



COMPARATIVE STUDY OF HONEY CONSUMPTION IN SLOVAKIA AND RUSSIA

Snezhanna Guziy, Peter Šedík, Elena Horská

ABSTRACT

The current situation on the food market is influenced by various diet trends including eating healthy products. The honey consumption has an increasing tendency because more and more consumers consider honey as a healthy alternative to a refined sugar. The aim of this research paper was to identify consumption patterns regarding honey in terms of annual consumption, its frequency, volume of honey per purchase, consumption structure by family members and factors affecting consumers at honey purchase. The primary data was obtained from a questionnaire survey, which was conducted in Slovakia on the sample of 316 respondents as well as in Russia on the sample of 309 respondents. For a deeper analyses several assumptions were formulated where dependencies between demographic factors (age, education and income,) and annual consumption by using Chi-Square Test of Independence and Cramer'V coefficient, as well as, differences in factors affecting consumers at honey purchase by using Friedman test have been statistically tested. Based on the results it was found out that, the majority of Slovak consumers make honey reserves and prefer to buy 1 kg per purchase while the majority of Russian consumers purchase honey if necessary and prefer to buy 0.5 or 2 – 5 kg per purchase. Honey is generally consumed by all family members in both countries. The most important factors for Slovak consumers was the country of origin (2.59) followed by taste (3.51), type (3.97) and price (4.18), while the least important factors were the size of packaging (6.70) and the design of packaging (6.80). For Russian consumers the most important factors were the type (2.97), design of packaging (3.13), price (3.28) and taste (3.61) while the least important factors were the size of packaging (6.98), brand (6.50) and the country of origin (6.50). The majority of consumers in both countries consume from 2 to 5 kg annually and the only significant dependence was confirmed in case of respondents' age. The annual consumption of young generation is lower in comparison to older generations.

Keywords: honey; consumption; purchase; Slovakia; Russia

INTRODUCTION

Honey is the most popular and important bee product. In general, honey is defined as a sweet substance from nectar or honeydew, which honeybees collect, transform with their enzymes and store in honeycomb (Veselý et al., 2013). Furthermore, honey has been considered as one of the most energetic and sweetest food in the nature. The first tangible evidence of its gathering is dated to 25 000 years ago (Crittenden, 2011).

According to Marghitas et al. (2010) honey can be classified as a complex food regarding to standards for nutrients, as natural and healthy product. It contains simple sugars, flavonoids, organics and amino acids, vitamins and minerals. In terms of simple sugars, honey contains several sugars: monosaccharides (fructose – glucose) and disaccharides (saccharose). The structure depends on region and botanical sources (Matsuda and Sabato, 2004). Another source claims that honey is considered as an antioxidant-rich natural product, which contains

flavonoids, ascorbic acid or phenolic components. The particular antioxidant effectiveness depends on type of honey, however we can state that darker honey is more effective (Johnston et al., 2005).

According to Gannabathula et al. (2017) honey has been used as traditional remedy for pressure sores, wounds and burns due to its healing effects. Due to the low water content, honey has high antimicrobial properties, which disable growth of microorganisms in it (Rall et al., 2003). Moreover, when it is consumed in rational amount it can optimise glycogen production in liver. Consuming honey during training, working and before going to bed contributes to better sleep (Fessenden and McInnes, 2008).

Based on the results of a Romanian research, the main motivation for consuming honey is eating healthy. This global trend causes an increase in honey consumption. Firstly, honey was perceived as local product and medicine and nowadays consumers' motivation is connected with

seeking safe and healthy products (Pocoland Ilea, 2011). According to another research, factors such medical condition, price and high quality affect consumer purchasing behaviour. The essential factors are appropriate pricing, high quality and health benefits (Yeow, et al., 2013). Trends in eating healthy food cause an increase in honey consumption, however consumers still suffer from the lack of information about the qualitative properties of honey (Cosmina et al., 2016).

Consumption habits are closely associated with consumer behaviour on food market where various factors influence consumers on a daily basis. Consumers' decision-making on the food market is influenced by food trends, eating habits or consumption patterns (Nagyová, 2012). Consumer decisions can be influenced by several factors such as brand, origin, awards and type. Furthermore, consumer perceptions towards food products have changed. They started to take into consideration not only product price but also better food quality. (Kapsdorferová, 2010; Kozelová et al., 2014; Mokřý et al., 2016). Consumers can differ from each other. For example, consumers living in countryside can be characterised by high level of own food supply regarding both plant-based and animal products while consumers living in urban areas rely on supermarkets (Nagyová, 2005). In addition, it is very important to understand that by modifying consumers' attitudes towards food consumption of certain products we can decrease diseases connected with unhealthy diet. (Kubicová, 2008) as well as support sustainable consumption which is defined as an effective way of consuming products including environmental and ethical aspects (Gálová, Berčík and Vilhanová, 2012).

The aim of this research paper is to identify consumption patterns regarding honey, as well as, examine selected factors affecting consumption and consumer purchasing behaviour in Slovakia and Russia.

