



Effect of Consumers' Attitudes and the Factors Related to Socio-demographic and Economic Context on Goat Meat Consumption Willingness

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ABSTRACT

Background: The purpose of this investigation was to look into and collect data on the variables affecting the intake willingness of goat meat by Algerians.

Methods: In the region of El Oued (in southeast Algeria), 240 consumers were selected at random for sampling. The information obtained during the survey was collected using a standardised questionnaire.

Result: According to the findings, goat meat ranked third (11.25%) among consumers' top choices for red meat, behind beef (15%) and sheep (71.25%), but ahead of camel meat (2.5%). Of the previously mentioned meat types, taste was found to be the most desirable trait (53.75%). The majority of survey participants (202 consumers; 84.16%) thought that the meat from goats was suitable for them. On the contrary, all-around quality, level of income and methods used to raise animals have the greatest impact ($p < 0.05$) on goat meat consumption willingness. However, there were no appreciable differences ($p > 0.05$) in the intake willingness of this meat based on age, gender, location of residence, level of education, accessibility, or cost. This study offers a thorough understanding of the aspects that influence consumer attitudes regarding goat meat and may be employed in developing strategies for enhancing consumption and boosting acceptance.

Key words: Behaviour, Consumers, Goat meat, Meat consumption.

INTRODUCTION

Consumption of meat has remained a crucial component of the diets of consumers and cultural cuisines for a long time (Estévez-Moreno and Miranda-de la Loma, 2022). Due to this, meat is regarded as an essential source of excellent protein as well as other micronutrients including zinc, selenium, copper, iron, folic acid, manganese, as well as vitamins A, B3 and B12 (de Araújo *et al.*, 2022).

According to research by Kawęcka *et al.* (2022), goat meat is a lean meat with an excellent nutritional profile. According to nutritionists, goat meat is an excellent choice with the aforementioned qualities, including low cholesterol, low lipids and excellent protein contents, which can lower the possibility of heart-related diseases brought on by elevated lipid consumption (Das and Yadav, 2015; Jia *et al.*, 2023).

The astounding increase in global population over the last few decades has resulted in an increase in the consumption of meat in many nations, as well as an increase in the demand for and consumption of meat from other animal species, such as goat and camel (Ahmad *et al.*, 2018; Sirin 2018; Mazhangara *et al.*, 2019). The growth and intake of goat meat should be promoted and encouraged as an environmentally friendly alternative to other valued sources of animal proteins in light of the current scenario (Lamri *et al.*, 2022).

Interestingly, the majority of Algeria's 4.9 million heads of goats (FAOSTAT, 2018) are grown and sold in the informal

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economy, making it difficult to collect authoritative data on the country's production and trade of goat meat. Most goats that are supplied are either sold or raised for regional customary butchering procedures.

In particular, environmental, cultural, economic, religious, sociodemographic, moral and psychological variables, in addition to health characteristics and context-dependent considerations, are related to the consumption

of meat (Font-i-Furnols and Guerrero, 2014; Estévez-Moreno and Miranda-de la Lama, 2022).

Regardless of the health advantages of goat meat, improved awareness of the factors that influence the opinions and perceptions of consumers of goat meat can help boost its intake by increasing consumer acceptance of this meat production in terms of its safety, quality and other advantages (Font-i-Furnols and Guerrero, 2014). Since many studies have been conducted to comprehend and analyse the factors that influence the intake of other meat types, particularly sheep or beef, a handful of investigations have specifically focused on goat meat.

Moreover, there is a dearth of scientific research on Algerians' opinions about eating goat meat and the elements that influence such attitudes, which makes this a novel scientific approach. In light of that point, the purpose of this paper was to look into possible influencing variables and their impact on Algerian consumers' intake of goat meat.

MATERIALS AND METHODS

From March 2023 to April 2023, the study was carried out in the province of El Oued. This region is found in south-east Algeria and is located between latitude 33°22'16.823"N and longitude 6°50'52.686"E. El Oued district, located 630 km from Algiers, will have 708.700 residents living on 44.585 km² in 2023. This region was thought to be one of the most significant farm animal cultivation regions in the nation.

Table 1 displays the sociodemographic data of the consumers who were polled. A total of 240 consumers participated in the survey, with 106 women (44.2%) and 134 men (55.8%) making up the randomly selected samples. The respondents' ages ranged from 18 to 88. A large percentage of participants (73.3%) came from rural areas, whereas the remaining individuals (26.7%) were from urban regions. The majority of respondents' (69.6%) had an affordable family income (Table 1).

