

Changes in Food Consumption Patterns in Hungary, with Special Regard to Hungarian Food

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Abstract: In this study, we analyzed Hungarian food purchasing from a generation-specific perspective. We believe that the impact of the coronavirus has made it even more important to buy domestically produced or Hungarian products, not only because of individual preference but also because of macroeconomic effects. In the theoretical outlook of this paper, we summarize the results of relevant domestic and foreign studies and research and develop the perspectives of our own research in the light of these findings.

In the primary data collection, we used a pre-tested online survey using a standardized questionnaire. The snowball sampling procedure resulted in 1151 evaluable questionnaires. The main objective of our quantitative research was to demonstrate that the preference system of Hungarian food purchasing can be used as a segmentation criterion and that the group of Hungarian food buyers carries generational characteristics.

The research resulted in three well-differentiated segments, first, the "Preferenceless" group, for whom, no single aspect of food purchasing was more important than the average. The second was the "Design and convenience-oriented price-sensitive" group, for whom, discounts were the main drivers of the preference system, alongside communication and convenience elements. And the third "Conscious Hungarian food buyers" group, was also characterized as those who considered the Hungarian origin of the food, to be the most important factor in their purchase. It was also found that Generation "X" is the main current consumer of Hungarian food, but we cannot speak of a negative attitude towards Generation "Z" either. Rather, an immature value system, is behind a neutral attitude. We believe that these results show that, with a proper educational campaign, the Hungarian food group can become attractive to the younger generation.

Keywords: food consumption patterns; generations; Hungarian food

Introduction

In recent years, both internationally and domestically, in Hungary, food consumption patterns have changed dramatically. The coronavirus pandemic has accelerated this transition, which has also contributed to the emergence of new trends in consumer behavior.

The ethnocentric approach of digitalization and globalization has a significant impact on food consumption and purchasing habits.

In many cases, the preference for domestic and Hungarian products is a result of the consumer's values and beliefs, but we believe that the impact of the Crown virus can be traced in this area as well.

A consumer's choice to pay attention to the origin of a product, its provenance, its local production and its impact on the environment is a way of expressing awareness. The choice of product may also be motivated by the consumer's preference for the labor economy of the place or region where he or she lives, reflecting a kind of conscious choice

It is precisely along these values that the difference between generations should be emphasized, which can also be a driving force behind a preference system for a particular product. The difference between the generations can be traced in many aspects, the choice of product, brand or service being one aspect of this. In this study, we examine generational characteristics in the context of the perception and preference of food, including Hungarian food, by reflecting the differences in the values of each generation in food consumption.

1 Literature Review

[1] has examined the importance of food consumption in the cultures of numerous ethnic groups, as well as how cultural influences impact eating habits and local food supply conditions. The majority of the students interviewed prefer local meals to those of other nationalities, but they also actively look for delicacies from other cultures, according to the results of the quantitative research. The study found that eating patterns in Hungary had affected and transformed the food habits of international students. It also concluded that dietary choices have a significant environmental and social impact, and that a strong cultural background allows students to maintain sustainable dietary and community values abroad, which can also strongly influence the development of local food supply.

Sustainable food consumption in Budapest was studied by [2]. The shoppers of Budapest were classified into five characteristic groups, two of which showed a commitment to sustainable food. They also found that although some consumers are committed to sustainable food, most consumers consider these products too expensive.

[3] investigated the strong relationship and interdependence between food consumption, health and the environment in their study. The close relationship between health and food consumption in terms of consumer behavior is complemented by environmental awareness and sustainability in today's world.

Research on the food consumption habits of young people in Debrecen reveals that they consider themselves to be most conscious of price and quality and that health consciousness (self-interest) is more characteristic of university students than environmental consciousness (community interest) [4].

The change in food consumption habits – caused by a coronavirus pandemic – was investigated by [5] during the first wave using a quantitative method. He showed that Hungarian consumers preferred local shops and markets to larger chain stores. Confidence and previous positive experiences with local products have been revalued.

Further research has analyzed the food purchasing motivations of the Hungarian population during the restrictions generated by the first wave of COVID-19. The results suggest that the pandemic did not significantly change consumer attitudes, but also the order of factors influencing purchases changed. Taste and balanced quality were basic consumer expectations, and a crisis or pandemic would not change this. Compared to the period before the lockdown, shelf life and packaging of products have become more important by now [6].

