

The perception of the Algerian consumer toward olive oil benefits

إدراك المستهلك الجزائري للفوائد الصحية لزيت الزيتون

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Abstract

This study aims to measure the perception of the Algerian consumer toward olive oil benefits. A questionnaire was administered online to a sample of consumers in order to collect data on their knowledge and perception of olive oil benefits. The results of the study reveal that consumers generally associate olive oil with various virtues (Health, Culinary and Beauty). However, levels of knowledge vary considerably among individuals. This study highlights the importance of the benefits of olive oil perceived by consumers, which in turn, will help us develop appropriate marketing strategies in olive oil market.

Keywords: Benefits, Consumer, Olive oil, Perception.

Jel Classification Codes : M30, M310

الملخص

تهدف هذه الدراسة إلى قياس إدراك المستهلك الجزائري لفوائد زيت الزيتون. تم توزيع استبيان عبر الإنترنت على عينة من المستهلكين لجمع بيانات حول معرفتهم وتصورهم لفوائد زيت الزيتون. كشفت نتائج الدراسة أن المستهلكين يربطون عمومًا زيت الزيتون بفوائد متنوعة (الصحة، الطهي والجمال). ومع ذلك، تختلف مستويات المعرفة بشكل كبير بين الأفراد. تسلط هذه الدراسة الضوء على أهمية فوائد زيت الزيتون كما يدركها المستهلكون، الأمر الذي سيساعدنا بدوره في تطوير استراتيجيات تسويقية مناسبة في سوق زيت الزيتون.

الكلمات المفتاحية: الفوائد، المستهلك، زيت الزيتون، الإدراك.

تصنيف JEL: M30, M310

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Introduction

Olive oil, a pillar of the Mediterranean diet, enjoys an enviable reputation as a natural product with recognized health benefits. In fact, numerous scientific studies have highlighted its beneficial properties for health (cardiovascular, metabolic diseases, anti-inflammatory), for aesthetics (anti-aging, moisturizes the skin) and gastronomy (cooking, seasoning), mainly thanks to its special components, polyphenols, monounsaturated fatty acids and antioxidants. With this positive image, olive oil has become a flagship product on supermarket shelves and in kitchens around the world and especially in the Mediterranean diet.

The objective of this research is therefore to evaluate the perception of Algerian consumers regarding the benefits of olive oil, to identify the main criteria that guide or influence their consumption. By answering these questions, this study will contribute to a better understanding of the olive oil market and allow for the development of more effective marketing strategies to promote this product to consumers.

However, while the benefits of olive oil are well established, consumer knowledge and perceptions of the product vary considerably. It is therefore essential to ask the main question of our study: How do consumers perceive olive oil; what benefits guide their consumption choices?

We can ask the following sub questions:

- Are the Algerian consumers aware about olive oil benefits?
- Is the perception of olive oil benefits affected by demographic characteristics of Algerian consumer?
- Does Algerian consumer knowledge and use of olive oil affect their perception of its benefits?

To address our problem statement, we propose three main hypotheses

- **H1: Algerian consumers are aware about olive oil benefits; they perceive it positively.**
- **H2: There is an effect of socio-demographic characteristics on the perception of olive oil benefits by Algerian consumers.**
- **H3: Algerian consumers' perception of olive oil benefits is linked to their usage and knowledge of it.**

The structure of our article is divided as follows: the first part reflects the literature review, which will describe the work and research carried out on the perception and benefits of olive oil. The second part will detail our research methodology. Finally, we will present and discuss the main results, which will allow us to conclude what is the perception of Algerian consumer toward olive oil benefits as well as the factors affecting this perception.

1 Literature review

Our literature review was carried out by consulting mainly scientific articles indexed on Google Scholar as well as specialized works in the field of consumer perception, in particular with regard to olive oil in its various aspects.

1.1 Olive oil

The regime that dominates the Mediterranean basin has several common characteristics. The most important is olive oil and the central place it occupies on Mediterranean tables. Olive oil is widely consumed in the Mediterranean because of its richness and the beneficial properties it contains.