MATERIAL AND METHODOLOGY

For the purpose of our research, we conducted a questionnaire survey in two countries - Slovakia and Russia in order to compare the obtained data. Russia was chosen mainly due to the rich history and traditions in apicultural sector as well as because of the fact that one of the authors has studied there.

In terms of the survey in Slovakia, we realized it online via survio.com using social media and emails. Within a time period of January – February 2016 we obtained a sample of 316 respondents. According to the structure of respondents 31.96 % were men and 68.04% were women. By age they were divided into three categories: 18 – 25 years (28.48%), 26 – 35 years (32.59%) and 36 – 45 years (38.93%). By education the sample consists of secondary (11.71%), vocational (25.95%), unfinished higher (15.51%) and higher education (46.83%). In case of income they were divided into four categories: 0 – 300 € (19.3%), 301 – 500 € (25%), 501 – 1,000 € (43.99%) and more than 1,000 € (11.71%).

In terms of the survey in Russia, we realized it at Russian agricultural exhibition "Golden Autumn" in Moscow within two days of October 9 – 10, 2015. We also used an online questionnaire via survio.com using social media. We obtained a sample of 309 respondents. According to

the structure of respondents 40.45% were men and 59.55% were women. By age they were divided into three categories: 18 – 25 years (34.63%), 26 – 35 years (30.10%) and 36 – 45 years (35.27%). By education the sample consists of secondary (5.83%), vocational (9.39%), unfinished higher (10.68%) and higher education (74.10%). In case of income they were divided into four categories: 0 – 15,000 RUB (24.6%), 15,001 – 25,000 RUB (16.83%), 25,001 – 50,000 RUB (36.25%) and more than 50 000 RUB (22.32%).

We used the exchange rate 1 € = 68.5882 RUB, actual on 23.10.2015 according to National Bank of Slovakia.

We formulated several assumptions, same for both investigated countries:

Assumption n.1 - we assume the differences among factors affecting respondents at honey purchase.

Assumption n.2 – we assume the dependence between honey consumption and consumers' age

Assumption n.3 – we assume the dependence between honey consumption and consumers' education

Assumption n.4 – we assume the dependence between honey consumption and consumers' income

Assumption n.5 – we assume the dependence between honey consumption and country.

Obtained data were analysed in the statistical program – SAS Enterprise Guide 5.1 and we applied these statistical methods:

- Chi-Square Test of Independence
- Friedman test
- Cramer'V coefficient

RESULTS AND DISCUSSION

In the first question, we focused on a consumption structure of honey in families and we can observe that in Slovakia as well as in Russia the majority of consumers answered that honey is consumed by all family members (Figure 1). Nevertheless, if we compare the percentage rate we can state that in category "whole family" honey is more consumed in Slovakia (87.34%) than in Russia (65.37%). According to the Figure 2, we can conclude that Slovak consumers mostly prefer to buy 1 kg (38.29%) per one purchase or make adequate honey reserves by buying 2 – 5 kg (25%), whereas Russian consumers prioritize either 0.5 kg (27.51%) or 2 – 5 kg (26.54%). The authors Ismaiel et al. (2014) obtained the same results of their market survey in Saudi Arabia and they stated that the most frequent package size of honey is 1 kg container. This size is common not only for locally produced honey but also for imported honey sold in the market.

Figure 3 shows the frequency of honey purchase and we can see that Slovak consumers prefer to make honey reserves (42.72%), while the majority of Russian consumers purchase honey if it is necessary (59.55%).

The next research connected with honey consumption was conducted by Ćirić et al. (2015) in the province of Vojvodina. The majority of consumers purchase honey once in three months (42%), once a month (29%) and once in six months (23%). Krystallis et al. (2007) Honey seems to be rather usual food component in Romanian diet, since more than one-third of respondents consume it at least

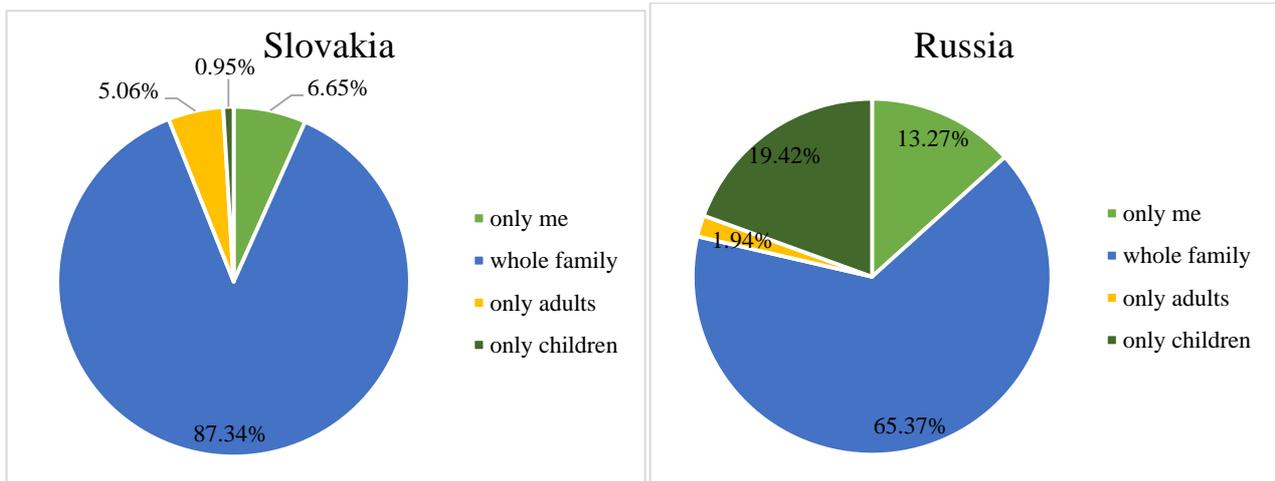


Figure 1 Honey consumption by family members.

