Abstract
The aim of this paper was to study consumer behaviour of urban millennials in Slovakia. Research is based on primary data obtained from an online questionnaire survey in 2021. Research sample comprises 179 urban honey consumers between 25 – 30 years. Results showed that honey is mainly consumed due to medicine purposes during winter and illness period. The most respondents indicated occasional consumption with annual consumption up to 1 kg. The most preferred types of honey were both acacia and linden honey. This segment mostly purchases honey at retail stores or directly from beekeepers. Quality and taste were evaluated as the most important factors.

Keywords: honey consumers, purchasing behaviour, honey preferences, young segment,

JEL Classification: M30, M31, Q13

1. Introduction
During the decades the consumer’s approach towards food had changed significantly. Health and nutrition are creating important trends in modern society. As reported by Goetzke & Spiller (2014) nowadays, the desire for health and well-being is a strong motivator in the food market. Likewise, Bleiel (2010) adds that aspects such as nutrition and health are forming the consumer’s perspective in regard to food. As claimed by Sheau-Fen & Hong (2009) the constant changes in consumers' attitudes and behaviour towards a healthy lifestyle certainly heightened the interest in healthier alternatives of products and services. Similarly, several studies made by Oravecz & Kovács (2019); Testa, Asciuto, Schifani, Schimmenti & Migliore (2019); Oliveira, Paiva & Novais (2020) claimed that the concern in consuming healthy food is constantly increasing. In the context of health trends, honey can be considered a food with many benefits to human health.

1.1 Consumer behaviour on honey market
Honey and other bee products have been used for their healing and medicinal properties since ancient times (Senel & Demir, 2018). Due to several attributes such as amino acids, carbohydrates, proteins and enzymes, Kafantaris, Amoutzias & Mossialos (2021) claimed that honey belongs to the category of superfood. Moreover, Ahluwalia, Dhandapani & Vaibhav (2020) believe that honey is an indispensable component in nutrition, which can be used as a dietary food, sweetener as well in medicine. The study made by Oravecz & Kovács (2019) has established that the honey market has an increasing tendency in total consumption thanks to the growing concern about consuming foods with healthy properties. In research by Pocol & Ványi (2012), the results showed a positive relation between honey consumption and a healthy lifestyle. On average a resident of Slovakia consumed approximately 1.1 kg of honey in 2019 and the overall consumption of honey reached nearly 5 800 tons (Statistical Office of the Slovak Republic, 2022). Moreover, Pocol & Marghitas (2008) and Tiganis, Avgiris, Tigani, Tsakiridou & Grigoroudis (2020) pointed out that honey consumption is largely influenced by family habits.
learned from parents and relatives. In addition, Žak (2017) was discovering consumption patterns in the young generation in Poland. Based on the results, it can be concluded that the main consuming motive between young consumers was tradition. This fact is also confirmed by a study done by Hudcová, Šedík & Nagyová (2021) where the majority of respondents claimed the honey consumption in the whole family. Similar results were obtained in Romania by Pocol, Šedík & Horská (2018) where honey was consumed mostly by the whole family. On the contrary, results by Batt & Liu (2012) showed that respondents ranked themselves as the major consumer of honey, while children were the other group most likely to consume honey. Some previous researchers have dealt with the time of year when consumers consume honey. It can be concluded that consumption differs from country to country. According to consumer research in Serbia respondents consume honey mostly throughout the whole year (Čirić, Ignjatijević & Cvijanovic, 2015) as well as in Romania and Italy (Ignjatijević, Prodanović, Bošković, Puvača, Simin, Peulić & Đuragić, 2019). On the other hand, consumers in Portugal are most likely to consume honey both in autumn and winter (Ribeiro, et al. 2019). According to the Statistical office of the Slovak Republic (Fig. 1), the annual consumption of honey per capita is increasing. From 2007 till 2020, the honey consumption doubled. Nevertheless, if we compare honey consumption with consumption of sugar, it can be stated that there is a significant difference, since the average Slovak inhabitant consumes more than 30 kg of sugar annually.

