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## DETERMINANTS OF THE CONSUMPTION OF COFFEE BY A SELECTED GROUP OF ADULT CONSUMERS

# Anna T. Mikulec<sup>1\*</sup>, Monika Radzymińska<sup>2</sup>, Grzegorz Suwała<sup>3</sup>, Agnieszka Żukowska<sup>4</sup>, Anna M. Platta<sup>5</sup>

- <sup>1</sup> University of Applied Science in Nowy Sącz, Zamenhofa 1a, 33-300 Nowy Sącz, Poland, Faculty of Engineering Sciences, ORCID 0000-0002-2737-5967, amikulec@ans-ns.edu.pl
- <sup>2</sup> University of Warmia and Mazury in Olsztyn, M. Oczapowskiego 4, 10-719 Olsztyn, Poland, Faculty of Economic Sciences, ORCID 0000-0003-0531-268X
- <sup>3</sup> Krakow University of Economics, Rakowicka 27, 31-510 Kraków, Poland, Department of Food Product Quality, ORCID 0000-0002-7857-2282
- <sup>4</sup> Specialized Clinic Dietetics, Plac Afrodyty 1/III, 80-180 Kowale, Poland, ORCID 0009-0003-8805-8150
- <sup>5</sup> Gdynia Maritime University, Morska 81-87, 81-225 Gdynia, Poland, Faculty of Management and Quality Science, ORCID 0000-0002-7963-1889, a.platta@wznj.umg.edu.pl
- \* Corresponding author

**Abstract**: To achieve an understanding of consumers and their behaviour it is essential to plan and execute an effective programme of action for any business, enabling it to influence consumer choices. Many factors make up the totality of consumer behaviour, but through this diversity the market develops, creates new facilities, adapts to needs and produces new products and services. The aim of the study was to identify the factors influencing consumers' purchasing decisions and the frequency of coffee consumption. The Pen-And-Paper Personal Interview (PAPI) method was conducted in a narrow subject perspective, so the results obtained cannot be generalised to the entire population of adults in Poland. The results obtained contribute to the understanding of potential pathways of choice, frequency and context of coffee consumption by consumers.

**Keywords**: quality of life, attitudes towards new foods, coffee, determinants of choice, consumers.

## 1. INTRODUCTION

An understanding of the consumer and his or her behaviour is essential to plan and implement an effective programme of action for any business, enabling it to influence consumer choices [Górska-Warsewicz 2017]. The reality for the consumer is extremely diverse and rich, especially when it comes to the stimuli that surround and directly affect the consumer [Grębowiec 2018]. This reality is influenced by

many factors of a socio-cultural (culture, subculture, status, education, family, friends, social groups, work), personal (age, gender, character, likes, tastes, needs, interests, hobbies, views, material situation) [Rybowska 2018], socio-economic (income, education, occupation and family structure) and psychological (higher-order needs: self-actualisation, motivation, esteem, belonging, recognition) nature [Gawęcki, Reguła and Buszkiewicz 2000; Bilska et al. 2012; Sumarwan 2015; Samoggia and Riedel 2018]. Many factors make up the totality of consumer behaviour, but through this diversity the market develops, creates new facilities, adapts to needs and produces new products and services [Bilska et al. 2012].

Conscious and sustainable consumption deserves attention, which refers to making purchasing decisions in such a way as to consider the social, ethical and environmental impacts of the products consumed [Hewlett and Wadsworth 2012; Bigliardia and Galati 2013; Szczygieł and Kadzikowska-Wrzosek 2014; Chairy 2017; Utama et al. 2021]. It is worth noting the increase in lifestyle intensity that is characteristic of the young generation of Poles, who simultaneously study, work and develop individual interests. A fast lifestyle, with high work and physical activity, can cause changes in eating behaviour. Increasingly, consumers are purchasing high-energy products and those that help increase productivity, e.g. energy bars, isotonic drinks and stimulant drinks. To improve work intensity, consumers are turning to natural stimulants, e.g. infusions of ground coffee beans [Dorea and da Costa 2005; Szczygieł and Kadzikowska-Wrzosek 2014; Zahra and Anoraga 2021].