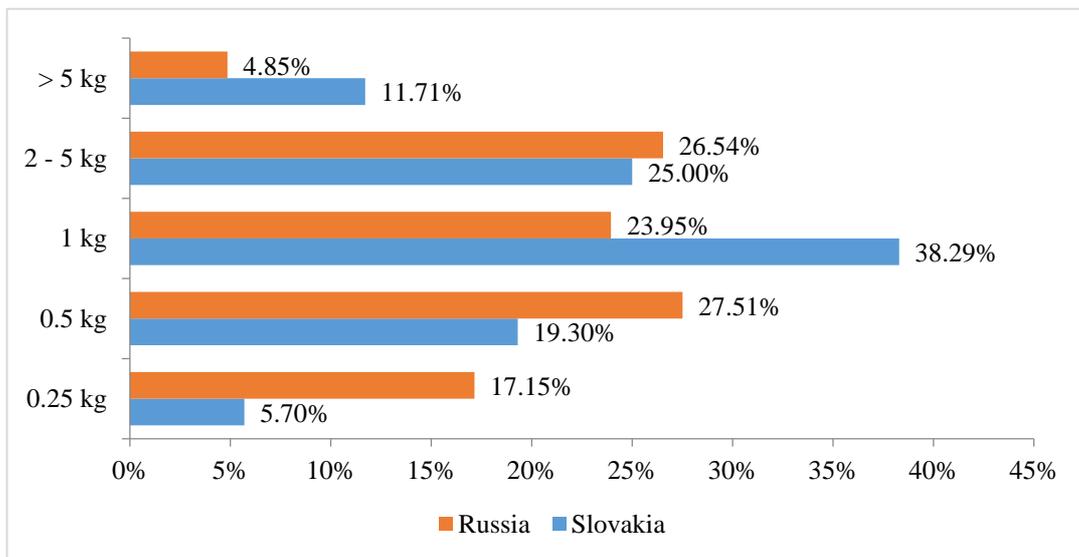


Figure 2 Volume of honey per one purchase.

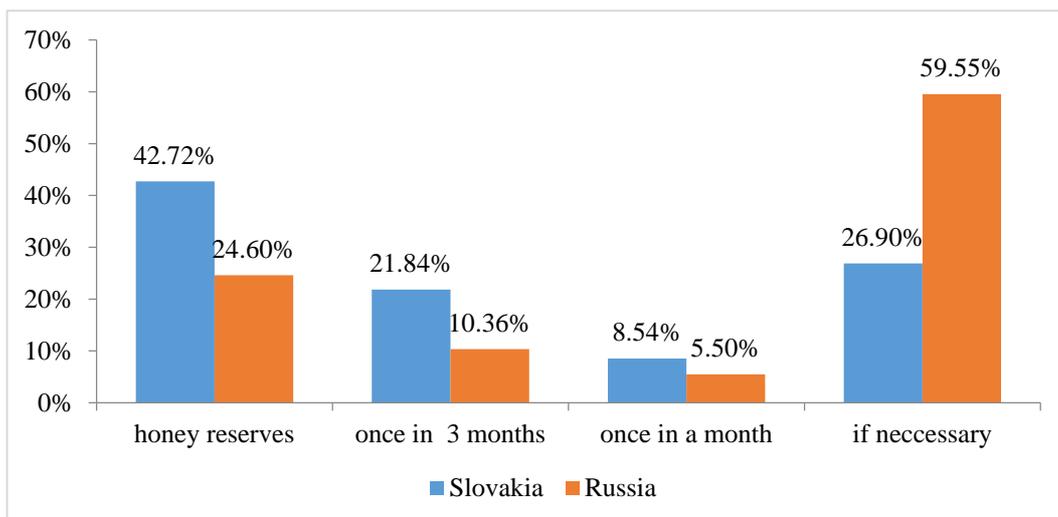


Figure 3 Frequency of honey purchase.

once per week, with an additional 42.7% consuming it at least once per month. However, more consumers claim their intake has fallen rather than increased.

Consumer behaviour involves several factors, which can influence consumers' purchasing decisions. In case of honey purchase, it can be factors such as price, country of

origin, brand, taste, design of packaging, size of packaging, place of selling, quality and type.

According to Table 1, where respondents had to make an order arrangement from 1 (the most important) to 9 (the least important), we can conclude that for Slovak consumers the most important factor was the country of

Table 1 Factors affecting respondents at honey purchase.

