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MULTICULTURAL NEEDS AND THE PERCEPTION OF CENTRAL PUBLIC SPACES IN MAJOR LITHUANIAN CITIES

Austėja Mačikūnaitė, Faculty of Civil Engineering and Architecture, Kaunas University of Technology, Kaunas, Lithuania

Jūratė Kamičaitytė, Faculty of Civil Engineering and Architecture, Kaunas University of Technology, Kaunas, Lithuania¹

Abstract:

The paper presents an analysis of the needs and perception of different ethnic groups with regard to public spaces in the central areas of major Lithuanian cities, and an evaluation of the possibilities for implementing solutions to them, in order to highlight the needs within the spatial structures. Three research methods were chosen to determine the importance of the needs of different cultures when creating public spaces. The first is a sociological survey of the opinion of different ethnic groups based on three main models of environmental psychology: the natural, physical and the social and behavioural environments. The second is a stimulatory-comparative sociological survey of the opinion of different ethnic groups, and the third is the expert assessment of the level of attractiveness of existing public spaces in major Lithuanian cities based on Nikos Salingaros' parameters according to a classification of visual information into morphological/structural and harmony-related evaluation parameters, which were evaluated by respondents and by observations in situ. The main findings of the research showed the importance of the needs of different cultures in public space, and the principle of harmony between human beings and the environment was highlighted in the main morphological and harmony-related features of public spaces, such as spaciousness, small architectural elements, dominant objects/buildings and the abundance of trees/greenery.

Key words: multiculturalism, ethnic diversity, cultural integration, different needs, public spaces.

INTRODUCTION

Human and public space is an inseparable part of urban and place identity (Bernardo and Palma-Oliveira, 2016). It is a synthesis of physical and tangible environmental features (objective assessment) with human psychological and emotional characteristics (subjective assessment) (Povilaitienė *et al.*, 2015).

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¹ Studentų g. 48 – 413, 51367 Kaunas, Lithuania
jurate.kamicaityte@ktu.lt

A person in a certain space is surrounded by many factors that are classified into three main models of environmental psychology: the natural, physical, and the social and behavioural environments (Lesan, 2015). These models of environmental psychology form feelings consisting of the sensual and emotional needs of a human in a public space. Public space contributes to a city's social well-being because it is open to society as a whole, regardless of gender, race, religion or age, so it is important to identify the needs of different cultures that can help promote cultural integration by strengthening social ties between different nations.

In a multicultural society, public space can become a tool for connecting different cultures, and the diverse social composition of the local population is an essential ingredient in the creation of a public environment (Lesan, 2015). The formation of different ethnic communities and the social mixing of different people in public spaces undoubtedly manifest themselves in different semantic, aesthetic and functional codes, creating a sense of community in a given area, with a new meaningful expression of place – “home, away from home”. It is possible to create a comforting environment for those far away from home who share the same culture, language, nationality or attitude, and a successful model of public space helps to adapt to a multicultural city's cultural whole, providing an opportunity to participate in community activities (Amin, 2008).

Today, architects belonging to one cultural environment are able to create in another cultural environment, making cultural literacy in environmental design especially important. Modern multicultural cities need public spaces that are acceptable and comfortable for a diverse population, and it is very important to foster a sense of attachment and topophilia, resulting in questions about which environmental models are acceptable to people of different cultures. This includes both the search for unique aesthetics and the need for cultural literacy (Kamščaitytė *et al.*, 2019).

It is also important to understand how different cultures and ethnic groups value and use urban public spaces, and what their attitude is towards the spaces. Different motives for behaviour and participation in public space, depending on the ethnic group, have unique and different cultural characteristics, inherited by individuals from generation to generation over time (Peters, 2011). People of different nations have different habits in public spaces with regard to how they spend their leisure time. Some prefer to spend their time more passively, resulting in a greater need for recreational areas and a social, community-promoting atmosphere, while others feel the need for active leisure that depends on vibrant, physically adapted public spaces.

Taking into account these aspects, the aims of the research are to determine the needs of different ethnic groups in relation to public spaces in the central areas of major Lithuanian cities, to analyse the perception and evaluation of their spatial characteristics, and to present possibilities for implementing solutions to them in order to highlight the needs in the spatial structure.

METHODOLOGY

After processing the latest statistical data on the distribution of national minorities in Lithuania and the major cities of Vilnius, Kaunas and Klaipėda (from the 2011 census, conducted every ten years), the dominant ethnic groups and their distribution in precincts and in each of the city regions or elderships, was highlighted (Figure 1).

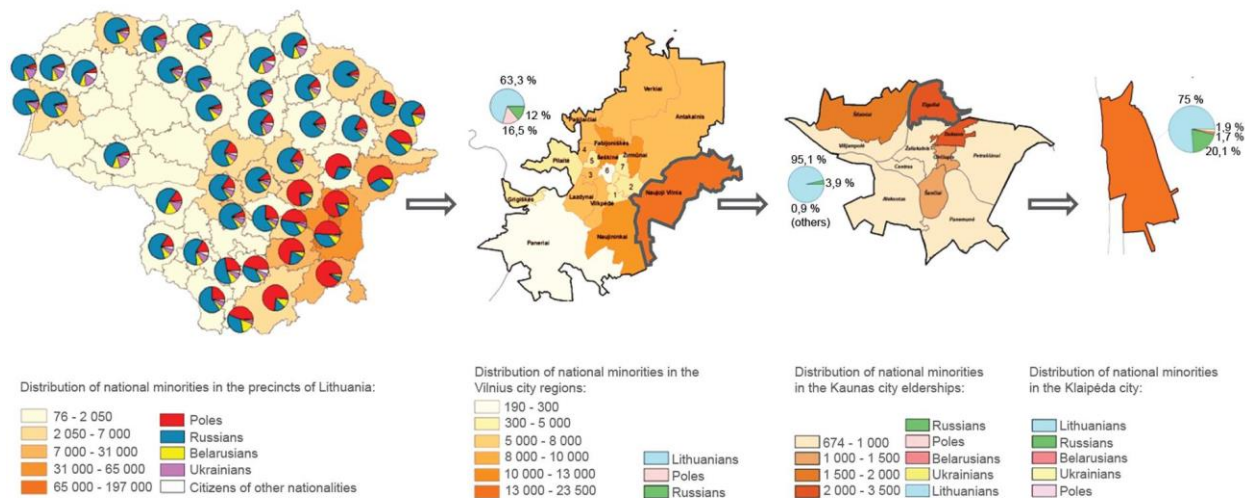


Figure 1. Scheme of distribution of national minorities.
(Source: Authors)

