Cognitive spatial perception and European Union image in a group of Hungarian high school students, 2022

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Keywords:
cognitive mapping,
European Union,
Hungary,
geography education,
tourism

The purpose of this analysis is to provide insight into Hungarian secondary school students' preferences related to the European Union (EU). The survey conducted among 18–19-year-old students was completed through interviews with teachers interested in geography education. In the positive perception of the EU, the four basic freedoms, especially the free movement of people, appeared most frequently. Nearly half of the unfavorable properties can be associated with social problems. The investigation revealed three pattern types: in addition to the preferred Western European and Mediterranean countries, the far less preferred Balkan Peninsula and the block of countries neighboring Hungary appeared.

Introduction and literature review

The purpose of this current analysis is to provide insight into Hungarian secondary school students' views related to the European Union (EU), integration, and individual countries. The research explores 18–19-year-olds' preferences in relation to the Union and their beliefs about its favorable and unfavorable aspects. It also addresses the question of country and disposition preferences. The exploration of the cause and effect background reveals the following themes: cognitive background images, stereotypes, and attitudes. The general collective value system that concerns the EU as a whole – presumed to be experienced – highlights that the concept of the value of a cohesive group exists among today's youth, which is connected to integration and its main proponents. The country's image with respect to corporate

identity outlines the scope of states, which have their own specific character in the cognitive map of the examined group and thereby also highlights the main aspects of the EU's heterogeneity on the meso-level of the target groups' identified, experienced, and authentic elements. This work covers the first two elements of the integration strengths, weaknesses, opportunities, and threats (SWOT) analysis (strengths and weaknesses) to explore how young people see the future potential of the EU and its threatening factors.

The literature background of behaviorist geography has been processed by many other than geographers, including psychologists and sociologists. Psychology was the first field, which turned toward the scientific examination of cognitive spatial perception and the mental representations of spatial relationships as early as the 1970s (Evans–Pezdek 1980, Baird 1979, McNamara 1986, Newcombe–Liben 1982). Those interested in the geographical approach of cognitive mapping had to wait until the 1980s (Killworth–Bernard 1982, Lloyd 1989).

The international research focuses of complex, diverse and multidisciplinary issues have changed considerably in recent years. Although many researchers dealt with geographical aspects of young people's lives even in the 1990s, it became clear that the examination of teenagers has been relatively pushed into the background: the focus has been placed on children (Evans 2008). That is why there should be more studies that, on the one hand, draw attention to the importance of this transitional period (Evans 2008) and, on the other hand, can change the often negative image of teenagers (Weller 2006).

The target group in the present study currently belongs to this age group, in which the development of maps or even more spatial perception has a significant role (Liben–Downs 1989). The development of spatial orientation can support critical thinking about social, economic, and environmental issues. It is helpful for teachers because it shows the shortcomings of knowledge. However, the recognition of the EU-related beliefs of the forthcoming, active generation can contribute to the future development of European integration. The examination of young people's ideas about space appears in the literature at many local and regional levels. European research examines concepts and ideas brought about by the urban environment (Béneker et al. 2010), which draws attention to regional differences (e.g., Finnish young people emphasize environmental and social issues). The results show that map and space perception plays a major role in shaping young people's critical thinking (Gordon et al. 2016, Watkins 2016), and it can benefit geography education.

Another research direction in this paper highlights how young people identify with space at local, national, and global levels from political, cultural, linguistic or even ethnic points of view, namely, in the age of cultural and economic globalization (Scourfield et al. 2006). Several studies give priority to the ethnic and multicultural aspects of identity (Kasanga 2008, Saeed et al. 2010). Ideas about space, however, have several other impacts on the lives of young people, namely, on the motivations and characteristics of their international mobility (Brooks–Waters 2011, Cairns 2014).

The spread of the discipline in Hungary only took place after the change of the regime. Although there have been a fair number of research results dealing with cognitive mapping over the last few decades in numerous fields of science – it is enough to point out the surveys focusing on urban areas – the Hungarian perspective of the international environment examination is far from reaching such a focus.

Surveys carried out in this respect in the second half of the 1990s were primarily aimed at exploring the views of university students about the popularity of some European countries (Bajmócy–Csikos 1997). Research has also examined school's ability to change attitudes toward various countries because it is important for young people to be open toward European culture, lifestyle, customs, and traditions. Early investigations have also already revealed significant differences between Eastern and Western Europe, as well as revulsion toward some of the neighboring countries. Another important conclusion is that the years spent in primary and secondary education determine attitudes toward European countries, as university students' opinions do not differ much from those facing graduation.

