

IDENTIFICATION OF CRITERIA FOR EVALUATING THE LOCATION OF YOUTH RECREATION AND LEISURE CENTERS

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Abstract

Mental comfort for any individual is an important factor on the way to achieving one's goals and objectives. Based on research focused on young people, and conducted in relation to the COVID-19 pandemic, physical activity positively affects mental comfort and is one of the social preventive measures for maintaining mental comfort. Thus, designing spaces dedicated to young people has become a common social interest. The purpose of the article was to identify criteria for locating recreational and leisure centers for young people. For the purposes of the study, a detailed literature review was conducted, following which the most relevant locational features were listed, defining criteria for evaluating their location. In addition, a keyword co-occurrence network was developed using VOSviewer software. The research was conducted on the basis of the Scopus database. The presented review highlighted the lack of comprehensive studies on the analysis of the location of youth recreation and leisure centers, which is definitely a gap that needs to be filled. Taking such a study into consideration when conducting planning work would certainly be a valuable effort to help creating a friendly urban infrastructure and an effective network of services.

Keywords: architecture, building, healing, location criteria, site selection, urban planning, youth, recreation, leisure

1. INTRODUCTION

Physical activity positively affects mental health [15]. Thus, the provision of adequate infrastructure in the immediate environment often arouses social interest when seeking leisure activities. The context for physical activity should be seen both in terms of health promotion activities and spatial arrangements. One of the more interesting initiatives fostering the design of spaces that support individual regeneration through successful activity is Mental Health Friendly Cities (MHFC). According to the global platform CitiesRISE [7], which has launched the aforementioned initiative, elements of MHFC include urban

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environments that offer, among other things, meeting places for young people to enable leisure and recreation of a sporting nature, as well as a humanistic nature, e.g. through art, theater. CitiesRISE is a platform dedicated to actions aimed at transforming the quality of mental health, and is based on cross-industry, multi-faceted collaboration and aims to bring local change on a global scale. Backing the initiative with scientific evidence combined with the experience of local communities makes it possible to achieve a fully holistic effect directed at user needs. In view of these facts, the MHFC framework can serve as a favorable reference point for activities carried out to improve the quality of space shared by people and be a direction setter for designers, planners and, most importantly, local governments to provide the best possible conditions for residents [7]. CitiesRISE is a result of the fact that there is a need to encourage young people to lead active lifestyles, and young people should be provided with access to friendly urban spaces they are eager to use [27]. The result will be benefits in terms of accessibility to services that indirectly enable prevention of psycho-physical ailments [15]. The MHFC framework was based on the delineation of three dimensions of well-being that should be nurtured to nurture mental health: self (self), society and space and was developed in the wake of the COVID-19 pandemic[27], which has changed the way the entire world functions. Both the health effects of the pandemic and the socio-civilizational effects have affected all sectors of society. One important fact is that global changes related to the pandemic have negatively affected the mental health of young people [37]. The research identified the need to offer services to youth to support them in the face of the situation, with an emphasis on young people up to age 25 [37]. It was detected that in light of the situation, children as young as 5 years old experienced fewer behavioral changes than older age groups [37]. Adolescents who participated in extra-curricular sports activities inside and outside of school before the pandemic were affected by less anxiety or distractibility and showed less hyperactivity [15]. Both during, before and after the pandemic, physically active children and adolescents showed better mental health outcomes than those who did not exercise [15].

It should be emphasized that the conclusions of the analyses carried out in relation to the pandemic are only a starting point and highlight the validity of the topic undertaken. The concentration of the considerations of this article on adolescents and leisure centers that support physical activity is not accidental. Studies conducted both before, during and after the pandemic provided a lot of relevant data in the field of human psychological well-being not only in the context of the pandemic, but also human comfort holistically on a daily basis. Based on a study by Zolopa et al. young people who regularly engaged in physical activity were characterized by greater mental resilience to the negative psychological impact of new living conditions resulting from the course of the pandemic and the social rigor imposed as a result [37]. In view of the existing scientific evidence, one of the social prevention measures for the mental health of young people (in the face of the progress of civilization and new social phenomena) is the creation of new, attractive centers dedicated to young people, bringing together spaces that allow individual and collective recreation, especially outdoor recreation [27]. They should be equipped with appropriate environmental elements, infrastructure and landscaping to encourage physical activity.