Coffee is a natural product. It is a complex herbal infusion containing approximately 1,000 plant substances [Chrostowska-Siwek 2011]. It has been shown to have prebiotic, antimicrobial and antioxidant properties [Cho et al. 2017; Tian et al. 2017]. The health-promoting effects on the human body of the ingredients contained in coffee beans depend on whether coffee is consumed regularly and on the size of the daily intake. It is thanks to its health-promoting and body-stimulating properties along with its unique intense flavour and aroma that coffee is one of the most popular and widely consumed beverages in the world. It has become an integral part of the culture and an essential basic foodstuff [Chudy 2014; Bartkowicz 2015; Bhumiratana et al. 2019].

Based on a review of the literature from 2012 to 2022, it was found that the average annual per capita consumption of coffee in Poland was about 2.85 kg, in Finland 12.00 kg, in Sweden 11.00 kg, and in Denmark, the Netherlands, and Norway 9.00 kg. Over the past 10 years, coffee consumption in Poland has increased by more than 80%. It is estimated that about 80% of adults drink coffee regularly, which is a group of about 25 million potential customers. Poland was ranked ninth in terms of green coffee imports in Europe in 2021 and is the largest importer in Eastern Europe. Currently, the food market in Poland is diverse and saturated. Coffee can be found on the market in various forms, starting with beans, ground coffee and capsules. It can be instant, flavoured or with additives. Depending on the brewing method used, the ground coffee brew varies in terms of flavour, aroma, intensity,

caffeine content, bitterness, acidity and volume [Chrostowska-Siwek 2011; Żukiewicz-Sobczak et al. 2012; Chudy 2014; Scholz et al. 2016; Barbosa et al. 2019; Popek and Halagarda 2022].

The aim of the study was to identify the factors influencing consumers' purchasing decisions and frequency of coffee consumption.

## 2. RESEARCH METHODOLOGY

The empirical research was conducted using the survey method, while the instrument was a survey questionnaire. The research was conducted between April and May 2023 using a PAPI (Pen-And-Paper Personal Interview) direct survey technique among customers of a shop specialising in the sale of coffee and tea in Gdynia, Pomorskie Voivodeship (Northern Poland). A snowball sampling technique was used to select respondents for the survey sample. The respondents were men and women, aged 19–49 years (n = 316). The study used a quasi-standardised interview questionnaire [Jeżewska-Zychowicz et al. 2015], which was adapted to the specifics of the research project. The respondents gave informed and voluntary consent to participate in the study using the PAPI method.

The questionnaire included questions that addressed the sociodemographic characteristics of the respondents, including gender, age, education, place of residence and opinion on income.

In addition, the respondents assessed their own lifestyles by giving their opinions on eight statements describing values and lifestyles: 'I believe that I am someone who is: 1) Committed to work; 2) Committed to learning; 3) Pleasure-oriented; 4) Attentive to the naturalness of food; 5) Valuing tradition; 6) Valuing speed and convenience of food preparation; 7) Highly health-conscious; 8) Highly physically active – I play sports.'

The respondents' opinions on the statements were expressed on 5-point scales, where each response was assigned an appropriate number of points, ranging from 1 for 'disagree' to 5 for 'agree'. Two indicators, namely the mean value of the totals (X) and the standard deviation (SD), were used to distinguish three types of attitude: negative, ambivalent and positive.

The evaluation of the frequency of consumption of selected coffees was conducted on the basis of the respondents' attitudes to the statements provided on a 7-point Likert scale. Each respondent was asked to indicate the frequency of consumption of 9 types of coffee: Arabica, Robusta, light roast, dark roast, flavoured, ground, instant, decaffeinated, and speciality.