Considered an elixir of life by the Greeks, Phoenicians and Carthaginians, olive oil has medical, culinary and aesthetic benefits. Compared to other vegetable oils, olive oil has two important particularities: it comes from a fruit that is the olive, and can be consumed directly without being refined (after pressing the olive) (Miloš, 2017).

1.2 Perception

"Perception is the process by which individuals select, organize, and interpret stimuli into a meaningful and coherent picture of the world. It can be described as the way we see the world around us" (Schiffman & Wisenblit, 2015). Consumers are very selective in the information they retain from an advertisement or a product. They only pay attention to some details and ignore others.

Perception is a purely individual process. Two individuals have very different reactions and interpretations to the same stimuli. Each consumer acts and reacts to stimuli according to his perception and not according to reality. The perception of the individual is guided by his or her needs, values and personal experiences (Schiffman & Wisenblit, 2015).

An individual's purchasing decisions are governed by different stimuli and sensations that revolve around them. These influence the consumer during his choices and during the purchase process of a given product. Stimuli such as taste, smell and sight attract the consumer's attention. The appeal of its stimuli has a psychological and mental effect on the user and acts on his perception and emotions (Bamossy *et al.*, 2006).

For the marketer, the most important thing is to know or understand the consumer's perception of a given product. By determining this point, the marketer can know the factors that influence the consumer when making a purchase (Schiffman & Wisenblit, 2015).

The level of knowledge and information acquired through: personal experience, beliefs and needs, differ from one consumer to another, and this influences their choices to consume this or that olive oil. The more knowledge the consumer has about a product (olive oil, for example), the more likely he or she is to consume it (Di Vita *et al.*, 2013).

1.3 The Benefits of Olive Oil

Many researches have shown that olive oil has many benefits. For health, including contributing to cardiovascular health, reducing inflammation, and helping to regulate blood pressure. Secondly, as a gastronomic product generally used for healthy cooking and for seasoning salads and marinades. Finally, for aesthetics, mainly as a moisturizing and anti-aging product, which firms the skin.

These benefits result precisely from the chemical components that have a positive effect on the human body (Ilak Peršurić & Težak Damijanić, 2021).

1.3.1 For Health

The unexpected discovery in 1999 of the American researcher Gary Beauchamp during his trip to Sicily completely changed the worldview of olive oil. What triggered the researcher's questions and research was the similarities between the burning taste of olive oil through the throat and the taste of liquid anti-inflammatories (Alech & Le Galliard, 2017).

Dr. Beauchamp and biologist Dr. Paul Breslin began analyzing the chemical properties of this pungent olive oil, and then they identified the component that gives this irritating effect. This component was named by the two researchers "Oleocanthal" (OC). Through several studies, they concluded that OC has a similar behavior to the anti-inflammatory ibuprofen. Olive oil is the only vegetable oil that contains OC. Although olive oil is not very spicy, it contains little OC. However, if it is very irritating, it contains much more OC. The variety of olives has an impact on the amount of OC available in olive oil (Alech & Le Galliard, 2017).

Recent research has shown that OC is very effective in reducing the inflammatory action of joint degenerative diseases (Miloš, 2017). It was in 2015 that research by Dr. Roberta Holt of the University of California highlighted the effect of OC on human metabolism. Studies done on a group of adults consuming two types of extra virgin olive oil. High OC container and OC free. The harvested olive oil used for the study contained OC and another component, oleacein. Following this study, Dr. Holt established that the effect on blood platelets is similar between the two components and 400 milligrams of ibuprofen (Alech & Le Galliard, 2017).

Several studies show that extra virgin olive oil also has very appreciable effects on high blood pressure (hypertension) (Preedy & Watson, 2020). Indeed, an olive oil rich in polyphenols prevents endothelial dysfunction in patients with hypertension, and this leads to the decrease of blood pressure (Ruano *et al.*, 2005).

The benefits of olive oil also affect heart-related pathologies. Indeed, the OC and hydroxytyrosol contained in olive oil reduce cardiovascular risks. The extensive study by Martinez-Gonzalez *et al.*, conducted on more than 100,000 participants, states that an increase in consumption of 25g/day of olive oil reduces the risk of coronary heart disease and stroke. This supports the beneficial effects of olive oil on cardiovascular disease (Preedy & Watson, 2020).