Some of the studies focus on examining students' attitudes and the sociogeographical significance of cognitive mapping (Enyedi–Pál 2021, Molnár 2022, Váncsa 2022), while others approach cognitive mapping from the perspective of tourism, as it became clear that subjective value judgments are more easily linked to a country visited on a tourist's mental map. If tourism policy-makers are aware of this, they can successfully intervene in tourism developments (Jenkins–Walmsley 1993, Michalkó 1998, Horváth 2016, Mitev et al. 2017). The investigation undertaking the assessment of the picture formed about Italy revealed what kind of information and emotional factors play a major role in the decisions affecting visits to the European country (Michalkó 1998).

Following the turn of the millennium, the examination of the cognitive maps of the countries neighboring Hungary revealed that the cognitive maps are mainly built up of elements, which are derived from personal involvement, experiences, and their own knowledge. Parental opinion and the media also have a significant role (Lakotár 2006). The findings of the Eurobroadmap Assessment Projects (2011), financed by the European Commission, are about the world and European image of university students coming from different nationalities and studying different courses. This also emphasizes the importance of the abovementioned experiences. In addition to neighboring countries, Hungarian university students mainly mentioned popular Western European (Austria, Switzerland and Germany) and Mediterranean countries they also visited (Spain, Greece, Italy, and Portugal). Unfavorable judgments have mainly affected neighboring postsocialist countries (Rédei et al. 2011).

From the international studies that deal with the perception of European countries, those that fit into the abovementioned logical arc are those that measure Turkish university geography students' geographical image of Europe (Sudas–Gokten 2012). Another study conducted on first- and fourth-grade students highlighted the efficiency of university geography teaching. For a majority of the respondents,

Europe can only be understood within its physical boundaries, while others link Europism together with economic development or place it in a political context. The results of similar studies not only serve the understanding of the current situation but also provide help in developing curricula that can make the teaching of Europe's geography more effective.

However, cognitive mapping studies are useful not only for geography but also for history since concepts such as Europe, the West, or even the Mediterranean are relevant not only from a political but also from a historiographical point of view. Cognitive mapping studies reveal the cultural and temporal changes in concepts indicating historical regions (Schenk 2013).

Research methods

The current analysis builds on both primary and secondary sources. Textbooks and curricula used in education were included among the secondary sources. Emphasis was placed on the primary sources, among which a complex questionnaire survey conducted among high school students played an important role. The questionnaires were completed by a total of 372 students, and the structural division of the group is shown in Table 1.

Table 1

Distribution of those who completed the questionnaire

School type	Number of students	Percentage
Grammar school	127	34
	104	28
Technical school	100	27
School for skilled workers	41	11
Altogether	372	100

In selecting the sample, it was important to represent all three levels of Hungarian secondary education institutions: vocational schools, technical schools and the range of grammar schools. However, the sample of grammar schools is deliberately over represented, as this is the level of training where the requirements facing the students (baccalaureate fulfilment) and education structure (the typically higher number of geography lessons and greater incidence of related optional lessons) makes the raising of the issue particularly relevant. A further criterion for the higher proportion of query among high school students surpassing the national average is that they are the ones who will grade proportionally, continue their studies in the largest part of the framework, and be most likely to pursue higher education courses. Therefore, they are the primary recipients of geography training at the university level. The assessment of the target group's cognitive map of knowledge may therefore be worthwhile information for instructors and researchers participating in higher education.

According to the working target system, the grammar school pupils were given 1.5, and those studying in technical school received a 0.5 weight, which we managed to keep when sampling (the actual weights were 1.59 in the case of grammar schools and 0.51 in the case of technical schools). The gender distribution among the respondents showed a slight excess of men (53%). The survey target groups were from graduating classes and included an age range of 17–22. The 18-year-olds made up nearly two-thirds of the respondents (69%). In regard to the structure of education among the technical schools, there were CNC (mill) mechanic, industrial mechanic, welder, auto body mechanic, women's tailor, and electrician students in the sample. The training of technical school students is not geography specific; the data collection took place in economics, information technology, and administrative fields of study. In the case of grammar schools, the ratio of students involved in these optional geography lessons was 23%. In this latter type of training, the students spent the most time, an average of 2–3 years, acquiring geographical knowledge.

In the questionnaire survey, in addition to demographic data, the students, among other things, could report their beliefs on the EU, their country, and community preferences. The questions were open-ended with one exception: the participants could freely formulate their answer regarding properties that they agreed to describe as strengths or weaknesses. A further group of questions covered the identification of common European values (free listing without an answer limit) in regards to country preference and evaluation of the specific identity of the individual states. In the latter case, the number of countries that could be mentioned in the questionnaire was maximized to 10, and not a single respondent filled out the frame. In the last question block, the task of the respondents was the characterization of four freely chosen states on a Likert scale ranging from 1 to 5 based on the following criteria: built environment, assets of tourism, ethnic relations, the status of the environment, and other characteristics of demographic structure (e.g., age structure); aspects of living, property prices, economic conditions, and impressions about the residents.