The analysis of the ethnic composition of Lithuanian precincts showed that the major Lithuanian cities (Vilnius, Kaunas, Klaipėda) have the largest populations of different cultures – there are from 7,000 to 197,000 foreigners in the counties where these cities are situated, therefore they were selected for further research. The dominant national minorities are the Polish, Russian, Belarusian, and Ukrainian, because of which the choice of respondents to the survey was mainly based on these ethnic groups.

The spatial parameters of public spaces (squares, parks) in the central districts of Vilnius, Kaunas and Klaipėda, and the opinions of respondents from different ethnic groups about these spaces were analyzed and evaluated.

Three methods were chosen for the research: a sociological survey of different ethnic groups, a stimulatory-comparative sociological survey of different ethnic groups and expert assessment regarding the level of attractiveness of existing public spaces in major Lithuanian cities, based on Salingaros' evaluation parameters.

The aim of the first sociological survey was to find out the needs of people from different ethnic groups with regard to public space and to evaluate possibilities for implementing solutions to it in order to highlight the needs in the spatial structure. This was carried out by analysing the public space analogues of multicultural cities on a global scale, based on the principles of theoretical models of environmental psychology (natural, physical, social and behavioural environments). An anonymous sociological questionnaire with a total of 27

questions was compiled according to environmental psychology models: 10 questions related to demographic characteristics and the use of public space; 5 questions about the environmental impact on public space; 5 questions about the importance of physical aspects in relation to public space; and 7 questions about the social and behavioural opportunities gained in public space. Representatives of the above-mentioned Polish, Russian, Belarusian and Ukrainian ethnic groups from major Lithuanian cities (Vilnius, Kaunas, Klaipėda) were invited to participate. The respondents were classified into three main groups according to age, belonging to a particular national minority, and the city in which they live.

The aim of the stimulatory-comparative sociological survey was to determine the level of attractiveness of typologically similar existing public spaces in three major Lithuanian cities (Vilnius, Kaunas and Klaipėda). The same ethnic groups were invited to participate as in the first sociological survey. To prepare for the survey, the photo-fixation of selected public spaces was performed, according to the seasonality and weather. A photo collage was prepared for the evaluation of each public space, and the same evaluation questions were asked: to evaluate the attractiveness of the public space using a scale from 1 to 10; and to indicate the features that determine the attractiveness of the space. After the evaluation of all public spaces from the same typological group, a stimulating-comparative question was asked about which public city space was the most acceptable for them.

The third research method of determining the level of attractiveness of typologically similar, existing public spaces in major Lithuanian cities according to Salingaros was based on the expert evaluation in situ of each selected public space in Vilnius, Kaunas and Klaipėda.

The spectrum of human vision is particularly wide, but the processing of visual information is quite complex – divided into organized and unorganized complexity (Maddox, 1990). For example, an entity with a minimum physical complexity might provide a high level of visual complexity. The sum of the sub-components of an object can perform one outcome, but the inner relations of the components might lead to more complex organization (Klinger and Salingaros, 2000). Therefore, in order to determine the structural organization of different public space types in major Lithuanian cities, Salingaros' research method was chosen since it helps to process visual information by classifying it into morphological/structural and harmony-related evaluation parameters. The assessment parameters were divided according to the most important perceptible properties of expression and the sense of environment: size/ spaciousness, shape/design elements, composition, fulfilment, design features, connection with the environment, perception/correlation of functions, direct/physical contact, compatibility of objects/elements, and emotion.

The results of the expert evaluation of each typological group were compared with the evaluations of people from different ethnic groups.

We have chosen the following research objects:

1. The opinions, role and behaviour of people from different ethnic groups in relation to the environment.
2. Typologically similar public spaces in Vilnius, Kaunas, and Klaipėda:
 - central historical squares in the cities (Vilnius, Kaunas, Klaipėda Town Hall Squares);

- squares important for statehood (Vilnius Lukiškės, Kaunas Unity, Klaipėda Revival Squares);
- recreational squares in the central parts of the cities (Vilnius Cathedral, Kaunas Independence, Klaipėda Theater Square);
- parks (Vilnius Bernardines Garden, Kaunas Santaka Park, Kaunas Peace Park, Klaipėda Danė Embankment).

This was a pilot study, and so the survey results could be more representative if a larger number of respondents from each ethnic group were asked to participate, and if the reliability of the survey results were assessed, i.e., how much respondents' demographic and socio-cultural characteristics reflect the general population, and so on. The expert evaluation of public places in situ would also be more representative if a larger number of experts had participated in the research and the results of their evaluation summarized.

For the reasons of methodological origin listed above, this study should be considered as a pilot study, and the methodology is more important than the research results themselves.