To assess their coffee consumption habits, the respondents were asked to respond to 6 statements on a 5-point Likert scale: I drink coffee regularly, I drink different types of coffee, I drink coffee mainly when I wake up or in the morning, I drink coffee mainly when consuming desserts, I like to always have coffee in the house, I often drink coffee with additives (e.g. milk, sugar or other sweeteners, chocolate).

The assessment of the motives for choosing coffee was determined by the respondents' indication of 3 out of 10 attributes that determine their purchase and consumption of coffee: aroma, taste, freshness, degree of roasting of the beans, health considerations, familiarity with the product, affordability, pack size, country/region of origin, and brand.

Four statements on a 5-point innovation scale were used to assess the respondents' level of innovation: 1) In my friends' circle, I am among the first to buy new food; 2) I buy new food only after some of my friends have already tried it; 3) I do not buy new food if I have not tried it before; 4) I do not buy new food even if it is available in the shop. In this way, the self-perceptions of the respondents expressing self-perceptions as an innovator, early majority, late majority, or laggard were explored.

A reliability test was conducted using Cronbach's alpha coefficient and the  $\alpha$  value obtained was 0.80, indicating good reliability. A chi-square test with Yates correction was conducted to determine the correlation between lifestyle and the response to 'new foods' and coffee drinking habits in the study groups. Spearman's rank correlation coefficient was used to calculate the correlation between lifestyle and attitudes towards 'new foods' and coffee drinking habits. A significance level of p < 0.05 was assumed for all statistical analyses. The calculations were performed using Statistica 13.3 software (Tibco Software, Palo Alto, USA).

## 3. RESULTS

The study group was dominated by students (48.10%) aged 19–24 years (54.43%), living in large cities (81.65%). The subjective assessment of material status was dominated by those stating that "we can afford some, but not all expenses" (41.77%). On the other hand, in the subjective assessment of health status, 49.37% reported having a "good" health status.

Parameters	n	[%]					
Place of residence							
Location between 20,000 and 100,000 inhabitants	58	18.35					
Location with more than 100,000 inhabitants	258	81.65					
Age [years]							
19–24	172	54.43					
25–29	32	10.13					
30–34	26	8.23					
35–39	18	5.70					

Table 1. Study sample characteristics

40-44	16	5.06
45–49	52	16.46
Education		
Secondary	42	13.29
Student	152	48.10
Higher	122	38.61
Material status		
Is wholly inadequate	24	7.59
Allows us to meet our basic needs	30	9.49
We can afford some, but not all expenses	132	41.77
We can afford everything	84	26.58
Can afford and save for everything	46	14.56
Health status		
Very bad	4	1.27
Bad	14	4.43
Neither bad nor good	76	24.05
Good	156	49.37
Very good	66	20.89

cont Table 1

Source: own work based on survey results.

In assessing the respondents' reactions to the 'new food', those with ambivalent attitudes towards lifestyle determinants predominated in all groups, regardless of their level of innovation. This trend is in line with the findings of other authors, who note that ambivalence, i.e. the coexistence of positive and negative elements, such as attitudes in a world where individuals are constantly exposed to information, has become an inherent part of human existence [Sipilä, Tarkiainen and Sundqvist 2018; Hamby and Russell 2022].

It was also observed that all those who pay attention to the naturalness of food, who value tradition, who are very health-conscious and who are physically active differed significantly (p < 0.05) in this aspect (Tab. 2).

The 'innovators' and 'early followers' groups were dominated (except for those with ambivalent attitudes towards lifestyle determinants) by people who pay attention to the naturalness of food, value tradition, are very health-conscious and are very physically active. The "late majority" and "laggard" groups were dominated (apart from those with ambivalent attitudes towards lifestyle determinants) by people who do not pay attention to the naturalness of food and do not pay attention to tradition. Interestingly, the "late majority" group was dominated by people with low health consciousness and low physical activity, and the group of "laggards" by people with high health consciousness and high physical activity.

When assessing the respondents' reaction to "new foods", only the innovators were dominated by those confirming that they are first among their friends to purchase this type of product, giving "yes" and "probably yes" answers (from 27.21% for appreciation of tradition to 41.15% for health awareness).