From the subject of the analysis stems the „degree of relevance" problem in evaluation, namely, that the factors contained in the collective consciousness of the group must be disconnected from the few extreme cases, where the item only appears in one person's cognitive map. This issue arises in all cases where the evaluation categories and/or the selection of the countries are subjective (e.g., preference, corporate identity). The solution is the so-called „sliver" separation, i.e., defining a kind of – subjective – limit, above which the given information can be accepted as relevant for the group level as well. To measure the relevancy of voiced opinions, the following indicator was calculated:

Relevancy ratio = number of opinions voiced/all opinions, where

- number of opinions voiced – The total number of mentions of a specific country, which shows how many times the country appeared as preferred or not preferred regarding the question about country preference (1) and how

many times it was mentioned related to the question about country image (2) in total, in the answers.

- all opinions – The total number of responses to the questions about country preference (1) and image (2).

The indicator expresses the size of the share of all the mentioned properties in the group (taking into account even the occasional opinions typical of only some of the respondents). For example, if the number of positive expressions of opinion about the EU is 10, all of which are different, considering the group as a whole, the relevance seems to be low (the ratio is 0.1). However, if everyone uniformly mentions one quality, then that characteristic most likely reflects not only the opinion of single individuals but also the collective resolution of the group (then the relevance ratio is 1). The definition of the specific power values in this case is group specific; primarily, it varies with the number of opinions. Higher values are considered favorable. In the case of country preferences, the values above the median (0.011) are already relevant (acceptable relevancy ratio), while the ones above average (0.033) are emphatic, and they qualify as outstanding weight opinions at the group level as well. The same limits in relation to country image issues are 0.024 and 0.042. When determining the limits, the 0 relevance qualifications have not been taken into account.

The logic behind the definition of the above values lies in the fact that the higher the proportion of opinions expressed about a country by the group, the greater the result can represent the opinion of the group of respondents. Accordingly, if a country is mentioned in a larger proportion by more people, the relevancy ratio increases. Two different approaches were taken into account when defining the limit values. In the case of the more permissive limit value, it was enough if the total number of mentions of the country was higher than the median value, i.e., in this case, all opinions that received more than the median value were considered relevant. In addition, we also defined a stricter requirement. If the number of mentions in the given country was higher than the average number of mentions, the relevancy ratio was classified as particularly relevant (more people than average had a preference and/or image of the country). To enable a full objective evaluation of our results, we have provided the relevancy ratio for all countries with mentions other than zero, thus avoiding subjectivity.

Due to incorrect interpretation of the questions and/or lack of knowledge about EU countries, for certain issue groups, non-EU member states also appeared among the answers. These responses are included in the figures; however, the analysis emphasizes the member states of the EU.

The data were recorded with MS Access 2019 and analyzed with MS Excel 2019 and SPSS 22.0 software. The maps were created using the number 3.16 version of QGIS and with the help of vector editing programs (Adobe Illustrator CC 2014).

Results

Opinions about the European Union

The examined groups' views about the EU were dominated by favorable elements, which account for approximately 60% of the total opinion expressions. The beneficial properties showed strong coherence; a negligible (2.8%) proportion of the ratings could not be clearly classified into categories, while all the other opinions formed a total of four groups. Most of the advantageous qualities mentioned are connected to the four freedoms (goods, services, the free movement of people, and the free movement of capital). Of these, the free movement of people emerged (54.9% of the mentions in the favorable category), which – regarding the nature of the group – was expected. The subject area is divided into two distinctive dimensions: the free movement of labor and tourism-related mobility. In addition, the mention of the open borders received a score of 26.8% in the favorable category, which clearly illustrates the advantages highlighted by the students. The above results raise two important questions. In terms of maintaining positive perceptions about the EU, it is emphasized that unrestricted mobility should be the most developed and preserved based on the idea of a united Europe.

Young people consider the possibility of achieving a higher standard of living as one of the most important advantages of free movement between the EU Member States (e.g., with foreign employment). Therefore, this is considered by the subjects to be one of the main competitive advantages of the EU.

The category of „potential and cohesion" finished in second place. In particular, those surveyed emphasized that the most prominent positive trait resulting from the integration is the greater – in part economic – strength, thus having better advocacy capability in the international „competition", primarily in relation to the major economic centers (US, East Asia, Russia, etc.). Through unity, students feel like they are citizens of a community that is capable of renewal and growth and provides differentiated opportunities for the unfolding of different goals/career models. It is no coincidence that within this category, in addition to the general findings, two main units emerged more prominently: the integrated labor market, thus offering more diverse opportunities, and better learning opportunities.