RESULTS

In total 73 people participated in the anonymous questionnaire, with a very similar number of men and women: 51% of women (n=37) and 49% of men (n=36). The average age of respondents was 43 years. Most respondents were members of the major ethnic groups in Lithuania: 17.8% of those who participated in the sociological survey were Russians (n=13), there were an equal number of Poles, Belarusians, Ukrainians and Jews 11% (n=8) and 8.2% did not indicate their nationality (n=6). Also, there were some single respondents from other nationalities: Roma (n=2), Latvians (n=2), Georgians (n=2), Armenians (n=4), Indians (n=3), Turks (n=1), Czechs (n=1), Pakistanis (n=3), Swedes (n=1), Italians (n=2), Brazilians (n=1). The most active respondents were from Vilnius (47%, n=34) and Kaunas (44%, n=32), and Klaipėda residents accounted for only 8% (n=6).

The current situation with regard to ethnic integration in the public spaces of Lithuanian major cities

Lithuania is in a complex situation in terms of the integration of ethnic groups, which is primarily affected by the historical stereotypes formed after World War II: the Jewish Holocaust, the conflict with neighbouring Poland – the occupation of the Vilnius region, the attitude towards the Russians as occupiers because of the Soviet regime, and the negative attitude towards the Roma minority. These stereotypes make the historical heritage of ethnic communities quite controversial.

Analysis of the relationship between people from different cultures, showed that passive segregation is felt on both sides – from the state and from the ethnic groups themselves, and there is no dialogue. Many ethnic groups are historically formed and already have certain well-established cultural and architectural spaces in which they carry out various activities. Looking at the major Lithuanian cities (Vilnius, Kaunas and Klaipėda), we can mostly see the sacral heritage, which shows that society consists of the legacy of certain ethnic groups,

making it easy to read their history. However, there is another important aspect – how many of such spaces are recognizable to us.

For the majority of the Lithuanian population, including many foreigners living there, the main urban public spaces and parks created for historical or recreational purposes, where most of their daily leisure time is spent, are very important. The results of the anonymous sociological survey showed that all the 13 public spaces analysed were attended by at least one citizen who participated in the survey. Also, all respondents had visited at least one of the listed public spaces. Most of the respondents had visited Vilnius Town Hall Square (97%, n=32), Vilnius Cathedral Square (91%, n=30), Kaunas Town Hall Square (88%, n=29), Vilnius Lukiškės Square (82%, n=27) or Vilnius Bernardines Garden (79%, n=26). These results show that public spaces in major Lithuanian cities can be conducive to multiculturalism and are able to foster the integration of citizens from different cultures.

The needs of different ethnic groups for public spaces and examples of their spatial expression

Three analogues of public spaces were chosen to reflect a different idea of multicultural representation: integration of the landscape representing different cultural regions in the creation of a cultural corridor; the use of symbolism of different cultures; and highlighting a particular ethnic group in a completely different cultural atmosphere. The selected analogues helped to substantiate the needs of people from different cultures assessed during the sociological survey, reflecting a certain model of environmental psychology: the natural, physical or social and behavioural environment.

The first part of the survey sought to find out the importance of the natural environment in public space. Different ethnic groups chose the most important factors that they believe are influenced by the natural environment. Most ethnic groups believed that the greatest impact is on the emotions (92% of Russians, n=12; 63% of Belarusians, n=5; 80% of Ukrainians, n=6; 100% of Jews, n=8; 50% of Poles, n=4, 68% of the mixed nationality group, n=15; 67% of undisclosed nationality, n=4) and lifestyle (69% of Russians, n=9; 63% of Belarusians, n=5; 88% of Ukrainians, n=7; 88% of Poles, n=7; 73% of the mixed nationality group, n=16). Also, a significant number of Ukrainians believe that the natural environment influences their behaviour (63%, n=5), and the majority of the Jews think that their activities also have an impact (80%, n=6).

The participants were asked if they agreed that there should be as much greenery as possible in public spaces, i.e., the space must be densely planted. 33% of respondents fully agreed, 48% agreed, 18% neither agreed nor disagreed, and 1% strongly disagreed. Intensive planting gives the public space a natural character and can help to represent the species composition of greenery from different cultural regions. One such example is the 42,000 m² corridor on the oldest street in Chapultepec, Mexico, where the aim was to match the vehicle traffic with pedestrian traffic by having a more natural design. The Chapultepec Avenue Cultural Corridor project created an elevated promenade that surrounds the road for commercial and cultural activities. The project also created more convenient transportation functions for passers-by and for foreign citizens in the city, in order to make a high-quality

public space that encourages the gathering of people from different cultures (Rosenfield, 2015) (Figure 2).



Figure 2. The Chapultepec Avenue Cultural Corridor (Source: www.archdaily.com)

The second part of the survey explained which characteristics of the physical environment can affect a public space, such as: the type of space, functional zones, design forms and elements specific to different cultures, and the importance of physical characteristics. The majority of respondents (66%, n=48) stated that the most acceptable type of public space for them was multifunctional (various). A significant number of citizens from various nationalities (Roma, Latvian, Georgian, Armenian, Indian, Turkish, Czech, Pakistani, Swedish, Italian, Brazilian) chose the type of passive public space (41%, n=9). Analysis of the respondents' need for various activities and functional areas in the public space showed that recreation areas for relaxation dominated (82%, n=60). Spaces for social gatherings (60%, n=44), picnic areas (55%, n=40) and communication (52%, n=38) were also quite important. Individual activities (walking, running) (47%, n=34) and areas for families (42%, n=31) were of medium importance, while the least important were sports activities (30%, n=22) and water body zones (30%, n=22). However, when examining the needs of each ethnic group for a particular functional area, some differences between the overall results can also be seen. For example, for Russians, in addition to the most important functional area being for recreation, areas of equal importance were for communication and individual activities (69%, n=9 = 69%, n=9), for Jews, areas of communication were more important than rest areas (75%, n=6 > 63%, n=5), and for Poles, picnic areas were as important as recreational areas (63%, n=5 = 63%, n=5).