In contrast, the other groups, divided according to their level of innovation, were dominated by those giving 'no' and 'probably no' answers and those who found it difficult to explicitly declare their attitude/reaction to 'new foods' ('neither yes nor no').

		Committed to work	Committed to learning		Attentive to the naturalness of food	valuing	Valuing convenience and speed of food preparation	Highly health- conscious	Highly physically active	Mean ±SD
Innovator	Chi2	3.73	24.77	39.83	69.10	57.86	4.13	40.61	32.06	3.35 ±1.20
innovator	df	4	8	8	8	8	4	8	8	
	p	0.44	<0.01	<0.01	<0.01	<0.01	0.39	<0.01	<0.01	
Early majority	Chi2	16.51	13.2	59.65	57.09	37.11	9.61	22.22	57.64	2.80 ±1.20
	df	4	8	8	8	8	4	8	8	
	p	<0.01	0.11	<0.01	<0.01	<0.01	0.05	0.01	<0.01	
Late majority	Chi2	13.86	19.86	52.12	53.04	40.96	15.41	36.47	59.35	2.68 ±1.28
	df	4	8	8	8	8	4	8	8	
	р	0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	
Laggard	Chi2	5.93	56.07	15.56	20.84	39.67	5.24	34.93	64.21	2.65 ±1.07
Layyard	df	4	8	8	8	8	4	8	8	
	р	0.2	<0.01	0.50	0.01	<0.01	0.26	<0.01	<0.01	

Table 2. Evaluation of respondents' reactions to 'new food'

Source: own work based on survey results.

Significant differences regarding regular coffee consumption were observed in all groups, except for those who valued convenience and speed of food preparation (p = 0.17). All groups were dominated by regular coffee consumers, but the highest percentages were observed in the committed to work (33.17% of respondents) and pleasure oriented (21.51%) groups. All groups differed significantly in their consumption of different types of coffee. Only those who were ambivalent about the

naturalness of food and those who valued tradition were significantly more likely to report drinking different types of coffee (55% each).

In the other groups, those who were committed to work, those who were committed to learning, those who were pleasure oriented, those who valued convenience and speed in food preparation, those who were physically active and those who were health conscious were significantly more likely to report drinking different types of coffee. In reporting drinking coffee mainly upon waking up or in the morning, the groups of people involved in the study (p < 0.01), pleasure-oriented (p < 0.01), paying attention to the naturalness of food (p = 0.01), valuing tradition (p < 0.01) and high physical activity (p < 0.01) differed significantly (Tab. 3). Those who are committed to learning (49.95%), pleasure oriented (59.25%) and value tradition (46.28%) are significantly more likely to drink coffee after waking up.

		Committed to work	Committed to learning	Pleasure- oriented	Attentive to the naturalness of food	Valuing tradition	Valuing convenience and speed of food preparation	Highly health- conscious	Highly physically active	Mean ±SD
l drink	Chi <sup>2</sup>	21.21	37.25	21.93	46.91	20.15	6.44	26.67	34.23	3.88
coffee	df	4	8	8	8	8	4	8	8	±1.53
regularly	р	<0.01	<0.01	0.01	<0.01	0.01	0.17	<0.01	<0.01	
l drink	Chi <sup>2</sup>	12.91	26.48	28.93	31.45	28.01	10.39	42.70	42.10	3.39
different types	df	4	8	8	8	8	4	8	8	±1.46
of coffee	р	0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	
l drink	Chi <sup>2</sup>	8.89	32.09	31.56	19.11	25.86	7.47	10.93	33.11	3.25
coffee mainly	df	4	8	8	8	8	4	8	8	±1.56
when I wake up or in the morning	p	0.06	<0.01	<0.01	0.01	<0.01	0.11	0.21	<0.01	
I drink	Chi <sup>2</sup>	6.93	16.76	43.67	47.45	27.94	6.11	26.88	38.93	2.56
coffee mainly	df	4	8	8	8	8	4	8	8	±1.37
when eating desserts	p	0.14	0.03	<0.01	<0.01	<0.01	0.19	<0.01	<0.01	
I like to	Chi <sup>2</sup>	10.86	53.42	15.76	51.83	15.23	6.56	27.68	29.01	3.89
always have	df	4	8	8	8	8	4	8	8	±1.54
coffee in the house	р	0.03	<0.01	0.05	<0.01	0.05	0.16	<0.01	<0.01	
I often	Chi <sup>2</sup>	7.33	13.17	37.95	47.82	19.38	12.32	27.58	27.36	3.13
drink coffee	df	4	8	8	8	8	4	8	8	±1.67
with additives	р	0.12	0.11	<0.01	<0.01	0.01	0.02	<0.01	<0.01	

