

Hanna SOMMER¹
Grzegorz ZAKRZEWSKI²

'Belly rules the mind'
– a Spanish proverb

FOOD SECURITY – RECOGNITION OF SELECTED ASPECTS BY ACADEMIC YOUTH

The meaning of food security is so obvious that it has not been assigned any clear, specific definition, which in turn allows a broad interpretation of the concepts that make up the scope of activities aimed at ensuring food security. Every definition of the idea is burdened with confirmation bias, emerging through the prism of a primary human feeling – satiety. A. Maslov considered this the most important human need, which is why he placed it at the base of the pyramid. Therefore, it is important to recognise the confirmation bias that we display when defining the next food security area. Food safety and food security are issues as old as human beings, and yet our decisions are dictated by heuristics. They function in our minds like automated processes: means by which we quickly make judgements. A well-filled body does not believe in hunger. In the globalised world, a new mind-set is needed in food distribution systems. This article concludes with pilot research in the area of knowledge, attitudes, and assessment of food security issues in a group of academic youths.

Keywords: food security, food, ecology.

1. INTRODUCTION

Food has a primary role in human life and this is why human has always striven for a situation, in which there is no deficit of it. In order to survive, human had to have access to food not only on a daily basis but also on a yearly basis. Human biological clock, both the daily and annual one, caused human concern in securing of food not only in the above-mentioned cycles, but also had to take into account the following conditions: famine caused by natural forces, animal migration or excessive 'exploitation' of both fauna and flora in the habitat (Sommer, Zakrzewski, 2017a). We, as humanity, are approaching the Ultimate Environmental Thresholds (UET), bearing painful consequences thereof. The UET method is applicable both to assessment of ecological safety (Fabisiak, 2019) and food security (Sommer, Zakrzewski, 2020) of the Baltic Sea. Aquaculture products will determine the

¹ Hanna Sommer PhD, Department of Humanities and Social Sciences, Faculty of Management, Rzeszów University of Technology, Al. Powstańców Warszawy 8, 35-959 Rzeszów, e-mail: hansom@prz.edu.pl (corresponding author). ORCID: 0000-0001-7208-7641.

² Grzegorz Zakrzewski, PhD, Eng., Higher Vocational Education School, pl. Powstańców Śląskich 1/201, 53-329 Wrocław. ORCID: 0000-0002-0945-5322.

well-being of humanity to greater and greater extent. The terms: 'food safety' and 'food security' had been erroneously used alternately to the end of the 60's of the previous century.

Food security and food safety were located in the pyramid of human needs in Figure 1. (Sommer, Zakrzewski, 2017b).

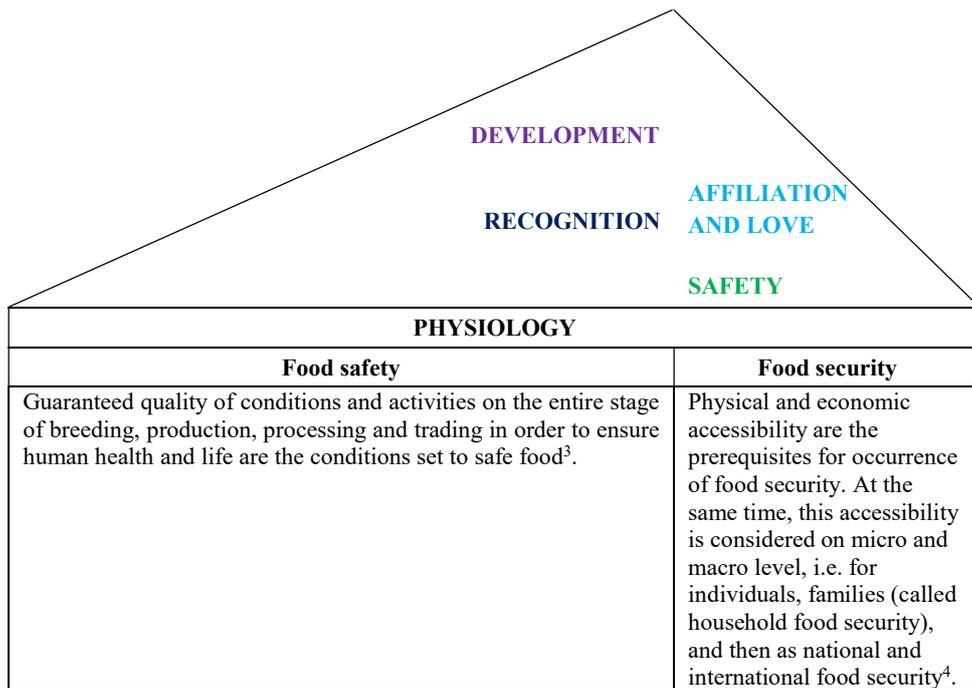


Figure 1. Food security and food safety in the pyramid of human needs

Source: Own elaboration.

