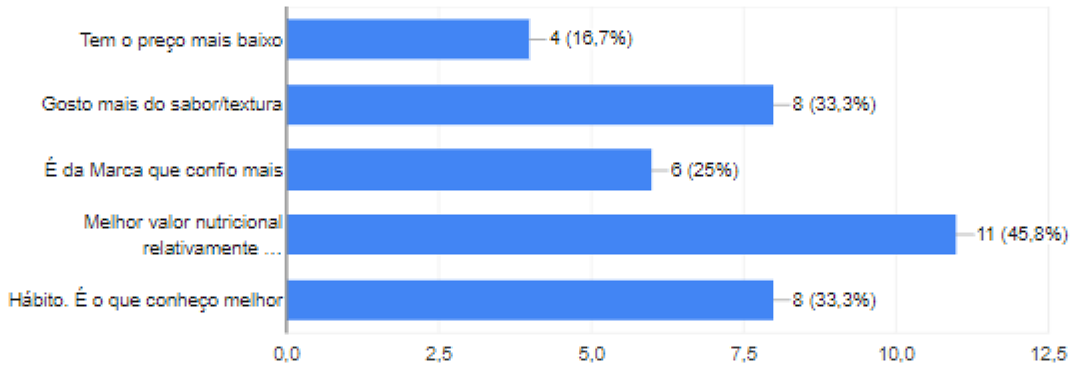
15.4 Costuma comprar/comer sempre o mesmo iogurte proteico?

54 respostas



15.4.1 Qual é a razão para consumir sempre o mesmo iogurte proteico? (escolha o que mais se adequa, no máximo até duas opções)

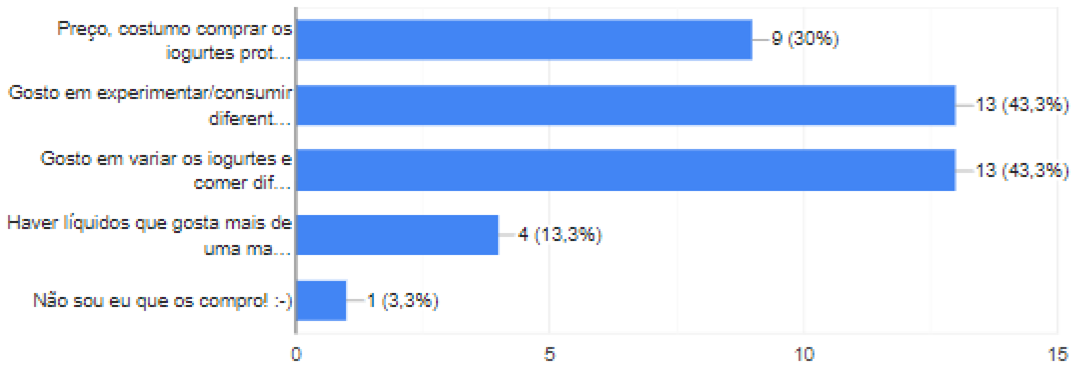
24 respostas



15.4.1

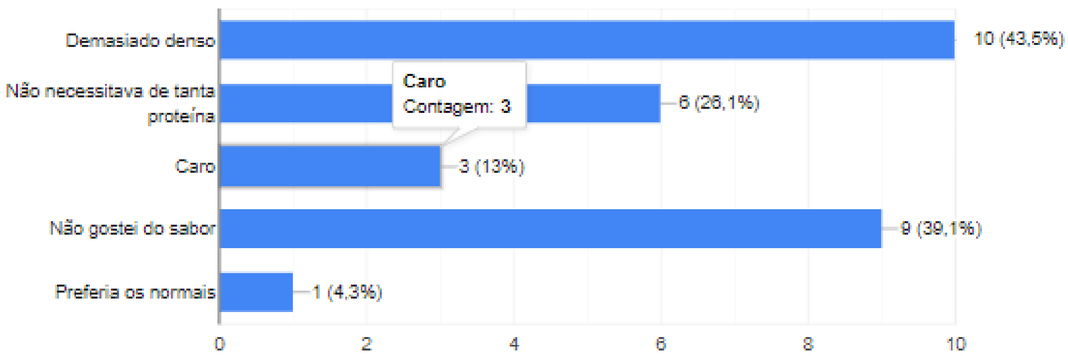
15.4.1 Que critério(s) usa para variar as suas escolhas de iogurte proteico? (escolha o que mais se adequa, no máximo até duas opções)