In order to find out whether citizens of different ethnic groups would like to see design elements specific to their culture in public space, the respondents were first asked about the need for such elements. Almost all national minorities agreed with the need for culturally acceptable design elements in public space, though some individual citizens from different nationalities disagreed (Roma, Latvians, Georgians, Armenians, Indians, Turks, Czechs, Pakistanis, Swedes, Italians, Brazilians). It seems difficult to combine different cultural symbols, different patterns and colour schemes in one public space; however, this has been perfectly achieved by three famous architects and designers (BIG-Bjarke Ingels, TOPOTEK1 and SUPERFLEX), who created a kilometre-long city park called Superkilen in the centre of Nørrebro, Denmark. The aim of these architectural design companies was to transform the exclusive area into a point of attraction, reflecting the cultural diversity of the neighbourhood, creating the space for people of all ages, genders, religions or ethnic groups and letting them feel at home, regardless of distance from their homeland. The Superkilen project has a large monofunctional area, innovatively transformed into a multifunctional public space that allows residents to enjoy any activity: from more passive outdoor activities and recreation to public meetings and active leisure (AlShehri, 2018).

Colours are one of the most important elements of the park, and certain areas are divided by colour. Red represents the Danish flag, since Denmark has created new home for foreigners. “Stimulating colours – bright red, orange, pink – encourage activity and energy, and the colour-dividing lines between the edges create a beautiful pattern on the floor” (Land8 - Landscape Architects Network, 2014). Black is the colour of the social city site where people meet and interact or play chess. White stripes, convex roller coasters and the application of Islamic elements to the furniture in the space create an optical illusion of movement. Green is also a feature of the park: green hills, large lawn areas, outdoor picnic areas, sports facilities and playgrounds for children.

One of the most striking features of the fame of Superkilen City Park is that its landmarks are collected from more than 60 different countries, and 108 of its imported historical objects have unique national significance (Figure 3).



Figure 3. The landmarks of Superkilen City Park (Source: www.land8.com)

The aim of Superkilen project has been achieved and overachieved, as it is quite difficult to create innovative urban areas that meet international standards in today's multicultural society.

The third part of the survey sought to find out the most important features of the social and behavioural environment: what are the most important feelings experienced in the public space and what opportunities does the space provide? Tolerance and contact with others in public spaces were also analysed. Almost all respondents chose safety (93%, n=68), comfort (93%, n=68) and pleasure (92%, n=68) from the identified feelings (safety, comfort, pleasure, territoriality, individuality and dependence) as being most important in public space. The majority of respondents named convenience/comfort (74%, n=54) from the values they want to receive from public space. The dominance of safety and comfort can also be seen in the choices of each ethnic group, but in addition to convenience, a significant proportion of Russian minority citizens said they would like to receive opportunities for perception (77%, n=10) and diversity (69%, n=9) from the public space. The same number of Ukrainian and Jewish respondents considered establishing relationships with other people (63%, n=5) as the value provided by public space, the same number of Ukrainian and Polish citizens expected to experience emotions in public space (63%, n=5) and initiate communication themselves (63%, n=5), and citizens of different nationalities expressed a wish to be able to explore the environment (59%, n=13).

In order to find out the mutual tolerance of the participants, they were asked how individuals evaluate themselves in relation to other people and how they see others in relation to themselves in public space. The results showed that in the most cases both sides are neutral, but a significant number of respondents also said that they smile at other people (34%). When analysing the social and behavioural environment, it was also important to understand how often people tend to make contact with others in public space. The results of the survey showed that the majority of respondents from different cultures are more likely to initiate contact themselves (64%) than to receive it.

From a social and behavioural point of view, attempts could be made to “resurrect” the least socially integrated cultures by highlighting a particular ethnic group in a completely different cultural atmosphere, but this must be done with great care and reasoning. An example of this has been tested in the creation of a public space for the Afghan Culture Market in Melbourne, Australia. It is a project that reflects the integration of a culturally completely different ethnic group into society in Australia. The aim of the project was to turn the main street into an authentic public space that would express the identity, unity and culture of the community surrounding that street. Afghan ethnic symbolism is used, which enlivens the street with a bright visual character, invites people to come together and catches the eye of pedestrians from any other culture (Rosenfield, 2015).

The designed coatings not only interpret traditional Arab culture, but also have connections to the context of the Australian state itself – the design pattern is similar to the golden yellow blossoms of the country's bush tree (“*Acacia pycnantha*”). This provides an opportunity to integrate the ethnic group into society in a way acceptable in Australia (Figure 4).



Figure 4. Afghan Culture Market Public Space in Australia (Source: www.archdaily.com)

This Afghan cultural market project can be recognized as a public space with new cultural and artistic expression, emphasizing the cultural identity of the community and promoting socio-cultural encounters that are important in the context of everyday multicultural urban life.

Attractiveness of existing public spaces in the central areas of major Lithuanian cities according to the respondents

In total 33 people participated in the anonymous sociological survey, of whom 64% were women (n=21) and 36% men (n=12). The average age of the respondents was 42 years. Most respondents were citizens of the major ethnic groups in Lithuania: 27% were Russians (n=9), 15% Poles (n=5), 9% Belarusians and Ukrainians (n=3) and 6% did not declare their nationality (n=2). Also, there were some single respondents combined in a single group of mixed nationalities: Kazakhs n=1, Azerbaijanis n=1, Indians n=3, Roma n=1, Arabs n=1, Pakistanis n=1, Americans n=2, Serbs n=1. The most active respondents were from Vilnius (76%, n=25), 21% (n=7) from Kaunas, and Klaipėda residents accounted for only 3% (n=1).

In order to find out how people of different cultures value the existing public spaces of major Lithuanian cities, 13 spaces were selected, which were divided into four typological groups: central historical squares of cities, squares important for statehood, recreational squares in central parts of cities and parks. For each of them, attractiveness was assessed using a scale from 1 to 10. Respondents were also asked to indicate 7 features that determine the attractiveness of the public space: spaciousness, dominant objects/buildings, visibility/accessibility of water bodies, greenery, artistic/sculptural accents, possibility to sit on the grass and small architectural elements (benches, outdoor furniture, lighting elements, fountains, etc.).