![Figure 1: Annual consumption of honey and sugar per capita in Slovakia](Source: Slovstat, 2021)
2. Data and Methods

The main objective of this paper was to identify consumption patterns, purchasing behaviour and preference of urban millennials in the Slovak honey market. The research was based on primary data obtained by implementing questionnaire survey in 2021 as pilot testing. In total, 179 respondents were selected into the research. The selection criteria were as follows: honey consumer, age between 25 – 30 years living in urban areas. The socio-demographic characteristics are shown in Table 1. A Snowball sampling technique was used via social media including emails. Meng & Choi (2019) stated that this method is appropriate to apply among young segment due to the high use rate of smartphones and social networks.

Table 1: Socio-demographic characteristics of research sample

| Variable          | Categories          | Frequency (%) |
|-------------------|---------------------|---------------|
| Gender            | male                | 32,40%        |
|                   | female              | 67,60%        |
| Level of education| secondary           | 77,65%        |
|                   | university          | 22,35%        |
| Economic activity | maternity leave     | 2,23%         |
|                   | entrepreneur        | 1,68%         |
|                   | student             | 71,51%        |
|                   | employed            | 24,58%        |
| Monthly income in netto | up to 400 €    | 50,84%        |
|                   | 401 - 600 €         | 17,32%        |
|                   | 601 - 800 €         | 20,11%        |
|                   | 801 - 1 000 €       | 6,15%         |
|                   | more than 1000 €    | 5,59%         |
| Household structure| I live with parents | 66,48%        |
|                   | I live with my spouse without children | 21,79% |
|                   | I live alone        | 7,82%         |
|                   | I live with my spouse with children | 3,35% |
|                   | I live only with children | 0,56% |

Source: author’s calculations

In order to accomplished paper’s objectives a several hypotheses were posited:

H1: It is assumed that there exists dependency between honey consumption in childhood and actual consumption frequency.

H2: It is assumed that there exists dependency between honey preference and gender.
H3: It is assumed that young respondents evaluate the importance of selected factors considered at purchase of honey in different ways.

Besides descriptive statistics, non-parametric tests were applied as follows:

- Friedman test
- Nemenyi's procedure
- Chi-square test of independence
- Fisher's Exact Test

3. Results and Discussion

Results showed that the most urban millennials consume honey either occasionally (40.22 %) or regularly on a weekly basis (31.28 %). Nearly 47 % indicated that they consume only up to 0.5 kg per year and 47 % between 0.5 – 1 kg. The majority of respondents stated they consumed honey for its healing effects during winter session as an immunity booster and for its nutritional value as well. Moreover, we revealed statistically significant dependency between consumption frequency in childhood and actual consumption by applying Chi-square test of independence (p-value = <0.000). Respondents who consume honey only occasionally used to consume it also sporadically or not at all. The most preferred honey types among young urban consumers were acacia honey (43.02 %) and linden honey (36.31 %). Our second hypothesis assumed statistically significant differences in type preferences between gender. This assumption was confirmed by Fisher's Exact Test (p-value = 0.039). Women prefer more acacia honey while men indicated a bigger preference for rapeseed honey and linden honey. Regarding the purchasing behaviour, urban millennials tend to purchase honey at retail stores or directly from beekeepers. Furthermore, they perceived the importance of selected factors during purchase of honey in a different way, which was confirmed by applying Friedman’s test (Table 2). Obtained results confirmed our last hypothesis (H3).

Table 2: Friedman's test

| Q (Observed value) | 275.682 |
|-------------------|---------|
| Q (Critical value) | 15.507  |
| DF                | 8       |
| p-value (one-tailed) | <0.0001 |
| alpha             | 0.050   |

*Source: author’s calculations*

Furthermore, Nemenyi’s procedure based on multiple pairwise comparisons revealed where exactly exist significant differences (Table 1). As the most important factors were selected quality and taste followed by country of origin, consistency, aroma, type, colour and price. As the least important factor was indicated the labelling. Based on the results it can be concluded that price is not perceived as the most important factor, nevertheless it is important to monitor optimal price for this segment of consumers. Survey showed that the optimal price which this segment is willing to pay ranges from 5 to 6 euros per 1 kg.
Table 1: Multiple pairwise comparisons using Nemenyi’s procedure

| Sample   | Mean of ranks | Groups |
|----------|---------------|--------|
| quality  | 3.500         | A      |
| taste    | 3.626         | A      |
| origin   | 4.411         | B      |
| consistency | 4.947   | C      |
| aroma    | 5.092         | C      |
| type     | 5.235         | C      |
| colour   | 5.341         | C      |
| price    | 5.754         | D      |
| label    | 7.095         | E      |