Olive oil, on its own, seems to have more results than drugs used for the treatment of Alzheimer's. The components of olive oil act on several brain functions and preserve the cognitive aspect of the brain, while protecting people with this disease from adverse drug effects (Lemerond, 2023).

In addition to its protective effects against cardiovascular disease, the benefits of olive oil also affect metabolic diseases such as obesity and diabetes. A two-year study of 90 participants shows that a daily consumption of 8g of olive oil gives a noticeable improvement in the metabolic health of the participants, with weight loss and improved insulin sensitivity (De Leonardis, 2014).

1.3.2 For culinary use

Olive oil continues to take up space on the table of consumers who are aware of its benefits and advantages and who follow a Mediterranean diet.

Olive oil is perceived by most consumers as an ingredient that enhances the taste and gives flavor to food (Dancausa-Millan & Huete-Alcocer, 2022).

In Mediterranean countries, olive oil is used, in combination with vinegar or lemon juice, as a dressing to season salads. Also, olive oil is flavored by mixing it with herbs (rosemary or oregano), which gives it new flavors (Boskou, 2008). In addition, olive oil is mixed with garlic cloves or chili pepper to make it spicier.

1.3.3 For Beauty care

Contains no parabens, preservatives or chemicals, and carries no risk of allergy. Olive oil is the cosmetic product par excellence. It can be included as an ingredient in ointments, creams and other mixtures that are applied to the skin and hair (Frédérique, 2010).

For a long time, olive oil has been considered a skin protection product. Used by the ancient Egyptians as an anti-wrinkle cream and by the Romans as a post-bath body oil to keep the skin firm, olive oil endures through time and continues to be used until now (Viola & Viola, 2009).

Olive oil also offers effective anti-aging properties (Preedy & Watson, 2020). The study, conducted by Romana-Souza *et al.* (2019) highlights the effect of olive oil on the skin by reducing the signs of aging (thinning of the dermis and loss of collagen fiber).

In addition, olive oil is a natural moisturizer that is excellent for the skin. This is thanks to its phenolic compounds that offer a strong antioxidant activity (Miloš, 2017). Studies have shown that its compounds offer a more appreciable antioxidant effect than vitamin E (Boskou, 2008). Not only that, olive oil can be used as a protective screen against sunburn, thanks to its antioxidant components that reflect sunlight. In addition, it can be applied as a tanning oil that facilitates the tanning of the skin while keeping it protected (Kavvalou, 2022).

Having thoroughly explored the various benefits that olive oil provides for health, culinary, and aesthetics, it becomes crucial to understand how Algerian consumers perceive these

benefits. Indeed, the knowledge and information acquired by individuals about olive oil influence their consumption choices. An in-depth analysis will allow us to address the perception of Algerian consumers towards olive oil, highlighting the criteria that guide their consumption choices, such as taste, smell, type of oil, geographical origin, or its provenance, which are linked to this traditional product.

2 Research Methodology

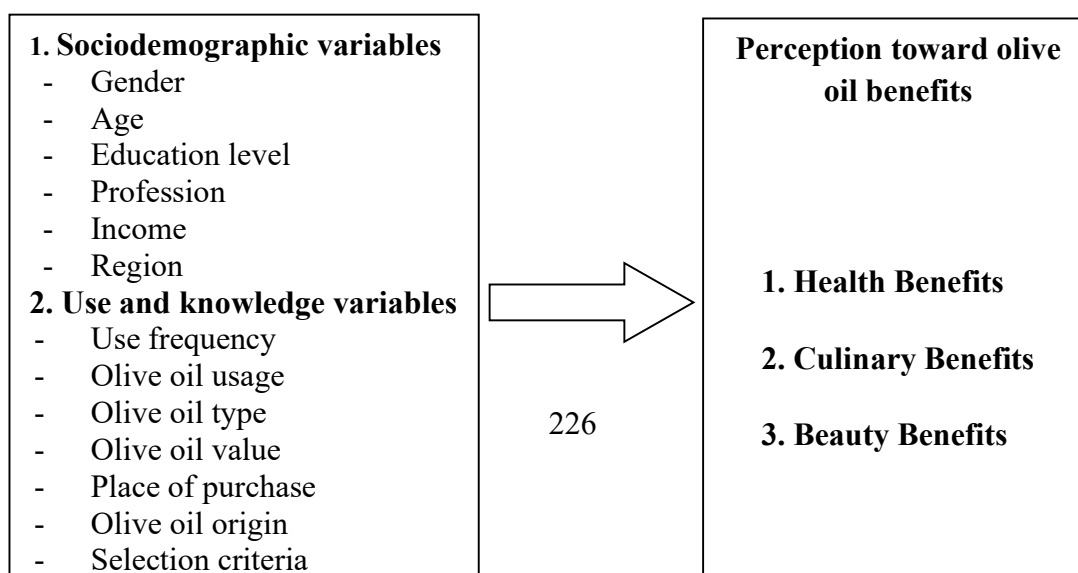
Algerian consumers, who are strongly attached to olive oil, due to their culture and heritage, constitute the population of our research. Due to that selecting, a sample from it is relevant for this study. This close link is an undeniable asset for our research.