The central historical squares of cities, squares important for statehood, recreational squares in central city areas, and parks of major Lithuanian cities were evaluated by the respondents according to the emotions they experienced in the public spaces they had visited, or by the photos provided.

The attractiveness of Kaunas and Vilnius Town Hall Squares was assessed with the highest scores. Their overall average assessment was very similar (8.06 – Kaunas Town Hall Square; 7.93 – Vilnius Town Hall Square). Klaipėda City Square got the lowest evaluation – 7.00. In terms of national minorities, the results showed that Vilnius Town Hall Square was rated the best by Ukrainians (9.33) and the worst by citizens without an indicated nationality (6.50). This contrasted with the assessment of Kaunas and Klaipėda Town Hall squares – both squares were given the highest scores by respondents who did not indicate their nationality (9.50). Kaunas Town Hall Square was given the worst scores by the Belarusian ethnic group (6.67), and Klaipėda by citizens of Belarusian and Ukrainian nationality (6.33).

According to the respondents, the attractiveness of Vilnius City Town Hall was mostly determined by the small architectural elements (82%, n=27) and spaciousness (70%, n=23). According to the opinion of each national minority, there were only differences between two dominant features: for Russians and Belarusians, the attractiveness of Vilnius Town Hall Square was determined by the small architectural elements, for Ukrainians and Poles – spaciousness.

The choice of features that determined the attractiveness of Kaunas Town Hall Square was slightly different from Vilnius, as the majority of respondents chose the features of dominant objects/buildings (79%, n=26), and small architectural elements (76%, n=25) (Figure 5). For individual ethnic groups, it became clear that the characteristics of dominant objects/buildings and small architectural elements were equally important for the mixed nationality group and Belarusians; however, for Russians and Poles the attractiveness of the public space was determined only by dominant objects/buildings.



Figure 5. Kaunas Town Hall Square (Source: A. Mačikūnaitė).

In the worst rated space, Klaipėda Town Hall Square, people indicated small architectural elements (58%, n=19), artistic/sculptural accents and spaciousness as equally important

features (55%, n=18) (Figure 6). Comparing the choices of different ethnic groups, it was found out that Ukrainians noticed the visibility of trees/greenery and water bodies, which together with spaciousness were identified as the most important features determining the attractiveness of the public space, while Belarusians chose dominant objects/buildings together with artistic/sculptural accents and small architectural elements as equally important.



Figure 6. Klaipėda Town Hall Square (Source: A. Mačikūnaitė).

The assessment of squares important for statehood showed that the attractiveness of Vilnius Lukiškės Square was given with the highest scores: the overall average was 7.09 points. Kaunas Unity Square was rated slightly worse (6.57), and the lowest average rating was given for Klaipėda Revival Square – 5.34. Vilnius Lukiškės Square was best rated by citizens without an indicated nationality (9.50), Kaunas Unity Square by Ukrainians (8.67), Klaipėda Revival Square by the mixed group of nationalities (7.09), and all squares got the worst scores from Belarusians (Vilnius Lukiškės Square – 5.00; Kaunas Unity Square – 3.67; Klaipėda Revival Square – 4.67).

According to the respondents, the attractiveness of Vilnius Lukiškės Square is mostly determined by the abundance of greenery (73%, n=24) and spaciousness (67%, n=22) (Figure 7). The choice of these two features also dominates among all of the respondents: the attractiveness of Vilnius Lukiškės Square for Russians, Poles and the mixed nationality group was determined by the abundance of trees and greenery; for Belarusians and Ukrainians – by spaciousness.

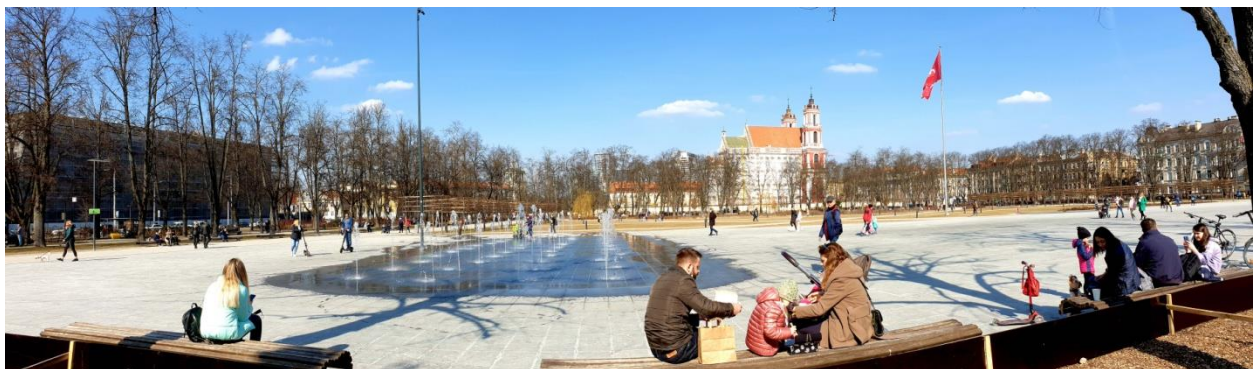


Figure 7. Vilnius Lukiškės Square (Source: A. Mačikūnaitė).

The choice of features that determined the attractiveness of Kaunas Unity Square was slightly different from Vilnius Lukiškės Square, as the majority of respondents, in addition to

the spaciousness feature, chose elements of small architecture (58%, n=19) or dominant objects/buildings (49%, n=16).

In Klaipėda Revival Square, which was given the worst scores by the respondents, people distinguished the features of spaciousness (64%, n=21) and dominant objects/buildings (58%, n=19). Poles valued the abundance of greenery in the public space and spaciousness as the most important features that determined the attractiveness of Klaipėda Revival Square (Figure 8).