[6], examining the motivation of Hungarian consumers to buy food, found that in the last two years, the superior taste of products and the consistently high quality of the products selected have maintained their leading position, but the importance of the familiar brand has declined. The results of their research divided the consumer segments into three groups: quality-oriented and ethnocentric shoppers – who preferred local products even during the lockdown–, those who preferred taste and finally, rational buyers made up a separate group.

Quantitative studies by Sikos et al [7] show that during the first wave of the pandemic, shoppers surveyed preferred online shopping and that the preference for online shopping was sustained. The research showed that consumers preferred packaged food and that they were less likely to buy "less necessary" products in the short term, such as clothes and shoes, than food.

The above findings are supported by second wave research by [8]. The authors clearly showed an increase in the demand for durable food, a preference for discounters and local convenience stores in food purchases, and an increase in online food shopping in the context of an empirical survey.

The increase in market demand for Hungarian food was also evident during the pandemic. These products are mainly preferred by consumers with strong brand loyalty and high quality expectations, and, in addition, the role of the producer or the producer of the product and the credibility of its activities are of great importance for them [9].

[10] investigated the intrinsic and extrinsic motivating factors of Generation Y and Generation Z during the coronavirus pandemic. Their results suggest that the growing interest in local food is a significant trend in sustainable food consumption. They found that the characteristics associated with local food are freshness, high quality, nutritional value, reliability, safety, evocation of local flavors, naturalness and healthiness. Taste and curiosity were the main motivations for Generation Y and Z to buy Hungarian food.

The motivation factors were also examined by [11] in a national representative survey. It was found that respondents consider identifiable origin, healthiness and support for local producers and product manufacturers as the most important motivating factors.

The trends described above can also be seen in the research results of [12]: the coronavirus pandemic has led to a surge in orders from local producers who also sell online, both in terms of frequency and value of purchases. In contrast to retail chains, there was increased trust in local producers, and consumers perceived direct purchasing as safer and more reliable. In addition to the above reasons, there was also the effect of social solidarity: families felt contended about supporting local producers.

2 Generational Characteristics in Consumer Behavior

Generations are bound together by common memories and experiences; they can be very well defined by the common values that specifically characterize them. Therefore, the difference between generations as a segmentation criterion can be successfully applied in many areas of marketing [13].

Domestic and international research has investigated the generational approach to consumer behavior in general and, more narrowly, the trends in food purchasing in the recent period.

Results from previous studies already show that the younger generation is more open to new concepts of conspicuous products/services, such as luxury restaurants, cafés as a means of self-expression or as a symbol of their desired lifestyle. Of course, income does influence attitudes towards status consumption if people are highly materialistic, if their position in the social comparison ranking is important to them, or if they have a strong desire for prestige. A further finding is that the costly realization of status consumption by Generation Y women leads them to spend more on luxury and public purchases [14].

Some findings highlight that consumer behavior has changed extremely rapidly and is still changing today as a result of the coronavirus pandemic. A team of Korean

researchers analyzed changes in the food shopping habits of Generation Z and Generation Y. Their results show that the trend towards online shopping has clearly been amplified by the pandemic situation. These changes have also led to different consumption behaviors across generations, depending on the level of concern about COVID-19. The results of the study also suggest that changes in consumer behavior are inducing the acceleration of new options such as 'touch-free' lifestyles [15].

Understanding the consumer behavior of Generation Z also reveals trends for a sustainable future, hence the need to investigate the sustainable food consumption behavior and attitudes of young people. The results of a Greek study on this topic show that the focus of sustainable food consumption behavior is limited to the consumption of seasonal fruits and vegetables and the purchase of regional foods [16].

A Finnish social planning study also analyzed the experiences, opportunities and constraints of Generation Z with regard to food purchasing, eating and storage. Qualitative online focus group discussions revealed that the responding young people perceive and take very seriously the climate change challenge related to food waste and exploitative production [17].

A qualitative research method was used to investigate the attitudes of Generation Z consumers in the UK towards ethical purchasing behavior. The results of the research show that young people engage with the topic a lot on social networking sites and make a strong effort to engage in responsible shopping. The authors emphasize that Generation Z is aware of the ethical problems prevalent in society and that young people at this stage of life are doing their best to consume responsibly [18].