The healing effect of space on people should not be underestimated, so the problem arising from the way common recreation spaces have been located to date is the lack of unified criteria to aid the design process in urban planning. A search for information on the location criteria for recreation and leisure centers and related infrastructure dedicated to youth revealed a lack of research and findings on the subject. The goal of the ongoing research is to create planning aids in the form of unambiguously established criteria for locating youth recreation and leisure centers.

2. MATERIALS AND METHODS

The basis for the development of the dataset was the Scopus database, as the largest academic database recommended for scientific review [3, 13, 18]. A detailed diagram of the research method is shown in Fig. 1.

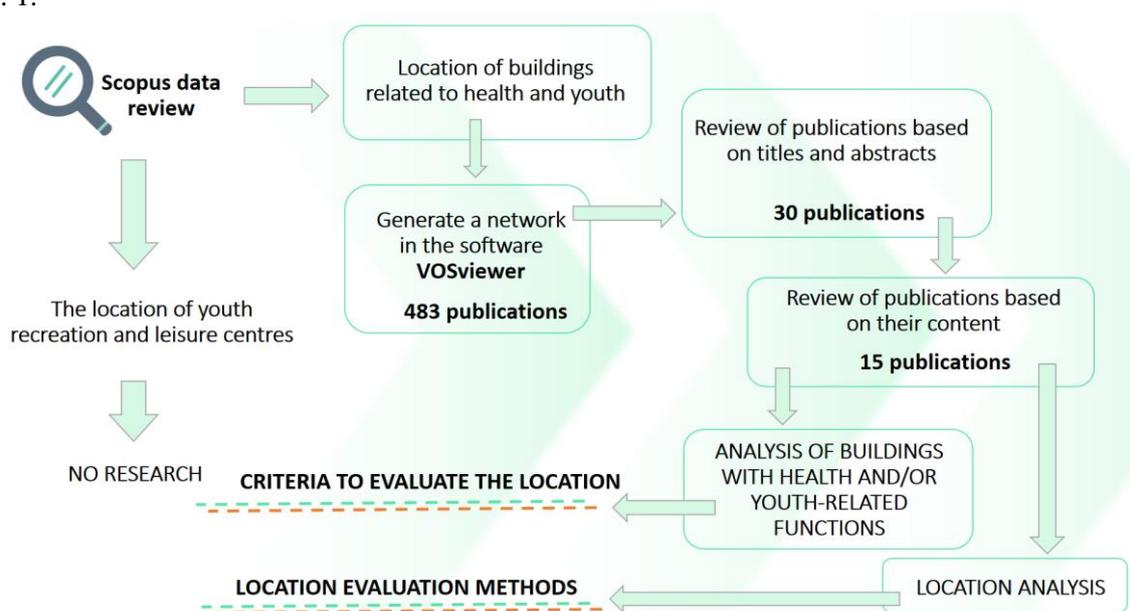


Fig. 1. Diagram of the methodology of the conducted research (2023). Source: authors

The first step was to conduct an analysis of databases in search of publications with a clear focus on the geolocation of recreation and leisure centers dedicated to youth. Finding a lack of direct research in this narrow domain, the authors decided to adapt the research strategy. Changing the keywords and broadening the search to a more general area, including only youth-related buildings or only health-related buildings, were important steps toward gaining a full perspective on the topic under study.

New keywords have been designated:

- LOCATION CRITERIA BUILDING or
- SITE SELECTION BUILDING CRITERIA or
- SITE SELECTION BUILDING FACTORS or
- LOCATION FACTORS BUILDING

and

- YOUNG / YOUTH / CHILDREN / CHILD or
- HEALTH / HEALING.

The search was limited to publications from 2012-2024 with open access, written in English. A total of 483 articles were received.

The hypothesis adopted was that studies with a specific focus on the subject areas in question have the potential to provide, indirectly, relevant data to identify key locational criteria. As a result of this process, 483 articles were identified, providing the foundation for further scientific analysis.

The next step was the use of VOSviewer software, which allows the generation of dependency networks based on selected categories and criteria. This tool is widely applied to develop scientific maps of many

scientific fields [1, 11, 33, 38]. This analytical tool made it possible to show the relationships between key terms identified in the scientific literature.