30 respostas



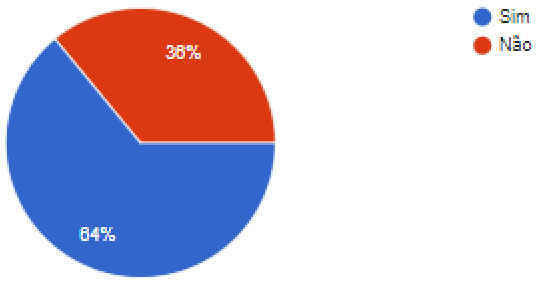
14.1 Qual o motivo que levou a não voltar a consumir estes iogurtes com mais proteína? (escolha o que mais se adequa, no máximo até duas opções)

23 respostas



16. Acha que estes iogurtes com mais proteína estão direccionados para algum tipo específico de pessoas?

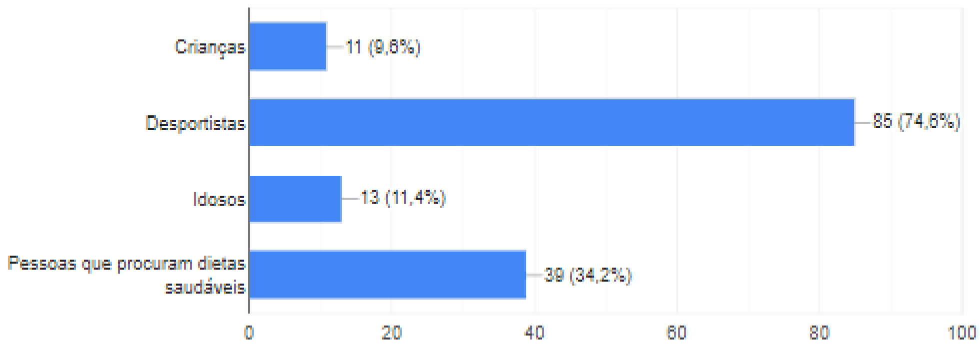
178 respostas



16.1

16.1 Quem? (escolha o que mais se adequa, no máximo até duas opções)

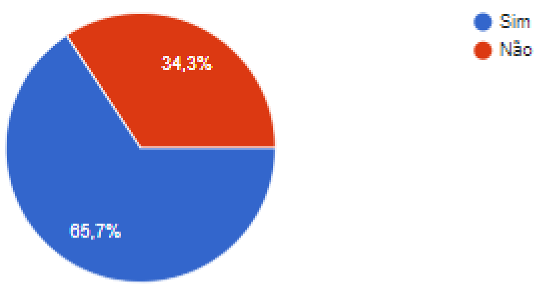
114 respostas



17

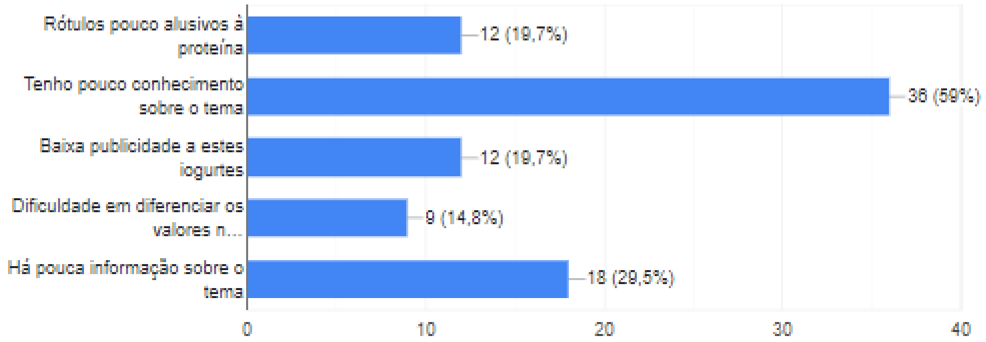
17. Nas suas compras consegue distinguir quais são os iogurtes com mais Proteína?