The respondents were surveyed in person using a face-to-face poll and the overall study sample was made up of an overall population sample. Respondents were solely chosen based on availability, age (over 18) and willingness to take part in the study. It was also necessary that they have consumed meat from goats in the past so that their opinion of it could be assessed. In order to avoid influencing their replies, the precise objective of the research was not disclosed at the outset of the consumer survey. One multiple-choice question was used to categorise respondents according to their intake of goat meat. They were questioned about whether or not they would be willing to indulge in goat meat. According to their willingness to consume meat from goats, the respondents were split into two categories: interested consumers (those who said they preferred and intended to eat goat meat) and not-interested consumers (those who said they weren't fond of and weren't interested in eating goat meat).

A total of 26 questions, including closed-ended as well as open-ended ones (multiple choice and single selection), make up the survey that was utilised for the study. Open-ended questions, which let respondents express their opinions in the manner that they preferred, were employed for challenging topics that needed more explanation and debate than could be provided by a small number of straightforward categories. Closed-ended questions were employed for nominal data, such as "male" or "female," "yes" or "no," and polytomous data, which included rather complicated lists of options based on which the respondent might select, such as "good" or "very good," "acceptable," "bad," or "very bad."

The survey questions contained in the present investigation may be split into three sections: The first section deals with the socio-demographic features of the respondents and includes fundamental data on age, gender, residence location (rural/urban), household income and level of education. The second section dealt with consumer preferences for various red meats and the factors that influenced their decisions. The third section dealt with data on how customers feel towards goat meat, including availability, general perceptions, pricing and preferred methods of managing that may be utilised to produce goat meat. The respondents were advised that their information would be kept discrete and used solely for research once the surveys had been randomised.

The statistical analysis system tool SPSS version 27.0 was used to process the data. The gathered data were examined using descriptive statistics. Applying Chi-square

Table 1: Distribution of surveyed consumers' gender, age, residence area, education and income levels (n= 240).

Characteristics	Frequency (n)	Percentage (%)
Gender		
Female	106	44.2
Male	134	55.8
Age (years)		
18-30	55	22.9
31-40	89	37.1
41-50	55	22.9
51-60	22	9.2
Over 60	19	7.9
Residence area		
Urban	64	26.7
Rural	176	73.3
Education level		
Primary	15	6.2
Secondary	41	17.1
Tertiary	73	30.4
University	106	44.2
None	5	2.1
Income level		
Low	73	30.4
Acceptable	167	69.6

or Fisher's exact tests, it was determined whether there were statistical variations in the desire of various consumer categories to consume meat from goats. The relationships between the investigated variables and goat meat consumption willingness were also evaluated using the adjusted odds ratio (OR). Statistical significance was defined as $p < 0.05$.

RESULTS AND DISCUSSION

According to the results, camel was the least favourite meat (2.5%), while sheep was most commonly enjoyed (71.25%) (Fig 1). Following beef, which came in second place (15%) among the prior ones, goat meat took the third spot (11.25%) (Fig 1).

When asked to identify their top preference for each of the four suggested forms of red meat, the respondents provided an overall total of 14 distinct responses. The majority of survey respondents (53.75%) cited meat taste as their top factor in selecting a particular type of meat, subsequent to quality as a whole (10.8%) and reduced fat content (9.2%) (Fig 2).

Table 2 provides information about how sociodemographic characteristics affect the intake willingness of meat from goats. It is noteworthy that, with the exception of financial status level, which was discovered as a significant influencing factor ($p < 0.05$) for consumer desire to consume goat meat, the majority of socio-demographic components encompassed in the study had no significant effects ($p > 0.05$) on consumers' decision to eat goat meat (Table 2).

Table 3 demonstrates categorically that the overwhelming majority of consumer groups in the research region had favourable perceptions about the meat from goats. 202 out of 240 customers said that the meat from goats is generally of high quality. Additionally, there were notable differences in consumers' intentions to consume goat meat based on their perceptions of its quality ($p < 0.05$) and their opinions of the farming method ($p < 0.05$). The hesitancy of consumers to ingest goat meat was logically linked to the unfavourable perception (OR = 0.058; $p = 0.000$). Contrarily, the consumers polled expressed greater interest in the traditional farming method than the contemporary one (OR = 3.618; $p = 0.023$).