Source: author’s calculations

According to Popescu and Guresoaie (2019), the whole purchasing process of honey is mainly influenced by numerous aspects which differ from country to country. Besides 4P of the marketing mix, namely place, product, promotion and price, there are other important attributes when it comes to purchasing agro-food products. Consumers feel stimulated mostly by the appearance of the product and attributes such as colour, shape, or size are also very relevant (Ribeiro, Fernandes, Cabo & Diniz 2019). In the context mentioned above, Hudecová, Šedík & Nagyová (2021) identified five major motives that drove Slovakian consumers to purchase honey. There were quality, previous experience, price, country of origin and size/weight of honey. The promotion and design of packaging were indicated as irrelevant motives. Meanwhile, results by Roman, Popliela-Pleban, Kozak & Roman (2013) revealed that the most important factors influencing the purchasing process of honey in Poland were mostly the packaging, the cleanliness and hygiene of the packaging. According to Lymperi & Fragkaki (2018), purchasing honey directly from a local producer is an important factor in establishing customer confidence in its quality. This fact is supported by Thoma, Kokthi & Kelemen-Erdős (2019) where the main factors indicated in Albania were mostly origin followed by taste.

4. Conclusion

Slovak millennials in urban areas tend to consume less honey than it is the average annual consumption. Consumption pattern is related to their honey consumption in their childhood. Honey is consumed for medicine purposes mainly during winter season and illness period. Quality and taste were evaluated as the most important factors when buying honey, while the least important was the label.

Acknowledgements

This paper was supported by the project VEGA “Interdisciplinary research on consumer behaviour on the honey market with an emphasis on its quality and nutritional value” from The Ministry of Education, Science, Research, and Sport of the Slovak Republic. Project registration number VEGA No. 1/0415/21.
References

[1] Ahluwalia, M., Ahluwalia, P., Dhandapani, K. M., & Vaibhav, K. 2020. Honey: A Sweet Way to Health. In Rehman, M. U., Majid, S. Therapeutic Applications of Honey and its Phytochemicals. Singapore: Springer, 53-80. doi:10.1007/978-981-15-6799-5

[2] Batt, P. J., & Liu, A. 2012. Consumer behavior towards honey products in Western Australia. British Food Journal, 114(2), 285-297. doi: 10.1108/00070701211202449

[3] Bleiel, J. 2010. Functional foods from the perspective of the consumer: How to make it a success? In International Dairy Journal, 20(4), 303-306. doi:10.1016/j.idairyj.2009.11.009

[4] Ćirić, M., Ignjatijević, S., & Cvijanović, D. 2015. Research of honey consumers’ behavior in province of Vojvodina. Economics of Agriculture, 62(3), 627–644. doi: 10.5937/ekoPolj1503627C

[5] Goetzke, B. & Spiller, A. (2014). Health-improving lifestyles of organic and functional food consumers. British Food Journal, 116(3), 510-526. doi:10.1108/BFJ-03-2012-0073

[6] Hudecová, M., Šedík, P., & Nagyová, L. 2021. Analysis of Consumer Behaviour on the Bee Products Market in Relation to the Health Trends. Challenges of Nowadays in the Light of Sustainability - 8th VUA YOUTH Scientific Session. ISBN 978-963-269-968-4

[7] Ignjatijević, S. D., Prodanović, R. V., Bošković, J. Z., Puvča, N. M., Tomaš Simin, M. J., Peulić, T. A., & Đuragić, O. M. (2019). Comparative analysis of honey consumption in Romania, Italy and Serbia. Food and Feed Research, 46(1), 125-136. doi: 10.5937/FFR1901125I

[8] Kafantaris, I., Amoutzias, G. D., & Mossialos, D. (2020). Foodomics in bee product research: a systematic literature review. European Food Research and Technology, 247(2), 309–331. doi:10.1007/s00217-020-03634-5

[9] Lymeri, A., & Fragkaki, A. G., 2020. Investigation of consumers’ trends concerning honey supply: A case study in Central Greece. Advances in Nutrition and Food Science, 2, ISSN: 2641-6816.