178 respostas



17.1 Quais são as dificuldades que encontra? (escolha o que mais se adequa, no máximo até duas opções)

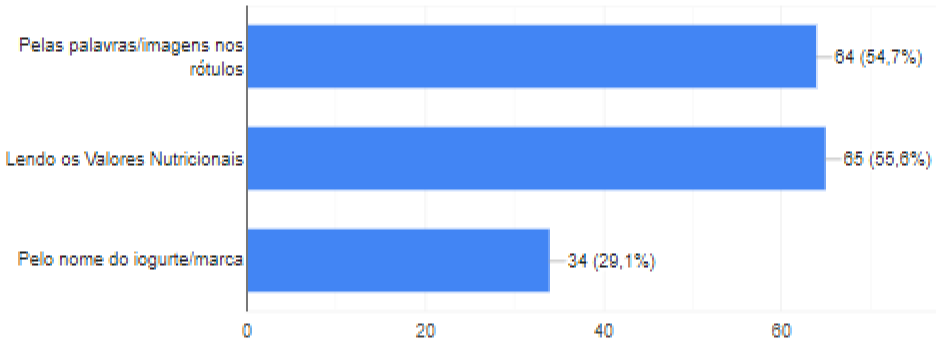
61 respostas



17.1

17.1 Como os distingue melhor? (escolha o que mais se adequa, no máximo até duas opções)

117 respostas

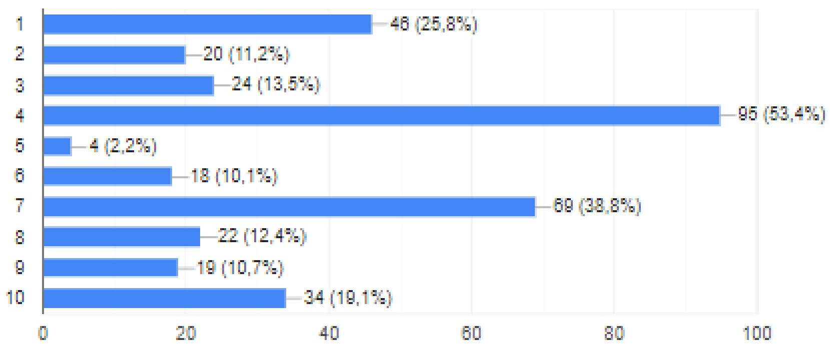


18.

Amostra de Iogurtes

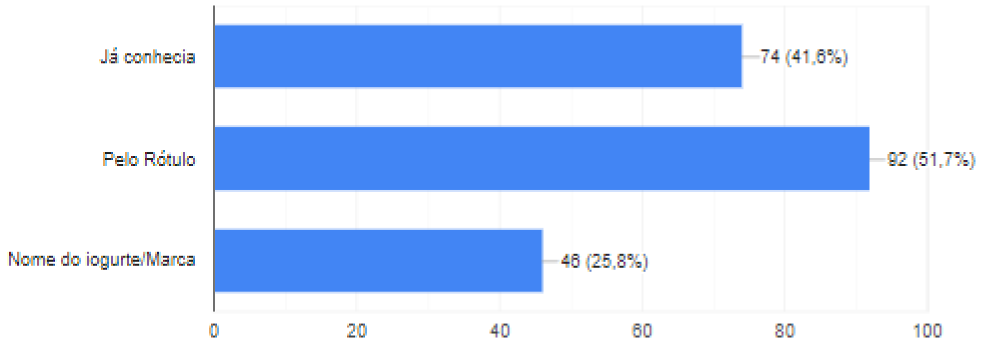
18. Desta amostra de iogurtes, quais os que considera como tendo mais proteína? (se assim o entender pode escolher mais do que uma opção)