The category of „financial opportunities" finished in third place, within the positive category of 21.9% of the shares, and also reveals a substantial proportion of the opinions formed about the EU. The group is divided into two main segments, the stronger, beneficial opinions associated with cash tender and the not far behind unified currency. The large number of EU developments and the fact that a significant portion of them contain elements that directly affect the students as well plays a role in the previous frequent mention (e.g., asset development programs of schools, restoring public spaces, etc.). The effects of the marker activities related to individual EU projects are also reflected in the higher frequencies of mentioning. The unified currency, primarily due to its convenience, earned itself a high rate of mentioning.

The „culture" category finished fourth with 10.2% of shares in the category of favorable opinions. The most striking element is some form of expressing diversity, which includes multiculturalism as well. Another dimension is the beneficial opinion of coexistence of different cultures, and the benefits of a well-built environment were placed in this category. It was revealed that in the area of beneficial properties associated with the EU, a group-level position exists for Hungarian secondary school students. The individual opinions are scattered and have less of an effect on the other categories.

The unfavorable properties are more heterogeneous, and the degree of cohesion is lower. Therefore, in this case, individual opinions and impressions have substantially greater weight. The „other" category is also wider; it has a proportion of approximately 14,8% in the negative group. The other opinions are also scattered; in addition to the three main groups (social, economic and operation-related problems), several smaller ones appear with a maximum proportion of approximately 10%. The dominant percentages of negative reviews, approximately 45%, include social problems. Some of the opposites or lack of units rated by many as favorable characteristics were brought into focus (8.9% of the negative opinions). The emphasizing positions of the contrast between rich and poor countries as well as those of one-sided dependencies were put in separate subgroups. Of all the opinions (both favorable and unfavorable), 4% stem from the opinion that states with lower potential have limited possibilities for advocacy as well as narrower chances when lobbying rich countries to mitigate this asymmetric relationship. In this relation, according to the relevant points of view, the less developed periphery is only a paraselene for richer countries.

The second largest set (16.6%) of the unfavorable category is created by the alleged problems related to operation. Here, the group is led by „strict rules" that were followed by the restrictions and national policies. A small percentage results, but „excessive expectations" also received a separate subgroup.

Of the economic tensions, the thoughts of the high school students can be organized around three main problem systems. In the 'general' subgroup regarding the increase of prices, inflation as the perceived consequence of joining, consumption on foreign travels, and foreign products, the price level of the EUR/HUF rate is considered extremely unfavorable. The use of subsidies is often deemed ineffective, and the bad competitive position of small businesses is also mentioned several times. For the latter element, criticism relates to domestic economic policy being blurred together with the EU's experienced disadvantageous perception of economic policy/system-level characteristics (globalization) and the real or perceived adverse effects on small businesses. Finally, in the minds of the students, an image exists that shows the expansive nature of foreign products crowding out Hungarian merchandise.

The „spatial dimension" is the last, still pronounced, and very coherent element (within the unfavorable segment with a 9.5% share of mentions). The problem in this

respect is dual; on the one hand, the rich/poor relation here has particular information content, saturated with examples (e.g., Germany pays for maintaining the EU), dwelling on the lagging behind of the Balkans, the acceptability of some countries' debt to the EU or even the unsuitability for accession. Within the negative opinions, the share of mentions that the preservation of national sovereignty and the EU's unification efforts are a constant conflict that can have a detrimental effect on economic growth and unity reached 4.7%.

Country preferences and disposition preferences

The distribution of country preferences and disposition preferences has strong territorial concentration (Figure 1).

Figure 1

Country preference relations in the group of Hungarian high school students, 2022