A convenient sample of 500 Algerian individuals was questioned during one month from 6th October 2024 to 7th November 2024 with the aim of gathering information on the consumer's perception of the benefits of olive oil. The research area extends throughout the Algerian national territory. The data were collected using an online questionnaire to conduct the study. The survey was carried out on a homogeneous sample of consumers in order to detect trends in the perception of the benefits of olive oil by the Algerian consumer. A specific questionnaire was administered to a convenient sample of Algerian consumers. The questionnaire is divided into three parts; the first part is dedicated to collecting demographic information, including gender, age, education level and monthly income. The second part of the questionnaire will allow us to determine the consumer's use and knowledge of olive oil (The type of oil consumed, the reason of use, place of purchase and purchase frequency). These two parts are presented as multiple-choice questions. And the last one related to measure the degree of perceptions toward the three dimensions of olive oil benefits by consumers, mainly health, culinary and beauty care according to five-point Likert scale was used to check respondents' total disagreement (1) or total agreement (5). For example, regarding the first element of perception (health benefits), consumers were asked to express their degree of agreement or disagreement, on: "Olive oil is effective for sore throats" (1 = Strongly disagree, 5 = Strongly agree).

2.1 Research framework

To answer the research problem, we have schematized the research variables in the following Framework.

Figure N°01: Research framework



Independent variables

Dependant variables

Source: Made by authors

- **Dependant variables** are represented in our model by the perception toward olive oil benefits measured by the three dimensions (health, culinary and beauty).
- **Independent variables** are represented in our model by sociodemographic variables (gender, age, education level, profession, monthly income and region) and consumer use and knowledge of olive oil (use frequency, reason of use, olive oil type, olive oil value, place of purchase, olive oil origin, and selection criteria).

2.2 Data Processing

The processing of all the data collected through our questionnaire was carried out using SPSS 25 software. To establish the reliability of our questionnaire, we calculated Cronbach's Alpha coefficient for the dependant variables.

To prepare the groundwork, we conducted descriptive analyses for all independent variables, and we used repeated measures ANOVA to test the Algerian consumer's perception of the three dimensions of olive oil (health, culinary and beauty). Finally, to analyse the influence of the independent variables on the three dimensions of the benefits of olive oil, we used linear regression analysis, which is the most suitable given the types of variables we are measuring (Nunnally & Bernstein, 1994) (Tabachnick & Fidell, 2007).

3 Results and discussion

In this section, we present and discuss the results of our research.

3.1 Validity test

Table 1 indicates the reliability results based on the Cronbach's Alpha coefficient.

Table 1: Cronbach Alpha coefficient

Variables	Cronbach Alpha	Items number
Perception toward olive oil benefits	0.917	21

Source: Made by authors

The reliability statistics show that Cronbach's Alpha is 0.917. This indicates consistency among the variables in the questionnaire. Several researchers consider an alpha greater than 0.7 to be acceptable, and alpha is good when it is greater than 0.8 (DeVeillis, 2003; Hogan, 2007). Through these results, we conclude that the scale exhibits good internal consistency with a satisfactory Cronbach's alpha.