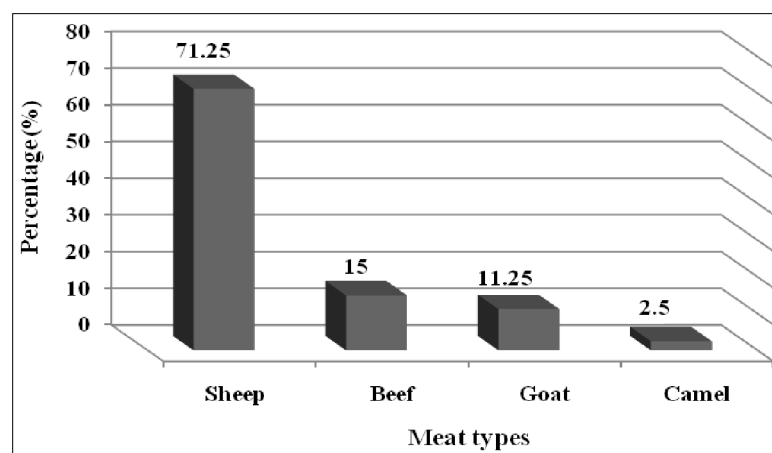


Fig 1: Meat types and preferences of surveyed consumers.

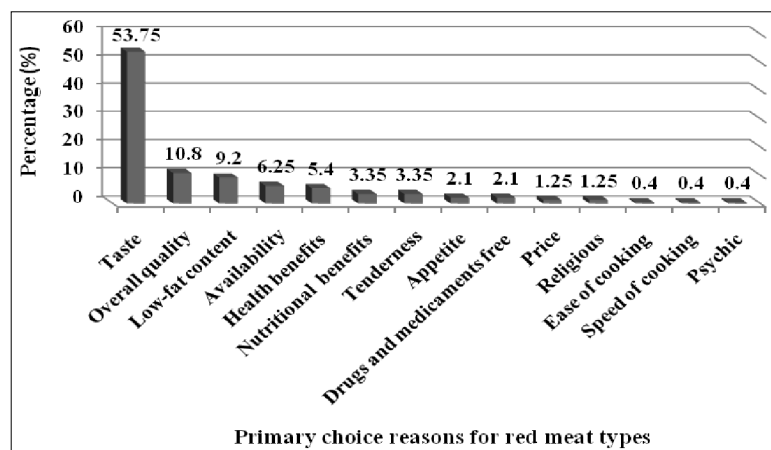


Fig 2: Primary choice reasons for red meat types mentioned by the participants (n = 240).

Even though meat from goats was not widely eaten in this research area, most of the respondents said they infrequently ate it. This pattern is consistent with the customs and practises surrounding the consumption of goats in Algeria, which were later pointed out in research by Lamri *et al.* (2022). The individuals who live in the study region also have a tradition of offering a lamb or goat as a sacrifice at several sociocultural and religious festivities, such as the celebration of the offering (Eid-ul-Adha), the arrival of a new infant, circumcisions and welcoming visitors. Regarding goat meat's position with the remaining red meat varieties, a prior study conducted in Algeria

produced similar findings and concluded that the meat from goats rose to the third position, behind beef and lamb, among the most significant red meats favoured by frequent consumers of meat (Lamri *et al.*, 2022). The lack of consumer buying habits for goat meat may be the result of unfavourable views on goat meat, particularly those linked to its flavour and aroma, as reported by consumers involved in the present research.

Our research's results showed that sociodemographic parameters such as respondents' age, gender, residence location and level of education did not significantly affect their tendency to purchase goat meat. These findings agree

Table 2: Influence of socio-demographic factors on goat meat consumption willingness.

Factors	Consumption willingness (Yes) n (%)	Consumption willingness (No) n (%)	Odds ratio	p-value
Gender				
Female	94 (88.7)	12 (11.3)	1	0.082
Male	127 (94.8)	7 (5.2)	2.316	
Age (years)				
18-30	48 (87.3)	7 (12.7)	1	0.724
31-40	82 (92.1)	7 (7.9)	1.708	
41-50	52 (94.5)	3 (5.5)	2.527	
51-60	21 (95.5)	1 (4.5)	3.062	
Over 60	18 (94.7)	1 (5.3)	2.625	
Residence area				
Urban	60 (93.8)	4 (6.2)	1	0.564
Rural	161 (91.5)	15 (8.5)	0.715	
Education level				
Primary	13 (86.7)	2 (13.3)	1	0.379
Secondary	36 (87.8)	5 (12.2)	1.600	
Tertiary	70 (95.9)	3 (4.1)	3.589	
University	97 (91.5)	9 (8.5)	1.658	
None	5 (100)	0 (0)	/	
Income level				
Low	62 (84.9)	11 (15.1)	1	0.007
Acceptable	159 (95.2)	8 (4.8)	3.526	

Table 3: Influence of consumers attitudes on goat meat consumption willingness.