Specifically, Mexican researchers have investigated 'nostalgia' for food and traditionalism in a generational approach. Their results showed that associations with traditional foods varied by generation and were highly diverse: for the older generation, traditional foods were those prepared at home and eaten within the family, while for the younger generation, they focused on comfort foods in addition to family ties and childhood experiences [19].

Similar findings to the above have been reported by a research group that conducted a comprehensive study on traditional food perceptions in the US, Europe and Asia [20].

Their findings suggest that current social trends in lifestyle and food consumption, such as convenience and healthiness, influence countries' food culture and identity, and therefore play an important role in the variation in perceptions and consumption of traditional foods and beverages across age groups within countries. For the older generation, food prepared at home from local ingredients represents the traditional character, while the younger generation also includes snacks on the go in this category. The researchers also found that Generation Z's views on this topic are significantly influenced by online "mass media".

The COVID-19 pandemic has become a major public health problem worldwide, with potential implications for environmental sustainability and social responsibility, as well as for people's quality of life. In this context, people's environmental awareness, sustainable consumption and social actions have changed significantly. In Brazil and Portugal, [21] investigated the impact of the coronavirus pandemic on environmental awareness, sustainable consumption and social responsibility on 3236 people. The results show that the Baby Boomer generation is more sensitive to the social and environmental situations caused by the pandemic, and that Generation X and Y have shown increased awareness in their consumption behavior in the recent period.

In Hungary, [22] investigated the attitudes of Generation Z towards sustainable consumption. The results show that young people have mature and detailed knowledge of sustainable consumption and that they tend to consider themselves more environmentally conscious. The researchers point out that sustainable consumption is often more theoretical and that its implementation is a step-by-step process in which communication and education play a major role.

[23] conducted an empirical study on the responsible consumption characteristics of Generation Y. The results show that responsible and environmentally conscious consumption is not primarily dependent on income. Generation Y claim to be conscious consumers, but when it comes to actual use, they opt for simpler solutions.

In their study, Hungarian researchers compared the sustainable consumption attitudes of the older age group, the over 50s, in Switzerland and Hungary. A representative sample of over 1000 questionnaires and additional face-to-face interviews clearly indicated a difference between the two consumer groups. While marketing tools and social discussions to promote sustainable and environmentally friendly consumption are easy to implement among the Swiss population, new regulations and legal norms are needed to achieve the same goal in Hungarian society [24].

The sustainable consumption patterns of the Hungarian 50+ generation were investigated by [25]. Based on their results, a cluster was identified for which a consumption structure promoting sustainability emerged. They also showed that the role of price is most significant for food purchases, and that a group that consumes local or home-produced food and practices consumption along ethical principles can be found in the Hungarian senior population.

[26] conducted primary research on generational differences in food shopping and found that young women are keen and impulsive shoppers, but do not always buy the products they want from the same shop. Young men, on the other hand, prefer to shop online and do not really like shopping. Middle-aged women either shop for groceries in an action-sensitive, emotionally charged way, or in a functional, fast, goal-oriented way.

Members of Generation Z were characterized by [27] on the basis of their food consumption preferences. The four consumer segments identified as a result of the cluster analysis were the "health and environment" cluster, the "preference-averse", the "time and price sensitive" cluster and the group who considered all aspects except the low price criterion as important. The research has demonstrated that the basic concept of value-based consumer behavior models applies to Generation Z members and that the characterization of each segment can provide food producers with important information for planning their marketing activities.

Research works [28-32], highlighted the differences in awareness between Generation Y and Generation Z. Their quantitative study of more than 1,000 people shows that Generation Y is more aware of environmental protection, while Generation Z is more price-conscious in the area of sustainability. At an ideal level, environmental awareness is important for both generations, but at an action level it remains moderate. The same can be stated for food consumption: sustainability is important for respondents, but not a key factor, especially for Generation Z. In terms of information, Generation Z follows influencers and blogs on the subject, while Generation Y considers experts and dietitians as credible sources.

Shopping habits have changed as a result of the coronavirus pandemic and these changes in shopping activity vary from generation to generation. During the pandemic, Generation Z was the most active consumer group for consumer goods and Generation X for services. Young people have been less restrained in their consumption over the last two years, while for those aged 45 and over, the dominance of traditional values has led to a clear preference for saving [33].