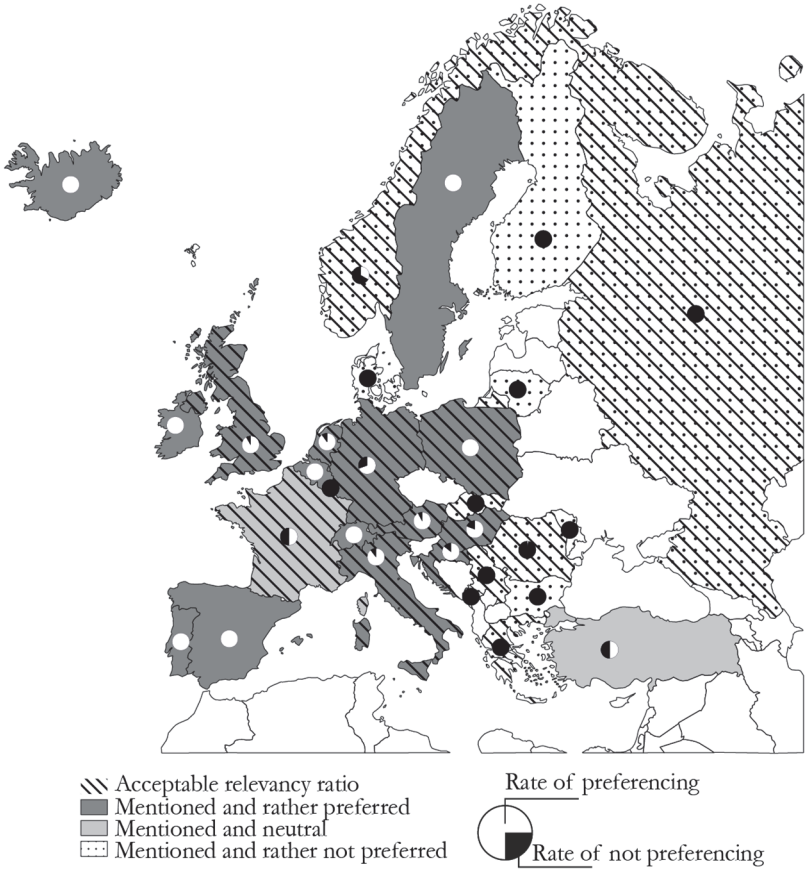

Table 2

Relevancy ratio by country related to preference

Country	Relevancy ratio	Country	Relevancy ratio	Country	Relevancy ratio
Romania	0.206	Russia	0.018	Bulgaria	0.009
Germany	0.106	Norway	0.014	Lithuania	0.009
Hungary	0.096	Poland	0.014	Finland	0.005
Italy	0.087	Serbia	0.014	Portugal	0.005
France	0.083	Greece	0.014	Belgium	0.005
Austria	0.060	Spain	0.009	Moldova	0.005
United Kingdom	0.055	Switzerland	0.009	Montenegro	0.005
Slovakia	0.055	Ireland	0.009	Luxembourg	0.005
The Netherlands	0.046	Sweden	0.009	Iceland	0.005
Croatia	0.032	Turkey	0.009	Denmark	0.005

In addition, this is one of the problem areas in which the mechanism of cognitive systems influencing collective consciousness and collective spatial knowledge-related opinions are emphatically reflected. The spatial structure can be divided into three partially overlapping sets. The largest unit is made up of preferred countries, especially Western European and Mediterranean countries. These include states that the students typically endowed with beneficial properties. A different zone represents the Balkan Peninsula, and to most of its countries, the students typically attached negative qualities. Many countries neighboring Hungary have rather negative attributes, which thus form a new zone. The northern, dispreferred states form a separate category; however, the low relevance ratio and, in many cases, the complete lack of mention (Estonia, Latvia and Lithuania) do not allow the opinion of these countries to be considered „included" in the group.

The preference zone has the most complex causal system. At least a triple breakdown of this zone can also be detected. The three groups according to the underlying reasons behind their popularity were given the following names: the „countries of romantic propensity mainly with emotional associations", the „economic centers of power, which are associated with economic and labor market characteristics" and the „mixed countries". The „economic centers of power, which are associated with economic and labor market characteristics" – from among those with sufficient size relevance ratios – are Germany, Austria, and the Netherlands. In these states, the most prominent argument, in addition to preference, was the line of good business, labor, and educational conditions. In addition to the favorable earning potential, the ideal working environment occurred as an argument. The group most dominated by subjective impressions was the „countries of romantic propensity mainly with emotional associations", which include those with sufficiently high relevance ratios, such as Ireland, Italy, Croatia, Hungary, and Poland. With some precaution – due to the low relevance ratio – we can include Spain and Portugal. In

these countries, the main argument was the expression of some sort of emotional affection. This included the Mediterranean climate, the beach, the natural beauty, touristic attractions, the people's mentality, the Latin habitus, the Italian temperament, and gastronomy, such as the Irish beer culture, Italian cuisine, or Spanish wine culture, among other things. With regard to Poland, the sympathy directed toward people dominated, namely, the „we love Hungarians" type of opinion. The case of Hungary is specific; on the one hand, so-called „skeptical-optimistic" arguments occur, and on the other hand, culture-centered preferences are associated with Hungary (i.e., good food, rich history, friendly people, nice people, etc.). Hungarian identity and national feelings, therefore, primarily feed a powerful and high-relevance score preference through cultural values and common destiny, which may otherwise negatively affect the intention of emigration. In the case of „mixed" countries, both of the above two reasons appear with different weights, namely, economic power and opportunities are coupled with romantic, emotional affection. Austria can be mentioned as a borderline case, where the Alps and related tourism products pulled the country out of the pure „economic centers of power, which are associated with economic and labor market characteristics" group.