³ As defined by the Food and Agriculture Organization of the United Nations (FAO), food safety is connected with ensuring that food does not cause harm to the consumer when prepared and/or consumed as intended. Food safety legislation is highly harmonised on the European Union level and is one of the pillars of health protection. Every citizen has the right to know how the food they eat is produced, processed, packaged, labelled and sold. The main objective of the Food Safety Policy, which is common and uniform across the EU, is to ensure high level of human health protection in relation to the food industry – the largest manufacturing and employment sector in Europe. The guiding principle is application of the integrated field-to-table approach covering all sectors of the food chain (<https://ncez.pzh.gov.pl/abc-zywienia/bezpieczenstwo-zywnosci-podstawowe-zagadnienia-aktualne-zagrozenia/>).

⁴ As it is written by Aleksandra Kowalska, food security is a situation, in which all people at all times have physical, social and economic access to safe food, appropriate in terms of nutrition as well as sufficient in terms of nutritional needs and preferences, ensuring healthy and active life. Food security will only be ensured when the available food is compatible with religion and culture of its recipients (<https://www.umcs.pl/pl/komentarze-eksperckie,22097,bezpieczenstwo-zywnosciowe-w-zagrozeniu,105815.chtm>).

2. LEGAL ASPECTS OF FOOD SECURITY

Ensuring of quality and health safety of food is now the key aspect for food producers, control authorities and consumers. The legal act governing food safety in the European Union is Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002. This Regulation establishes the European Food Safety Authority (EFSA), the activities of which include inter alia provision of independent, up-to-date scientific advice on food safety, thus increasing trust to the EU food safety system (Document 32002R0178).

In Polish legislation, food safety is regulated by the Food and Nutrition Safety Act of 25 August 2006 (Journal of Laws of 2019, item 1252).

Figure 2. shows the food safety system.

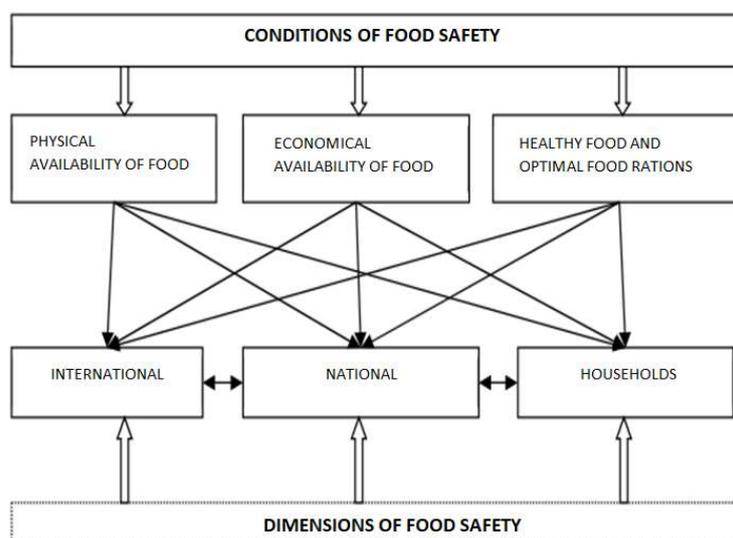


Figure 2. Food safety system

Source: (https://repozytorium.uwb.edu.pl/jspui/bitstream/11320/8116/1/Optimum_3_2019_M_Kozlowska-Burdziak_Warunki_bezpieczenstwa_zywnosciowego_Polski.pdf).

3. FOOD SECURITY CULTURE

The essence and role of food safety culture (FSC)⁵ is a relatively new issue and relates to pro-quality behaviour among employees of food industry plants⁶. The broadly understood

⁵ The concept of food quality and safety culture is not a new concept in the global approach to food safety. However, we have been recently coming across this concept more often and it is connected with introduction of a requirement relating to the food safety culture in the standard recognised by the Global Food Safety Initiative. In the BRC Food standard amended in 2018 (version 8.) Requirement 1.1.2 was introduced, which indicates that the Top Management should implement a plan for improvement and development of food quality and safety culture. <https://www.isoqr.pl/pl/aktualnosci/branza-spozywcza/kultura-jakosci-i-bezpieczenstwa-zywnosci>.

⁶ Commission Regulation (EU) 2021/382 amending the Annexes to Regulation (EC) No 852/2004 of the European Parliament and of the Council on the hygiene of foodstuffs as regards food allergen

food industry is statutorily obliged to implement the issues of food quality and safety culture. These activities are purposeful and take the form of: modernised technological lines, technological and organisational documentation, accepted behaviour of employees applying good employee practices in the field of responsibility for product quality.

Culture is a set of measurable, hard-to-measure and non-measurable principles. Most of these rules can be entered in the job description sheet. Safety culture means observing of rules, sharing of attitudes, professing of values, beliefs of own behaviour, the beneficiary of which is a food product (Sommer, 2006).