Factors	Consumption willingness (Yes) n (%)	Consumption willingness (No) n (%)	Odds ratio	p-value
Overall quality				
Positive	196 (97)	6 (3)	1	0.000
Negative	25 (65.8)	13 (34.2)	0.058	
Availability				
Yes	109 (92.4)	9 (7.6)	1	0.870
No	112 (91.8)	10 (8.2)	0.924	
Price				
Affordable	109 (94)	7 (6)	1	0.296
No	112 (90.3)	12 (9.7)	0.599	
Livestock production system				
Modern	25 (80.6)	6 (19.4)	1	0.023
Conventional	196 (93.8)	13 (6.2)	3.618	

with those made by Mazhangara *et al.* (2022) in regard to the elements that affect how South African families perceive, behave and interpret the eating of goat meat.

As stated previously, respondents in the current study tended to identify goat meat with particular eating instances as their intake of this meat increased. This finding implies, contrary to the previously stated premise, that consumer understanding of goat meat may have an impact on their desire and acceptability to purchase this product. In accordance with this assertion, the research area's low goat meat consumption frequency, which was caused by sporadic intake, likely contributed to consumers' favourable perceptions of goat meat and their eventual eagerness to indulge in it.

Consequently, the lack of substantial impact from the majority of sociodemographic variables in our investigation on the willingness to consume goat meat, followed by an increase in the probability ratios of different consumer categories in comparison to the reference, may indicate that the unfamiliarity factor has a beneficial effect (the tendency to look for variety when it comes to dietary choice) on the demand for consumption of goat meat. As a result, these findings show that the majority of the socio-demographic categories of the study's consumers were likely to increase their readiness to consume this kind of meat. In this context, Lamri *et al.* (2022) blamed ineffective marketing, dietary habits and a lack of organised production for the unpopularity and reduced intake of goat meat in Algeria.

Alternatively, our findings showed that consumers in urban regions had a marginally higher propensity than those in rural regions to eat meat from goats. More likely than those in rural regions, residents of urban regions are closer to marketplaces and meat shops and have access to information about the characteristics and advantages of goat meat. However, cultural customs and traditional ways of life may have a significant impact on how much and what kind of meat is consumed in society, particularly in rural regions (della Malva *et al.*, 2022).

Further, earlier research amply supported the existence of a connection between family expenditures on meat and their level of income (Estévez-Moreno and Miranda-de la Lama, 2022). According to our study, the majority of respondents' positive assessments of goat meat's quality as a whole had a considerable positive impact on their desire to consume it. Similar to earlier research that evaluated consumer behaviours linked to the consumption of goat meat, our research results showed that belief in the quality and appropriateness of eating is closely correlated with the taste of the meat (Mandolesi *et al.*, 2020; Lamri *et al.*, 2022; Mazhangara *et al.*, 2022).

It has been determined that goat meat is lean and has comparatively low levels of cholesterol, fat and saturated fatty acids (Mazhangara *et al.*, 2019). With the "healthy eating" trend, where customers are growing more interested in meeting their fundamental needs and worried

about the nutritional value of their food, including meat sources, these nutritional qualities make goat meat a healthy product (Mandolesi *et al.*, 2020).

One of the key factors that greatly impacts a consumer's choice to buy and eat meat is pricing, according to research (Mandolesi *et al.*, 2020; Estévez-Moreno and Miranda-de la Lama, 2022). Contrarily, it appears from the findings of our study that consumers' desire to consume goat meat was not considerably affected by cost, but it was obviously lower for those who admitted that the cost was out of their budget. However, Lamri *et al.* (2022) found that only 27.1% of the consumers who took part in their study thought goat meat was too costly, placing the price factor as the fourth-largest barrier to goat meat consumption in Algeria. Therefore, the low impact of the price found in our study could be attributed to the high financial level enjoyed by the vast majority of survey respondents (69.58%). On the contrary, the dramatic rise in meat prices, particularly those of sheep, that has been noted in Algeria over the past few years suggests that decreasing prices might be a key component of any plan to encourage the consumption of goat meat by Algerians.

Our study found that consumers had considerably higher positive associations with goat meat raised using a traditional method of production than with meat produced using a contemporary one. Goats are often raised and farmed under natural pastures in a traditional manner, with a free-range feeding process, minimal industrialisation and little to no use of pharmaceutical medications for better production and wellness.

CONCLUSION

It may be inferred that the vast majority of respondents expressed willingness for the consumption of goat meat. As a result, consumer demand for this meat is expected to significantly increase in the upcoming years, especially given the continued increase in the price of other red meat varieties. On the contrary, the results of the research showed a substantial impact of quality as a whole, family income levels and livestock farming practises on the desire to consume meat from goats. As a result, any approach that may be offered to increase the intake of this meat must take these relevant variables into account as vital keys. To improve the flavour, cost-effectiveness and customer confidence of this meat, greater efforts must be made and emphasised. Additional research is necessary to better comprehend and evaluate the impact of other variables that may affect how consumers behave in relation to this meat consumption, in addition to the connections between these variables.