Figure 8. Klaipėda Revival Square (Source: A. Mačikūnaitė).

The evaluation of recreational squares in central city areas showed that Vilnius Cathedral Square was rated as the most attractive square (average rating of 8.96 points). The rating of Kaunas Independence Square was slightly lower, but also very high (8.23), and Klaipėda Theater Square was given the lowest score – 7.23. The results showed that Vilnius Cathedral Square was rated highest by Ukrainians (9.67), but the ratings of other national minorities were also quite high. Evaluating Kaunas Independence Square, the highest ratings for its public space were given by the group with no indicated nationality (9.50), and the overall average was reduced by the Belarusian minority, which gave a rating of below 7 points. Klaipėda Theatre Square, rated lowest by the national minorities, was assessed approximately – with averages ranging from 6.80 to 7.55.

According to the respondents, the attractiveness of Vilnius Cathedral Square is equally determined by spaciousness and dominant objects/buildings (85%, n=28) (Figure 9), but, only the Poles and Ukrainians agreed that these features had the greatest influence on public space.



Figure 9. Vilnius Cathedral Square (Source: A. Mačikūnaitė).

The choice of features that determined the attractiveness of Kaunas Independence Square was slightly different from Vilnius Cathedral Square, since for most of the respondents, spaciousness was only the third most important feature, after dominant objects/buildings (79%, n=26) and small architectural elements (64%, n=21).

In the worst rated Klaipėda Theater Square, the respondents, as with Kaunas Independence Square, distinguished the properties of dominant objects/buildings (73%, n=24) and small architectural elements as being preferable (58%, n=19).

The assessment of parks showed that again Vilnius was the first choice – Bernardines Garden was rated as the most attractive park – with an overall rating of 8.84 points. The ratings for Klaipėda Dane Embankment and Kaunas Peace Park were lower – 7.43 and 7.03 points respectively, while Kaunas Santaka Park, according to all of the citizens from different cultures who participated in the survey, was the worst – 6.87 points. The results of the assessment of the attractiveness of parks to each national minority showed that Vilnius Bernardines Garden was assessed most favourably by citizens who did not indicate their nationality (9.50) and Poles (9.40). In the case of Kaunas Santaka Park, the highest ratings for this public space were given by the mixed nationality group (8.18), but it remained the least favoured due to the low overall ratings given by Ukrainians and Belarusians (5.67 and 4.67). Kaunas Peace Park was given by the highest scores by the mixed nationality group (7.91), and Klaipėda Danė embankment was highest rated by Russians (8.89).

According to the respondents, the attractiveness of Vilnius Bernardines Garden is determined by its abundance of trees/greenery (85%, n=28), spaciousness (79%, n=26) and natural aspects, such as the possibility of sitting on the grass (58%, n=19), water visibility/accessibility (46%, n=15). The results showed that for Russians and Ukrainians, along with spaciousness, elements of small architecture were also important.

The choice of features that determined the attractiveness of Kaunas Santaka Park was the same as for Vilnius Bernardines Garden: the abundance of trees/greenery (82%, n=27) and spaciousness (70%, n=23), but Kaunas Santaka Park was rated as being least attractive (Figure 10). The distribution of these characteristics also dominated in the choices of each ethnic group.



Figure 10. Kaunas Santaka Park (Source: A. Mačikūnaitė).

According to the respondents, Kaunas Peace Park was characterized by an abundance of trees/greenery (79%, n=26), spaciousness (55%, n=18), dominant objects/buildings (52%, n=17), and small architectural elements (49%, n=16). This trend was also reflected in the different ethnic groups' choices.

The citizens of different cultures who participated in the survey distinguished five characteristics that determine the attractiveness of Klaipėda Danė: spaciousness and small architectural elements (67%, n=22), visibility/accessibility of water bodies (61%, n=20), trees/greenery and artistic/sculptural accents (55%, n=18). All of these characteristics were also reflected in the individual choices of each national minority.

Attractiveness level of existing public spaces in the central areas of major Lithuanian cities according to expert evaluation in situ

The assessments of the attractiveness of public spaces for citizens from different cultures were compared with expert evaluations in situ. A table for monitoring and evaluating the spaces was created using the morphological/structural and harmony-related evaluation parameters proposed by Salingaros. Every indicator was rated on a scale from 0 to 2 (the total sum of the category cannot exceed 10). Further, a comparative analysis of the evaluation results was performed.

The expert evaluation results for morphological/structural and harmony-related parameters for all of the public spaces were obtained by observing and evaluating existing space in situ. The expert evaluation and respondents' opinions had similarities: the morphological characteristics of most public spaces were reflected in both the scores and the attractiveness of the features chosen by the respondents. The highest percentage of respondents (70%, n=23) chose spaciousness as the most attractive feature of Vilnius Town Hall Square, which also has the highest 2-point expert rating. The majority of respondents chose the abundance of trees/greenery and spaciousness, at Vilnius Lukiškės Square as being most attractive, which according to the research in situ corresponds to the highest 2-point ratings (the morphological spatial parameter and harmony criteria of the public connection between the public space and the contextual environment). Analysis of the recreational squares in the central city areas, showed that the spaciousness of both Kaunas and Klaipėda squares was assessed rather poorly (Kaunas Independence Square – 0.5 points; Klaipėda Theater Square – 1 point), which corresponded with the assessment of the respondents.