178 respostas



18.1 Porque é que escolheu este(s) iogurte(s) como sendo os mais proteicos? (Escolha a(s) opçõe(s) que mais se adequam)

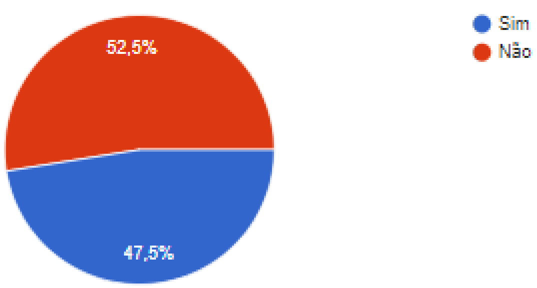
178 respostas



19

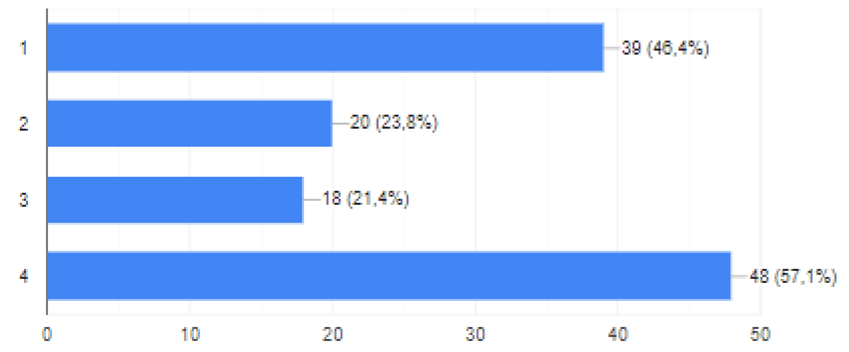
19. Já comeu algum destes iogurtes? (Considere como mesmo iogurte, se apenas o sabor ou o estado(sólido/líquido) variar)

177 respostas



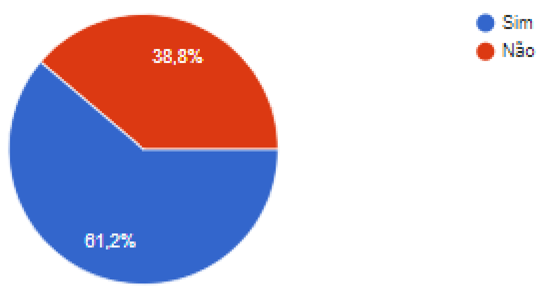
19.1 Qual ou quais deles comeu?

84 respostas



19.2 Voltou a consumir?

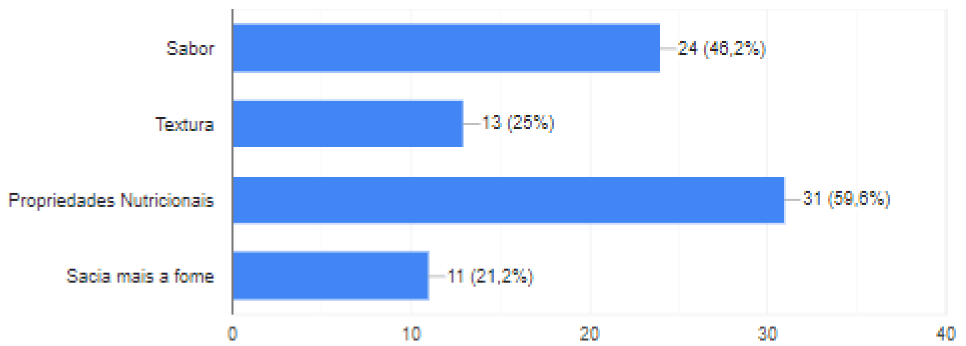
85 respostas



19.2

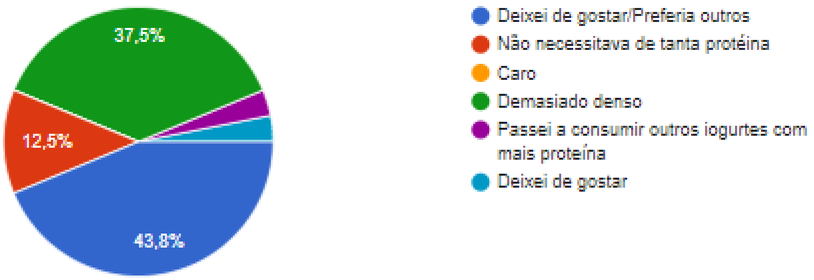
19.2.1 O que levou a consumir novamente?