Next, a comprehensive review of all articles extracted from the database was conducted. First, the titles and abstracts were analyzed, followed by a detailed review of the content (of previously selected publications). As a result of this selection process, 30 articles were extracted in the first round of classification, followed by 15 that formed the basis for more detailed analysis. These oscillated around two thematic groups - an analysis of buildings with health and/or youth-related functions, which allowed specific criteria to emerge for site evaluation, and an analysis of the location of various facilities, which allowed methods used for site evaluation to emerge.

Thus, using professional tools and a carefully thought-out methodology, our research sought to identify location criteria for youth recreation and leisure centers, contributing to the enrichment of scientific discourse in this field.

3. RESULTS

3.1. Analysis of co-occurrence of keywords

Research focusing on keywords aims to enable accurate indexing of scientific articles in reputable databases, playing a key role in unambiguously indicating the topic of a publication [35]. Analyzing patterns of co-occurrence of keywords, as Liu et al. points out [18], is an important tool in identifying dominant research streams related to a specific topic. In this context, the creation of a network of related keywords makes it possible to accurately show the "production" of scientific knowledge by capturing the patterns, relationships, and intellectual structure of the issues addressed [12]. In this way, keyword research is an integral part of the scientific analysis process, contributing to a deeper understanding of the structure and dynamics of research topics. See Figure 2 for an image of the network of co-occurrence of keywords.

As a result of a meticulous analysis of the network of co-occurrence of key terms, five key thematic groups have been identified that constitute important areas of research interest. This analysis can be an extremely effective tool for identifying mainstream research topics. Looking at the purple group, we note that it is focused on the COVID-19 pandemic and its impact on mental health, while paying attention to the physical activity aspect. An analysis of this group of publications may allow for a comprehensive understanding of the effects of the pandemic on the mental health of individuals, with a particular focus on the role of physical activity in this context. The blue group, on the other hand, focuses on segmenting society by age groups, and as a result may identify specific age-related challenges and needs, but based on the network presented, the research areas of this group cannot be clearly identified. The red group area mostly concentrates research methods, providing an insightful look at the diversity of scientific approaches. The green group focuses on identifying environmental conditions and factors affecting the problem considered in the publication. However, it is difficult to distinguish key criteria for healthcare or youth-oriented buildings on this basis, since the database of analyzed articles also includes publications examining completely different areas. The yellow group, on the other hand, focuses on risk, prevention and exposure depending on the work, environment or location. The huge range of topics covered by the articles is characterized by a considerable diversity of vocabulary, making it a challenge to identify key information for the authors. Therefore, the decision was made to review all publications in detail, based on an analysis of titles and abstracts, in order to select articles relevant to identifying the criteria of youth recreation and leisure centers.

the city, which includes proximity to public transportation, major hubs, as well as distance from the city center, according to studies by Brook, J. et al. [6], Westford, P. [34] and Szafranko, E. and Pawlowicz, J.A. [29].

Table 1. Criteria for evaluating the location of recreational and leisure centers for young people

Source: authors

| Group | Criteria | Publication |
|--|--|----------------------|
| Accessibility criteria | Police Department | [21] |
| | Healthcare facility | [21] |
| | Attractions | [21] |
| | Public transport and major public transport hubs | [6], [34], [29] |
| | A public park | [34] |
| | Recreation areas | [21] |
| | City center | [29] |
| | Parking lot | [21] |
| Health and environmental criteria | Air pollution | [6], [16], [9] |
| | Noise and acoustic characteristics of the external environment | [6], [30], [36], [9] |
| | Weather and climate | [6], [9] |
| | Density of population | [21] |
| | Social characteristics of the environment | [6] |
| Technical criteria | Access to the electric power grid | [29], [21] |
| | Access to water supply system | [29], [21] |
| | Access to the sewage system | [29], [21] |
| | Access to the land plot | [29], [21] |
| Criteria considering landform, soil and water conditions | Bearing capacity of the ground | [29] |
| | Type of soil | [29] |
| | Depth of the level of the supporting substrate | [29] |
| | Groundwater level | [29] |
| | Landform | [29] |
| Urban development criteria | Required expertise | [29] |
| | Degree of development strategies and plans of the municipality | [6], [29], [34] |
| | Additional consensus required | [29] |