Table 3.	Coffee	drinking	habits
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Source: own work based on survey results.

On the other hand, people who are ambivalent about the naturalness of food (50.21%) and physical activity (52.25%) are also significantly more likely to drink

coffee when they wake up. The habit of consuming coffee mainly with desserts differed significantly in most groups except those involved in professional work (p = 0.14) and those who value convenience and speed of food preparation (p = 0.19) (Tab. 3). Interestingly, most groups were dominated by people who are not in the habit of consuming coffee with their desserts (about 70% of people on average).

Only those who are committed to learning are significantly more likely to consume coffee mainly with dessert (52.25%). In contrast, in all groups, respondents stated that they drink coffee with additives, such as milk, sugar, sweeteners, chocolate, etc., with an average of 45% of respondents. Samoggia et al. (2020) found that coffee consumers included people with different and sometimes divergent attitudes and emotions.

In assessing the respondents' reactions to "new foods", it was observed that those committed to learning were significantly less likely to have innovative (-0.18) as well as laggard (-0.17) attitudes compared to the others.

Also, as health consciousness (-0.20) and physical activity (-0.18) increased, there was a significant reduction in openness to "new food", but also a reduction in late majority and laggard attitudes (Tab. 4).

On the other hand, the breakdown of respondents by appreciation of tradition showed how heterogeneous the group of respondents was, since as attention to tradition increased, a higher incidence of all attitudes was observed (from 0.20 for laggards to 0.28 for late majority) (Tab. 4).

	Committed to work	Committed to learning	Pleasure- oriented	Attentive to the naturalness of food	Valuing tradition	Valuing convenience and speed of food preparation	Highly health- conscious	Highly physically active
Innovator	0.08	-0.18	-0.04	-0.11	0.23	0.06	-0.20	-0.18
Early majority	0.07	0.02	0.10	0.13	0.24	0.10	0.07	0.02
Late majority	0.02	-0.10	0.04	0.04	0.28	0.09	-0.15	-0.30
Laggard	0.06	-0.17	-0.08	-0.09	0.20	0.03	-0.17	-0.11

Table 4. Spearman rank correlation of innovation level and lifestyle

Explanatory notes:

Values in bold are statistically significant.

Source: own work based on survey results.

In analysing the relationship between lifestyle determinants and coffee drinking habits, it was observed that people committed to work were significantly more likely to drink different types of coffee regularly (0.34) and mainly 'when I wake up' or 'in the morning' (0.16). These individuals are significantly more likely to report that

they like to have different types of coffee at home (0.24), but also significantly less likely to drink coffee with additives (Tab. 5). People committed to learning (0.22), pleasure-oriented (0.18), who pay attention to the naturalness of food (0.25), who value convenience and speed of food preparation (0.13) and who are highly healthconscious (0.12) are significantly more likely to drink different types of coffee. People who pay attention to the naturalness of food (-0.14), who value tradition (-0.13) and who are highly health-conscious (-0.15) are significantly less likely to drink coffee when consuming desserts. Also, people who are pleasure-oriented (-0.14), pay attention to the naturalness of food (-0.12) and value tradition are significantly less likely to drink coffee with additives (Tab. 5).