3 Material and Methods

The main research question of the present study is whether it is possible to differentiate consumers according to the preference system of Hungarian food purchasing and if so, what socio-demographic features characterize the individual segments.

It is believed that in order to define the main Hungarian food purchasing population and its potential target group(s), it is necessary to differentiate and segment consumers. This will allow for the outlining of more specific marketing strategies that are better adapted to the different consumer needs.

The first stage of the research process was a systematic secondary source analysis. The secondary sources were used to outline the primary research component, the first phase of which was our research conducted in the first wave of COVID-19. As part of this, we conducted a pre-qualitative and a standardized questionnaire-based online survey (quantitative phase). The results and conclusions of the first research phase helped to lay the foundations for the next quantitative phase, which

is described in this paper. This involved a quantitative approach, with data collection taking the form of a pre-tested online survey using a standardized questionnaire. The questionnaire questions and specific response alternatives were developed in the light of the results of our previous research.

Subjects were recruited through a snowball sampling procedure, resulting in 1151 evaluable questionnaires. Due to the sampling procedure of the research, the results cannot be considered representative; they are local results for the sampling unit.

The topics of the quantitative research tool included food consumption preferences, analysis of Hungarian food purchasing and consumption preferences, perceptions of Hungarian food in the context of the coronavirus, Kahle's value system analysis and socio-demographic data.

The research tool consisted of closed questions only, nominal – single and multiple choice selective questions – and four-point rating scales (Likert and semantic differential) for the analysis of consumer attitudes and value orientation. The scaling questions were based on a scale from 1 to 4, called a forced-choice scale. One reason for this is the individual scale preference of Hungarian respondents: due to the school grading system, our Hungarian respondents are most stable in interpreting a scale up to 5 as opposed to scales 1-7, 1-9 or 1-10. The even scale was selected because the middle value (3) for the odd (1-5) scale is an escape route for respondents. In the analysis of attitudes, those who chose the middle value do not tip the scales in either direction, resulting in an excessive proportion of "indifferent" consumers, making it difficult to segment them in a statistically and professionally meaningful way. Therefore, we opted for the even scale, which, by excluding the middle value, leads the respondent to take a more rigorous stance, thus contributing more to conducting a successful segmentation [34]. Moreover, for the questions analyzed using the even scale, there was no need to give the middle, indifferent value either the do not know or do not know option, as the cognitive level was filtered by means of separate questions.

In this paper, we focused on the quantitative sub-results of the second major phase of our research project. Within that, we have also focused on Hungarian food purchasing habits, possible segmentation possibilities based on preference, and the characteristic features of each food purchasing segment.

4 Objectives

The main objective of the quantitative research was to demonstrate that the Hungarian food purchasing preference system can be used as a segmentation criterion. Furthermore, we wanted to prove that Hungarian food purchasing segments carry generational characteristics.

The main hypotheses of the research were defined on the basis of the conclusions of the secondary data analyses and our own previous empirical experience, based on these, the following hypotheses were drafted:

H1: Distinct consumer groups can be defined according to Hungarian food consumer preferences

H2: The resulting segments carry generation-specific characteristics

Descriptive statistics, bivariate and multivariate analyses were applied using SPSS 22.0 software to process the quantitative results and test the hypotheses. In the first step of segmentation by preference of Hungarian food consumers, a factor analysis was performed on the elements of the preference system, in which the final factor structure was decided on the basis of the KMO value, the total variance value and the professional explanatory power. For the segmentation, we implemented a K-means clustering procedure, which is a statistically appropriate method due to the sample size of more than 1,000 sample elements.

In this study, besides the results of the factor and cluster analysis, Pearson's Chi-square significance values were used to establish statistical correlations when characterizing the segments, while the absolute values of the Adjusted Residual (Adj.R) were used to establish and analyze the internal correlations [34].

5 Results

To test our hypothesis, we first analyzed the Hungarian food purchasing preferences. The results show that convenience is the main preference among the sample members when buying Hungarian food (Table 1).