*The European Commission seeks to ensure high level of **food** safety and health of **animal-origin plants in the EU through coherent field-to-table measures and appropriate monitoring, simultaneously ensuring an effective internal market** (EU Integrated Food Safety Policy). Implementation of the EU Integrated Food Policy is shown in Figure 3.*

The EU organises the market for production and trading in food and its products in an effective manner.

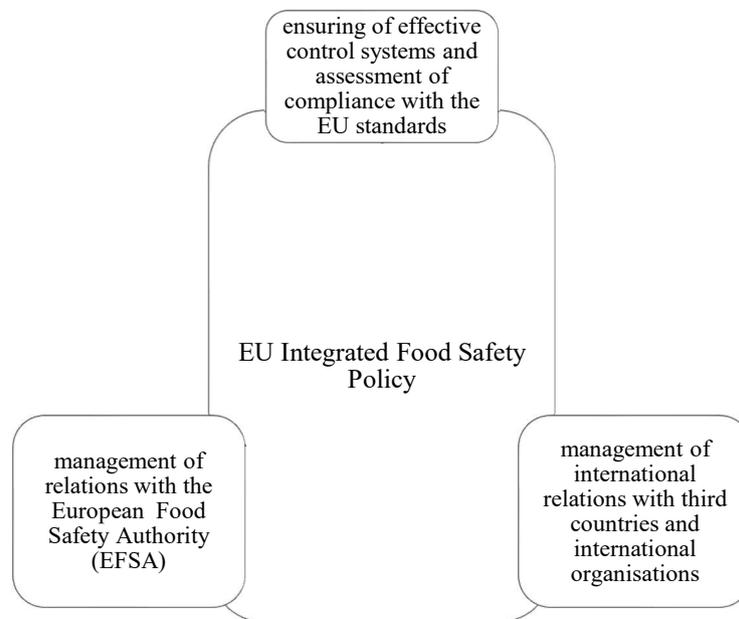


Figure 3. Implementation of the EU Integrated Food Policy

Source: Own research based on (https://ec.europa.eu/food/index_pl?ettrans=pl).

management, redistribution of food and food safety culture introduces a new legal requirement relating to the whole food chain. The Codex Alimentarius Commission has adopted an amendment to the global standard relating to the General Principles of Food Hygiene (CXC 1-1969). In amended standard CXC 1-1969, the term 'food safety culture' was introduced as a general principle, understood as support of food safety by improvement of awareness and behaviour of employees in food plants. <https://haccp-polska.pl/kultura-bezpieczenstwa-zywnosci>.

4. OWN RESEARCH

The aim of the undertaken research is - generally speaking – scientific recognition of the examined reality. Both development of theory, i.e. systematic knowledge that refers to social reality, and social practice, showing the possibilities of its shaping, is aimed for through empirical research.

The subject of the research is recognition of food security issues through the prism of food safety in terms of respecting of the latter as well as determination of the essence and role of food safety culture as behaviour acquired and learnt by academic youth (Sommer, Zakrzewski, 2020).

The research problem was formulated as follows: *What is the level of knowledge and what are the attitudes and assessment of food security issues among academic youth?*

The research was carried out in a group of academic youth from Podkarpacie. These were 110 people, 52 women and 58 men, who expressed their willingness to participate in the research. Podkarpacie is one of poorer regions of Poland. We can talk about the food respecting tradition here. The research was carried out in January 2022, i.e. in the post-Christmas period, when food wasting occurs more often.

Survey research is the most commonly used method of obtaining of empirical data. CAWI research, which is one of the forms of quantitative measurements, was used in the article. It uses a survey questionnaire provided electronically. The advantage of this technique is ability to complete the survey at selected time and from any device with Internet access.

The results of the completed research are presented on the charts. The first chart relates to familiarity with the content of labels.