3.2 Socio-demographic characteristics of respondents

Table 2 shows the descriptive analysis of the different sociodemographic variables of our sample.

Table 2: Socio-demographic characteristics of respondents

	Variables	Frequency	Percentage
Gender	Male	102	22,9%
	Female	343	77,1%
Age	Under 20	1	0,2%
	20-35	118	26,5%
	36-50	244	54,8%
	51-65	72	16,2%
	Over 65	10	2,2%
Profession	Employed	293	65,8%
	Self-employed	71	16,0%
	Student	19	4,3%
	Unemployed	40	9,0%
	Retired	22	4,9%
Education level	Primary	2	0,4%
	Secondary	20	4,5%
	University	423	95,1%
Income	Less than 30,000 DA	50	11,2%
	30 000-50 000 DA	76	17,1%
	50 000-80 000 DA	92	20,7%
	80 000-120 000 DA	86	19,3%
	Over 120 000 DA	141	31,7%
Region	East	83	18,7%
	West	114	25,6%
	Center	241	54,2%
	South	7	1,6%

Source: Made by authors

Descriptive analyses of our sample's sociodemographic variables reveal a clear dominance of women (77.1%) and a high level of education (95.1%) concentrated in a specific age range (36-50). The sample also reflects a predominant professional status of employees with fairly homogeneous incomes and a strong concentration of respondents in the central region.

3.3 Usage and knowledge of olive oil

Table 3 presents the descriptive analysis of the different uses and knowledge variables measured in our study, such as frequency, Olive oil usage, type, value ...etc.

Table 3: Usage and knowledge of olive oil

	Variables	Frequency	Percentage
Use frequency	Every day	270	60,7%
	Two to three times a week	116	26,1%
	Once a week	28	6,3%
	Once a month	11	2,5%
	Rarely	20	4,5%
	Total	445	100,0%
Olive oil usage	Cooking	320	30,4%
	Seasoning	363	34,5%
	Medicinal	248	23,6%
	Beauty	104	9,9%
	Pastry	16	1,5%
	Total	1051	100,0%
Olive oil type	Virgin	223	30,6%
	Extra Virgin	135	18,5%
	Pure	206	28,3%
	Pomace	20	2,7%
	Organic	145	19,9%
	Total	729	100,0%
Olive oil value	Food	253	32,9%
	Cultural	170	22,1%
	Healthy	346	45,0%
	Total	769	100,0%
Place of Purchase	Family	2	0,4%
	Supermarkets	20	4,5%
	Shops	423	95,1%
	Local Market	94	13,2%
	Producer	135	19,0%
	Online	5	0,7%
	Total	712	100,0%
Olive oil origin	Rural	405	73,4%
	Industrial	75	13,6%
	Foreign	44	8,0%
	Doesn't matter	28	5,1%
	Total	552	100,0%
Selection criteria	Taste	331	29,6%

Smell	224	20,0%
Benefits	288	25,7%
Image	73	6,5%
Origin	138	12,3%
Price	42	3,8%
Brand	24	2,1%
Total	1120	100,0%

Source: Made by authors

This study reveals that consumers mainly use olive oil for "Cooking," "Seasoning," and for its "Medical" aspects. Regarding the type of oil, the choices are quite homogeneous with a slight preference for "Virgin" and "Pure" olive oil and a strong tendency towards oils from rural areas. However, there is a very low consumption of "Pomace" oil (2.7%). Consumers primarily favour (45%) the "Healthy" value of olive oil, followed by its "Food" and "Cultural" value. Regarding the purchasing channel, consumers mainly use "Shops" (95.1%) as places of purchase. Finally, consumers base their choices on sensory criteria such as "Taste" (29.6%), "Smell" (20%), and "Benefits" (25.7%). "Origin" (12.3%) is also a factor to consider.

3.4 Perception of Olive oil benefits

Table 4 presents the descriptive statistics results for the dependent variables of our research, as well as its three dimensions. It shows the arithmetic mean, the standard deviation, the relative importance of each dimension, and their ranking in order of consideration.