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Disclaimers

The views and conclusions expressed in this article are solely those of the authors and do not necessarily represent the views of their affiliated institutions. The authors are responsible for the accuracy and completeness of the information provided, but do not accept any liability for any direct or indirect losses resulting from the use of this content.

Informed consent

All procedures for experiments were approved by the Ethics Committee of the Faculty of Life and Natural Sciences at the University of El Oued, Algeria with application reference number 22/2023.

Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

REFERENCES

- Ahmad, T., Kumar, Y., Singh, J.N. (2018). Effect of frozen storage of goat meat on quality parameters stored in the form of chunk and mince in two packaging materials. *Indian Journal of Animal Research*. 52(5): 780-785. doi: 10.18805/ijar.B-3273.
- Das, S.K. and Yadav, B.P.S. (2015). Productive performance of Jamunapari goat under semi intensive system of management. *Indian Journal of Animal Research*. 49(2): 254-257. doi: 10.5958/0976-0555.2015.00114.4.
- de Araújo, P.D., Araújo, W.M.C., Patarata, L., Fraqueza, M.J. (2022). Understanding the main factors that influence consumer quality perception and attitude towards meat and processed meat products. *Meat Science*. 193: 108952. doi: 10.1016/j.meatsci.2022.108952.
- della Malva, A., Gagaoua, M., Santillo, A., De Palo, P., Sevi, A., Albenzio, M. (2022). First insights about the underlying mechanisms of Martina Franca donkey meat tenderization during aging: A proteomic approach. *Meat Science*. 193: 108925. doi: 10.1016/j.meatsci.2022.108925.
- Estévez-Moreno, L.X. and Miranda-de la Lama, G.C. (2022). Meat consumption and consumer attitudes in México: Can persistence lead to change? *Meat Science*. 193: 108943. doi: 10.1016/j.meatsci.2022.108943.
- FAOSTAT. (2018). Statistics of Food and Agriculture Organization of the United Nations. <https://www.fao.org/faostat/fr/#data/QA/Accessed 2 April 2023>.
- Font-i-Furnols, M. and Guerrero, L. (2014). Consumer preference, behavior and perception about meat and meat products: An overview. *Meat Science*. 98(3): 361-371. doi: 10.1016/j.meatsci.2014.06.025.
- Jia, W., Di, C., Shi, L. (2023). Applications of lipidomics in goat meat products: biomarkers, structure, nutrition interface and future perspectives. *Journal of Proteomics*. 270: 104753. doi: 10.1016/j.jprot.2022.104753.
- Kawęcka, A., Sikora, J., Gašior, R., Puchała, M., Wojtyczka, K. (2022). Comparison of carcass and meat quality traits of the native Polish Heath lambs and the Carpathian kids. *Journal of Applied Animal Research*. 50(1): 109-117. doi: 10.1080/09712119.2022.2040514.
- Lamri, M., Djenane, D., Gagaoua, M. (2022). Goat meat consumption patterns and preferences in three provinces of Kabylia region in Algeria compared to other meat species: Results of an online survey. *Meat Technology*. 63(2): 96-108. doi: 10.18485/meattech.2022.63.2.3.
- Mandolesi, S., Naspetti, S., Arsenos, G., Caramelle-Holtz, E., Latvala, T., Martin-Collado, D., Orsini, S., Ozturk, E., Zanolli, R. (2020). Motivations and barriers for sheep and goat meat consumption in Europe: A means-end chain study. *Animals*. 10(6): 1105. doi: 10.3390/ani10061105.
- Mazhangara, I.R., Chivandi, E., Mupangwa, J.F., Muchenje, V. (2019). The potential of goat meat in the red meat industry. *Sustainability*. 11(13): 3671. doi: 10.3390/su11133671.
- Mazhangara, I.R., Jaja, I.F., Chivandi, E. (2022). Consumer perceptions and attitudes towards chevon and chevon-derived products: A case study of Amathole and Buffalo city municipalities in South Africa. *Journal of Culinary Science and Technology*. 1-17. doi: 10.1080/15428052.2022.2150993.
- Sirin, E. (2018). Relationship between muscle fiber characteristics and meat quality parameters in Turkish native goat breeds. *Indian Journal of Animal Research*. 52(10): 1526-1530. doi: 10.18805/ijar.B-1004.