In the context of facilities intended primarily for children and young people, such as schools, Westford, P. [34] points out the importance of green recreational areas, the function of which can be performed by public parks in the absence of adequate space on the premises. In light of sustainable development policies and environmental protection efforts, health and environmental aspects play a key role in the criteria for locating a variety of facilities. Progressive climate change is leading to a search for active tools to make the built environment resilient and better able to adapt to constant change [23]. Lee, G.W. et al. [16] highlight long-term exposure to air pollution as a significant health risk, especially for children, the elderly and those with existing chronic diseases. The author maps particulate matter and carbon dioxide concentrations, thus identifying facilities, including schools, in areas particularly vulnerable to pollution. Noise protection and acoustics of the outdoor environment are other important siting criteria, especially for facilities for children and adolescents. Terzakis, M.E. et al. [30] and

Zagubień, A. and Wolniewicz, K. [36] conducted studies on infrasound and low-frequency noise levels in schools, noting the potential harmful effects of noise exposure on children's physical and mental development. When planning construction projects, regardless of their nature, technical issues, landforms, soil and water conditions and urban criteria are important. This aspect of investment planning is mentioned in detail by Szafranko, E. and Pawłowicz, J.A. [29], while emphasizing that different types of buildings require different location criteria, thus confirming the relevance of our analysis.

In light of the above, and taking into account all the criteria presented in the publications, a selection was made of those that can be adequately applied in the context of youth recreation and leisure facilities. They have been assigned to five groups referring to the nature of the criteria identified. Accessibility criteria refer to the proximity or reachability of a location. Health and environmental criteria are related to factors that directly or indirectly affect our physical or mental health. Technical criteria and criteria that take into account terrain, land and water conditions relate to the buildability of a given site, more precisely, they help to indicate unequivocally whether a given location will allow the construction of a chosen site due to the characteristics of the chosen land. Urban development criteria similarly to the above two groups relate to the construction possibilities of erecting a given object, but from the point of view of the applicable building and administrative regulations. The collected criteria are systematically included in Table 1, including publications, and shown in the diagram on Figure 3.

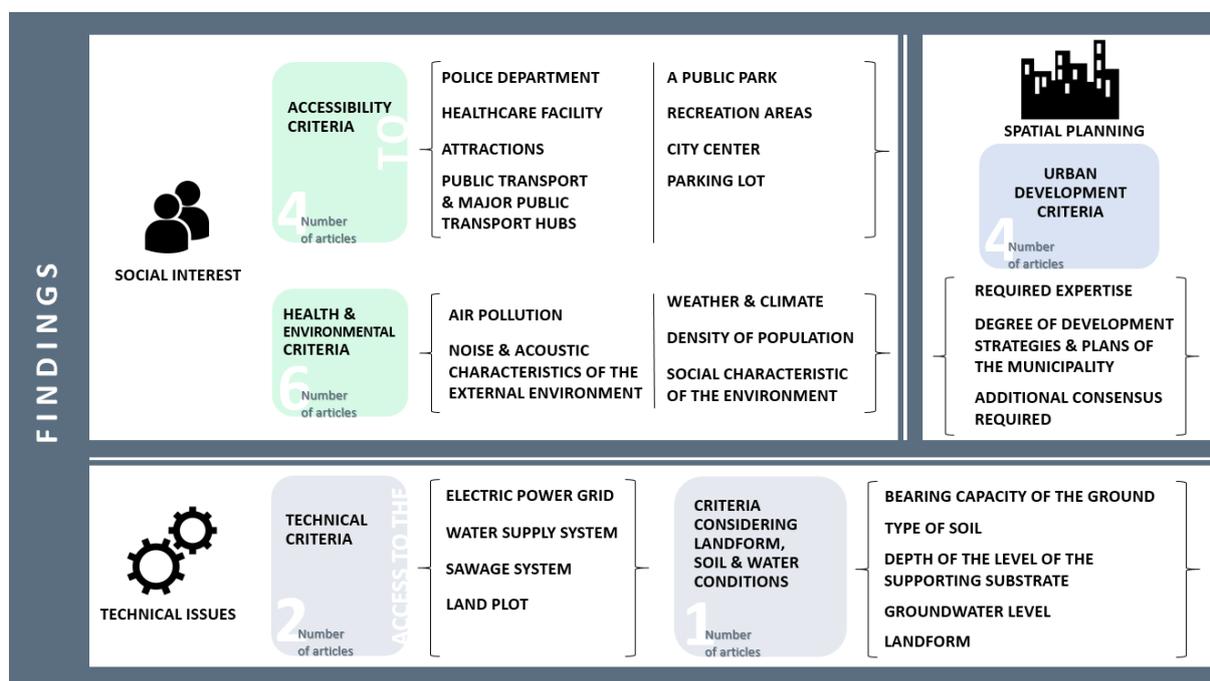


Fig. 3. Criteria for evaluating the location of recreational and leisure centers for young people (2023)
Source: authors