52 respostas



19.2.1 O que levou a deixar de consumir?

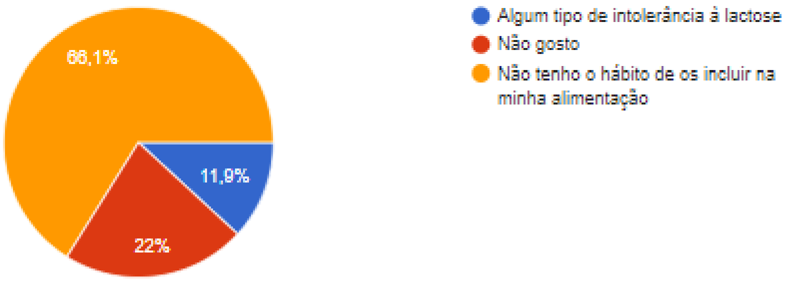
32 respostas



Não consumidores de iogurtes

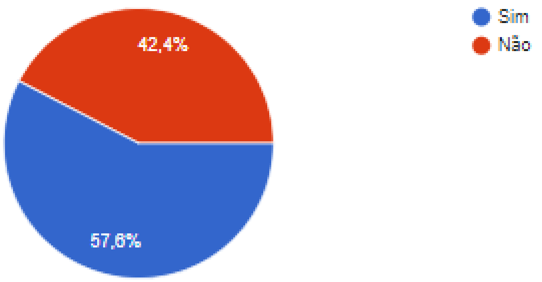
7. Porque é que não costuma consumir iogurtes?

59 respostas



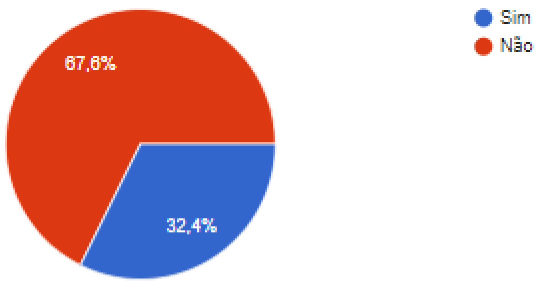
8. A Proteína tem sido uma tendência da qual se tem falado muito ultimamente. Acha que alimentos com mais proteína são mais saudáveis?

59 respostas



8.1 A moda que existe à volta da proteína incentivou a consumir produtos com mais proteína?

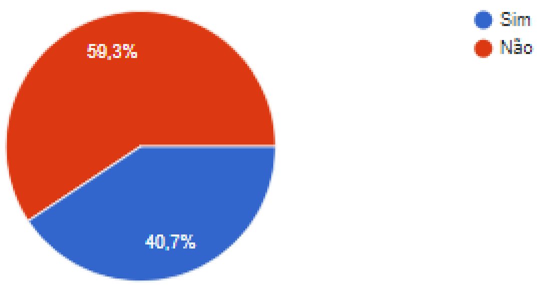
34 respostas



9

9. A tendência da proteína tem-se reflectido também no mercado dos iogurtes em Portugal. Já ouviu falar dos iogurtes com mais proteína?