Factors	Average number of points	
	Slovakia	Russia
Price	4.18	3.28
Country of origin	2.59	6.50
Brand	5.55	6.50
Taste	3.51	3.61
Design of packaging	6.80	3.13
Size of packaging	6.70	6.98
Place of selling	6.28	5.68
Quality	5.50	6.35
Type	3.97	2.97

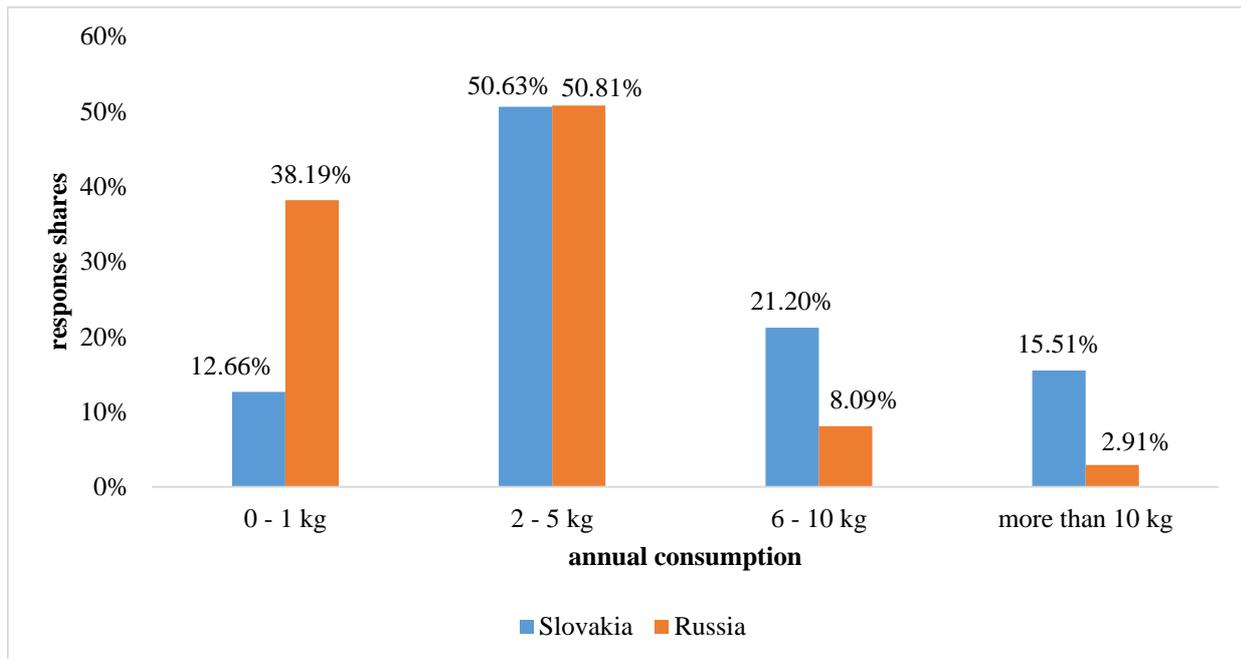


Figure 4 Annual consumption of honey in Slovakia and Russia.

origin (2.59) followed by taste (3.51), type (3.97) and price (4.18). Many consumers are aware of honey adulteration related to the imported honey of unknown origin. The least important factors were the size of packaging (6.70) and the design of packaging (6.80). Slovak honey consumers are not interested in special packaging, they simply prefer glass material and are used to buy 1 kg package. For Russian consumers the most important factor was type (2.97) followed by the design of packaging (3.13), price (3.28) and taste (3.61). The least important factors were the size of packaging (6.98), brand (6.50) and the country of origin (6.50). Consumers do not care about honey origin because the majority of honey sold in the market is produced by Russian beekeepers. If we compare preferences of Slovak and Russian honey consumers we can conclude that in both cases factors such as price, type and taste were the most influential and the least influential factor was the size of packaging.

In addition, we examined preferences of these factors by using Friedman test and formulated hypothesis:

H0: importance of factors for consumers are the same, there does not exist any preferences.

H1: there exists differences in preferences between at least one pair of factors.

In terms of Slovak consumers, we found out:

$$F = 764,2633 > \chi_{\text{tab}}^2 = 15,50731$$

Testing criteria F is higher than the critical value, therefore we reject null hypothesis and conclude that there exist different preferences in given factors.

In terms of Russian consumers, we found out:

$$F = 948,504 > \chi_{\text{tab}}^2 = 15,50731$$

Testing criteria F is higher than the table value χ^2 , therefore we reject null hypothesis and conclude that there exist different preferences in given factors.