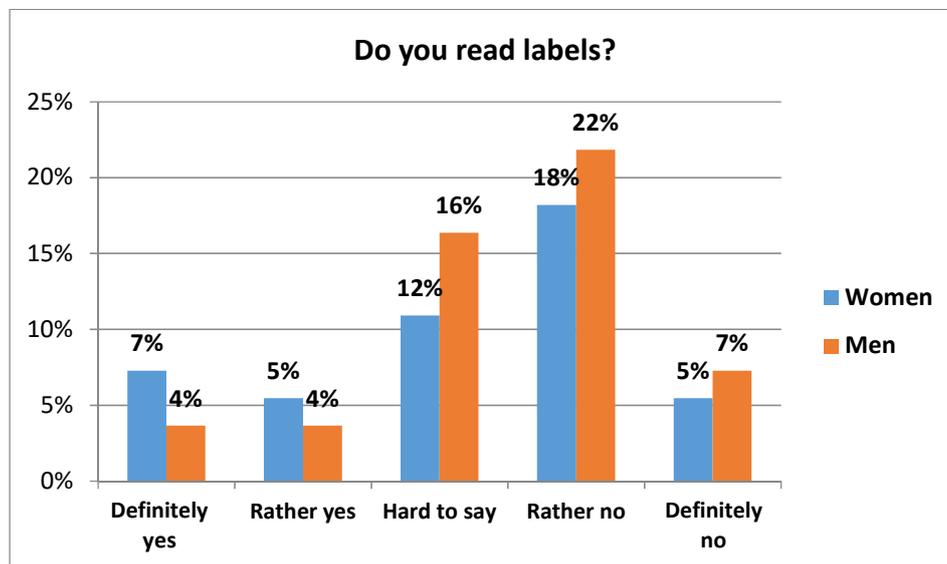


Chart 1. Labels reading

Source: authors' own research.

Chart 1 shows the degree of familiarity with the content contained in product labels. The most often selected response, both among women (18%) and men (22%), was: 'rather not' - it was indicated by as much as 40% of respondents. A lot of respondents (28%) were unable to take a position on this issue. However, a similar number of respondents definitely do not read (12%) and definitely read labels (11%). If so many respondents do not read the labels or are unable to take a position on this issue, it can be concluded that the respondents trust the producers.

However, the examined level of trust to the information contained in the labels (Chart 2) does not correspond to the assumptions made on the basis of the data from the first chart.

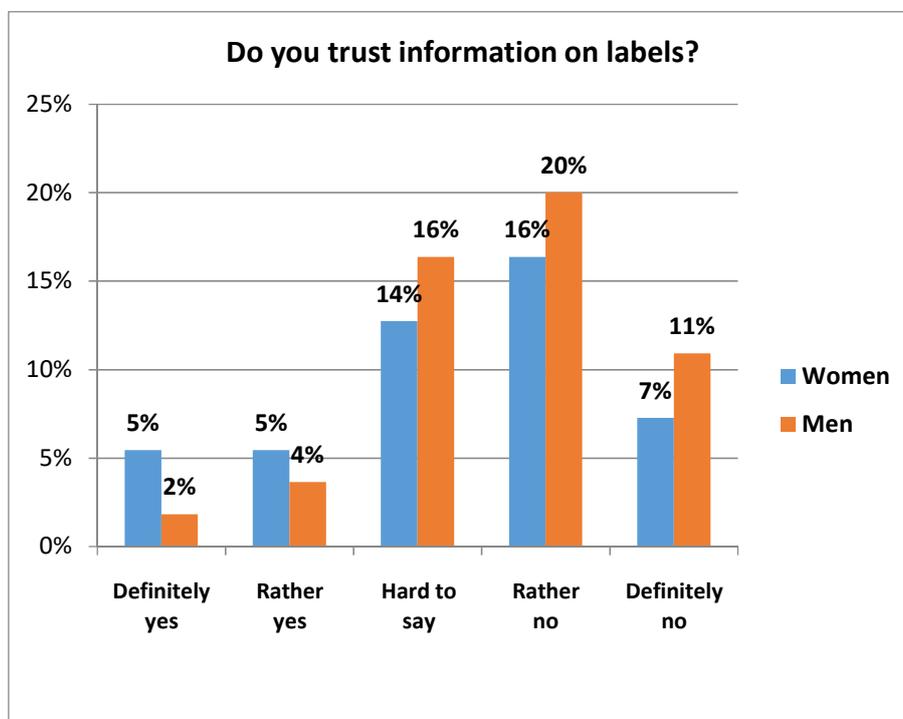


Chart 2. Trust level of information on labels

Source: authors' own research.

The level of trust to information in labels is low. As many as 36% of the surveyed women (16%) and men (20%) rather do not trust this information and 18% definitely do not trust it. A lot of respondents (30%) are unable to take a position in this assessment. Only 9% of women (95%) and men (4%) rather trust and 7% strongly trust the information that the manufacturer places in product labels.

The respondents also pointed out that certification labels raise the greatest trust among consumers, providing certainty as to product quality. It should be remembered that label is

the primary source of information provided to the customer and this information is regulated by law.

Another question related to the level of public awareness of operation of food mafias.