Regarding transitional preferences/disposition preferences, two countries can be listed: Germany and France. The reasons behind the popularity have already been mentioned, and the counterarguments paint two very different pictures of these countries. Germany's disposition preference is rooted in language; most of the counterarguments are concentrated on this item. France's disposition preference, in contrast, is more dominated by the high prices and the perceived self-esteem and eccentricity of the French people.

For the two states of the Balkans and the nonneighboring Hungary, Bulgaria and Greece, the relevance indicator is only high enough in the latter case to draw conclusions. The arguments in favor of disposition preference for Greece, without exception, are connected to the collapse of the economic system. Among them are weak economic potential, the appearance of the concept of bankruptcy, and other related social aspects. Those mentioning Bulgaria placed it at the end of the list primarily due to the allegedly high degree of danger and crime.

The third category consists of the disposition preferred countries bordering Hungary. It is significant that in the case of both Slovakia and Romania, the relevance ratio is quite high; in fact, the latter country excels far out of the line. The 0.014 value of Serbia is already less strong, but – with some caution – is still acceptable. Romania is the least preferred country, with 45 unfavorable opinions and only one preference because of family ties. No one identified Slovakia and Serbia as preferred countries, but due to less forming of opinions, the lack of popularity is less pronounced. The unfavorable assessment of Romania is rooted in many item groups. The two most powerful categories apply to economic underdevelopment and the anti-Hungarian mentality. These two groups represent nearly 65% of the arguments. Among the

economic problems, congestion, environmental pollution, deterioration of the living environment, poverty, and unemployment also appear. Minorities in the third category, particularly the high proportion of the Roma minority, will be highlighted. Among the last arguments are the supposed hiatus of the political/social system. Slovakia in this regard is relatively homogeneous, as more than 80% of the arguments are connected to the issue of anti-Hungarian mentality. In regard to Serbia, the latter element hardly occurs; here, mainly the problems of the economic system, poverty, and the related quality of life arose as a factor.

In total, the preference dominates the group (52% of the shares), i.e., high school students had favorable rather than unfavorable feelings toward many countries.

Collective European Union values in the views of 18–19-year-olds

The research showed that a special collective EU image exists in the minds of the students, which is made up of several identifiable factors.

One striking feature of the results is the small share of the „other" category, namely, that the view of the respondents, almost without exception, could be classified into well-defined groups, so the collective EU image is less diffused. This confirms that although the categories received relatively common names, the data content behind them is grouped around only a few well-defined characteristics. The approximate 8 categories provide the basis for a quite coherent EU image presumption. According to the reported responses, the most important value related to the EU proved to be cultural and historical factors. The group is dominated by European culture, historical records in general as European history, and its built manifestations, connected to museums, which are intended to preserve this heritage. Traditionalism, in addition to respecting traditions, religious heritage, the high degree of the education system and diversity as well as the high quality of arts are also frequently mentioned aspects. Among the different ideologies, only liberalism appeared with a higher frequency of mention as a European value that did not occur as the opposite of respect for traditions and religion but rather as a complement to these values.

When the originally national values are bound to the EU, it is considered a specific group. One form displays one part of the Hungarian values as EU treasures, and the other raises the iconic features of other nations to continental rank. The United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage site status value of marketing is reflected in that the dominant portion of EU values connected to Hungary (almost 90%) belonged within this scope (the first place was achieved by Hortobagy National Park and the Aggtelek Karst in a tie). The other, the group of national values and specialties not linked to Hungary, are dominated by the German and French heritage and local products (the Eiffel Tower, French wine, French cheese, the Louvre, Notre Dame, Ode to Joy, the Munich beer

festival, and German beers), but Italian and Spanish elements occur as well (the Coliseum, Italian mozzarella, and the Leaning Tower of Pisa).

„General culinary creations" (beer, wine, brandy, and sausage), „football" (Champions League and the European Championship), and „unity, mutual help" as a habit characteristic of the inhabitants of the EU appear as separate categories. The scope of these economic factors is substantially more heterogeneous, and the number of mentions per factor is less. Among these, common currency, the openness of borders and job opportunities all achieved higher shares as positive properties. From among the identifiable values of the EU, „natural parks" brought up the rear, both in frequency of mentioning (3.4%) and diversity. This category ranges from beautiful landscapes to the mentioning of certain plants, plant growing regions, and a number of factors, including famous wine-producing regions as well, and the wine culture itself, as an EU value.