A similar market survey was done in Ireland by **Murphy et al. (2000)** who found out that the most essential factor during a honey purchase was price (26%). The next factor was texture (25%) followed by packaging (19%), scale of production (17%) and the least essential factor was colour (13%). Price and texture together represented 50% of the importance of consumers and price was twice as essential as colour. Another consumer research was conducted by **Batt and Liu (2012)** in Western Australia on the sample of 645 respondents. The main factors affecting consumers' decisions during purchase of honey are: appropriate price (68%), taste (14%), quality (12%) and packaging

Table 2 Results of Chi-Square Test of Independence for Slovakia.

	p-value	correlation	Cramer's V coefficient
age	0.0034	yes	0.1579
education	0.3707	no	-
income	0.2684	no	-

Table 3 Results of Chi-Square Test of Independence for Russia.

	p-value	correlation	Cramer's V coefficient
age	0.0062	yes	0.1525
education	0.8435	no	-
income	0.1265	no	-

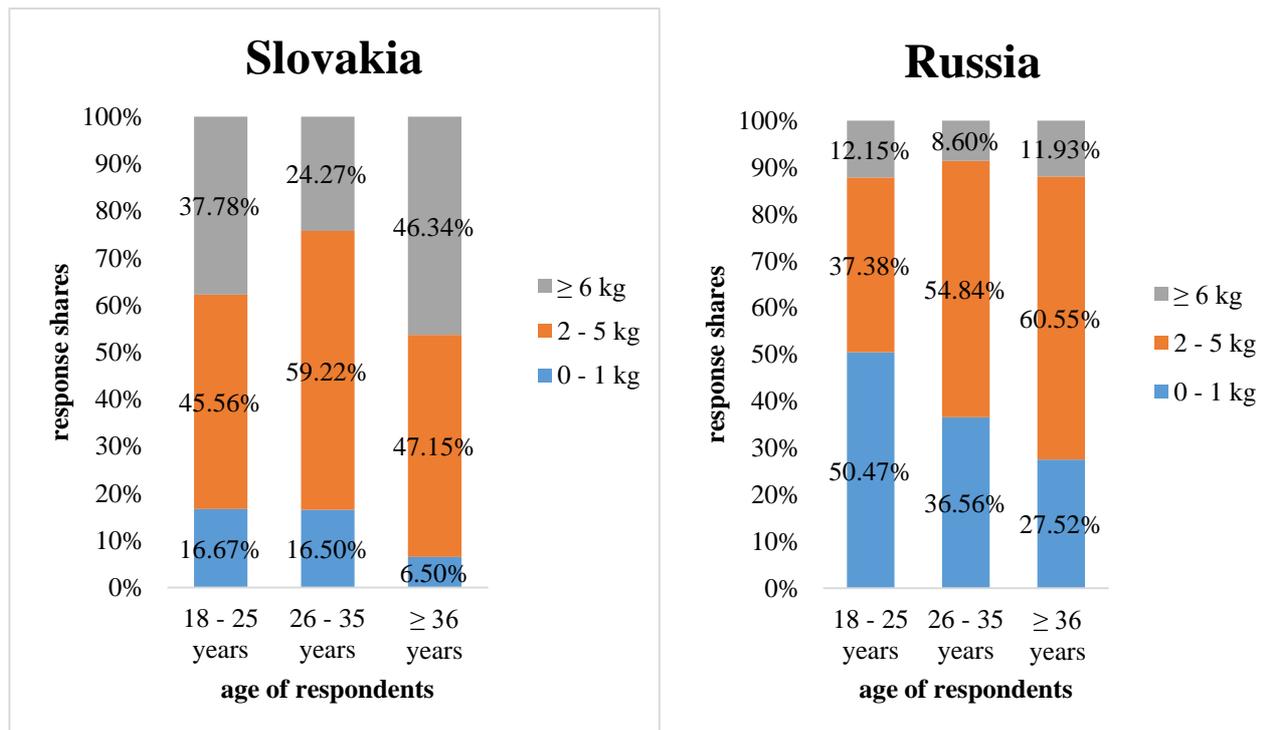


Figure 5 Influence of age on honey consumption per year in Slovakia and Russia.

(11%).The research, conducted in Romania and Ireland by **Pocol and Marghitas (2008)**, proved that texture of honey which can be considered as a sign of certain quality and depends on a honey type is essential for consumers. Another aspect was the country of origin where consumers preferred domestic honey rather than imported one mainly due to higher risk of adulteration and doubtful origin. According to the survey in Russia, the most important factors during the purchase of honey was price (41%), quality (32.5%) and type (14.3%) (**Роздольская et. al., 2015**). Nevertheless, the questionnaire survey done in the Democratic Republic of Congo showed that enormous impact on consumer preferences towards honey had price, colour and packaging (**Gyau et al., 2014**).

In addition, **Roman et al. (2013)** utter that packaging design of honey does not influence consumers, however the majority of them require cleanliness together with hygiene of the packaging.

Regarding annual consumption (Figure 4) it is obvious that in both countries around 50% of respondents consume 2 – 5 kg of honey per year. Slovak honey consumers tend to eat more kilograms: 6 – 10 kg (21.20%) and more than 10 kg (15.51%) while Russian consumers tend to eat less: 0 – 1 kg (38.19%). For statistical confirmation, we applied

Chi-Square Test of Independence and formulated hypothesis as follows:

H0: Assumes that there is no association between honey consumption and country

H1: Assumes that there is an association between honey consumption and country

We found out that

$$\chi^2 = 85,22713 > \chi_{tab}^2 = 7,814728$$

The test statistic is greater than critical value, therefore we reject null hypothesis (H0) and accept alternative hypothesis (H1). It means that there are associations between honey consumption and country, in other words, honey consumption differs between the countries.