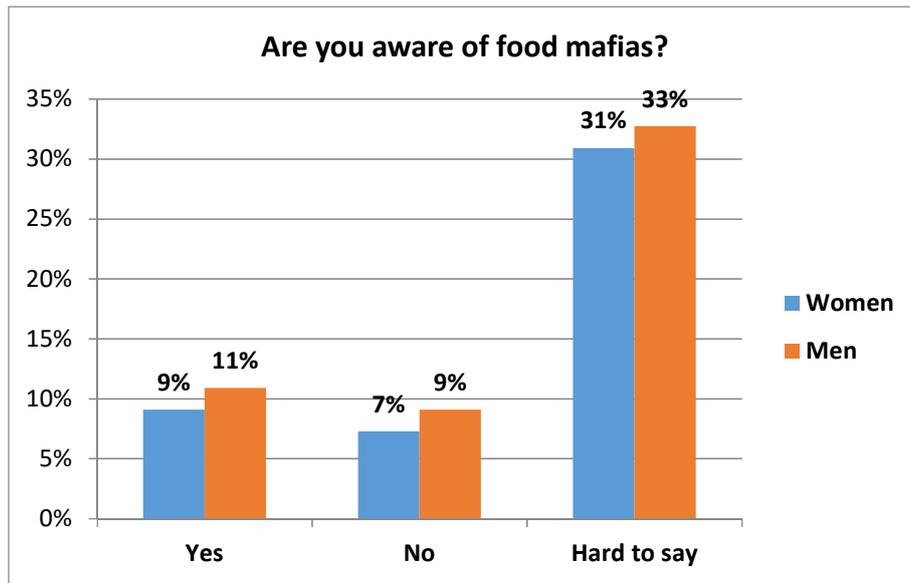


Chart 3. Social awareness level of food mafias activity

Source: authors' own research.

As many as 64% of respondents, of which 31% of women and 33% of men, are unable to comment on existence of food mafias. Only 9% of women and 11% of men are aware of existence of such mafias, and 16% (7% of women and 9% of men) have not heard of their functioning. The fact that such a large part of respondents are unaware of existence of food mafias may be a concern. Mafias can slowly take over the market, dictate prices and push smaller producers who produce healthy and natural food out of the market. The mafias are guided only by profit; human health is of no value for such groups.

The next chart (4) shows knowledge of respondents on unfair practices in the processing industry.

Despite the fact that the respondents have little knowledge on food mafias, as many as 68% of them are aware of occurrence of unfair practices in the processing industry (33% of women and 35% of men). As many as 23% of respondents cannot comment on this subject and 9% have not encountered any unfair practices in the processing industry. Unfair practices are contrary to good manners and significantly distort market behaviour of consumers. Unfair entrepreneurs should know that unfair market practices in relations with consumers may result in loss of trust, both of existing and of potential customers.

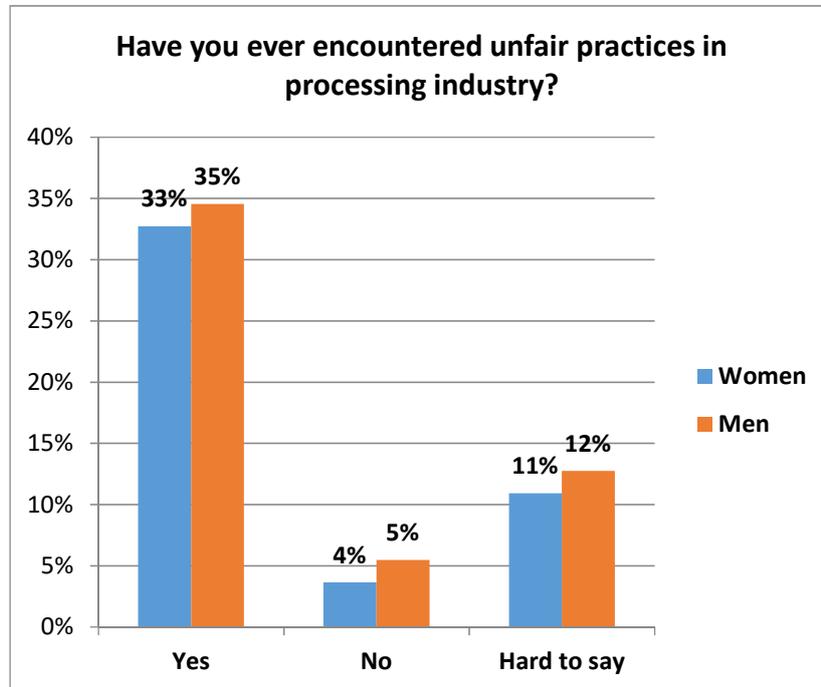


Chart 4. Unfair practices of processing industry

Source: authors' own research.

Another question asked to the respondents concerned counterfeiting of food (Chart 5).

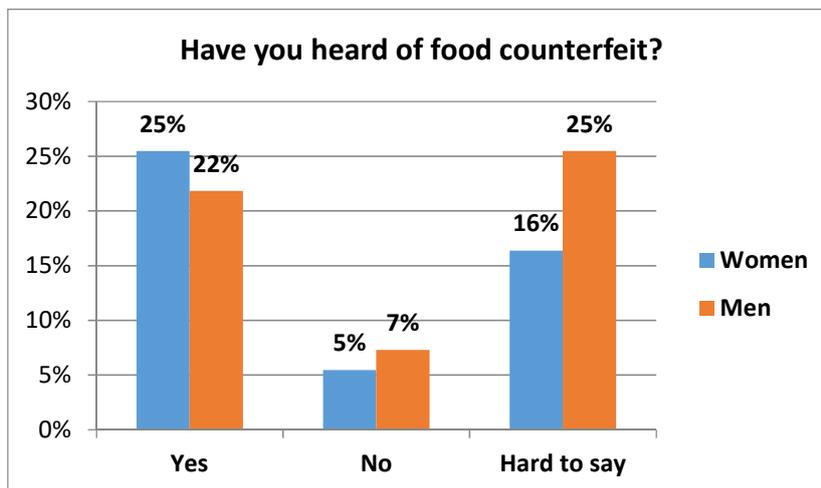


Chart 5. Food counterfeit

Source: authors' own research.