		Committed to learning		Attentive to the natural- ness of food	Valuing tradition	Valuing convenience and speed of food preparation	5,	Highly physically active
l drink coffee regularly	0.34	0.07	0.06	0.19	0.08	0.05	0.10	-0.02
I drink different types of coffee	0.20	0.22	0.18	0.25	0.05	0.13	0.12	0.03
I drink coffee mainly when I wake up or in the morning	0.16	-0.05	0.07	0.21	0.08	0.05	0.05	-0.10
I drink coffee mainly when eating desserts	-0.10	-0.01	-0.04	-0.14	-0.13	-0.01	-0.15	0.04
I like to always have coffee in the house	0.24	0.22	0.13	0.22	0.06	0.08	0.07	-0.06
I often drink coffee with additives	-0.12	0.03	-0.14	-0.12	-0.12	0.00	-0.09	-0.01

Table 5. Spearman rank correlation of coffee drinking habits and lifestyle

Explanatory notes:

Values in bold are statistically significant.

Source: own work based on survey results.

When analysing the frequency of consumption of selected coffee types, it can be seen that Arabica coffee was the most popular in the study group, while speciality, decaffeinated, flavoured, light roast and Robusta coffees were either unknown or not consumed by respondents (Fig. 1).

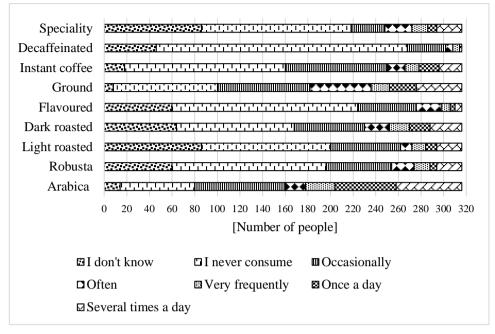


Fig. 1. Frequency of consumption of selected types of coffee

The results obtained are quite interesting, especially as coffee has undergone a transformation from a pure commodity to a speciality product over the last few decades - an evolution that is commonly divided into 'three waves of coffee consumption' [Manzo 2015]. The first wave of coffee consumption began in the 1960s and was characterised as a mass market with exponential growth in consumption and wide availability. The second wave started in the 1990s with the emergence of café chains, mainly Starbucks. Cafés introduced speciality coffee in response to new consumer interest in coffee quality, with coffee becoming a luxury product rather than a commodity [Carvalho et al. 2015]. The third wave had its genesis in small roasters who promoted specific regions and new brewing techniques. Coffee is now considered a high-quality artisanal food, often compared to wine. The act of drinking coffee is more than just consuming a beverage, it is about pleasure, experience, lifestyle and social status. This change in consumer behaviour has been made possible by the three approaches that now characterise consumer coffee: pleasure, health and sustainability [International Coffee Organization (ICO) 2021].

The question on factors determining the choice of coffee was a multiple-choice question. Respondents indicated taste (100 respondents), aroma (90 respondents) and affordability (73 respondents) as the main ones (Fig. 2).

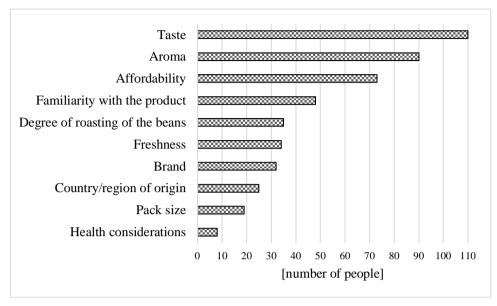


Fig. 2. Motives for coffee selection

To understand consumer behaviour towards coffee, it is necessary to identify the key determinants of coffee-related purchase and consumption behaviour. Samoggia and Riedel [2018] identified five main categories of determinants related to consumer behaviour towards coffee: personal preferences, economic attributes, coffee product attributes, consumption context and socio-demographics. The results obtained are partly consistent with studies by other authors. According to Aguirre [2016], among the factors determining coffee choice, aroma and flavour should be included in addition to those mentioned above.