Table 4: Perception of Olive oil benefits

	Perception elements	Arithmetic mean	Standard deviation	Relative importance	Ranking
A	Health Benefits	3.9028	0.78429	78.058%	1
B	Culinary Benefits	3.7622	0.75886	75.244%	2
C	Beauty Benefits	3.7219	0.83250	74.438%	3
	Total perception toward olive oil benefits	3.7957	0.64782		

Source: Made by authors

Based on the table data, we observe that the average perception of olive oil benefits is 3.7957 with a standard deviation equal to 0.64782. Algerian consumers most strongly perceive health benefits with an arithmetic mean and relative importance equal to 3.9028 and 78.058% respectively, making it their primary reason for choosing olive oil. Culinary benefits are the second most important dimension with an arithmetic mean of 3.7622, followed by beauty benefits as the least influential with an arithmetic mean of 3.7219.

The results indicate that the perceived benefits of olive oil are relatively uniform across the three dimensions, as reflected by the close percentages of 78.058%, 75.244%, and 74.438%;

suggesting that Algerian consumers hold relatively consistent positive perceptions across these different aspects.

3.5 Hypotheses testing

The three main hypotheses of our research, both null and alternative, are presented and tested above.

3.5.1 Degree of satisfaction toward olive oil benefits

The null hypothesis:

H01: Algerian consumers are not aware about olive oil benefits; they perceive it negatively.

The alternative hypothesis:

H1: Algerian consumers are aware about olive oil benefits; they perceive it positively.

Based on the result of descriptive analysis presented in table 4, we notice that our sample of Algerian consumers is aware about olive oil benefits and it perceived it positively with an arithmetic mean of total perception equal to 3.7957.

3.5.2 Effect of Sociodemographic Characteristics on olive oil perception

The null hypothesis:

H02: There is no effect of socio-demographic characteristics on the perception of olive oil benefits by Algerian consumers.

The alternative hypothesis:

H2: There is an effect of socio-demographic characteristics on the perception of olive oil benefits by Algerian consumers.

Table 5 displays the multiple regression results of the independent variables, which are sociodemographic variables, on the perception of the health, culinary, and beauty benefits of olive oil as the dependent variable.

Table 5: Effect of Sociodemographic Characteristics on olive oil perception

Perception dimensions	B	T	Sig	Detailed result of the null hypothesis H02
Health				
Gender	,221	2,500	,013	Rejected
Age	,006	,108	,914	Accepted
Education level	,563	3,739	,000	Rejected
Profession	-,004	-,125	,901	Accepted
Income	-,021	-,684	,494	Accepted

Region	-,090	-1,957	,051	Accepted
R ² = 0.060		T =4.669		Sig = 0.000
Culinary				
Gender	,247	2,868	,004	Rejected
Age	,057	1,040	,299	Accepted
Education level	,455	3,107	,002	Rejected
Profession	,021	,650	,516	Accepted
Income	,041	1,366	,173	Accepted
Region	-,039	-,866	,387	Accepted
R ² = 0.050		T =3.825		Sig = 0.001
Beauty				
Gender	,331	3,628	,000	Rejected
Age	-,067	-1,138	,256	Accepted
Education level	,154	,994	,321	Accepted
Profession	-,036	-1,049	,295	Accepted
Income	-,007	-,229	,819	Accepted
Region	-,052	-1,104	,270	Accepted
R ² = 0.048		T = 3.642		Sig = 0.002

Source: Made by authors

Health Benefits Dimension

The multiple regression model for the health dimension: **R²=0.060** is significant with a P-value less than 0.05 (Sig = 0.000). This indicates that 6% of the variation in the perception of the health benefits of olive oil is explained by the sociodemographic variables. This allowed us to reject the null hypothesis and accept the alternative hypothesis: there is a significant effect of gender and the level of education on the perception of the health benefits of olive oil.

These results indicate, that gender and the level of education have a positive effect on the perception of the health benefits of olive oil, confirmed by P-values less than 0.05 (Sig = 0.013 and 0.000), significant T-values of 2.500 and 3.739, and B values of 0.221 and 0.563, respectively. This explains that a one-unit increase in each of these characteristics (gender and level of education) leads to an increase of 0.221 and 0.563, respectively, in the same direction of the perception towards health benefits.