[10] Oliveira, N., Paiva, W. M., & Novais, J. S. (2020). "Honey is Good for Health": Patterns of honey purchasing and consumption in Lower Amazon. Consumer Behavior Review, 4(3), 324-336. doi: 10.51359/FFR1901125I

[11] Oravecz, T., & Kovács, I. (2019). Qualitative study of preferences and attitudes towards honey consumption in Hungary. Analecta Technica Szegedinensia, 13(1), 52-58. doi:10.14232/analecta.2019.2.52-58.

[12] Pocol, C. B. & Marghitas L. A. 2008. A comparison between the segmentation of honey market in Romania and Ireland. Bulletin UASVM, 65(2). 279-282.

[13] Pocol, C.B., Šedík, P., & Horská, E. 2018. Honey Consumption Patterns Of Young People In Romania. International Scientific Days 2018.

[14] Pocol, C. B., & Ványi, G.A. 2012. A comparison between Hungarian and Romanian consumption. Bulletin UASVM, 69(2), 244-252.

[15] Popescu A., & Guresoaie I. 2019. Consumer's behaviour towards honey purchase – a case study in Romania. Scientific Papers. Series Management, Economic Engineering in Agriculture and rural development, 19(1), 451-470. ISSN 2284-7995.

[16] Ribeiro, M. I., Fernandes A. J., Cabo, P. S. & Diniz, F. J. (2019). Trends in Honey Purchase and Consumption in Trás-os-Montes Region, Portugal. Ekonomika Regiona (Economy of Region), 15(3), 822-833. doi:10.17059/2019-3-15

[17] Roman, A., Popliela-Pleban, E., Kozak, M. & Roman, K. (2013). Factors influencing consumer behavior relating to the purchase of honey part 2. product quality and packaging. Journal of Apicultural Science, 57(2), 175-185. doi: 10.2478/jas-2013-0027

[18] Senel, E., & Demir, E. 2018. Bibliometric analysis of apitherapy in complementary medicine literature between 1980 and 2016. Complementary Therapies in Clinical Practice. 31(1), 47-52. doi: 10.1016/j.ctcp.2018.02.003

[19] Sheau-Fen, Y., & Hong, L. (2009). Exercise as a Healthy Lifestyle Choice: A Review and Avenues for Future Research. International Business Research. 2(1), 146-158. doi:10.5539/ibr.v2n1p146.

[20] Statistical Office of the Slovak Republic. (2022). Food consumption 2009 to 2020 [statistics]. Available from Slovak Statistics database
[21] Testa, R., Asciuto, A., Schifani, G., Schimmenti, E., & Migliore, G. (2019). Quality Determinants and Effect of Therapeutic Properties in Honey Consumption. An Exploratory Study on Italian Consumers. *Agriculture, 9*(8), 174. doi:10.3390/agriculture9080174

[22] Thoma, L., Kokthi, E., & Kelemen-Errő, A. (2019). Analyzing consumer preferences for honey: Empirical evidence from Albania. *Management, Enterprise and Benchmarking in the 21st Century*, 162-176

[23] Tiganis, A., Avgeris, A., Tigan, X., Tsakiridou, E., & Grigoroudis, E. (2020). Criteria for honey consumption in Greece: a MUSA application. Conference: XIV Balkan Conference on Operational Research.

[24] Żak, N. 2017. Preferences of Polish and American consumers regarding the consumption of bee honey. *Marketing iZarządzanie*, 2(48) 117-130. doi:10.18276/miz.2017.48-11

[25] Meng, B., Choi, K. 2019. Tourists’ intention to use location-based services (LBS). *International Journal of Contemporary Hospitality Management, 31*(8), 3097-3115. doi:10.1108/IJCHM-09-2018-0734