The same can be said about the morphological/structural parameter of spatial arrangement. In the evaluation of central historical city squares, the highest points were given to Kaunas and Klaipėda Town Hall Squares (1.5 – Kaunas Town Hall Square; 2.0 – Klaipėda Town Hall Square), for which the respondents chose the features determining the spatial arrangement (dominant objects/buildings, small architectural elements, artistic/sculptural accents). This parameter exactly matches the assessment of squares important for statehood: both Kaunas and Klaipėda squares were given with 2 points, as were the dominant features assessed by the respondents (small architectural elements and dominant objects/buildings). The morphological parameter of completeness for recreational squares in central city areas had

differences just for Vilnius Cathedral Square, which was given only 0.5 points, because the public space is quite empty and there are very few elements of small architecture. The features of dominant objects/buildings and small architectural elements perfectly reflected the parameter of completeness for public spaces in both Kaunas and Klaipėda (Kaunas Independence Square – 2 points; Klaipėda Theater Square – 1.5 points).

Contrasting evaluations were given only in the case of parks: the respondents paid more attention to harmony-related parameters than to morphological ones – natural elements were selected as features that determined attractiveness.

Analysis of the attractiveness of public spaces in terms of harmony, showed that the most important parameter was emotion, which was the highest in Vilnius Town Hall Square, Kaunas Unity Square, Kaunas Independence Square, Klaipėda Theatre Square and Kaunas Santaka Park (2.0 points), because these public spaces are surrounded with activities that allow us to feel the possibility of comfort in them, and communicate with other people. With regard to the central historical city squares, it can be stated that Kaunas City Hall Square has quite a high rating for emotion (1.5 points), but the possibilities of comfort are somehow overshadowed by the outdoor cafes located on the perimeter of the square, which in the warm season invite you to sit in them, not in the square itself by offering a view of the dominant – Kaunas City Hall. The emotion of Klaipėda Town Hall Square does not fully meet the social needs in terms of establishing relationships with other people, and it provides a minimum possibility of comfort (0.5 points). In terms of emotion and central recreational squares, it can be affirmed that Kaunas Independence and Klaipėda Theatre squares are valued slightly higher than Vilnius Cathedral Square, but only due to the greater possibility of comfort (the number of small architectural elements).

For the harmony parameter in terms of connection with the surroundings, it can be stated that the highest scores were for the central historical city squares (Vilnius and Kaunas City Hall squares), because of the connection with the surrounding cafes and shops. The squares important for statehood, were given poor assessments of their connection with nature, because only Vilnius Lukiškės Square has a densely planted area of trees, which frames the square. The connection of Kaunas Unity Square with the environment is more based on a functional connection between the buildings because the public space itself is different from the others – it contrasts with the surrounding environment (estimated at 0.5 points). Meanwhile, Klaipėda Revival Square has no functional or natural connection with the environment (other buildings and surrounding spaces) – it acts as an independent recreational and transit zone. Kaunas Independence Square has the highest score (2.0) for the natural connectivity of recreational squares in central city areas, because there are a lot of trees around the small architectural elements. The connection between parks and the environment is obvious, for example, Kaunas Santaka Park has connectivity with its surroundings in the architectural and natural sense, as it connects with the public space of Kaunas Castle to the east and meets the confluence of two rivers to the west.

Central historical squares are usually located in front of a significant city building – the Town Hall, but passing the Danė river embankment, you may not even pay attention to the small, open Klaipėda Town Hall Square, which seems to have no clear, defined functional purpose.

It was therefore rated with the lowest (0.5) score for perception. For squares important for statehood, it can be stated that the function of Vilnius Lukiškės Square corresponds best to its situation in the city (Vilnius Lukiškės Square was given 2 points; Kaunas Unity and Klaipėda Revival Squares were given 1 point). Although Lukiškės Square (as well as Klaipėda Revival Square) is mostly used for a transit, it also has recreational purpose. The flags raised on the masts represent the importance of this public space for statehood, while Klaipėda public space does not fully reflect this. In contrast, Kaunas Unity Square is a modern artistic and multifunctional square, offering various activities, and raising positivity. Its importance for statehood is difficult to understand because there is no functional connection with past, historical events, and there are different perceptual visual and functional barriers created by the last renovation of the square that prevent the perception of all historical layers and meanings of the place (1 point). Vilnius Cathedral and Klaipėda Theater squares are recreational public spaces in central city areas used for major city celebrations, gatherings, events and fairs. It can be stated that Kaunas Santaka and Peace parks have the best correlations of functions. Kaunas Santaka Park has a one thousand-seat amphitheatre on the right slope of Nemunas River, in which events and gatherings are sometimes organized and there is an outdoor café. Kaunas Peace Park is the site of the former Kaunas cemetery, which has recreational areas suitable for everyone, regardless of nationality. There are existing religious buildings in the Peace Park, such as: The Mosque and Cathedral of our Lady, which serves and maintains its function for different ethnic communities.

Direct/physical contact in most of the central historical squares is very high, because buildings surrounding these public spaces provide an opportunity to smell/touch/see and hear the surrounding phenomena. The possibility of direct/physical contact for the squares important for statehood is the lowest in Klaipėda Revival Square (Vilnius Lukiškės Square – 1 point; Kaunas Unity Square – 2 points; Klaipėda Revival Square – 0.5 points), because visual, tactile, and audible senses are raised more by a natural than man-made environment (derived from the environment surrounding the public space). For the perceptual/visual and audible aspects in central recreational squares, the highest score for direct/physical contact is in Kaunas Independence and Klaipėda Theater squares (1.5 points), while in Vilnius Cathedral Square it is just 1 point. This is because Kaunas and Klaipėda have outdoor cafes that closely surround the space, making it possible to feel/hear or smell the environment. Meanwhile in Vilnius Cathedral Square the perceptual/visual and audible aspects are distributed over a wide space. Kaunas Peace Park got the lowest result for direct/physical contact (1.0), because all the territory is calmer and lacking main pedestrian alleys with a high possibility of perceptual/visual and audible diversity.