Table 1
The preference system of Hungarian food purchasing

Aspects of buying Hungarian food	Average 1 = no influence at all 4 = full influence	Standard deviation
Nutritional values (taste, smell, calories, vitamins, minerals)	2.89	1.056
Geographical origin (place of origin of the food, traditional character)	2.40	0.982
The food should be cheap	2.65	0.946
The food should be discounted	2.45	0.963
Appeal of packaging	2.03	0.888
Food should be Hungarian	2.59	1.000
Brand name	2.36	0.963
Practicality of packaging	2.20	0.924

Food durability, expiry date	3.01	0.969
Have a trademark on the packaging	2.19	0.952
Should be easily available	2.77	0.975
Food-related advertising	1.75	0.800

Source: authors' own research, 2021 N=1156

In order to segment by preference system, factor analysis was carried out in the next step. Several factor tests were conducted: three-, four- and five-component solutions. The factor structure that provided the best solution statistically and professionally was the three-component version (Table 2).

Table 2
Factors for buying Hungarian food

Aspects of buying Hungarian food	Factors		
	Design and communication parts	Origin and quality	Price and convenience
Packaging attractiveness	0.734	-0.019	0.228
Practicality of packaging	0.697	0.140	0.103
Food advertising	0.685	-0.035	0.101
Brand name	0.682	0.062	0.038
Have a trademark on the packaging	0.577	0.328	0.006
Geographical origin (place of origin of the food, traditional character)	0.138	0.797	0.020
Food should be Hungarian	0.233	0.748	0.005
Content (taste, smell, calories, vitamins, minerals)	-0.145	0.721	0.158
The food should be cheap	0.033	0.048	0.881
The food should be promotional	0.136	-0.002	0.844
Easily available	0.348	0.307	0.395
Durability, shelf life of food	0.345	0.298	0.382

Source: authors' own research, 2021 N=1156, Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization, KMO=0.778; Total variance=54.733

- F1: The first factor is the "*Design and Communication Elements*" group, which includes the marketing and functional attributes of packaging, branding and advertising.
- F2: The "*Origin and Quality*" group consisted of the geographical origin of the food, its Hungarian origin, taste, smell, vitamin and mineral content.

- F3: The "*Price and convenience*" factor included purchase factors related to discounts, promotions, shelf life and ease of access (convenience).

The resulting factor structure was subjected to cluster analysis using K-means. As a result, we were able to distinguish differentiated purchase segments according to the preference pattern of Hungarian food purchase (H1 confirmed) (Table 3).

Preferenceless (N = 353)

Who did not find any of the factor groups very important. Presumably, they are consumers who do not yet have a mature value system, in many cases easily influenced by the lack of established, stable orientation points.

Design and convenience-oriented price-sensitive (N = 385)

Who, when buying Hungarian food, pay most attention to the communication elements of packaging, brand name and advertising, in addition to convenience aspects and promotions as well as discounts.

Conscious Hungarian food buyers (N = 423)

Who prioritize the Hungarian nature of food, emphasize geographical origin, but do not consider the impact of design elements or price discounts to be relevant.

Table 3
Clusters of the Hungarian food buyers

Factors of buying Hungarian food	Clusters of Hungarian food buyers		
	Preferenceless N=353	Design and convenience oriented price- sensitive N=389	Conscious Hungarian food buyers N=423
Design and communication elements	-0.61083	1.04230	-0.44877
Origin and quality	-0.98930	-0.09610	0.91397
Price and convenience	-0.05199	0.21781	-0.15692

Source: authors' own research, 2021 N=1156, K-means clustering

We wanted to characterize each segment from a socio-demographic perspective. Significant differences were found between the groups in terms of gender, highest level of education and generational affiliation (Tables 4-6).

Our previous study has shown that the largest group of buyers of Hungarian food is from Generation X. These results confirm this. Among the "Conscious Hungarian food buyers", the proportion of Generation X members was higher than expected, as was the proportion of those with higher (tertiary) education.

Among members of Generation Z, a higher than expected proportion was found among "Preferenceless". Among members of the latter group, the number of men

were more than expected in terms of gender and those with primary education in terms of educational attainment.