A similar survey on annual honey consumption was conducted in Romania, where 25.8% of respondents consume maximum 500 g per year, 22% consume from 500 g to 1 kg per year and finally around 20% consume more than 2 kg per year. Moreover, consumers with higher education tend to consume more. In terms of honey

consumption structure within family, the results showed that the majority of respondents answered that all members of the family consume honey (Pocol and Marghitas, 2007). Another Romanian survey found out that consumers purchased approximately 3 kg/year on average. The honey consumption is higher in case of employers and entrepreneurs than in case of employees. In general, the consumption frequency of honey is high (Pocol and Bolboaca, 2013).

In addition, we statistically tested the dependencies between annual honey consumption and demographic factors (education, income and age). In order to obtain results that are more precise, we have merged in annual consumption these two categories: more than 10 kg and 6 – 10 kg.

We used SAS Enterprise Guide 5.1 and calculated Chi-Square Test of Independence at the significant level $\alpha = 0.01$. In terms of education and income, we found out that there is no dependence, the p -value is greater than 0.01 while in terms of age, the p -value is lower than 0.01, the dependence exists.

In Slovakia the p -value for income was 0.2684, for education it was 0.3707 and for age it was 0.0034 (Table 2). In Russia the p -value for income was 0.1265, for education it was 0.8435 and for age it was 0.0062 (Table 3). For measuring the intensity of dependencies, we applied Cramér's in SAS Enterprise Guide 5.1 shown again in (Table 2 and Table 3) and in both cases dependence is weak.

Furthermore, we examined annual consumption of honey according to the respondents' age and we can observe that in both countries older generations have higher consumption of honey than younger generation (Figure 5).

In order to support our results, we will provide several results from researches regarding honey consumption. For instance Pocol (2012) states that if we take into consideration socio-demographic aspects, education and occupation have essential impact on honey consumption.

Schifani et al. (2016) From socio-demographic factors only income had a significant impact on consumer preferences towards local honey. Furthermore, there was an identification of consumption patterns, where older consumers eat honey for its therapeutic value. They usually gain information about the honey usage from Romanian magazine "Medicina naturista". Young generation consume honey due to learned behaviour during their childhood. (Pocol and Marghitas, 2008).

The study regarding honey consumption in Romania and Hungary revealed a certain impact of demographic factors on consumption patterns. The key factors were education and age. Furthermore, an association between honey and perception of a certain health benefits was proven (Pocol and Ványi, 2012).

Another supporting statement comes from Pidek (2001) who claims that young generations are consuming honey in very low quantities, therefore honey should be advertised among this segment. Another consumer research was conducted in the Czech Republic, where they studied association between honey consumption and demographic factors (gender, age, permanent residence and income). The only dependence was proven between age and consumption. The rest factors had insignificant influence. The segment of young consumers should be educated by

parents during their childhood or by lectures at elementary and secondary schools in order to create a certain habit of consuming honey (Šanová et al., 2015). According to consumption research in Romania, age of respondents has an impact on the overall honey consumption. Young respondents (18 – 30 years) eat small quantity of honey, while middle aged (32 – 45 years) respondents have a normal consumption of honey. Respondents with the age range 46 – 60 years eat the largest amounts of honey in comparison to others (Pocol and Teselios, 2012). Again the same author found out that older generation (46 – 60 years) consume honey with high frequency while middle aged consumers (31 – 45 years) and younger generation (18 – 30 years) consume honey with medium frequency (Pocol, 2011).

CONCLUSION

Based on the results of our research we can conclude that honey is consumed by all family members in both countries. However, the majority of Slovak consumers make honey reserves and prefer to buy 1 kg per purchase while the majority of Russian consumers purchase honey if necessary and prefer to buy 0.5 or 2 – 5 kg per purchase. Main factors affecting respondents at honey purchase for Slovak consumers were the country of origin, taste, type and price while for Russian consumers the main factors were type, design of packaging, price and taste. In both countries the least important factor was the size of packaging. In terms of annual consumption we can state that the majority of respondents in both countries consume from 2 – 5 kg of honey per year, however we statistically proved that there are differences in consumption volume between the countries. Furthermore, we examined a dependency between annual consumption and demographical factors – age, education and income. Based on the test, we can conclude that only the age had statistically significant influence on consumers' consumption of honey. All in all, young generation tend to consume less honey per year than older generation, therefore we suggest to educate this segment in the future in order to increase the annual consumption of this commodity.

REFERENCES

- Batt, P. J., Liu, A. 2012. Consumer behaviour towards honey products in Western Australia. *British Food Journal*, vol. 114, no. 2-3, p. 285-297. <https://doi.org/10.1108/00070701211202449>
- Bodnar, K., Nagy, E., Makra, L. 2016. Planning of a honey based product's introduction to the market. *Lucrari Stiintifice*, vol. 18, no. 2, p. 27-30.
- Ćirić, M., Ignjatijević, S.; Cvijanović, D. 2015. Research of honey consumers' behaviour in province of Vojvodina. *Economics of Agriculture*, vol. 62, no. 3, p. 627-644.
- Cosmina, M., Galenti, G., Marangon, F., Troiano, S. 2016. Attitudes towards honey among Italian consumers: A choice experiment approach. *Appetite*, vol. 99, p. 52-58. <https://doi.org/10.1016/j.appet.2015.12.018> PMID:26719101
- Crittenden, N. A. 2011. The importance of honey consumption in Human Evolution. *Food and Foodways: Explorations in the History and Culture of Human Nourishment*, vol. 19, no. 4, p. 257-273.