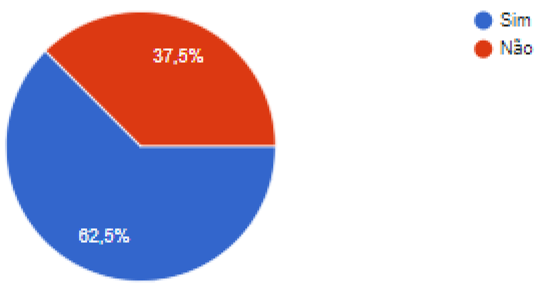
59 respostas



9.1

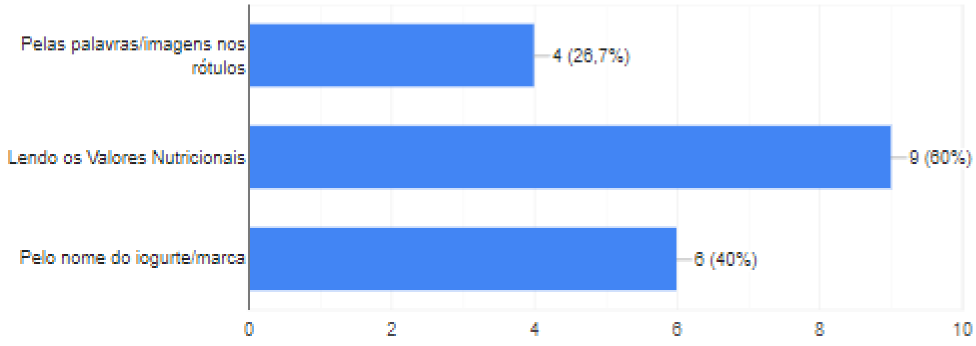
9.1 Consegue distinguir os iogurtes com mais proteína dos restantes iogurtes?

24 respostas



9.1.1 Como os consegue distinguir?

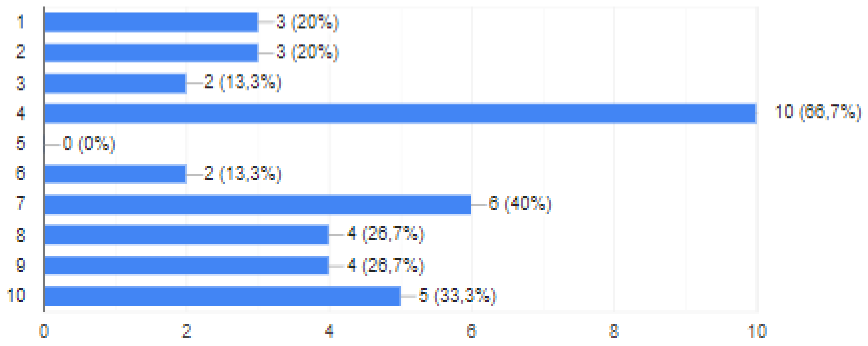
15 respostas



9.2

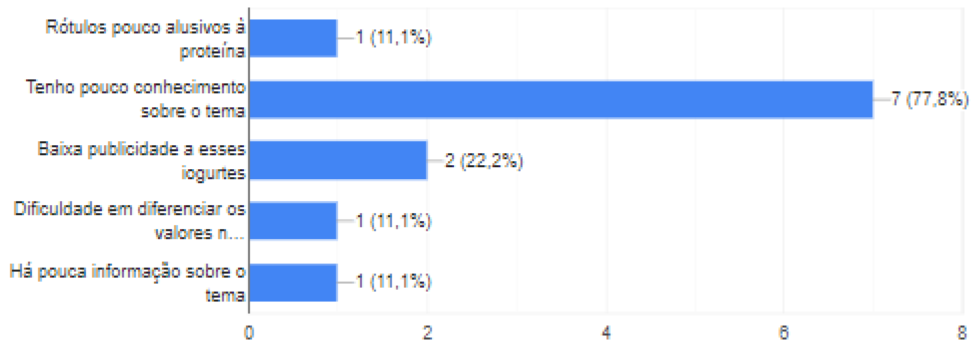
9.2 Desta amostra de iogurtes, quais os que considera como tendo mais proteína? (se assim o entender pode escolher mais do que uma opção)

15 respostas



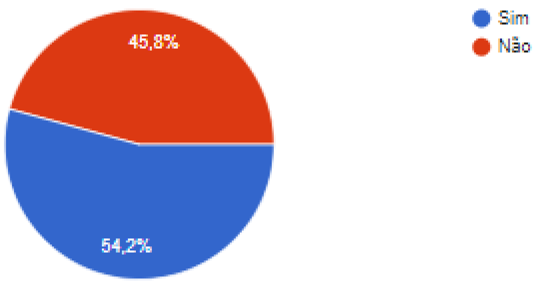
9.1.1 Quais são as dificuldades que encontra?(escolha o que mais se adequa, no máximo até duas opções)