Table 4
Clusters of Hungarian food buyers from a generation-specific perspective

Generations		Clusters of Hungarian food buyers			Total
		Preferenceless	Design and convenience oriented price sensitive	Conscious Hungarian food buyers	
Z	Persons	210	217	189	616
	% of the generation	34.1%	35.2%	30.7%	100.0%
	Adjusted Residual	2.9	1.5	-4.3	
Y	Persons	71	89	102	262
	% of the generation	27.1%	34.0%	38.9%	100.0%
	Adjusted Residual	-1.3	0.3	1.0	
X	Persons	70	79	129	278
	% of the generation	25.2%	28.4%	46.4%	100.0%
	Adjusted Residual	-2.2	-2.0	4.0	
Total	Number	351	385	420	1156
	% of the generation	30.4%	33.3%	36.3%	100.0%

Source: authors' own research, 2021 N=1156, analysis of variance, One-Way-ANOVA, sig=0.000

Table 5
Breakdown of Hungarian food buyers' clusters by gender

Gender		Hungarian food buyers' clusters			
		Preferenceless	Design and convenience oriented price-sensitive	Conscious Hungarian food buyers	Total
Male	Female	159	139	150	448
	% of the gender ratio	35.5%	31.0%	33.5%	100.0%
	Adjusted Residual	3.0	-1.3	-1.6	
Female	Female	192	246	270	708
	% of the gender ratio	27.1%	34.7%	38.1%	100.0%

	Adjusted Residual	-3.0	1.3	1.6	
Total	Persons	351	385	420	1156
	% of the gender ratio	30.4%	33.3%	36.3%	100.0%

Source: authors' own research 2021 $N=1156$, analysis of variance, One-Way-ANOVA, $sig=0.011$

Table 6
Breakdown of Hungarian food buyers' clusters by qualification

Qualification		Hungarian food buyers' clusters			Total
		Preferenceless	Design and convenience oriented price-sensitive	Conscious Hungarian food buyers	
elementary (primary school)	Persons	23	16	14	53
	% of the highest qualification	43.4%	30.2%	26.4%	100.0%
	Adjusted Residual	2.1	-0.5	-1.5	
higher education (university, college)	Persons	97	124	179	400
	% of the highest qualification	24.3%	31.0%	44.8%	100.0%
	Adjusted Residual	-3.2	-1.3	4.3	
Secondary level (vocational school, secondary technical school, grammar school)	Persons	231	245	227	703
	% of the highest qualification	32.9%	34.9%	32.3%	100.0%
	Adjusted Residual	2.3	1.3	-3.5	
Total	Persons	353	389	423	1165
	% of the highest qualification	30.3%	33.4%	36.3%	100.0%

Source: authors' own research, 2021 $N=1156$, analysis of variance, One-Way-ANOVA, $sig=0.011$

Summary

Based on the results herein, we believe that the "Preferenceless" group, represented an immature set of values, due to a young age and lower education. This may explain the neutral attitude towards the purchasing criteria of Hungarian food. We believe that this segment could strengthen the group of Hungarian food buyers in the future by means of appropriate education and emotional attachment.

For Generation X, which is the main age group of Hungarian food consumers, we believe, that retention and emotional attachment can be further strengthened, which can continue to encourage these consumers to prefer Hungarian food.

We conclude that appropriate CSR activities, educational campaigns and the emphasis on values that are still relevant for the generations could be the main features of a communication strategy on Hungarian food.

The results showed that the "Preferenceless" group, among whom Generation Z members, were in the majority, and who were less motivated to prefer Hungarian food, may have an immature value system due to their young age and lower education level, which may explain their neutral attitude towards the purchasing of Hungarian food. An important finding is that even the youngest generation included in the study does not have a negative attitude towards Hungarian food. We think that this segment could strengthen the future consumer base of Hungarian food, through appropriate education and emotional attachment.

Our previous research has shown that there is a relevant relationship between values and the final output of food consumption [27] [35]. Generations Z and X, although they have significant differences in terms of their basic values and attitudes, we believe that they share commonalities in terms of their motivations for buying Hungarian food, especially along the lines of emotional attachment.

One limitation of this research work, is that the results are valid for the sample, but another is that it interprets the generational differences in Hungarian food purchasing, in a domestic context.

As a continuation of this research, we are therefore, planning an international comparison, with a special focus on a Western European sample, which would include possible cultural differences among the variables, to be investigated. This would shed light on which specific generational characteristics should be considered valid, regardless of borders and which cultural/subcultural aspects are more strongly represented.

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