Knowledge on food counterfeiting is not common. Only 47% of respondents (25% of women and 22% of men) have such knowledge. As many as 41% cannot take a position on this issue and 12% have not heard of food counterfeiting. At present, food may be very dangerous from the point of view of consumer's health. Food counterfeiting is a profitable business and food is a commodity that is bought every day. Almost every product may be counterfeited, for example mozzarella may be artificially whitened and fish or even honey may be chemically refreshed. However, food that is falsified the most often is wine, olive oil, meat, tomatoes or sugar.

The next question examined familiarity with symbols of food additives (Chart 6).

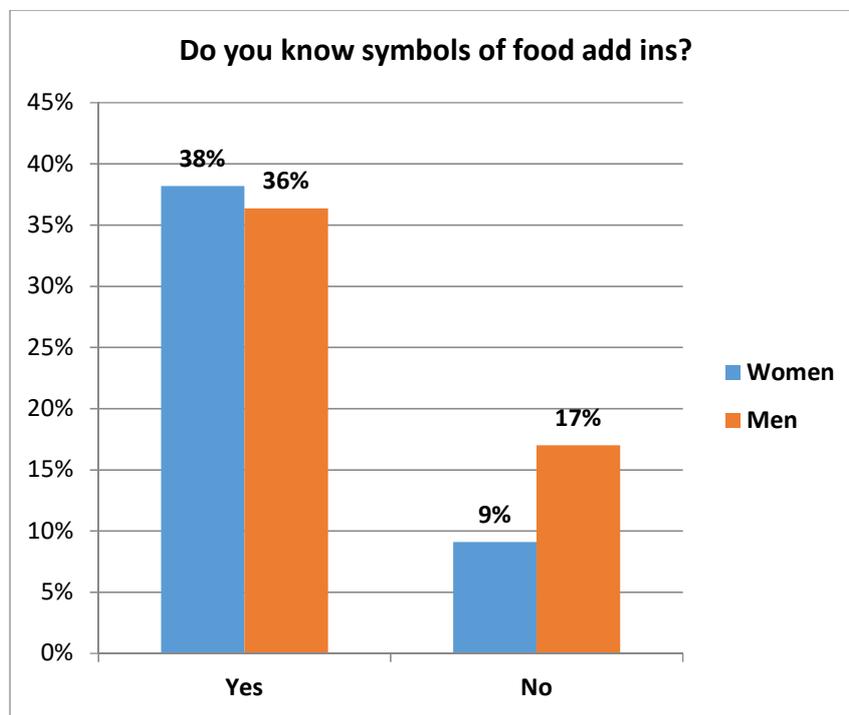


Chart 6. Knowledge of food add ins

Source: authors' own research.

A very large part of respondents, both women (38%) and men (36%), know the symbols of food additives (74%). However, 26% of them do not have such knowledge.

It can be said that food is currently changing in terms of quality. In the fight for the consumer, products have long shelf-life and affect taste and smell qualities. Food is increasingly processed with the use of chemical compounds that are added to food products in large quantities. Unfortunately, these changes are not neutral for our health. It is good that we know the symbols of food additives. This allows for purchasing of the least processed food.

The next chart (7) presents assessment of the EU Food Security Policy.

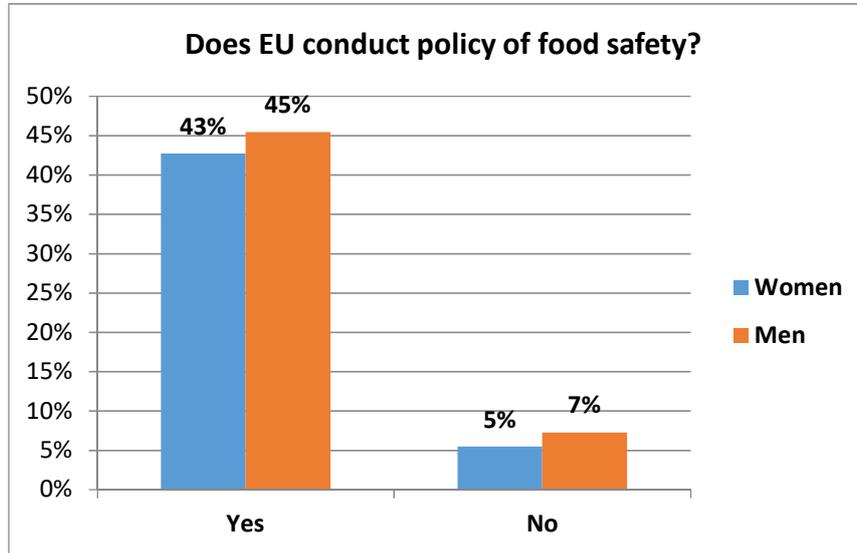


Chart 7. Food safety in EU

Source: authors' own research.