Based on the attractiveness level according to Salingeros (multiplying the sum of evaluation points belonging to morphological/structural parameters by the sum of the harmony evaluation scores) and taking into account the respondents' assessments, we obtained the following results for the central historical squares and squares important for the statehood: Vilnius Town Hall Square, according to the Salingeros method, was given **67.5** from 100 points by experts, and **7.93** from 10 points (overall average assessment of respondents); Kaunas Town Hall Square – **63.0/100** and **8.06/10**; Klaipėda Town Hall Square was least attractive with **24.0/100** and **7.00/10** points respectively. Vilnius Lukiškės Square was

given **64.0/100** and **7.09/10**; Kaunas Unity Square – **52.5/100** and **6.57/10**; Klaipėda Revival Square - **34.0/100** and **5.34/10**.

Comparing the attractiveness level according to Salingaros and the evaluation of respondents, we can see differences only in the recreational squares in central city areas and parks. For example, Vilnius Cathedral Square was assessed as more attractive by the respondents (**8.96/10**), but the Salingaros evaluation in situ showed a lower result (**56.25/100**). The opposite is true for the situation with Kaunas Independence Square: where the Salingaros evaluation showed a higher result for attractiveness (**71.25/100**), the citizens of different nationalities gave a lower assessment of the public space (**8.23/10**) in comparison with Vilnius Cathedral Square (**8.96/10**). The Salingaros evaluation for attractiveness coincided with the evaluation of respondents only for Klaipėda Theater Square: the Salingaros evaluation gave **55.25/100** and the respondents **7.23/10**.

A high score was given to Kaunas Santaka Park during the evaluation in situ (**85.00/100**), but the respondents gave it a poor evaluation (**6.87/10**). In the case of Vilnius Bernardines Garden and Klaipėda Danė embankment, the trend of attractiveness assessment coincided: the highest ratings were given to Vilnius Bernardines Garden (**90.00/100** and **8.84/10**); Danė embankment was given **80.75/100** and **7.43/10** (average evaluation by respondents). Kaunas Peace Park was evaluated the worst according to the Salingaros method (**52.00/100**) but raised up by the average of the respondents' evaluation (**7.03/10**).

Summarizing the results of the analysis of typologically similar public spaces in major Lithuanian cities and the research in situ, it can be stated that the dominant spaciousness parameter for some typological groups of public spaces led to small differences between evaluation by the respondents and the research in situ in selecting the most attractive public space. More attention given to the morphological/structural spaciousness parameter could have slightly reduced people's ability to take certain harmony-related parameters more seriously, but due to the dependence of the parameter score in most cases, higher scores for morphological/structural or harmony assessment parameters still resulted in a higher average of the respondents' assessment.

CONCLUSIONS

The sociological survey in the first part of the research confirmed the importance of environmental psychology models (natural, physical and social and behavioural environments) for determining the needs of people from different cultures. After conducting a stimulatory-comparative sociological survey for various ethnic groups, the most attractive public spaces were identified for each typological group, and the characteristics that determined their attractiveness were clarified.

The most attractive central historical public city space is Kaunas Town Hall Square, the attractiveness of which was determined by the features of dominant objects and small architectural elements. In the assessment of the attractiveness of squares important for statehood, Vilnius Lukiškės Square took the highest position, since it is characterized by the abundance of greenery and spaciousness, and the importance of the space for statehood is

clearly emphasized, for example, with flags raised on poles. The expert assessment of the attractiveness of recreational squares in the central city areas differs from the evaluation of non-experts. Vilnius Cathedral Square was rated better by the respondents due to the features of dominant objects/buildings and artistic/sculptural accents in the public space, while Kaunas Independence Square, which was rated lower by respondents, was assessed in situ as attractive due to its close connection with surrounding urban spaces and clear pedestrian flows. Vilnius Bernardines Garden was undoubtedly the most attractive Lithuanian city centre park, with high evaluation scores determined by the abundance of trees/ greenery, spaciousness, small architectural elements, and natural aspects, such as the ability to sit on grass, visibility/accessibility of water bodies.

Based on the opinion of people from different ethnic groups, the needs of different people in relation to public spaces in major Lithuanian cities have been identified and the possibilities for their spatial expression have been assessed. For example, for individual citizens of various nationalities (Roma, Latvians, Georgians, Armenians, Indians, Turks, Czechs, Pakistanis, Swedes, Italians, Brazilians), the possibility of exploring the surrounding environment is important encompassing the tactile, visual, and audible aspects of the social environment. Also, a passive public space and artistic/sculptural accents are more acceptable for them. A possible spatial solution for meeting such needs could be a museum-type public space, representing the greenery of different cultures and emphasizing the importance of natural public spaces in the urban context.

For Polish people, emotions and initiation of contact in public space are important, and for Jewish citizens in public space it is very important to have the possibility of establishing relationships with other people and having functional areas for communication and gatherings. An example of how these needs have been met in spatial design solutions could be the Afghan Cultural Market Public Space in Melbourne, Australia, a project which emphasizes the importance of integrating different ethnic groups into society by fostering the gatherings of diverse communities in public spaces.

The perception and diversity of public space are important for Russian citizens, and symbolism for Ukrainians. Combining the needs of both nations, the multicultural Superkilen Park project in the centre of Nørrebro, Denmark can be highlighted, the spatial realization of which perfectly meets international standards in today's multicultural society, and it gives a physical expression to the cultural, semantic, and functional symbols of different cultures.

Summarizing the research, it can be stated that the opinion of people with different cultural backgrounds in the context of the natural, physical and social and behavioural environment showed the importance of their different needs in public space, and the principle of harmony between humans and the environment was highlighted by the semantic, aesthetic and functional codes of different cultures manifested in the main morphological and harmony-related features of public spaces, such as spaciousness, small architectural elements, dominant objects/buildings, abundance of trees/ greenery.

ORCID

Austėja Mačikūnaitė  <https://orcid.org/0000-0002-8433-6382>

Jūratė Kamičaitytė  <https://orcid.org/0000-0002-8821-5764>

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