By summarizing the experiences formed by the EU image, three major aspects of the perceptions of high school students can be grasped. On the one hand, most collective values are indeed values, i.e., there are few favorable features that received a place in the listing. On the other hand, the focus is placed on the past and culture, the common roots of Europe. Third, a connection revealed between properties experienced as favorable and values, namely, among young people, was the essence of integration, its advantages, and European pride.

Country image

Between determining the country image elements and the series of countries visited, there is a significant Spearman's correlation of 0.747, with a 0.01 significance level that the more people visited countries, the greater they endowed countries with a unique corporate image (Figure 2).

Table 3

Relevancy ratio by country related to country image

Country	Relevancy ratio	Country	Relevancy ratio	Country	Relevancy ratio
Germany	0.144	Austria	0.031	Serbia	0.012
France	0.132	Switzerland	0.028	Greece	0.012
Italy	0.120	Poland	0.026	Finland	0.009
Hungary	0.085	Czech Republic	0.021	Belgium	0.007
United Kingdom	0.085	Slovakia	0.016	Portugal	0.007
Spain	0.073	Russia	0.016	Turkey	0.005
The Netherlands	0.052	Ireland	0.016	Bulgaria	0.002
Romania	0.035	Norway	0.016		
Croatia	0.035	Sweden	0.014		

Figure 2

Country image and relevancy indicator related to the evaluation in the group of Hungarian high school students, 2022

Germany, France and Italy are placed at the focal point, with the highest relevancy-indicator scores. The image of Germany – according to the examined group – of more than 50% is formed from gastronomic elements; in addition, these are also scattered on a very narrow spectrum, beer and sausages, complemented with a cultural element, October Fest. This line is followed by 30% and 14% of the shares of the features related to the citizen and business sectors, respectively. With regard to the economy, precision, mechanical engineering, good technical sense, and intensity in engineering lead the line. In the case of France, a completely different picture arises. Here, the gastronomic values are also emphatic (43% share), but their characteristics are naturally different. The line in this regard is by baguettes, wine, and a variety of cheeses, which are followed by champagne and snails. The direction here, however, strongly deviates from German. The economy on its own is not mentioned or mentioned in an insignificant proportion, whereas the only element of the built

heritage, the Eiffel Tower, has a high frequency of mention (10%). The remaining two dominant groups received the names „habitus" (20%) and „other social and cultural items" (26%). In the previous case, love, romance, passion, dignity, sophistication, and notability lead the line. In the latter category of fashion, the arts and artistic masterpieces, Paris and generally the country's beauty are mentioned among the image elements of France.

The range of the three countries with the most assessments is concluded by Italy. The gastronomic values are in a prominent place as well, with approximately 34% of the shares. The difference with the previous two states in this case is given by the smaller proportion of mentioning a specific food/beverage; most highlighted Italian cuisine as a cultural/identity element. The only food that was specifically highlighted was pizza. The frequency of mention, 17%, refers to the mentality of the Italians, among other things emphasizing romantic-reliance, loudness, cheerfulness and laxity. The Mafia received 9% of mentions. Finally, a mixed group is formed here as well with the appearance of the other social and cultural elements (35%). In this group, Christian values and the related artistic, built environment lead the list, with special emphasis on the Vatican. Two cities, Venice and Pisa, were also put on the list with a higher frequency of mentioning, in addition to which ancient (Coliseum), Renaissance and modern age (fashion and Bud Spencer) elements appeared.

Hungary, Spain and the Netherlands also have high relevance certifications. In relevance-indicator relation Hungary stands in the first place, which from knowing the target group was an expected result. Thirty-eight percent of the mentions raise the values of Hungarian cuisine to the level of the country's image, which when supplemented with the agrarian sector and its products, has 49% of the shares of all the evaluations. The category with the highest ranking was the classic Hungarian dishes and drinks, goulash soup, palinka, salami and stew. The other cultural elements and touristic values next in ranking are Balaton, European Capital of Culture Pecs, traditional costumes, etc. The most prominent image elements of Spain are bullfights, the Bull Run and the related symbolism (e.g., the red color), which together represent 32% of the mentions. Football also achieved an outstanding score (23%), while the other coherent image elements were related to tourism and Latin culture (flamenco, the Mediterranean climate, the Riviera, the beach, and music). In the case of the Netherlands, we can experience the most compact image of the states thus far that comes from a total of two characteristic groups. The higher proportion (52%) comprises the legality of soft drugs and their perceived/real feeling of „down-to-earthiness" (light, loose, relaxed people) and their supply system (coffee shop). The remaining 48% were cultural specificities, such as cheeses (16%), clogs, windmills, diamonds, and tulips.