In response to growing challenges connected with food needs, the European Union is launching programmes aimed at improvement and ensuring of food security. As many as 88% of respondents, including 43% of women and 45% of men, are aware of their functioning. The Poles are still Euro-enthusiasts, which is why such a high score was achieved in this question. Only 12% of respondents do not know that such programmes are being implemented in the EU.

According to the Global Food Security Index report created in cooperation with the Economist Intelligence Unit, Europe is considered as the world leader in counteracting of food wasting. At the same time, the *European food systems, even the ones in less affluent countries in the eastern part of the continent, have proved to be successful during the test being the SARS-CoV-2 pandemic that has been occurring for a lot of months* (Fotruna, Łobodziński 2021).

The last (8) chart shows the factors that affect purchasing decisions.

While making purchasing decisions, the respondents are guided by various factors (Sommer, Sommer, Zakrzewski, 2018). Due to the possibility to select more than one factor, the number of responses for the individual values is presented in the chart. Women the most often pay attention to the brand of the product (36), its composition (34) and country of origin (32). Men react similarly. For them, the brand of the product is in the first place as well (42), but in the second place there is the country of origin (38) and in the third place there is composition of the product (30). The remaining values that were selected by the respondents were: nutritional value of the product, the form of its offering and food safety. Both women and men answered this question similarly.

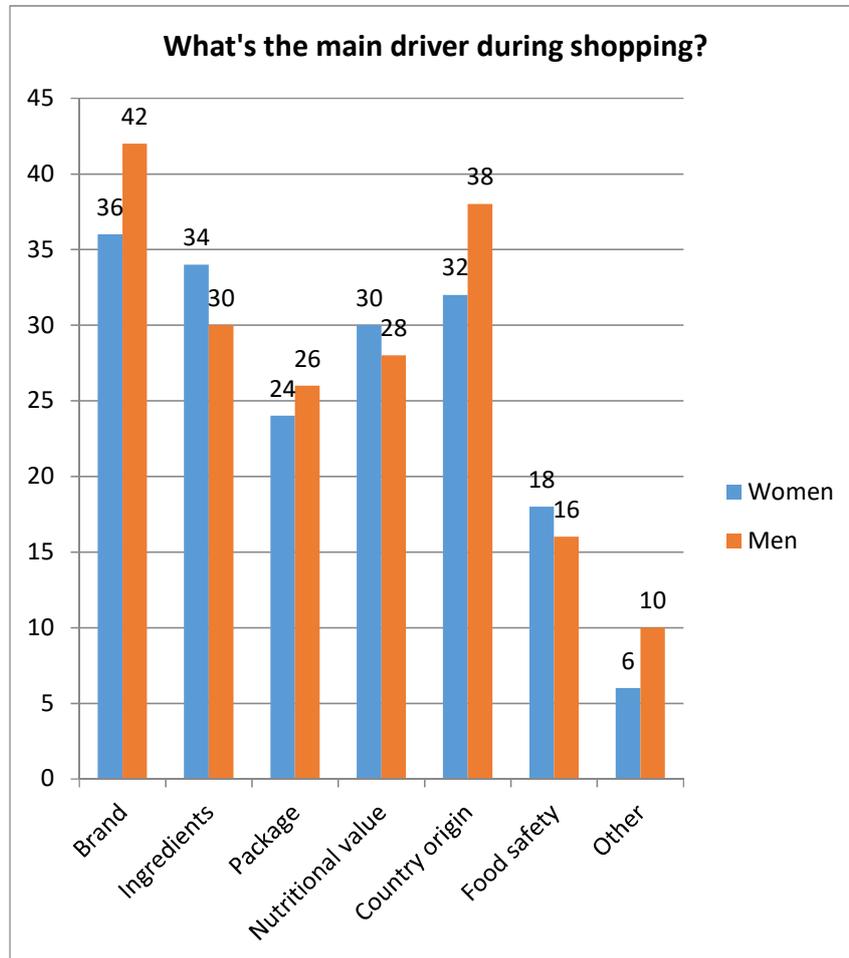


Chart 8. Factors influencing purchasing decisions

Source: authors' own research.