Culinary Benefits Dimension

The multiple regression model for the culinary dimension: **R²=0.050** is significant with a P-value less than 0.05 (Sig = 0.001). This indicates that 5% of the variation in the perception of the culinary benefits of olive oil is explained by the sociodemographic variables. This allowed us to reject the null hypothesis and accept the alternative hypothesis: there is a significant

effect of gender and the level of education on the perception of the culinary benefits of olive oil.

These results indicate, that gender and the level of education have a positive effect on the perception of the culinary benefits of olive oil, confirmed by P-values less than 0.05 (Sig = 0.004 and 0.002), significant T-values of 2.868 and 3.107, and B values of 0.247 and 0.455, respectively. This explains that a one-unit increase in each of these characteristics (gender and level of education) leads to an increase of 0.247 and 0.455, respectively, in the same direction of the perception towards culinary benefits.

Beauty Benefits Dimension

The multiple regression model for the beauty dimension: $R^2 = 0.048$ is significant with a P-value less than 0.05 (Sig = 0.002). This indicates that 4.8% of the variation in the perception of the beauty benefits of olive oil is explained by the sociodemographic variables. This allowed us to reject the null hypothesis and accept the alternative hypothesis: there is a significant effect of gender on the perception of the beauty benefits of olive oil.

These results indicate, that gender has a positive effect on the perception of the beauty benefits of olive oil, confirmed by a P-value less than 0.05 (Sig = 0.000), a significant T-value of 3.628, and a B value of 0.331. This explains that a one-unit increase in gender leads to an increase of 0.331 in the same direction of the perception towards beauty benefits.

We can conclude that gender has a significant positive effect on all three perception dimensions: health, culinary, and beauty. This could suggest that olive oil is perceived differently by women and men according to the values they attribute to it.

Education level also has a significant effect on the perception of health and culinary benefits. This reflects different levels of knowledge or information between respondents based on their education levels.

There is no significant effect of the other sociodemographic factors such as: age, profession, income and residence region on the three perception dimensions; this indicates that the perception of olive oil benefits is not related to these factors.

3.5.3 Effect of use and knowledge on olive oil perception

The null hypothesis:

H03: Algerian consumers' perception of olive oil benefits is not linked to their usage and knowledge of it.

The alternative hypothesis:

H3: Algerian consumers' perception of olive oil benefits is linked to their usage and knowledge of it.

Table 6 displays the multiple regression results of the independent variables, which are use and knowledge variables, on the perception of the health, culinary, and beauty benefits of olive oil as the dependent variable.

Table 6: Effect of use and knowledge on olive oil perception

Perception dimensions	B	T	Sig	Detailed result of the null hypothesis H03
Health				
Use frequency	,014	,371	,711	Accepted
Olive oil usage	-,111	-2,754	,006	Rejected
Olive oil type	,038	,799	,425	Accepted
Olive Oil value	-,064	-1,258	,209	Accepted
Place of purchase	-,004	-,091	,927	Accepted
Olive oil origin	,060	,908	,364	Accepted
Selection criteria	-,024	-,728	,467	Accepted
$R^2 = 0.036$ $T = 2.318$ $Sig = 0.025$				
Culinary				
Use frequency	-,073	-2,041	,042	Rejected
Olive oil usage	-,146	-3,846	,000	Rejected
Olive oil type	,026	,577	,564	Accepted
Olive Oil value	-,013	-,276	,783	Accepted
Place of purchase	,000	-,005	,996	Accepted
Olive oil origin	,074	1,187	,236	Accepted
Selection criteria	-,053	-1,680	,094	Accepted
$R^2 = 0.081$ $T = 5.526$ $Sig = 0.000$				
Beauty				
Use frequency	,060	1,555	,121	Accepted
Olive oil usage	-,184	-4,501	,000	Rejected
Olive oil type	,083	1,737	,083	Accepted

Olive Oil value	-,004	-,086	,931	Accepted
Place of purchase	-,027	-,627	,531	Accepted
Olive oil origin	,067	1,003	,316	Accepted
Selection criteria	,014	,421	,674	Accepted
R² = 0.052		T = 3.411		Sig = 0.001

Source: Made by authors

Health benefits dimension

The multiple regression model for the health dimension: **R²=0.036** is significant with a P-value less than 0.05 (Sig = 0.025). This indicates that 3.6% of the variation in the perception of the health benefits of olive oil is explained by the use and knowledge variables. This allowed us to reject the null hypothesis and accept the alternative hypothesis: there is a significant effect of olive oil usage on the perception of the health benefits of olive oil.