- Fessenden, R., McInnes, M. 2008. *The honey revolution: Restoring the health of future generations*. USA, Texas : World Class Emprise, LLC. p. 240. ISBN 13: 978-0-9792162-1-3.
- Gálová, J., Berčík, J., Vilhanová, L. 2012. Sustainable marketing in the practice of selected brands. *Marketing in Practise of Agro-Food Sector*, p. 16-30.
- Gannabathula S., Krissansen, G. W., Bisson-Rowe, L., Skinner, M., Steinhorn, G., Schlothauer, R. 2017. Correlation of immunostimulatory activities of honey with their contents of identified bioactives. *Food chemistry*, vol. 221, p. 39-46. <https://doi.org/10.1016/j.foodchem.2016.10.038>
PMid:27979219
- Gyau, A. Akalakou, C., Degrande, A., Biloso, A. 2014. Determinants of consumer preferences for honey in the Democratic Republic of Congo. *Journal of food products marketing*, vol. 20, no. 5, p. 476-490. <https://doi.org/10.1080/10454446.2013.807405>
- Ismail, A. Z. S., Al-Ghamdi, S. A. K. A. A., Adgaba, S. 2014. Qualitative Factors Affecting the Price and Demand of Honey in Saudi Arabia. *Australian Journal of Basic and Applied Sciences*, vol. 8, no. 10, p. 199-206. <https://doi.org/10.4236/jns.2014.517186>
- Johnston, J. E., Sepe, H. A., Miano, C. L., Brannan, R. G., Alderton, A. L. 2005. Honey Inhibits Lipid Oxidation in Ready-to-Eat Ground Beef Patties. *Meat Science*, vol. 70, no. 4, p. 627-631. <https://doi.org/10.1016/j.meatsci.2005.02.011>
PMid:22063889
- Kapsdorferová, Z. 2008. *Manažment kvality (Quality management)*. 1st ed. Nitra, Slovakia : SPU. 120 p. ISBN 978-80-552-0115-3.
- Kozelová, D., Matejková, E., Fikselová, M., Dékányová, J. 2014. Analysis of consumer behaviour at chocolate purchase. *Potravinárstvo*, vol. 8, no. 1, p. 62-66. <https://doi.org/10.5219/325>
- Krystallis, A., Petrovici, D., Arvanitoyannis, I. 2007. From Commodities to the Consumption of Quality Foods in Eastern European Context. *Journal of East-West Business*, vol. 12, no. 4, p. 5-37. https://doi.org/10.1300/J097v12n04_02
- Kubicová, E. 2008. *Development of consumer demand for food (Vývoj spotrebiteľského dopytu po potravinách)*. Nitra, Slovakia : SPU. 85 p. ISBN 978-80-552-0092-7.
- Marghitas, L. A., Dezmirean, D. S., Pocol, C. B., Ilea, M., Bobis, O., Gergen, I. 2010. The development of a biochemical profile of acacia honey by identifying biochemical determinants of its quality. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, vol. 38, no. 2, p.9-13.
- Matsuda, A. H., Sabato, S. F. 2004. Effect of Irradiation on Brazilian Honey's Consistency and Their Acceptability. *Radiation Physics and Chemistry*, vol. 71, no. 1-2, p. 107-110. <https://doi.org/10.1016/j.radphyschem.2004.03.068>
- Mokrý, S., Birčiaková, N., Slováčková, T., Stávková, J., Nagyová, L. 2016. Perception of wine labels by generation Z: Eye-tracking experiment. *Potravinárstvo*, vol. 10, no. 1, p. 524-531.
- Murphy, M., Cowan, C., Henchion, M., O'Reilly, S. 2000. Irish consumer preferences for honey: a conjoint approach. *British foodjournal*. vol. 102, no. 8, p. 585-598. <https://doi.org/10.1108/00070700010348424>
- Nagyová, E. 2005. *Consumer behavior on the regional food market (Spotrebiteľské správanie na regionálnom trhu potravín)*. In: Riešenie vybraných manažerských a marketingových problémov v agropotravinárstve. Nitra : SPU. p. 119. ISBN 80-8069-510-5.
- Nagyová, E. 2012. *Trends in consumer behavior on the food market in Slovakia (Trendy v spotrebiteľskom správaní na trhu potravín v SR)*. Nitra, Slovakia : SPU. 83 p. ISBN 978-80-552-0899-2.
- Pidek, A. 2001. Youth preferences in honey consumption. *Journal of apicultural science*, vol. 45, p. 115-119.
- Pocol, C. B. 2012. Consumer preferences for different honey varieties in the North West Region of Romania. *Agronomy Series of Scientific Research*, vol. 55, no. 2, p. 263-266.
- Pocol, C. B. 2011. Modelling the honey consumption behaviour in Romania by using socio-demographic determinants. *African Journal of Agriculture Research*. vol. 6, no. 17, p. 4069-4080.
- Pocol, C. B., Bolboacă, S. D. 2013. Perceptions and trends related to the consumption of honey: A case study of North-West Romania. *International Journal of Consumer Studies*, vol. 37, no. 6, p. 642-649. <https://doi.org/10.1111/ijcs.12046>
- Pocol, C. B., Ilea, M. 2011. The development of local products in Romania: A case study of honey. *Lucrări Științifice, Universitatea de Științe Agricole Și Medicină Veterinară a Banatului, Timisoara, Seria I, Management Agricol*, vol. 13, no.2, p. 153-160.
- Pocol, C. B., Marghitas, L. A. 2006. Factors that influence supply and demand for bee products. *Buletin USAMV-CN*, vol. 62, p. 133-136.
- Pocol, C. B., Marghitas, L. A. 2007. Market study about honey consumption in Romania. *Buletin USAMV-CN*, vol. 64, no. 1-2.
- Pocol, C. B., Marghitas L. A. 2008. A comparison between the segmentation of honey market in Romania and Ireland. *Bulletin UASVM*, vol. 65, no. 2, p. 279-282.
- Pocol, C. B., Teselios C. M. 2012. Socio-economic determinants of honey consumption in Romania. *Journal of Food, Agriculture & Environmen*, vol.10, no. 2, p. 18-21.
- Pocol, C. B., Ványi G. A. 2012. A comparison between Hungarian and Romanian consumption. *Bulletin UASVM*, vol. 69, no. 2, p. 244-252.
- Pocol, C. B., Marghitas, L. A., 2008. Qualitative exploration of honey among consumer segments by using the focus group method. *Bulletin of University Of Agricultural Sciences And Veterinary Medicine Cluj Napocaculture*. vol. 65, no. 2, p. 460.
- Rall, V. L. M., Bombo, A. J., Carvalho, L. R., Silva, M. G. 2003. Honey Consumption in the State of Sao Paulo: A Risk to Human Health? *Anaerobe*, vol. 9, no. 6, p. 299-303. [https://doi.org/10.1016/S1075-9964\(03\)00121-5](https://doi.org/10.1016/S1075-9964(03)00121-5)
- Roman, A., Popiela-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*, vol. 57, no. 2, p. 175-185. <https://doi.org/10.2478/jas-2013-0027>
- Schifani, G., Romeo, P., Schimmenti, E., Columba, P., Migliore, G. 2016. Conventions of quality in consumer preference towards local honey in Southern Italy. *Calitatea: Acces la Success*, vol. 17, no. 153, p. 92-97.
- Šanová, P. 2015. Pilot analysis of key factors in honey consumption. In *Agrarian perspectives XXIV: Global agribusiness and the rural economy*. Prague, Czech Republic : Czech University Life Science, pp. 416-424. ISBN 78-80-213-2581-4.
- Veselý, V. 2013. *Apiculture (Včelárství)*. 3rd ed. Praha, Czech Republic : Nakladatelství Brázda. 272 p. ISBN 978-80-209-0399-0.
- Wu, S., Fooks, J. R., Messer, K. D., Delaney, D. 2015. Consumer demand for local honey. *Applied Economics*. vol. 47, no. 41, p. 4377-4394. <https://doi.org/10.1080/00036846.2015.1030564>