Summing up the conducted research, it may be said that the academic youth of Podkarpacie do not read product labels in more than 50%. The level of trust to information in labels is low. The fact that a large part of respondents are unaware of existence of food mafias may be a concern. Despite the fact that the respondents have little knowledge on food mafias, as many as 68% of them are aware of occurrence of unfair practices in the processing industry. Knowledge on food counterfeiting is not common. Only 47% of respondents have such knowledge. A very large part of respondents, both women and men, know the symbols of food additives (74%). As many as 88% of respondents are aware of functioning of programmes aimed at improvement and ensuring of food security in the EU. While making purchasing decisions, the respondents are guided by various factors. Both

women and men pay attention to the brand of the product, its composition and country of origin the most often.

5. CONCLUSION

Along with social development, food has begun to perform new psychological, social and cultural functions. Taking into account the role of food in the life of every human, it should be stated that ensuring of food security is the most important problem of the modern world. Provision of sufficient food of adequate quality to the population in conditions of limited natural resources is one of the greatest challenges on the global and local level.

Food security is connected with quality of food products. Ensuring of food security of the society is conditioned by physical and economic availability of food.

Importance of food security entails taking of actions, including information & education initiatives, aimed at ensuring and improvement of food security.

REFERENCES

- https://ec.europa.eu/food/index_pl?etrans=pl [Access: 1.01.2022].
- <https://eur-lex.europa.eu/legal-content/PL/TXT/?uri=celex%3A32002R0178> [Access: 1.01.2022].
- <https://haccp-polska.pl/kultura-bezpieczenstwa-zywnosci> [Access: 1.01.2022].
- <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20200002021/O/D20202021.pdf> [Access: 1.01.2022].
- <https://ncez.pzh.gov.pl/abc-zywienia/bezpieczenstwo-zywnosci-podstawowe-zagadnienia-aktualne-zagrozenia/> [Access: 1.01.2022].
- https://repozytorium.uwb.edu.pl/jspui/bitstream/11320/8116/1/Optimum_3_2019_M_Kozlowska-Burdziak_Warunki_bezpieczenstwa_zywnosciowego_Polski.pdf [Access: 1.01.2022].
- <https://www.isoqar.pl/pl/aktualnosci/branza-spozywcza/kultura-jakosci-i-bezpieczenstwa-zywnosci> [Access: 1.01.2022].
- <https://www.umcs.pl/pl/komentarze-eksperckie,22097,bezpieczenstwo-zywnosciowe-w-zagrozeniu,105815.chtm> [Access: 1.01.2022].
- Fabisiak J. (2019). *Zatopiona broń chemiczna a bezpieczeństwo ekologiczne Morza Bałtyckiego*. Wydawnictwo BP, Gdynia. Access on the internet: <https://www.worldcat.org/title/zatopiona-bro-chemiczna-a-bezpieczestwo-ekologiczne-morza-batyckiego/oclc/1100315072>
- Fortuna G., Łobodziński W., EURACTIV.pl. [Access: 2.02.2022]. Access on the internet: <https://www.euractiv.pl/section/rolnictwowpr/news/zywnosc-unia-europejska-bezpieczenstwo-zywnosciowe-pandemia-koronawirus-lancuchy-dostaw-od-pola-do-stolu-wpr-wojciechowski-srodowisko-susza-klimat-powodz/>.
- Sommer, H. (2006) *Kształtowanie się kultury organizacyjnej w przedsiębiorstwie. Na przykładzie WSK w Rzeszowie*. Rzeszów: Oficyna Wydawnicza PRz. <https://knh.prz.edu.pl/publikacje>.
- Sommer, H., Zakrzewski G. (2017a). *Założenia dla edukacji ekologicznej czy bezpieczeństwa ekologicznego*. „Humanities and Social Sciences”, t. XXII, z. 24 (3/2017), <http://doi.prz.edu.pl/pl/publ/einh/344>
- (2017b). *Zastosowanie piramidy Masłowa w ekologii informacji – przyczynek do dyskusji* [w:] Materska, K., Taraszkiewicz, B., red., *Ekologia informacji a zasoby informacyjne w bibliotekach i cyberprzestrzeni*. Słupsk. Access on the internet: <https://www>.

- academia.edu/42010412/Ekologia_informacji_a_zasoby_informacyjne_w_bibliotekach_i_cyberprzestrzeni_pod_redakcj%C4%85_Katarzyny_Materskiej_i_Beaty_Taraszkiewicz
- (2020). *Ecological security vs. food security*. „Humanities and Social Sciences”, t. XXV, z. 27 (4/2020). <http://doi.prz.edu.pl/pl/publ/einh/546>.
- Sommer, H., Sommer, H., Zakrzewski, G. (2018) *Ocena wybranych składowych wpływających na komfort przebywania klientów w wielkopowierzchniowych obiektach handlowych*. „Humanities and Social Sciences”, t. XXIII, z. 25 (1/2018). <http://doi.prz.edu.pl/pl/publ/einh/378>.

DOI: 10.7862/rz.2022.hss.13

The text was submitted to the editorial office: March 2022.

The text was accepted for publication: June 2022.