These results indicate, that the olive oil usage have a negative effect on the perception of the health benefits of olive oil, confirmed by P-values less than 0.05 (Sig = 0.006), significant T-values of (-2,754), and B values of (-,111). This explains that a one-unit increase in olive oil usage characteristic leads to a decrease of (-,111), in the opposite direction of the perception towards health benefits.

Culinary benefits dimension

The multiple regression model for the culinary dimension: **R²=0.081** is significant with a P-value less than 0.05 (Sig = 0.000). This indicates that 8.1% of the variation in the perception of the culinary benefits of olive oil is explained by the use and knowledge variables. This allowed us to reject the null hypothesis and accept the alternative hypothesis: there is a significant effect of the use frequency and olive oil usage on the perception of the culinary benefits of olive oil.

These results indicate, that the use frequency and olive oil usage have a negative effect on the perception of the culinary benefits of olive oil, confirmed by P-values less than 0.05 (Sig = 0.042 and 0.000), significant T-values of (-2.041) and (-3,846), and B values of (-,073) and (-,146), respectively. This explains that a one-unit increase in each of these characteristics (use frequency and olive oil usage) leads to a decrease of (-,073) and (-,146), respectively, in the opposite direction of the perception towards culinary benefits.

Beauty benefits dimension

The multiple regression model for the health dimension: **R²=0,052** is significant with a P-value less than 0,05 (Sig = 0,001). This indicates that 5,2% of the variation in the perception of the beauty benefits of olive oil is explained by the use and knowledge variables. This

allowed us to reject the null hypothesis and accept the alternative hypothesis: there is a significant effect of olive oil usage on the perception of the beauty benefits of olive oil.

These results indicate, that the olive oil usage have a negative effect on the perception of the beauty benefits of olive oil, confirmed by P-values less than 0,05 (Sig = 0,000), significant T-values of (-4,501), and B values of (-,184). This explains that a one-unit increase in olive oil usage characteristic leads to a decrease of (-,184), in the opposite direction of the perception towards beauty benefits.

The results indicate that the use of olive oil has a significant negative effect on the perception of the three dimensions: health, culinary, and beauty. This suggests that Algerian consumers use olive oil not for its benefits but for other reasons not considered in our research model.

It is also noted that the frequency of consumption has a significant negative effect only on the culinary dimension; which indicates that the consumption frequency is not directly linked to a positive perception of olive oil's culinary qualities.

The other studied variables such as: the type, the value, the place of purchase, the origin and criteria of choosing olive oil have not a significant effect on the three perception dimensions.

4 Conclusion

Olive oil is a traditional product rich in history that holds a central place in Algerian society. Our research explored the deep connection between olive oil and the Algerian consumer. We analysed sociodemographic factors as well as usage and knowledge factors to understand how these influence the perception of olive oil among Algerian consumers.

We found that Algerian consumers have a fairly consistent perception of the three main benefits of olive oil. Furthermore, the analysis of knowledge-related factors shows that consumers possess information about olive oil, including its value, the different types available, and consumption preferences. Usage-related factors also highlight how frequently it is consumed and the different ways it is used by Algerian consumers.

However, regression results indicate a negative relationship between the perception of olive oil's beneficial aspects and the frequency and usage variables included in the knowledge and use categories. This suggests a lack of information about its health benefits, implying that the use and consumption of olive oil by Algerian consumer is not directly influenced by their perception of its benefits, but rather by other variables not captured in our study.

In conclusion, further research taking on consideration factors such as personal experience and habits, cultural influences, traditions, and heritage could yield more conclusive insights and help us better understand the nuances of how Algerian consumers perceive the benefits of olive oil.

These findings could be valuable for olive oil producers who wish a better understanding of their market and tailoring their marketing strategies and commercialization plans accordingly.

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