The states with acceptable relevance indicators include Romania, Croatia, the Czech Republic, and Austria. The Czech Republic and Croatia proved to be states with dominant corporate images; the vast majority of high school students (in both

cases more than 90%) mentioned one factor each, in the former case beer, in the latter case the beach and tourism as country image elements. The case of Austria is very similar, but the image elements of this country, although they almost invariably fall into the category of tourism, are more widely dispersed. The Alps and mountain tourism are determinative, especially in the mention of skiing. The Viennese advent fair and the favorable, healthy environment, the further beauties of nature enrich the line. Romania is the only country with an appropriate relevance rating, where the identity elements include a large number of unfavorable properties. The Janus image of the state shows that 73% of the mentioned factors are beneficial or neutral, building from elements that are associated primarily with natural parks and values (bears and forests), while 27% consist of unfavorable properties (poverty and backwardness). The previously mentioned Roma ethnic group is the only one that is mentioned as an image element in a similar context.

Conclusions

In light of the favorable and unfavorable properties connected to the EU, it can be concluded that among the studied group, a unified picture of the EU exists. In this, the four basic freedoms, especially the free movement of people, appear as a central element (boundless Europe). Nearly half of the unfavorable characteristics were created by social problems. The analysis of opinions in connection with the individual member states revealed three unique areas. The preferred range consists primarily of Western European and Mediterranean countries. The less preferred range of countries incorporates the Balkan Peninsula. Finally, the countries neighboring Hungary form the typical dispreferred group. In the preferred group, three subgroups could be identified: the „countries of romantic propensity mainly with emotional associations", the „economic centers of power, which are associated with economic and labor market characteristics", and the „mixed" category from combining the properties of the two above. In the preference/disposition preference transition, two countries took the highest ranking, Germany and France. The examination of the collective EU image also revealed its existing coherent nature, of which the primary focus was placed on European history, the common historical roots and culture. When assessing the issue of country image, a relevant and characteristic picture was painted of Germany, France, and Italy. The following states were put into descending order according to the group level perception of corporate identity: Hungary, Spain, Netherlands, Romania, Croatia, the Czech Republic, and Austria. Each of these countries has a number of specific image elements, which in the studied group play a role as determinative factors in the milieu of the given state.

The examination of certain aspects of cognitive spatial knowledge can provide a valuable basis for professionals dealing with tourism, marketing, and particularly the country image in terms of the orientation of dedicated tools. The study reveals the

group-specific interpretable strengths (and weaknesses), which are received by the studied age group in the case of certain states in an easy-to-communicate and marketable way. In addition, there is feedback, which certifies to what extent the intended image established in relation to the countries themselves was able to influence the particular – mobile – cognitive awareness of the target group. It is determinative, in terms of the future of the EU, that the nations living within its framework are capable of finding a common goal and identity beyond economic interests. This not only makes it necessary but also makes the further development of cooperation between the countries successful. The formation of collective values, as in the case of nations, can contribute to an increase in the power of integration, which is particularly important in times of crisis. In this sense, the only way to convey a coherent message or to find common points is if the main values of the EU and the European identity already existing in our minds are explored in the case of certain nations and social groups as well. A stable image of the future can be more easily formed based on these. In this regard, the role of young groups is particularly emphatic, not only because in some cases their position is still emerging and taking shape but also because they will form the working generation that can continue to build and develop the heritage left to them by the EU.

Opinions about cognitive spatial knowledge serve the purpose of exploring its aspects in addition to satisfying scientific curiosity. In addition, due to the location of each country, the group's specific opinions are newsworthy. Moreover, all of the results obtained in this study can also help to promote communication between the members of the nations, since they explore the differences and common points that are often hidden during the exchange of ideas between cultures but are present in a partly revealed way by this current analysis.

This analysis is useful for all those who are stakeholders in geography education. Building on the strengths experienced by the development of the EU, the deepening of the integration can be achieved with less social resistance, while a credible fight against weaknesses can trigger the strengthening of the support and collective consciousness (the identity of European citizens) of the studied group. The question is closely connected with the collective issue of EU values by knowing that the previously mentioned nature and fundamental pillars of Europeanism can be interpreted, on which we can build a strategy that is ideal for international integration amplification and promotion. The country preferences and disposition preferences, with their causal background, can provide valuable information to marketing professionals who also consider factors behind international migration trends and weight vectors available for researchers as well. Finally, this research is useful to all those who are interested in the topics of cognitive mapping, cognitive spatial vision, and knowledge, whether they do so as a professional or a nonprofessional.

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