An important issue related to consumers' attitudes towards coffee is their perception of the healthiness of coffee. As mentioned above, the study group was dominated by people with ambivalent attitudes towards lifestyle determinants. This attitude is very common in the context of consumption, given that consumers often have both positive and negative beliefs about the products for which they are considering purchasing or consuming [Ruth, Brunel and Otnes 2002; Roster and Richins 2009; Penz and Hogg 2011; Sipilä, Tarkiainen and Sundqvist 2018]. For example, food choices often entail both favourable and unfavourable consequences. Some products may taste good but contain high amounts of saturated fatty acids, while others may be healthier but less appealing [Buttlar and Walther 2018; Hamby and Russell 2022].

The inherently aversive arousal associated with the experience of ambivalence provokes a state of motivational drive to reduce it. In contrast, when the consequences of immediate consumption associated with the attitude goal are positive, ambivalence reinforces the attitude behaviour. In the context of substance use, often experienced as an immediate pleasure, ambivalence is generally associated with greater consumption of the product loaded with whatever the ambivalence is related to. For example, ambivalence towards alcohol predicts greater alcohol consumption [Oser et al. 2010; Foster et al. 2016], and ambivalence towards smoking predicts smoking relapse [Menninga, Dijkstra and Gebhardt 2011]. Findings from other authors confirm that consumers believe that coffee is not good for the health, but this is not the main reason why they do not drink it [Samoggia, Del Prete and Argenti 2020]. Negative-minded consumers believe that coffee is not good for the health because it increases blood pressure and cancer risk, as well as containing caffeine and other ingredients. Positive consumers believe that coffee is good for the health because it reduces the risk of stress, anxiety, depression, headaches and cardiovascular disease, as it is a natural product of plant origin and contains caffeine. The vast majority of consumers may be interested in coffee sold in packaging that carry health claims [Samoggia, Del Prete and Argenti 2020]. As Samoggia et al. [2020] point out, the same reasons may lead consumers to believe that coffee is both healthy and unhealthy. This confirms that consumers are confused or have misconceptions. In a study by Prado Rodrigues et al. [2020] on young consumers' perceptions of coffee using a semi-structured questionnaire based on the Health Belief Model (HBM) concepts, one of the most appropriate models to explain these behaviours was classified. The results showed that coffee is not associated with a group of foods perceived as a part of healthy habits, such as vegetables or fruit. However, young people are not familiar with its functional benefits, as the perceptions of health are limited: coffee can be a source of well-being because it is fuel for exercise or relaxation (break time).

It is also considered a major source of energy to improve productivity in work and university life. At this particular point in time, coffee also plays a key role as an instrument of socialisation in the workplace or during study time.

## 4. CONCLUSIONS

There has been growing interest in coffee in recent years, as a result of the socioeconomic changes taking place in Poland. Consumer habits, perception of products on the market and their consumption are also changing. These changes are influenced by many factors, including social factors related to consumers' values and lifestyles. Despite the limitations of the narrow survey sample and the impossibility of generalising the obtained results to the entire Polish population, the conducted research is an important contribution to identifying potential predictors and mechanisms for the development of consumer behaviour in the coffee market in Poland. On the basis of the research carried out, it can be seen that there are a number of factors, often very different, influencing coffee drinking habits, and the dominant ones are those related to lifestyle. However, a recurring pattern was observed: all groups were dominated by people who do not have the habit of consuming coffee with desserts, but drink coffee with such additives as milk, sugar, sweeteners, chocolate, etc.

Arabica coffee was the most popular among respondents, and interestingly, coffees such as decaffeinated, flavoured or speciality were either unknown or not consumed in the surveyed group. Taste and aroma, followed by affordability, were identified by the surveyed group of men and women as the most important factors in their decision to purchase coffee.

The results contribute to an understanding of the potential pathways of choice, frequency and context of coffee consumption by consumers, considering their lifestyle, thus highlighting possible targets for intervention.

#### 5. ACKNOWLEDGEMENTS

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