4. DISCUSSION

The topic related to location analysis is being addressed by researchers at many levels and involves facilities for a variety of purposes from renewable energy power plants [8, 26] through fishing grounds [5, 20], places of refuge for earthquake victims [2, 28], vehicle rental stations [4, 17] to logistics centers [14, 31] or waste disposal sites [10, 24]. The decision to implement a construction project involves considering a number of key and important issues that can determine its success. The choice of an appropriate location determines the shape of the new facility and aspects of its future use [29].

The subject of the authors' consideration were publications whose subjects were exclusively health and/or youth-related facilities, thus forming a database for extracting criteria for evaluating the location of recreation and leisure centers. Hence, only 3 publications out of almost 500 addressed the issue in a comprehensive manner.

Szafranko and Pawłowicz [29] on the basis of a case study of the location of a housing project implemented by a developer. The criteria were extracted from surveys among experts and then ranked accordingly. Three location options were proposed, which were then analyzed based on three research methods. With several locations included, the evaluation of options requires consideration of numerous factors. The methods described, while distinct, require a choice that depends on their characteristics. The calculations presented here confirm the usefulness of these methods in the decision-making process for selecting the location of a development project. Despite their differences, all methods offer similar results, highlighting their versatile application in engineering practice.

An interesting approach was presented by Westford [34], who undertook an examination of how local governments are aligning school planning and school location with school reforms, in conjunction with urban development policies. The article is based on an analysis of strategy documents and semi-structured interviews with 17 strategy officers in five fast-growing municipalities in Sweden. The author posed the question of what the organization and location of state schools looks like and what criteria guide local governments.

The Covid-19 pandemic unexpectedly hit the world in 2020, challenging governments and local governments. Strengthening regional preparedness against pandemics is becoming a priority. The above is evident from a study by Murti Hari et al. [21], who in their publication undertake considerations for identifying optimal criteria for isolation-quarantine facilities during a pandemic or epidemic. The authors note that one effective measure is to convert buildings into isolation and quarantine facilities for the duration of a pandemic, rather than bringing them in from scratch. The study considers location, accessibility, ventilation, infrastructure, space and other health aspects, using a quantitative method with pairwise comparative analysis based on an incomplete analytical hierarchy.

The direct purpose of the article was to identify criteria for evaluating localization, while mention should also be made of the second group of articles that was identified on the basis of the review, i.e. methods for evaluating localization. Most of the approaches proposed by the authors are a compilation of several research methods that complement each other. However, the vast majority of publications [19, 21, 22, 25, 29] base their research on multi-criteria analysis methods, which are considered very useful for evaluating factors affecting spatial decision-making [19]. A review of the methods used for spatial analysis of location is material for further research and would allow us to identify the most effective avenues for evaluating location.

5. CONCLUSION

The subject of site evaluation is becoming increasingly common. The authors analyze this problem on many levels in terms of facilities of various purposes. The review carried out made it possible to establish that there are few studies on comprehensive evaluation models for units intended for children and adolescents or with a health-promoting function. The lack of comprehensive studies on the analysis of the location of recreational and leisure centers for young people is definitely a gap that should be filled with demand-appropriate research and studies. However, there are publications on individual harmful factors affecting the development of children or adolescents, which should undoubtedly be used in the creation of studies on the criteria for evaluating the location as elements that determine them. It is important to note that the presented set of criteria for evaluating the location has been developed solely on the basis of a literature review, while it would also be necessary to take into account the opinion of experts as well as the youth themselves, which aspects according to them should be taken into account when planning such investments. The next stage of the research, will be to subject the extracted criteria to the opinion of experts and to supplement the developed list with weights for evaluation. Taking into account all the studies and using the knowledge from this area when conducting planning work for this type of new development would undoubtedly be a valuable procedure to help create a friendly urban fabric and an efficient network of services.

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