Yeow, S. H. C., Chun, S. T. S., Yeow, J. A. Tan, K. S. 2013. Consumer Purchase Intentions and Honey Related Products. *Journal of Marketing Research & Case Studies*, vol. 2013, p. 1-15. <https://doi.org/10.5171/2013.197440>

Rozdolskaya I. V., Grishkova, N. S; Yakovleva, L. R. 2015. Marketing Study of Honey Buyers' Preferences – The Belgorod Oblast Honey Market As A Case Study (Маркетинговые исследования покупательского предпочтения на мед на примере рынка меда Белгородской области). *Fundamental research*, no. 7, p. 193-201.

Acknowledgments:

The paper is part of the research project KEGA 038SPU-4/2016 "Using of new technologies and interdisciplinary associations in consumer studies" conducted at the Department of Marketing and Trade at the Faculty of

Economics and Management of the Slovak University of Agriculture in Nitra.

Contact address:

Assoc. Prof. Snezhanna Guziy, PhD., Russian Timiryazev State Agrarian University, Faculty of Economics, Department of Marketing, Timiryazevskaya str., 49, Moscow, Russia, 127550, E-mail: guziy@rgau-msha.ru

Ing. Peter Šedík, Slovak University of Agriculture, Faculty of Economics and Management, Department of Marketing and Trade, Tr. A. Hlinku 2, 949 76 Nitra Slovakia, E-mail: sedik.peter@gmail.com

prof. Dr. Ing. Elena Horská, Slovak University of Agriculture, Faculty of Economics and Management, Department of Marketing and Trade, Tr. A. Hlinku 2, 949 76 Nitra, Slovakia, E-mail: elena.horska@gmail.com