9 respostas



10. Acha que estes iogurtes com mais proteína estão direccionados a algum tipo específico de pessoas?

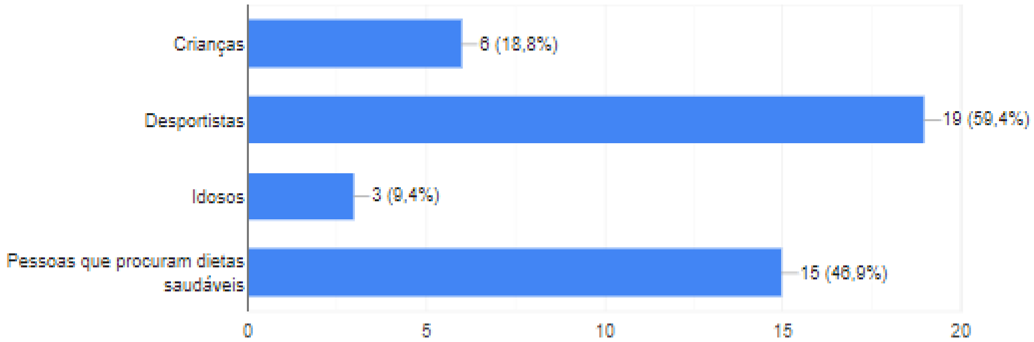
59 respostas



10.1

10.1 Quem? (escolha o que mais se adequa, no máximo até duas opções)

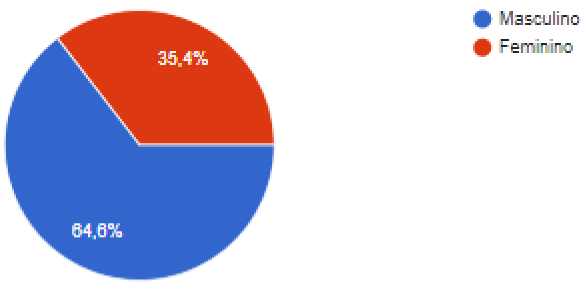
32 respostas



Características Pessoais

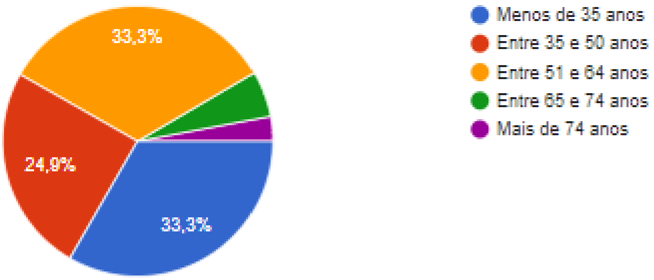
Género

237 respostas



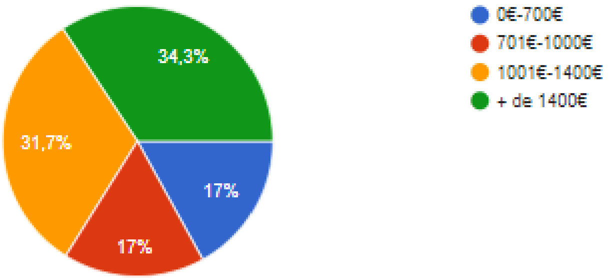
Idade

237 respostas



Qual é o seu Salário Líquido Mensal?

230 respostas



Functional Protein Yogurts in the Portuguese Market

1. **Skyr - Ehrmann**

2. **YoPro - Danone**

3. **Skyr – LIDL**

4. **Skyr - Danone**

5. **Skyr - Continente**

6. **Kvarg – Nestlé**

7. **Skyr - PD**

8. **Yogurt – Siggi's**

9. **Corpos Danone + Proteína – Danone**

10. **Skyr – Pur Natur**

11. Skyr – Mimosa

12. Kvarg - Nestle

13. YoPro – Danone

14. Skyr – Continente

15. Kvarg Pro + -> Nestle

16. Kvarg Pro + -> Nestle